Transit Future Plan

SEA TO SKY | 2015

SQUAMISH - LILLOOET REGIONAL DISTRICT

SQUAMISH

WHISTLER

Village of PEMBERTON

Líl̓wat Nation

TRANSIT future

Acknowledgements

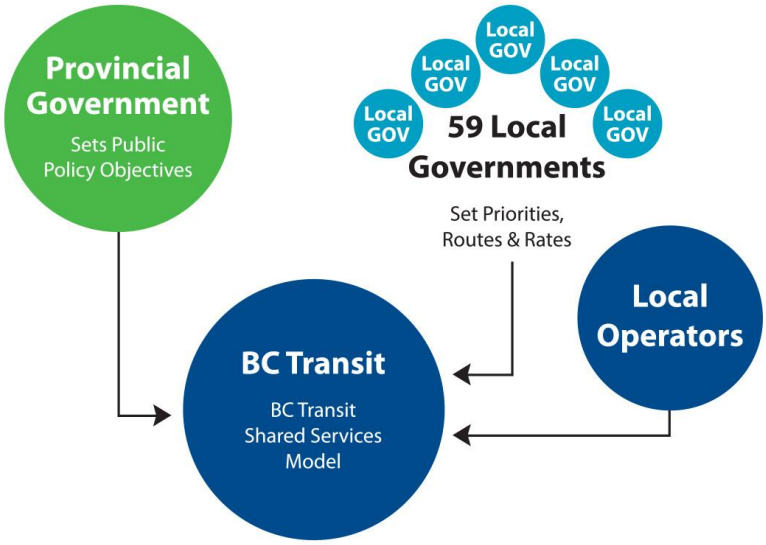
BC Transit would like to acknowledge the contributions of the many individuals and organizations that supported the development of the Sea to Sky Transit Future Plan.

Thank you to staff at the District of Squamish, the Resort Municipality of Whistler, the Village of Pemberton, and the Lil'wat Nation for their continued partnership. Thanks also to staff at the Squamish-Lillooet Regional District and the Squamish Nation for their continued participation in developing a Transit Future for the Sea to Sky region. In addition, thank you to the local transit operating companies for participating the in the process along the way.

Finally, thank you to all who joined us on the Sea to Sky Transit Future Bus, at the stakeholder workshops, and to those who provided feedback throughout the process.

About BC Transit

BC Transit is a Crown corporation established by British Columbia's Provincial Government to support local investment in transit services across the province (excluding the Metro Vancouver area served by TransLink).



BC Transit connects people, communities, and businesses across the province through cost-effective, sustainable public transit. As of 2015, BC Transit:

- Operates 83 transit systems in 130 communities across B.C. in collaboration with 59 local government partners, providing Conventional, Community, Custom, and Paratransit services
- Contracts with 18 private management companies, 6 public operating organizations and 13 non-profit agencies
- Provided 51 million passenger trips in 2013/14
- Serves over two million people in B.C.
- Owns a fleet of 1,002 Conventional and double-deck buses and minibuses
- Reports total operating expenditures in 2013/14 of $222.3 million
- Reports total capital expenditures in 2013/14 of $79.4 million

BC Transit in the Sea to Sky Region

In the Sea to Sky region, BC Transit provides a range of management services that include:

- Expertise in areas such as planning, scheduling, operations, safety programs, marketing, communications, information technology, financial management and fleet support
- Cost-savings through bulk purchases of supplies and assets, such as fuel and vehicles
- Providing efficiencies in contract management for public transit operators
- Managing the distribution of Provincial Government funding to communities in the Sea to Sky region

Funding for transit services is generated from three main sources; B.C. Provincial Government via BC Transit, local partners (local governments and First Nations), and operations revenue (customer fares, advertising, investments, rental of excess owned transit fleet and facility space to third parties).

BC Transit's Board will endorse the final Transit Future Plan, and BC Transit staff will continue to provide management services as described above with an eye to implementing the Transit Future Plan.

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Executive Summary

The Sea to Sky Transit Future Plan is a 25-year strategic plan that has been developed by BC Transit in collaboration with stakeholders, the public, and staff at the Squamish-Lillooet Regional District, the District of Squamish, the Squamish Nation, the Resort Municipality of Whistler, the Village of Pemberton, and the Lil'wat Nation.

The Sea to Sky Transit Future Plan details transit service and infrastructure recommendations for Squamish, Whistler, The Pemberton Valley, and the encompassing Sea to Sky region.

These recommendations, along with the Plan's vision, goals, local and regional networks, and targets, help envision what transit in the Sea to Sky region could look like between now and 2040. Developing an actionable, measurable strategy for public transit in the Sea to Sky area is critical to ensuring the environmentally- and fiscally-sustainable and efficient growth of these communities in the near and long terms.

The Sea to Sky Transit Future Plan has been developed in consideration of the goals and directives found in local and regional land use plans such as Official Community Plans, as well as strategic Provincial plans such as the Provincial Transit Plan and BC Transit's 2030 Strategic Plan. Transit service and infrastructure recommendations have been developed iteratively and in consideration of technical analysis, best practices in transportation planning, and feedback collected through stakeholder and public engagement activities.

Vision and Goals

While future transit service and infrastructure recommendations vary across the Sea to Sky communities, a unified vision and set of goals have been developed to guide transit expansion to 2040.

Vision

Collaboration with stakeholders, the public, and government and First Nations partners has helped shape the final vision statement to represent what the Transit Future Plan aims to inspire.

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

As with the development of the vision statement, drafting the goals was an iterative and collaborative process with stakeholders, the public, and government and First Nations partners. The goals have been crafted to reflect the most commonly-heard themes: Inclusive, Integrated, Safe, and Sustainable.

By 2040, local and regional public transit networks in the Sea to Sky area are:

1. **For everyone.**
2. **Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling.**
3. **Safe.**
4. **Environmentally Sustainable.**

Transit Mode Share Targets

Transit Mode Share is the percentage of all trips that are made by transit in a given community, typically measured on an annual basis. Transit Mode Share is a representation of transit ridership overall.

Setting transit mode share targets and identifying methods for achieving these targets is a goal of the B.C. Provincial Government per its aims to mitigate provincial contributions to climate change. In transportation, this relates directly to reducing greenhouse gas (GHG) emissions by making more trips by active and alternative transportation modes. Alternative transportation is thought of as almost any mode of transportation other than single-occupancy vehicle driving, and in the Sea to Sky region, is known as a suite of *preferred modes*.

To reflect each community's unique land use, travel behaviour, and existing transit use, separate transit mode share targets have been developed for Squamish, Whistler and The Pemberton Valley.

	Sea to Sky Region	Squamish	Whistler	The Pemberton Valley
2015 Transit Mode Share	5% by 2030	1.3%	15%	1.5%
2020 Transit Mode Share Target		2.5%	16%	2%
2025 Transit Mode Share Target		5%	20%*	4%
2040 Transit Mode Share Target		10%	25%*	6%

The Sea to Sky region's overall transit mode share target aligns with the target identified in the Provincial Transit Plan, which states that by 2030, 5 per cent of all trips in the region will be made by transit. Communities in the Sea to Sky region have already cumulatively achieved this target. Implementation of the Transit Future Plan will help the Sea to Sky region's transit mode share continue to increase.

These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process.

*Long-term targets for Whistler will be defined in coordination with the RMOW's Transit Management Advisory Committee or its forthcoming Transportation Advisory Group.

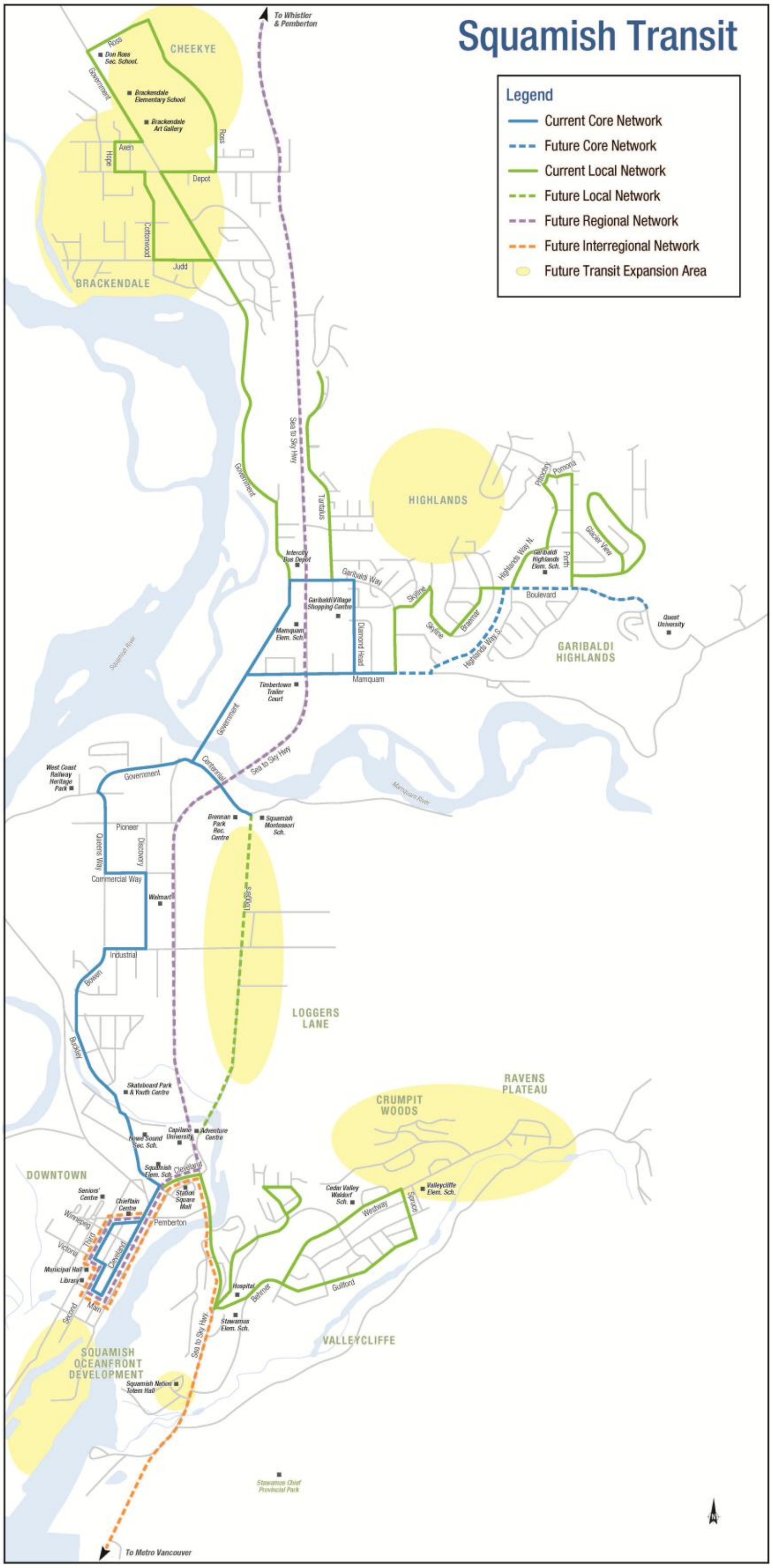
Transit Future Plan Network

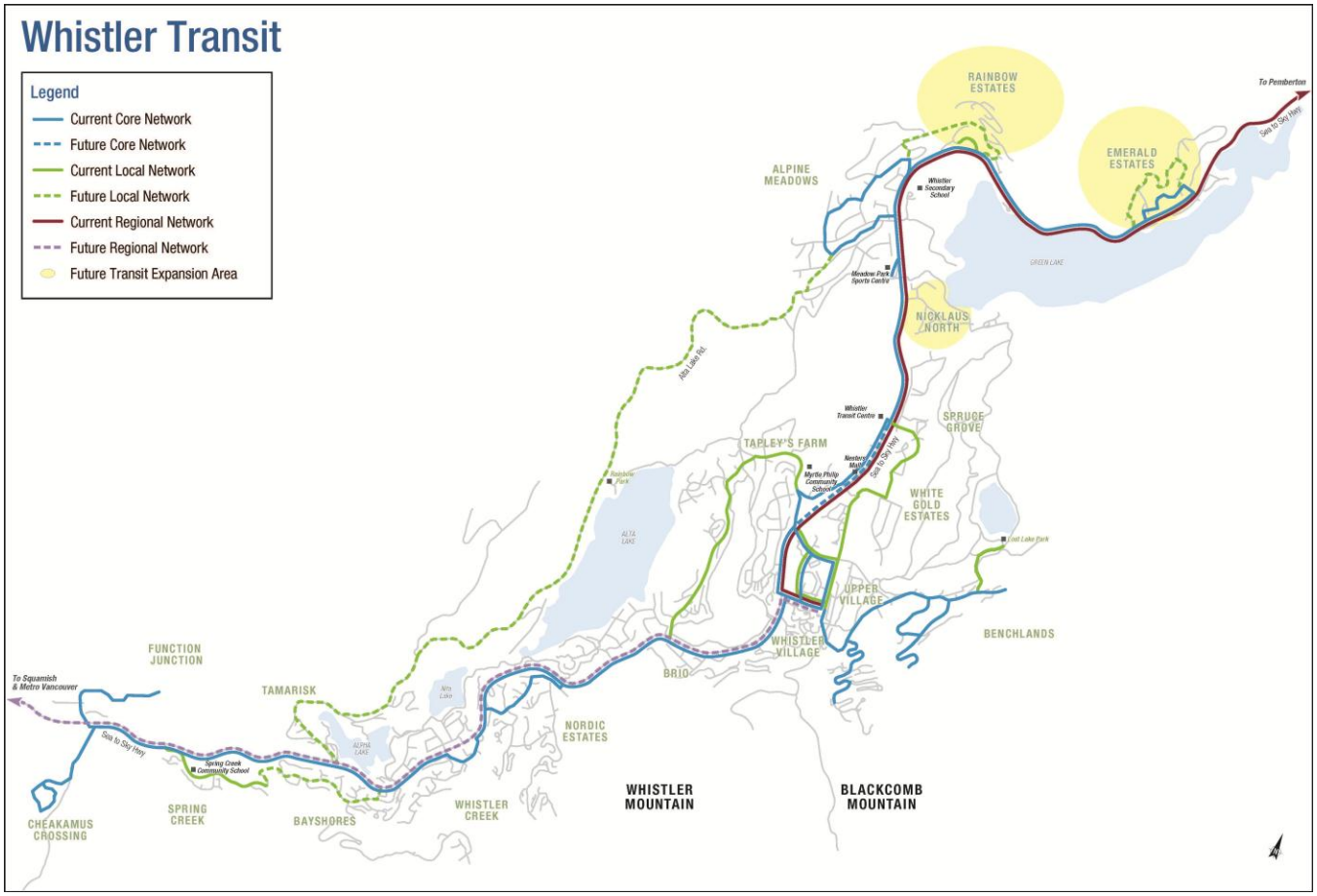
The Sea to Sky Transit Future Network has been designed with the passenger in mind, linking people to popular origins and destinations, aiming to provide a reasonable alternative to driving. The network builds upon the existing network's directness, reliability, and frequency, and has been created in consideration of current and planned land uses.

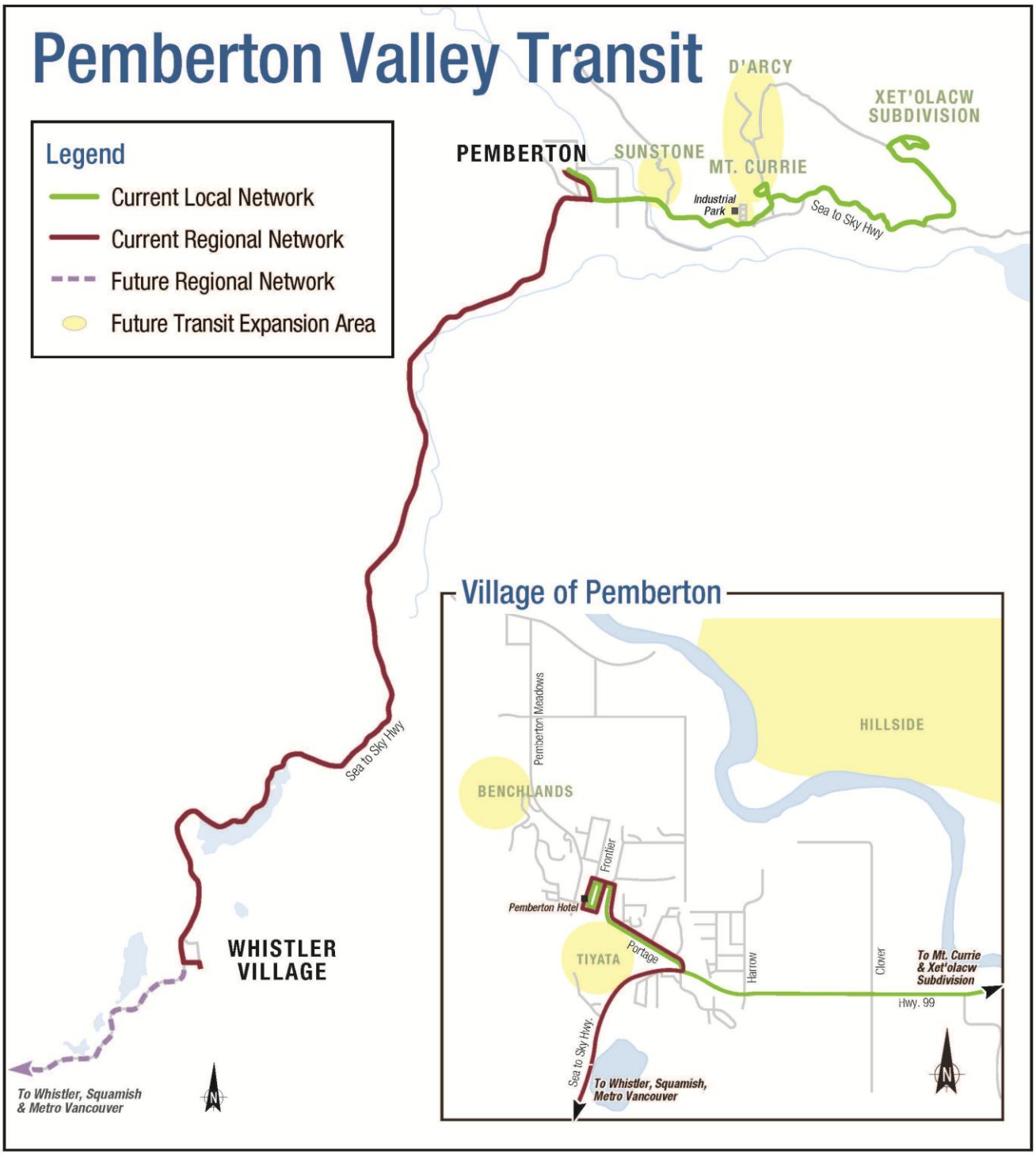
The Sea to Sky Transit Future Plan includes four distinct networks:

- **Core Transit Network** – links people to major destinations within a given community, typically through downtown.
- **Local Transit Network** – links people to destinations within neighbourhoods, as well as to the other Transit Networks.
- **Custom Transit Network** - provides transit service to people within 1.5 km of a given community with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.
- **Targeted Transit Network**
    - **Regional Transit Network** – includes public transit service *within* the Sea to Sky region, linking the communities of Squamish, Whistler, and The Pemberton Valley.
    - **Interregional Transit Network** - includes public transit service *between* the Sea to Sky region and other regions, namely the Metro Vancouver region.


Regional & Interregional Transit Networks
Current Regional Network
Future Regional Network
Future Interregional Network
N
PEMBERTON
WHISTLER
SQUAMISH
To Metro Vancouver


Squamish Transit
Legend
Current Core Network
Future Core Network
Current Local Network
Future Local Network
Future Regional Network
Future Interregional Network
Future Transit Expansion Area
To Whistler & Pemberton
CHEEKYE
Don Ross Sec. School
Brackendale Elementary School
Brackendale Art Gallery
BRACKENDALE
Ross
Government
Axen
Hope
Depot
Cottonwood
Judd
Sea to Sky Hwy
Tantalus
HIGHLANDS
Intercity Bus Depot
Garibaldi Way
Garibaldi Village Shopping Centre
Mamquam Elem. Sch.
Diamond Head
Skyline
Braemar
Highlands Way N.
Highlands Way S.
Garibaldi Highlands Elem. Sch.
Perth
Glacier View
Pomona
Boulevard
Quest University
GARIBALDI HIGHLANDS
Mamquam
Timbertown Trailer Court
Centennial
West Coast Railway Heritage Park
Pioneer
Discovery
Queens Way
Commercial Way
Walmart
Brennan Park Rec. Centre
Squamish Montessori Sch.
Loggers
Industrial
Bowen
Buckley
LOGGERS LANE
Skateboard Park & Youth Centre
Howe Sound Sec. Sch.
Capilano University
Adventure Centre
Squamish Elem. Sch.
Cleveland
CRUMPIT WOODS
RAVENS PLATEAU
DOWNTOWN
Seniors' Centre
Chieftain Centre
Station Square Mall
Pemberton
Winnipeg
Victoria
Municipal Hall
Library
Second
Main
Cedar Valley Waldorf Sch.
Valleycliffe Elem. Sch.
Westway
Spruce
Guilford
Hospital
Behrner
Stawamus Elem. Sch.
VALLEYCLIFFE
SQUAMISH OCEANFRONT DEVELOPMENT
Squamish Nation Totem Hall
Stawamus Chief Provincial Park
To Metro Vancouver


Whistler Transit
Legend
Current Core Network
Future Core Network
Current Local Network
Future Local Network
Current Regional Network
Future Regional Network
Future Transit Expansion Area
RAINBOW ESTATES
EMERALD ESTATES
To Pemberton
Sea to Sky Hwy
ALPINE MEADOWS
Whistler Secondary School
Meadow Park Sports Centre
GREEN LAKE
NICKLAUS NORTH
Alta Lake Rd.
Whistler Transit Centre
SPRUCE GROVE
TAPLEY'S FARM
Nesters Market
Myrtle Philip Community School
Rainbow Park
ALTA LAKE
WHITE GOLD ESTATES
Lost Lake Park
UPPER VILLAGE
WHISTLER VILLAGE
BENCHLANDS
BRIO
FUNCTION JUNCTION
To Squamish & Metro Vancouver
TAMARISK
Nita Lake
NORDIC ESTATES
ALPINE LANE
Spring Creek Community School
SPRING CREEK
CHEAKAMUS CROSSING
BAYSHORES
WHISTLER CREEK
WHISTLER MOUNTAIN
BLACKCOMB MOUNTAIN


Pemberton Valley Transit
Legend
Current Local Network
Current Regional Network
Future Regional Network
Future Transit Expansion Area
D'ARCY
XET'OLACW SUBDIVISION
PEMBERTON
SUNSTONE
MT. CURRIE
Industrial Park
Sea to Sky Hwy
Sea to Sky Hwy
WHISTLER VILLAGE
To Whistler, Squamish & Metro Vancouver
Village of Pemberton
Pemberton Meadows
HILLSIDE
BENCHLANDS
Frontier
Pemberton Hotel
TIYATA
Portage
Harrow
Clover
To Mt. Currie & Xet'olacw Subdivision
Hwy. 99
Sea to Sky Hwy.
To Whistler, Squamish, Metro Vancouver

Transit Service and Infrastructure Recommendations

Achieving the vision, goals, and targets described in the Sea to Sky Transit Future Plan will require capital and operating investments over the next 25 years. The Plan provides detailed transit service and infrastructure recommendations for the Sea to Sky region and the communities of Squamish, Whistler, and The Pemberton Valley.

Options do not represent all of the possible changes that could be made to the Regional and Interregional Transit systems in the region between today and 2040, but should serve as a starting point each time the systems undergo analysis or change. Recommendations vary in terms of required timelines, complexity, cost, and process, meaning that initiatives may not be undertaken linearly.

The fulfillment of the Transit Future Plan is contingent on:

- The availability of local and provincial funding
- Community growth factors
- Phasing of major projects
- Service demand and emerging issues
- Opportunities for value added-partnerships
- Ongoing efforts to optimize service and ensure reliability and on-time performance

Given the level of transit investment anticipated over the coming decades, alternative funding sources and new regional governance structures for transit in the Sea to Sky must be examined. BC Transit and Sea to Sky Transit Future Plan funding partners will need to work together to achieve stable and predictable funding sources beyond the existing funding mechanisms.

Recommendations on funding and governance for the Sea to Sky Transit Future are included in this Plan.

Estimated resource requirements for the immediate- and short-term are detailed below. These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated costs are based on 2014/15 AOA Operating Costs. Final costs may change based on final budgets and confirmation of final operational details.

Sea to Sky Region

TRANSIT SYSTEM RECOMMENDATIONS TO 2020

- **R1. Undertake a Sea to Sky Corridor Transit Study**
  This comprehensive study will include the entire corridor (Metro Vancouver to the Pemberton Valley), and will consider the expansion of Regional and Interregional transit service in detail.
- **R2. Explore the Development of a Sea to Sky Regional Governance Structure**
  Explore options for a more integrated regional governance structure for the Sea to Sky area. The study would look at the benefits and risks with the goal of streamlining the implementation of Regional and Interregional transit, and enabling more comprehensive system management and performance monitoring.
- **Priorities of partners, stakeholders, and the public are to provide public transit service between Metro Vancouver and Squamish, and to increase existing transit service between Pemberton and Whistler. Therefore, outcomes of R1 and R2 should include:**
  - **R3. Introduce weekday Interregional Transit service between Squamish and Metro Vancouver**
    The existing volume of travel between Squamish and Metro Vancouver is high and is continuing to grow, particularly for Squamish residents who commute. Implementing transit service along this corridor will improve regional options.
  - **R4. Introduce midday or evening Regional Transit service between Pemberton and Whistler**
    Ridership on the Pemberton Commuter Service is growing. Expanding service in the midday and evening would improve access for recreation and tourism, shift employment, and access to amenities.

CAPITAL INVESTMENTS FOR REGIONAL TRANSIT INFRASTRUCTURE TO 2020

- Potential new or expanded transit exchanges in Squamish
- New Park & Ride facility in downtown Squamish
- Potential new or expanded Transit Operations and Maintenance Facilities in Squamish and/or Pemberton
- Improvements to customer amenities at bus stops and the existing or new Squamish Transit Exchange
- New Sea to Sky Highway transit priority measures

RESOURCE REQUIREMENTS TO 2020

At the regional level, an estimated **5,200 additional annual Conventional transit service hours and two additional buses** will be required to achieve the goals outlined to 2020. Implementing these options is estimated to require a total of **$800,000**. Cost sharing between Sea to Sky communities can be determined through the regional governance development recommended in the Transit Future Plan.

TRANSIT SYSTEM RECOMMENDATIONS TO 2025

- Increase Interregional Transit service between Squamish and Metro Vancouver on weekdays and introduce service on weekends
- Reinstate Regional Transit service between Squamish and Whistler, and as part of that explore serving communities along the corridor including Black Tusk and Pine Crest.
- Identify sites and develop new Park & Ride and Transit Exchange Facilities
- Continue to improve service frequency and extend service span on regional and interregional connections as demand on the corridor grows

TRANSIT SYSTEM RECOMMENDATIONS TO 2040

- Continue to improve service frequency and extend service span on connections as demand on the corridor grows
- Continue to improve local system service in each community to provide efficient, reliable and safe connectivity across the region

Squamish

TRANSIT SYSTEM RECOMMENDATIONS TO 2020

- **S1. Finalize operational plans for South Squamish Parks Pilot Transit Service**
  BC Transit recommends finalizing operational plans to introduce summer transit service connecting downtown Squamish to the South Squamish Parks District
- **S2. Increase Sunday and Holiday transit service**
  Increasing transit service frequency and span on Sundays and holidays will improve access to employment, recreation, and shopping in Squamish
- **S3a. Improve Core Transit Network service during off-peak periods between Garibaldi Village and Downtown Squamish**
  Strengthening the Core Transit Network in Squamish provides a foundation from which the entire Squamish Transit System can grow
- **S3b. Increase service on the Core Transit Network to improve access to Quest University Canada**
  Transit Ridership to Quest University continues to grow. The campus is located at the end of a curvilinear road with a steep grade that can be difficult to walk and cycle on; consequently, direct, frequent, and reliable transit access to the campus is important.
- **S4. Implement a handyDART Registration Program**
  A handyDART Registration Program (with an in-person assessment) matches applicants' needs with the most appropriate type of transit service

CAPITAL INVESTMENTS FOR TRANSIT INFRASTRUCTURE TO 2020

- New or expanded transit exchange
- Potential new or expanded Transit Operations and Maintenance Facility
- Improvements to customer amenities at bus stops and at the Squamish Transit Exchange

RESOURCE REQUIREMENTS TO 2020

In Squamish, an estimated **5,350 additional annual Conventional and Custom transit service hours and one additional bus** will be required to achieve the goals outlined to 2020. Implementing these options is estimated to require a total of **$700,000**.

TRANSIT SYSTEM RECOMMENDATIONS TO 2025

- Service improvements on Core Transit Network to meet Service Standards
- Introduce Local Transit service to developing areas (Cheekye, Loggers Lane, Ravens Plateau, Squamish Oceanfront Development site, Brennan Park)
- Introduce new bus stops for any expansion areas

TRANSIT SYSTEM RECOMMENDATIONS TO 2040

- Introduce new Local Transit service to select areas such as North Squamish Parks District, Furry Creek, Britannia Beach
- Reinstate Local Transit service to Squamish Nation area if it is not already served by Regional Transit
- Continue to improve service frequency and extend service span on Regional and Interregional connections as demand on the corridor grows
- Continue to improve local system service to provide efficient, reliable and safe connectivity

Whistler

TRANSIT SYSTEM RECOMMENDATIONS TO 2020

- **W1. Improve the operational efficiency of Route 1 Valley Connector**
  Explore opportunities to improve the design of the Route 1 to address on-time performance issues
- **W2. Undertake an in-depth ridership analysis of the Free Village Shuttles and make any necessary adjustments or improvements**
  An in-depth ridership analysis would inform the possibility of investing additional resources, changing routing to improve efficiency, or expanding service
- **W3. Increase service on the Core Transit Network during the winter season**
  The majority of Whistler's ridership occurs during the busy winter season. Increasing service on the Core Transit Network during winter is recommended to ensure that transit travel demand is being met for both locals and visitors.
- **W4. Increase service on the Core Transit Network during the spring, summer and fall**
  Increasing service on Core Transit Network during spring, summer and fall was identified as a priority in the participation process, and will help Whistler in its journey towards being a year-round resort destination
- **W6. Explore Opportunities to Improve the Fare Structure & Media**
  While a diversity of fare products is currently available in Whistler, interest in introducing a ski season-related pass has been expressed. BC Transit recommends collaboration with Whistler Blackcomb to explore the feasibility of providing a seasons' transit pass linked with a Whistler Blackcomb ski seasons' pass.
- **W7. Conduct feasibility assessment around the introduction of Custom transit services**
  The base population in Whistler continues to age. Examining Custom transit options could benefit Whistler as the community ages and as travel needs in Whistler continue to diversify.

CAPITAL INVESTMENTS FOR TRANSIT INFRASTRUCTURE TO 2020

- Improvements to customer amenities at bus stops and at Gondola Transit Exchange

RESOURCE REQUIREMENTS TO 2020

In Whistler, an estimated **750 additional annual Conventional transit service hours** will be required to achieve the goals outlined to 2020. This service hour increase is estimated to require a total of **$90,000**. No additional buses are required to implement the immediate- and short-term recommendations described in the Transit Future Plan for Whistler.

TRANSIT SYSTEM RECOMMENDATIONS TO 2025

- Continue to examine seasonal service trends and rebalance service levels if necessary
- Introduce Transit Priority Measures / Improve Transit Operations
- Continue to improve transit customer facilities

TRANSIT SYSTEM RECOMMENDATIONS TO 2040

- Examine the feasibility of introducing Dial-a-Ride / Paratransit service to Alta Lake Road between Tamarisk and Alpine Meadows, Upper Nordic, and Upper Emerald
- Introduce Local Transit service connection between Rainbow Estates and Alpine Meadows (dependent on new road connection)
- Introduce Local Transit service connection between Spring Creek and Bayshores (dependent on new road connection)
- Introduce Local Transit or Paratransit service along Alta Lake Road and further into Emerald Estates with introductory service levels
- Explore opportunities to Whistler Olympic Park and Whistler Sliding Centre with some form of transit
- Continue to improve service frequency and extend service span on regional and interregional connections as demand on the corridor grows
- Continue to improve local system service to provide efficient, reliable and safe connectivity

The Pemberton Valley

TRANSIT SYSTEM RECOMMENDATIONS TO 2020

- **P1. Initiate a more detailed review of the financial and operational sustainability of the Pemberton Valley Transit System**
  This detailed review should be considered with a full-cost accounting lens, considering fleet, facilities, and operations.
- **P2. Introduce midday service on weekdays on the Local Transit Network**
  Increasing the span and frequency of transit service on the Local Transit Network will benefit local residents by providing increased access to recreation, employment, and commercial amenities

CAPITAL INVESTMENTS FOR TRANSIT INFRASTRUCTURE TO 2020

- Improvements to customer amenities at bus stops

RESOURCE REQUIREMENTS TO 2020

In The Pemberton Valley, an estimated **750 additional annual Conventional and Custom transit service hours** will be required to achieve the goals outlined to 2020. This service hour increase is estimated to require a total of **$55,000**. No additional buses are required to implement the immediate-term recommendations described in the Transit Future Plan for The Pemberton Valley, though additional vehicles may be required to introduce midday service on weekdays on the Local Transit Network.

TRANSIT SYSTEM RECOMMENDATIONS TO 2025

- Introduce Local Transit service to developing areas (Benchlands, Tiyata, Hillside)
- Introduce new bus stops for any expansion areas

TRANSIT SYSTEM RECOMMENDATIONS TO 2040

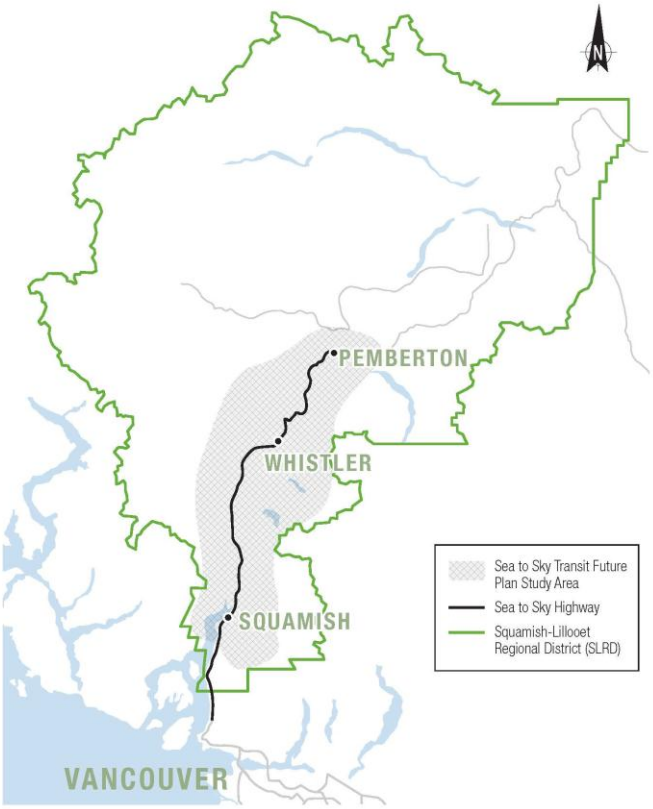
- Improve / introduce Local Transit service to Mt. Currie, D'Arcy/N'Quatqua, Sunstone, and WedgeWoods with introductory levels of service.
- If already in place, expand Local Transit service to service Benchlands, Tiyata and Hillside residential areas.
- Continue to improve service frequency and extend service span on regional and interregional connections as demand on the corridor grows.
- Continue to improve local system service to provide efficient, reliable and safe connectivity.

Introduction

The Sea to Sky Transit Future Plan is a 25-year strategic plan that has been developed by BC Transit in collaboration with stakeholders, the public, and staff at the Squamish-Lillooet Regional District, the District of Squamish, the Squamish Nation, the Resort Municipality of Whistler, the Village of Pemberton, and the Lil'wat Nation.

The Transit Future Plan study area, known here as the Sea to Sky region, is part of the much larger Squamish-Lillooet Regional District (SLRD), located within the traditional territory of the Squamish First Nation and the Lil'wat First Nation. The SLRD is located on the south coast of British Columbia, northwest of Metro Vancouver, as illustrated in Figure 1.

Figure 1: Sea to Sky Transit Future Plan Study Area.



The Sea to Sky Transit Future Plan includes a vision, overarching goals, local and regional Transit Future Networks, and transit service and infrastructure recommendations for implementation between 2015 and 2040. Developing an actionable, measurable strategy for public transit in the Sea to Sky area is critical to ensuring these communities' environmentally- and fiscally-sustainable and efficient growth in the near and long terms.

The Plan was developed between winter 2013 and fall 2015, as shown in Figure 2.

Figure 2: Sea to Sky Transit Future Plan Development.

Ongoing partnership and collaboration between BC Transit and the Sea to Sky Transit Future Plan partners is required to guide this Plan from vision to reality.

To reflect the distinctive nature of each community in complement to the Sea to Sky Region overall, the Transit Future Plan is presented in two separate parts that follow.

The first part of this document describes the Sea to Sky region and its communities as they exist in 2015, including:

- Community overviews of the Sea to Sky region, Squamish, Whistler, and The Pemberton Valley, detailing:
    - Population and Demographics, Land Use, Employment, and Transportation Today
    - Key Strategic Plans that inform these communities' futures
- Existing Transit Systems in the Sea to Sky region

The second part of the document details the Sea to Sky Transit Future Plan, including:

- Partner and Community Participation
- Vision, Goals, and Targets for the Sea to Sky Transit Future
- Transit Future Foundations

- Transit Future chapters for the Sea to Sky region, Squamish, Whistler, and The Pemberton Valley, detailing:
    - Transit Future Networks
    - Transit Service Standards and Performance Guidelines
    - Transit Future service and infrastructure improvements

- Moving toward the Sea to Sky Transit Future:
    - Funding and Implementing the Transit Future Plan

Setting the Scene in the Sea to Sky Region

This section of the Sea to Sky Transit Future Plan describes the Sea to Sky region and its communities of Squamish, Whistler, and The Pemberton Valley as they exist today.

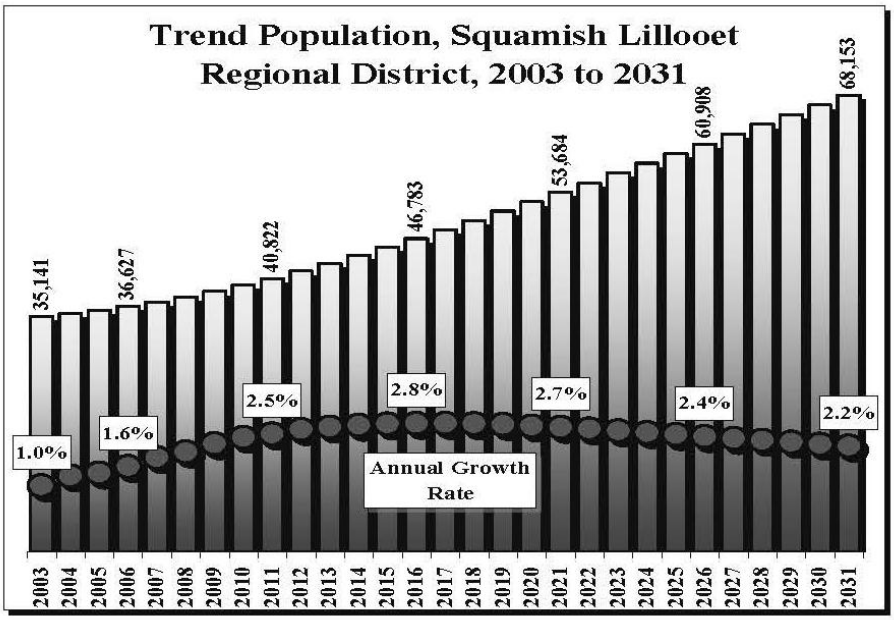
Population and Demographics

Sea to Sky Region

Most of the Sea to Sky area's population and employment is concentrated within the urban boundaries of Squamish, Whistler, and the Village of Pemberton, and especially in the southern part of the SLRD. The SLRD's entire population has increased to nearly 40,000 today - an increase of 86 per cent over 25 years. This is a substantially higher rate of growth than the provincial population increase of less than three per cent over the same period.

Projected growth in the region overall is expected to increase between 2.2 per cent and 2.6 per cent each year until 2031, as shown in Figure 3. This is higher than Provincial projections ranging from 0.9-1.3 per cent between 2015 and 2031.

Figure 3: SLRD Population Projections, 2003-2031.

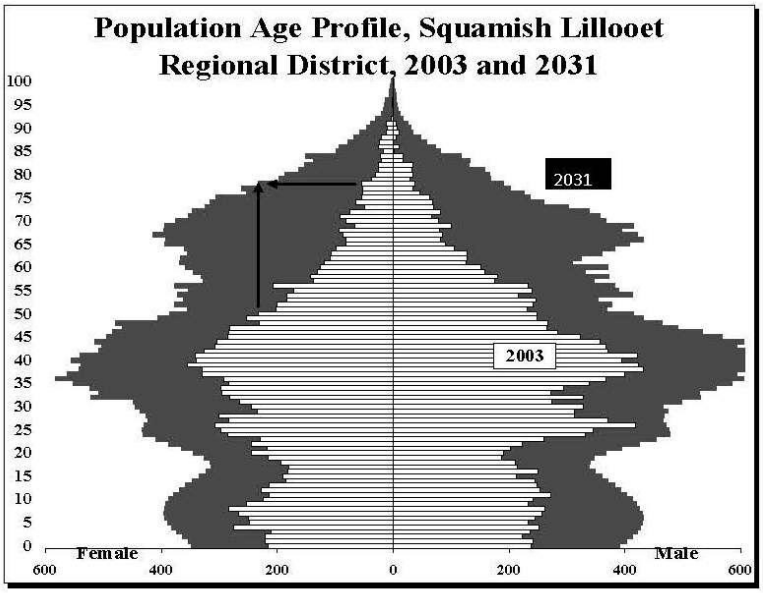


Source: Urban Futures, 2004

Source: SLRD Regional Growth Strategy

The SLRD has a relatively young age composition compared to the rest of British Columbia, with a median age of 36.2. This is nearly five years younger than the provincial median, though communities in the Sea to Sky region are also aging; BC Statistics projects a significant increase in the population in the 65-79 and 80+ age categories, as shown in Figure 4.

Figure 4: SLRD Population Projections by Age Cohort.



Source: Urban Futures, 2004

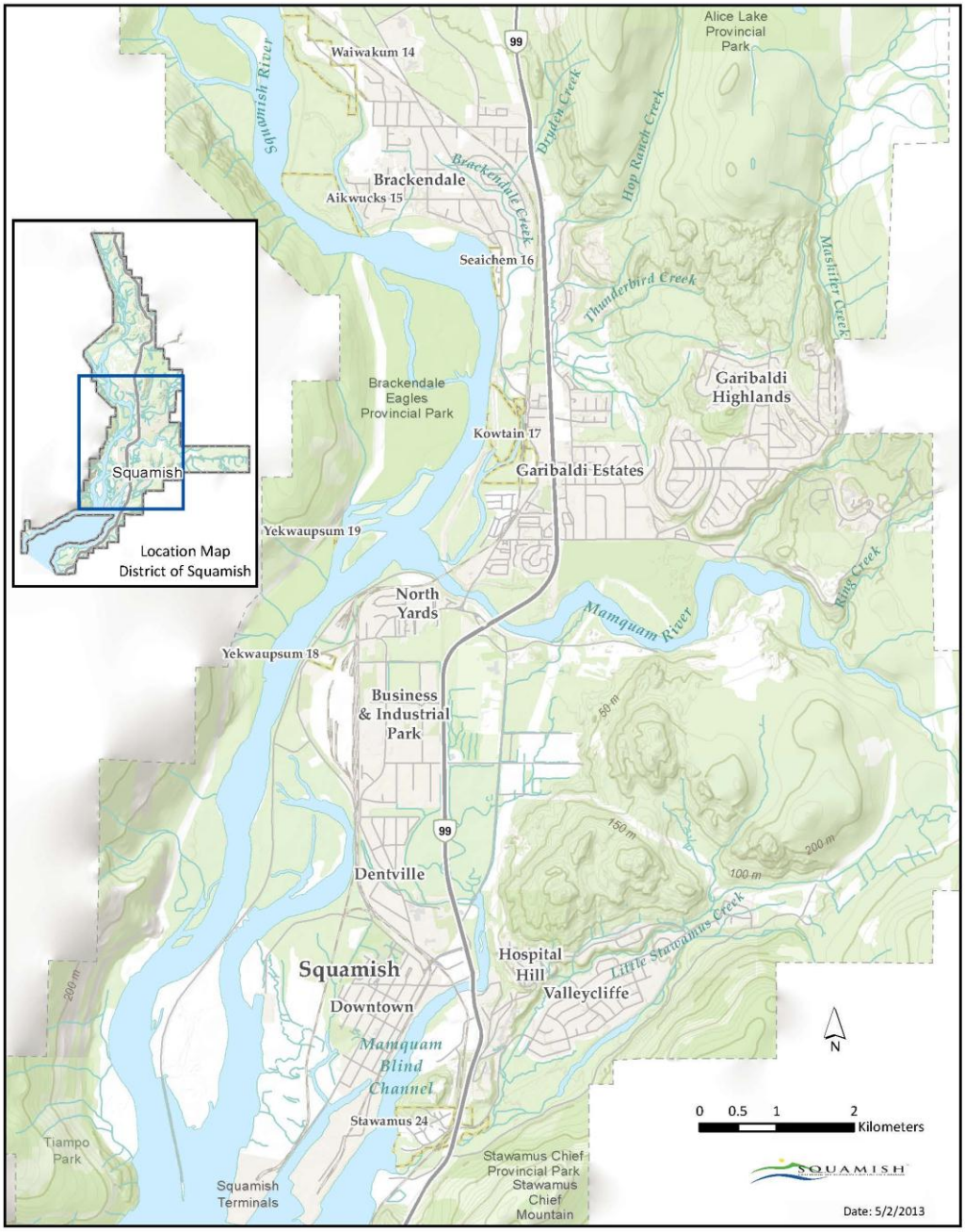
Source: SLRD Regional Growth Strategy

The Sea to Sky Region is a young, growing part of British Columbia that will be home to over 70,000 people by 2040.

Squamish

The District of Squamish is the southernmost community in the Sea to Sky Transit Future Plan study area, located midway between Vancouver and Whistler. Squamish and its neighbourhoods are shown in Figure 5.

Figure 5: The District of Squamish.



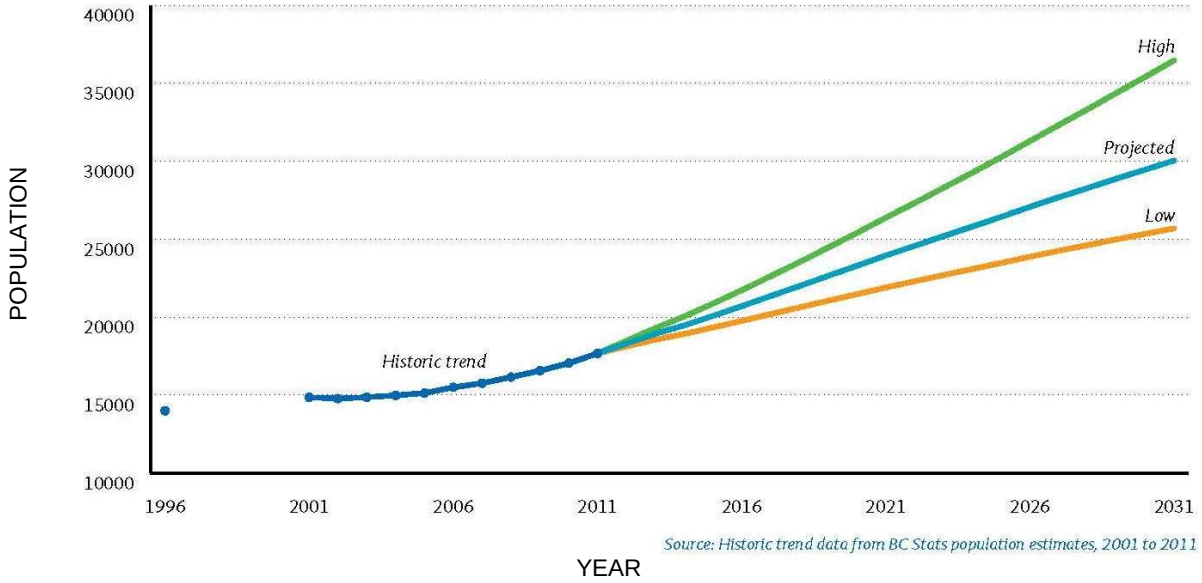
Source: District of Squamish

Now home to nearly 20,000 residents, the community has grown substantially in recent years. Squamish is home to an abundance of outdoor recreation opportunities, attracting investment, growth, and tourism.

Squamish's proximity to Metro Vancouver via the Sea to Sky Highway makes it a relatively affordable residential alternative to Vancouver, with its attractive setting, growing economy, and nearly identical driving time to downtown Vancouver from communities east of Burnaby.

Having experienced 23 per cent population growth over the past 15 years, Squamish is expected to significantly increase its population within the horizon of the Transit Future Plan (to 2040), and is already surpassing growth rates in Sea to Sky communities and the region overall, as shown in Figure 6.

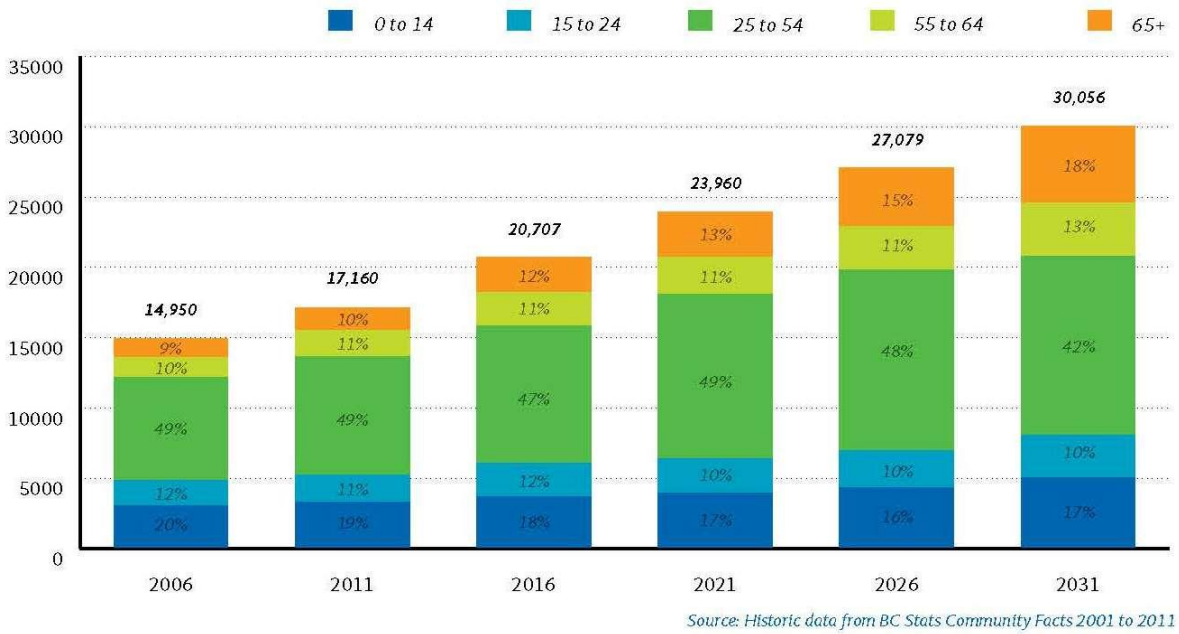
Figure 6: District of Squamish Forecasted Growth Scenarios to 2031.



The District of Squamish's Official Community Plan and its 2015 Development Cost Charge Bylaw Update estimate Squamish's 2035 population at 33,100.

Squamish's population had a median age of 36.8 as of 2011, which is younger than the provincial average. While the bulk of the community is comprised of people aged 25-44, Squamish's population is also aging, with the 65+ demographic projected to grow between now and 2031.

Figure 7: Squamish Population Growth Forecasts to 2031 by Age Cohort.

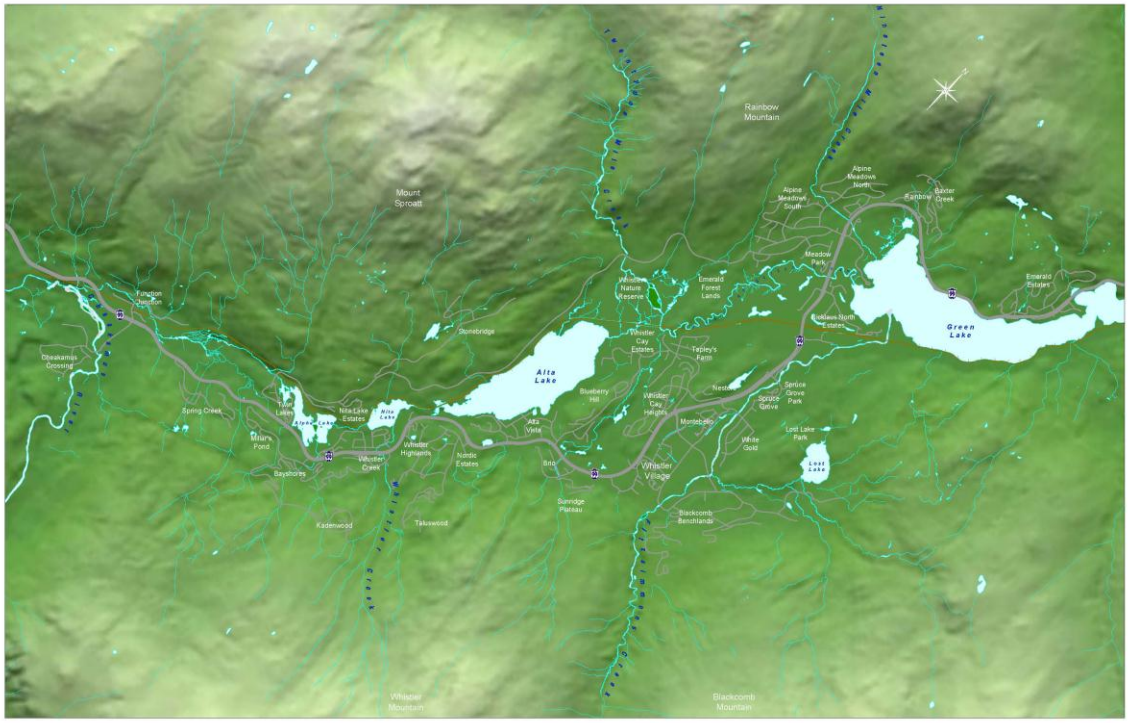


Squamish will continue to grow significantly over the life of the Transit Future Plan. Its age 0-14 and age 65+ populations will increase transit service demand in and around Squamish between now and 2040.

Whistler

The Resort Municipality of Whistler (RMOW) is located north of Squamish in the Sea to Sky Transit Future Plan study area, about 120 km or 90 minutes north of Vancouver by car. Whistler was incorporated as Canada's first designated resort municipality in 1975. Whistler hosts nearly two million annual visitors.

Figure 8: The Resort Municipality of Whistler (RMOW).



Whistler has experienced 120 per cent population growth in the last 25 years, increasing from 4,500 to over 10,000 today. Note that these numbers do not account for the total visiting population in Whistler at any given time. *Total population equivalent* is an estimate of the total population in Whistler on average at a given time during peak (winter) season. The RMOW's 2013 Economic Partnership Initiative Report estimates that the Population Equivalent was 28,500. This population equivalent can be considered in three subsets; the permanent population, one temporary population of visitors or tourists, and one semi-temporary population of seasonal workers who live in Whistler transiently. The RMOW Official Community Plan (2013 OCP, not approved) also identifies that seasonal swells in population can reach 45,000 on holiday weekends. Today, the Whistler Transit System is operationally planned to meet moderate spikes in seasonal transit demand. These nuances are discussed in more detail in the *Transit Today* chapter for Whistler.

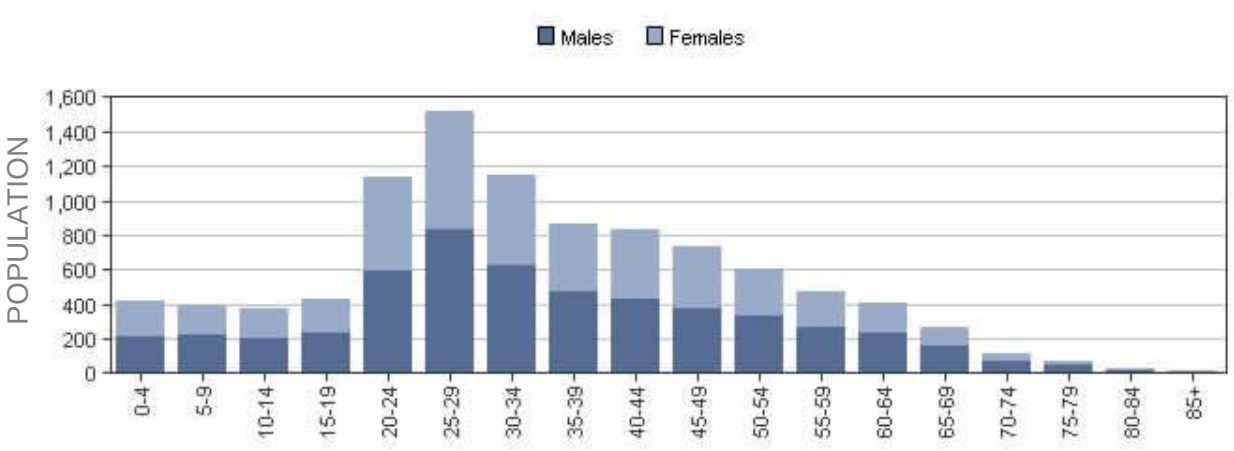
Whistler manages growth with three tools in its OCP; the Whistler Urban Development Containment Boundary (WUDCA), the Bed Unit Limit and the Whistler Land Use Map. A Bed Unit is defined as:

"A measure of development intended to reflect servicing and facility requirements for one person. Different accommodation types and sizes are allocated a specified number of bed units based on the gross floor area of the unit…"

The OCP Bed Unit Limit restricts Whistler's total Bed Units to 61,750 and notes that there is *"significant remaining development potential as part of its already committed and approved capacity"*. As remaining allocated bed units are built, Whistler will likely continue to see increases in its resident population and population equivalent.

Whistler is home to the youngest population in the Sea to Sky area. The median age in Whistler was 32.4 in 2011, with 44 per cent of its population represented in the age 25-44 demographic. 16 per cent of the provincial population is over the age of 65, whereas in Whistler, people aged 65 and over make up less than 5 per cent of the population. However, Whistler's senior population continues to grow.

Figure 9: Whistler Population by Age Cohort and Gender, 2014.



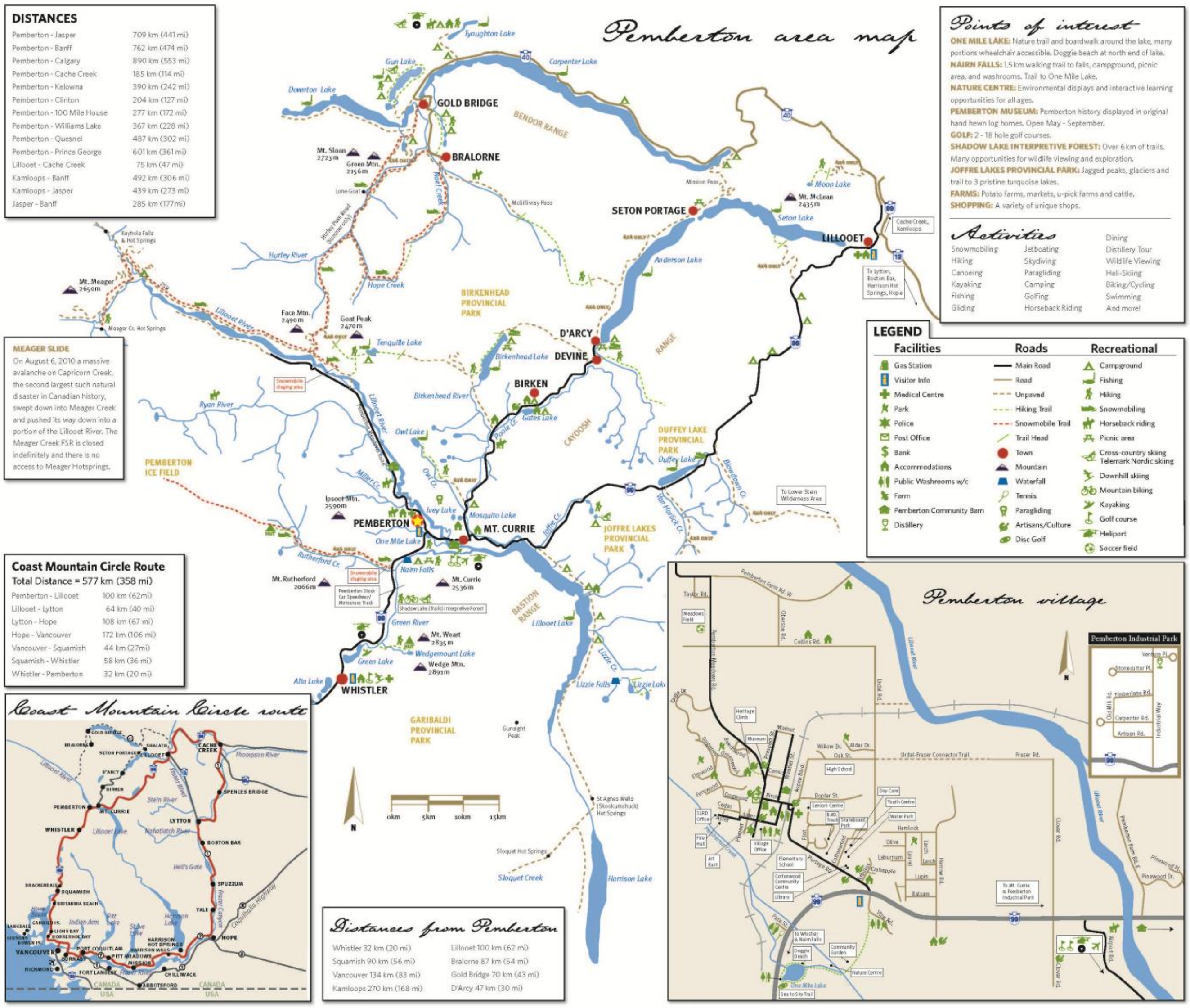
Source: RMOW

Although Whistler's permanent population is not expected to significantly increase, the Resort Municipality's year-round visiting population is expected to continue to grow over the life of the Transit Future Plan.

The Pemberton Valley

The Pemberton Valley is the northernmost group of communities in the Sea to Sky Transit Future Plan study area, located approximately 150 km northwest of Vancouver and about 30 km from Whistler.

Figure 10: The Pemberton Valley.



Source: Pemberton & District Chamber of Commerce

The Pemberton Valley is now home to nearly 5,000 people, with the Village of Pemberton at the centre of a growing community linked strongly to the Lil'wat Nation and SLRD Electoral Areas C and D.

The least populous of the Sea to Sky Transit Future Plan communities, the Pemberton Valley has also experienced significant population growth over the past 25 years, from 500 in 1991 to nearly 3,000 today. In 2005, The Pemberton Valley was the fastest-growing community in the province, with 13.9 per cent growth in that year alone. Population growth in both The Pemberton Valley overall as well as the

Village of Pemberton is expected, given the community's affordability and attractiveness, and especially considering that 47 per cent of the population falls within the childbearing age cohort.

In 2011, The Pemberton Valley had a median age of 34.9, which is younger than the provincial median as well as the SLRD's median.

The Pemberton Valley's young majority, combined with 21 per cent of the population being between the ages of 0-14, will create significant transit demand over the life of the Transit Future Plan.

Employment

Historically, resource extraction and manufacturing have been the main sources of economic value in the Sea to Sky area. Tourism and related service sector jobs have begun to outpace the resource sector in the southern part of the region, but have been impacted by the post-Olympic Games slowdown.

The 2015 District of Squamish Employment Lands Strategy projects a shift between today and 2031 to public sector human services jobs, targeted at serving population growth and an aging population. This trend is expected to be reflected across the Sea to Sky region, with the bulk of service sector jobs remaining in Whistler.

If the proposal to construct a facility for the extraction and export of liquid natural gas (LNG) in the Howe Sound area comes to fruition, hundreds of temporary (construction) and permanent (operational) jobs could be created in the region. It is likely that the local and regional economic outcomes of this venture will generate increased transit demand in Sea to Sky communities overall.

While the SLRD Regional Growth Strategy notes that a growing proportion of its population is beginning to work within the Sea to Sky area, about a third of the region's employment base continues to commute to work outside the Sea to Sky region. This commuting market (currently comprising mainly car drivers) is well-suited to being served by regional public transit.

Increased Investment in the Sea to Sky Region

= Increased Population & Employment Growth

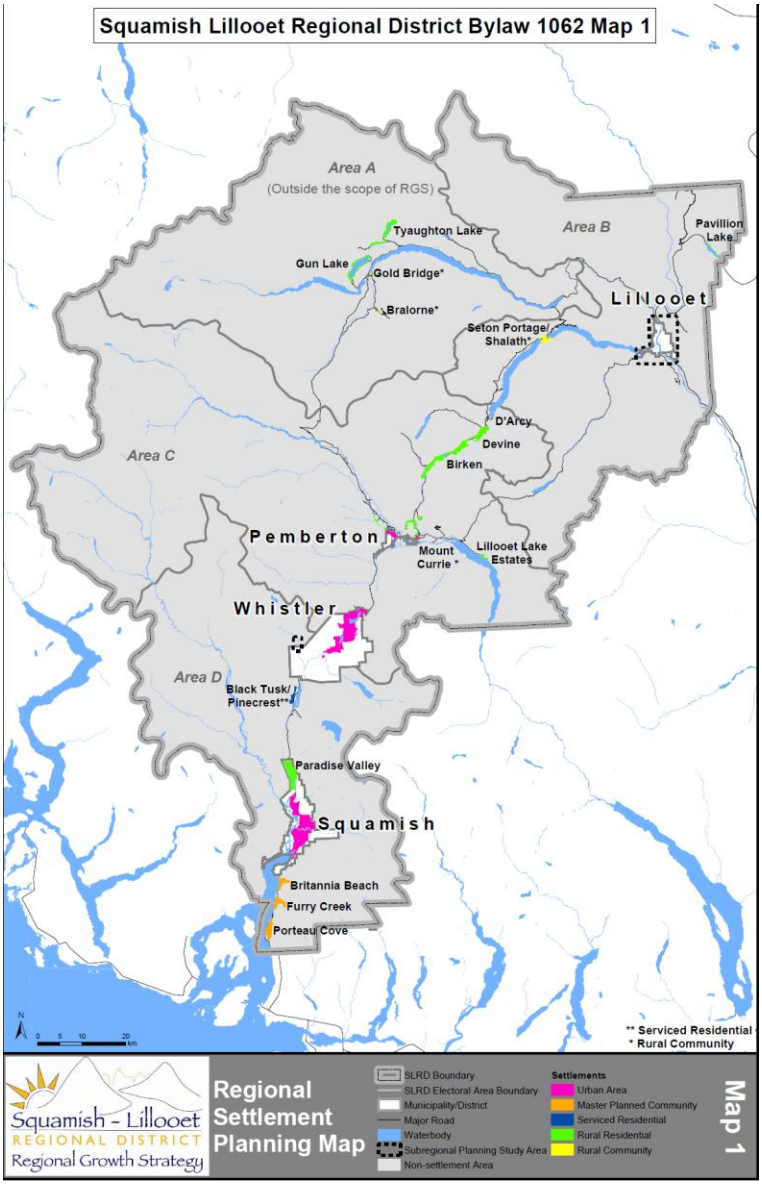
= Increased Transit Service Demand

Land Use

Sea to Sky Region

In addition to the communities of Squamish, Whistler, and the Pemberton Valley, several new and developing bedroom communities are taking shape in the Sea to Sky region. These include First Nations lands and electoral areas lands, Porteau Cove, Furry Creek, Britannia Beach, Pinecrest, Black Tusk, and WedgeWoods.

Figure 11: Rural and Suburban Development Areas in the SLRD.



Source: Squamish-Lillooet Regional District Regional Growth Strategy

These communities are primarily residential, and are dependent on access to larger centres for amenities. While the bulk of growth and transit provision in the region is concentrated in the more transit-friendly, larger centres, population and transit travel demand in these outlying areas will continue

to grow. Serving these low-density, low-population bedroom communities with transit will require a significant allocation of resources.

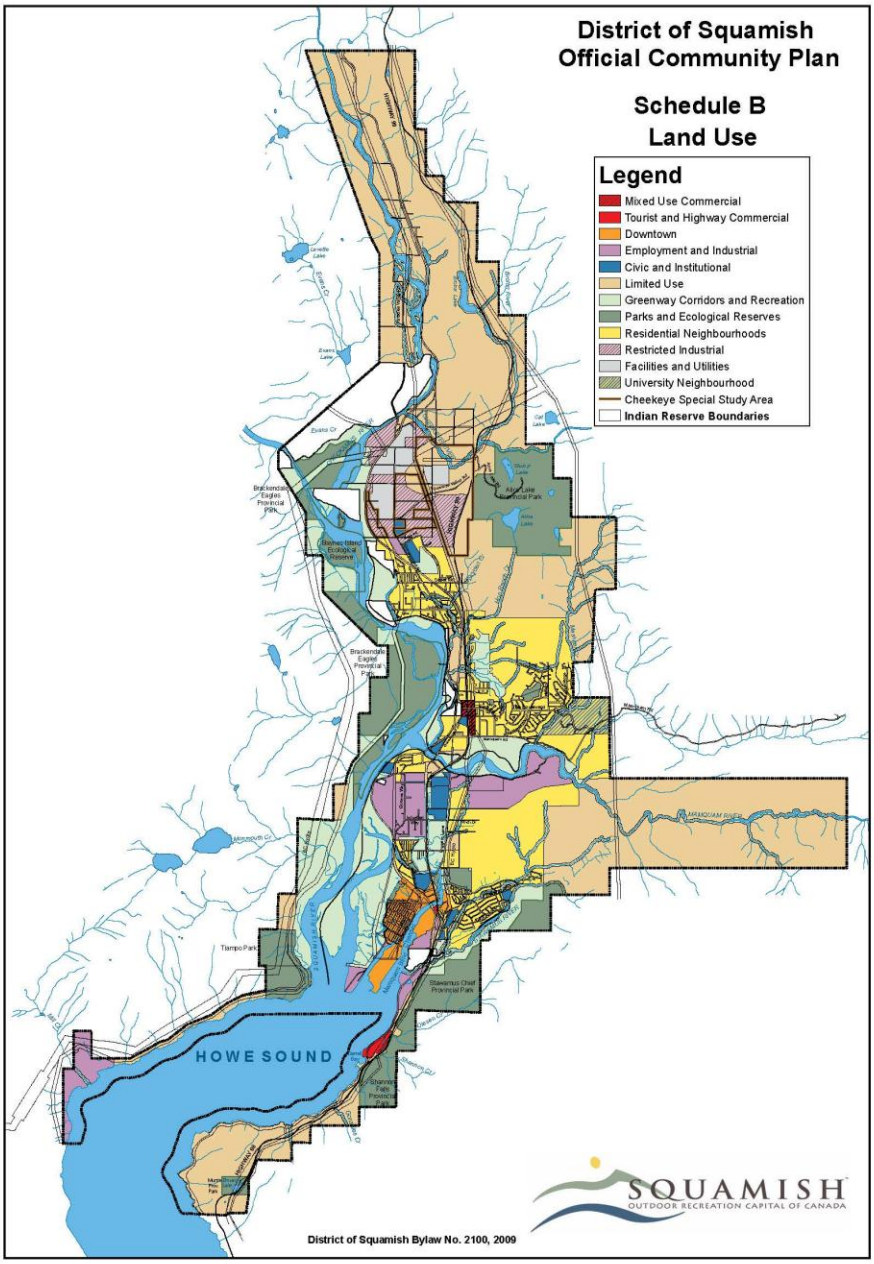
Although development is not concentrated into central areas within Squamish, Whistler, and the Pemberton Valley, these communities' neighbourhood-focused growth is generally transit-supportive. Growth in Sea to Sky communities is constrained by a limited land base containing natural hazards, steep slopes, lands with high elevations, protected areas, and lands in the Agricultural Land Reserve or with environmentally-sensitive features. Overall, this has encouraged creative land development in the region.

The Transit Future Networks have been planned to include transit expansion to areas that are projected to experience intensification or new development. These areas are shown in yellow shading on the Transit Future Plan Network maps.

Squamish

As a result of the constraints described in the previous section, approximately 25 per cent of the land base in Squamish is suitable for development, as illustrated in the map below.

Figure 12: Developable Areas within Squamish.



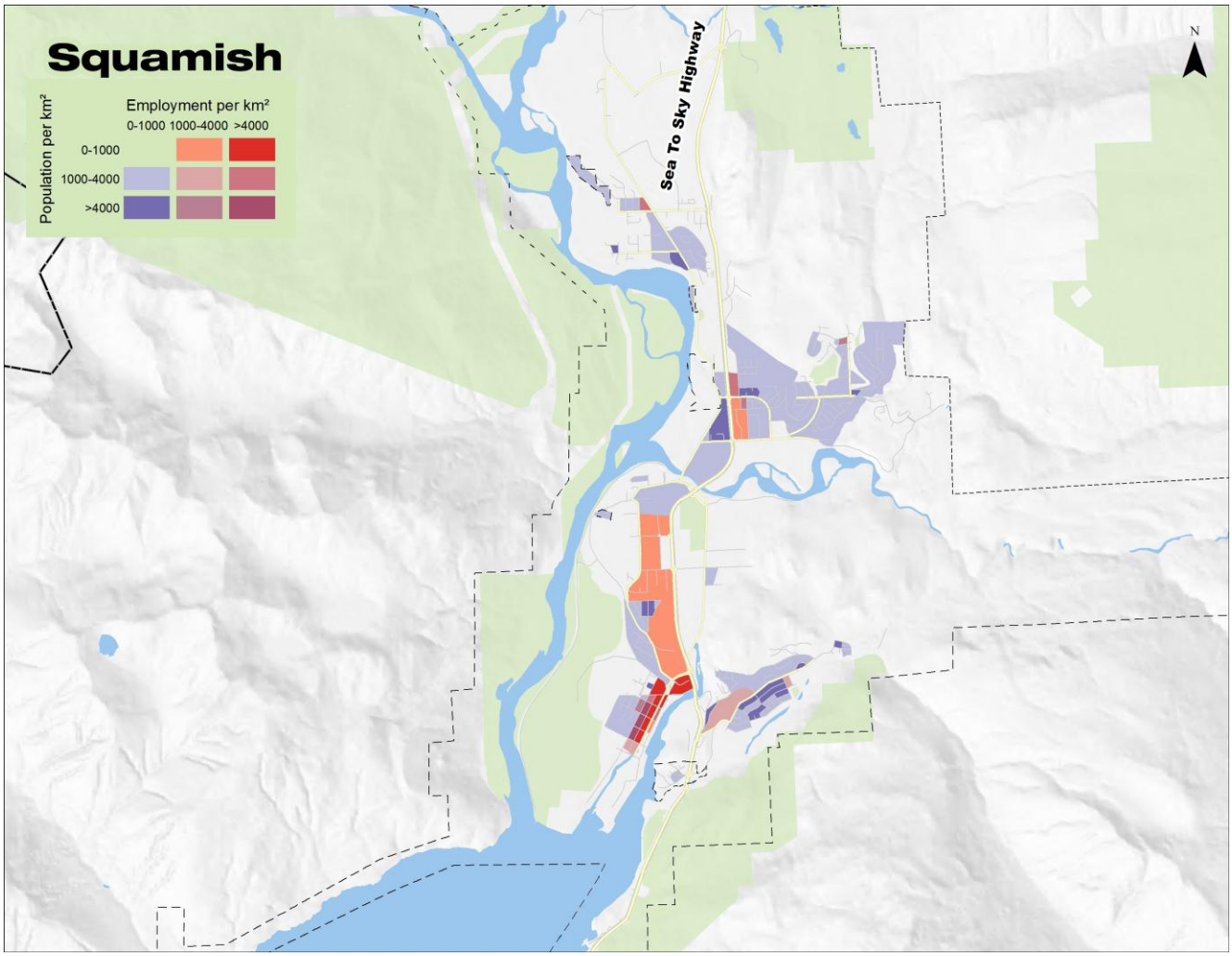
Source: Squamish Official Community Plan

Numerous new development and redevelopment projects are proposed or underway in Squamish, particularly in the yellow areas on the figure above. Downtown Squamish is also intensifying and undergoing some residential and commercial revitalization. Areas for future transit expansion have

been identified in the areas forecasted to develop significantly over the course of the Transit Future Plan, including Loggers Lane, Cheekye, Garibaldi Highlands, and Ravens Plateau.

As illustrated in Figure 13, Squamish's residential and employment areas are not generally co-located. The densest concentration of employment is in the downtown, while most of the residential growth occurs in communities in northeast Squamish.

Figure 13: Population and Employment Density in Squamish.



Source: BC Transit, based on Statistics Canada and BC Statistics data

Mixed-use developments where people can live, work, and shop in concentrated areas are generally easily served by transit.

Squamish's largest development currently underway is the Squamish Oceanfront Development project, which is a master-planned community aimed at revitalizing the oceanfront in downtown Squamish. The project is phased and includes a mix of uses and densities. Full buildout is expected over 20 years, with over 1,100 new homes projected for the area.

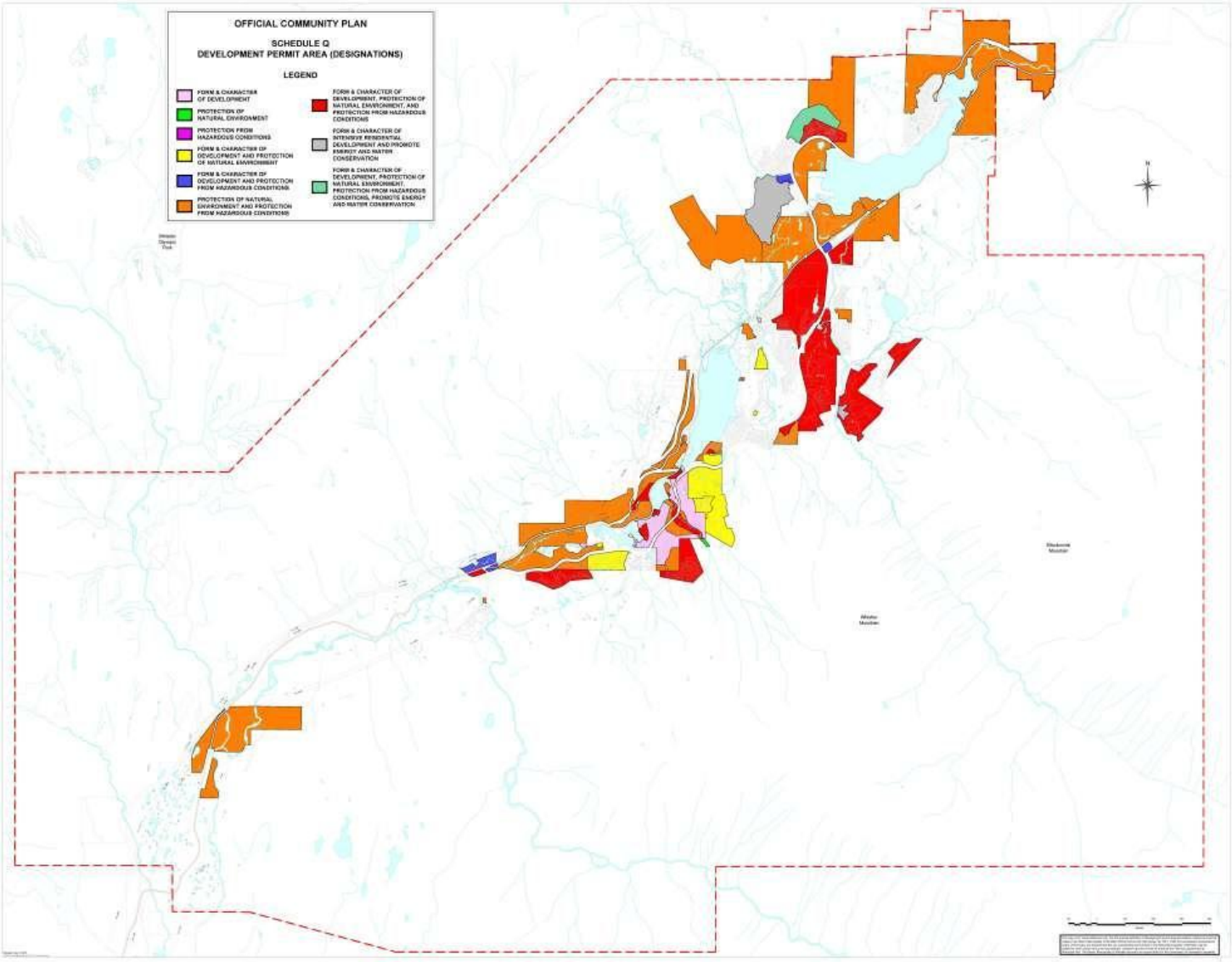
Figure 14: Squamish Oceanfront Development Plan.

Source: Squamish Oceanfront Development Corporation

Whistler

Whistler is a municipality of neighbourhoods, with the central Village boasting the majority of Whistler's dense, mixed-use development. Whistler's long, linear footprint contributes to many of its neighbourhoods' town centre-like retail areas.

Figure 15: Developable Areas within Whistler.



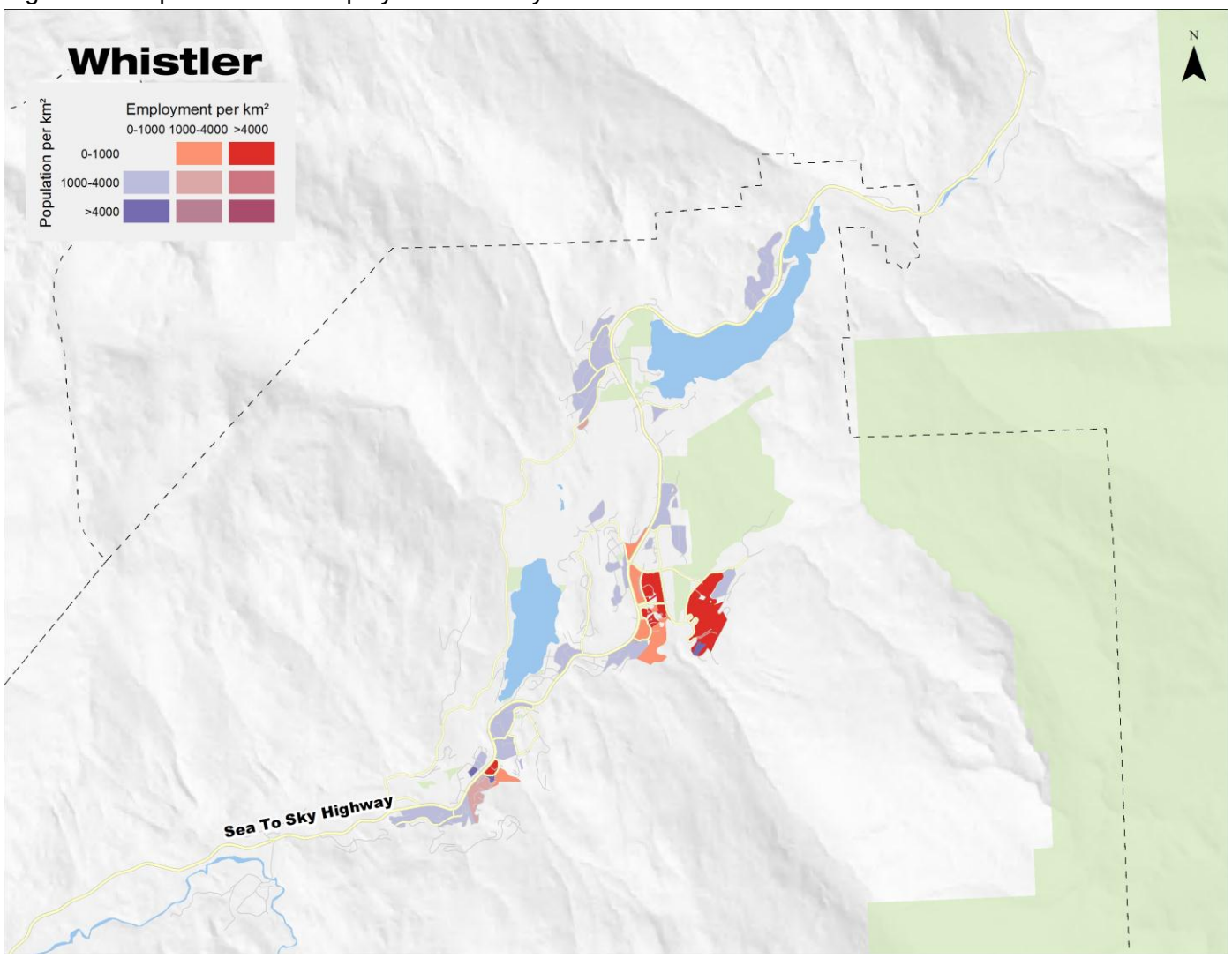
No major new development areas of significance to the Transit Future Plan are forecasted for Whistler at this time. The areas of Baxter Creek (above Rainbow Estates) and Cheakamus Crossing are expected to develop gradually, requiring more service on existing routes.

The Whistler-Blackcomb Master Plan and a revision recently submitted to the Provincial Government also identify areas for development, though no timeline for build-out is known. As Whistler-Blackcomb expands its business offerings and operations (for example, to the Whistler Creek base in the summer), transportation and transit patterns may change.

Future Transit expansion to new areas is subject to community changes, noting that the possible relocation of the Whistler Community Services Society (WCSS) offices and Re-Use-It Store to the area between Nesters and Whistler Village may result in a realignment of core transit service, as demand to WCSS facilities in Spring Creek and Function Junction may be reduced.

As illustrated in Figure 16, the highest concentration of employment is in the Whistler Village. Residential populations are concentrated in neighbourhoods south and north of Whistler Village, true to Whistler's development patterns of being a municipality of neighbourhoods.

Figure 16: Population and Employment Density in Whistler.



Source: BC Transit, based on Statistics Canada and BC Statistics data

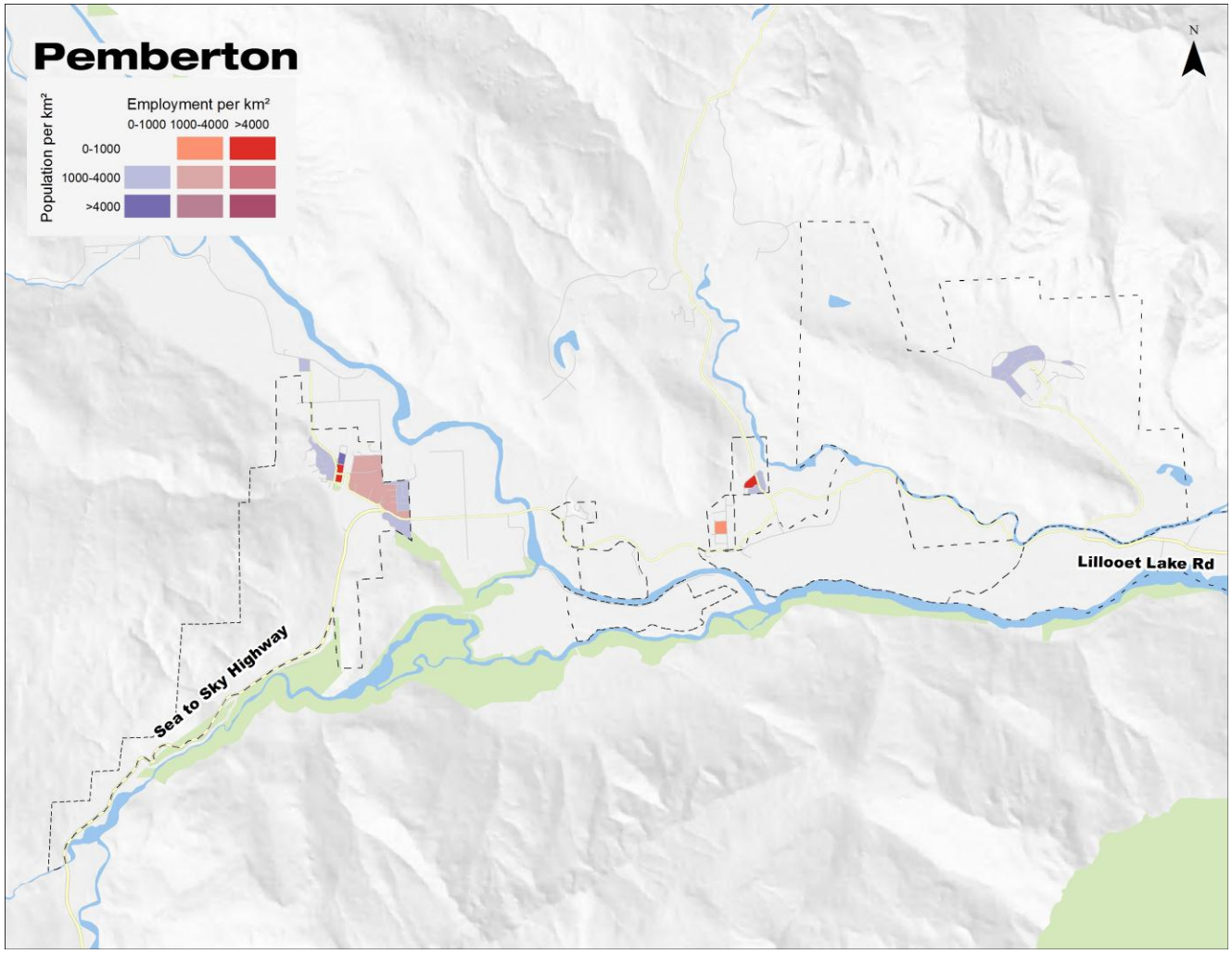
Whistler's success in developing communities that are accessible by transit and active transportation will enable efficient transit expansion over the course of the Transit Future Plan.

The Pemberton Valley & Village

The Village of Pemberton's physical footprint is quite small (about 30 per cent of the total area of The Pemberton Valley). In reflection of the physical development constraints described earlier, and with an eye to sustainability, growth is contained within the Village's Urban Growth Boundary.

As illustrated in Figure 17, people generally live and work in the centre of the Village, with growing residential numbers observed east of town in rural settlements. Figure 16 also illustrates that the Village of Pemberton is not a particularly densely-developed place.

Figure 17: Population and Employment Density in the Village of Pemberton.

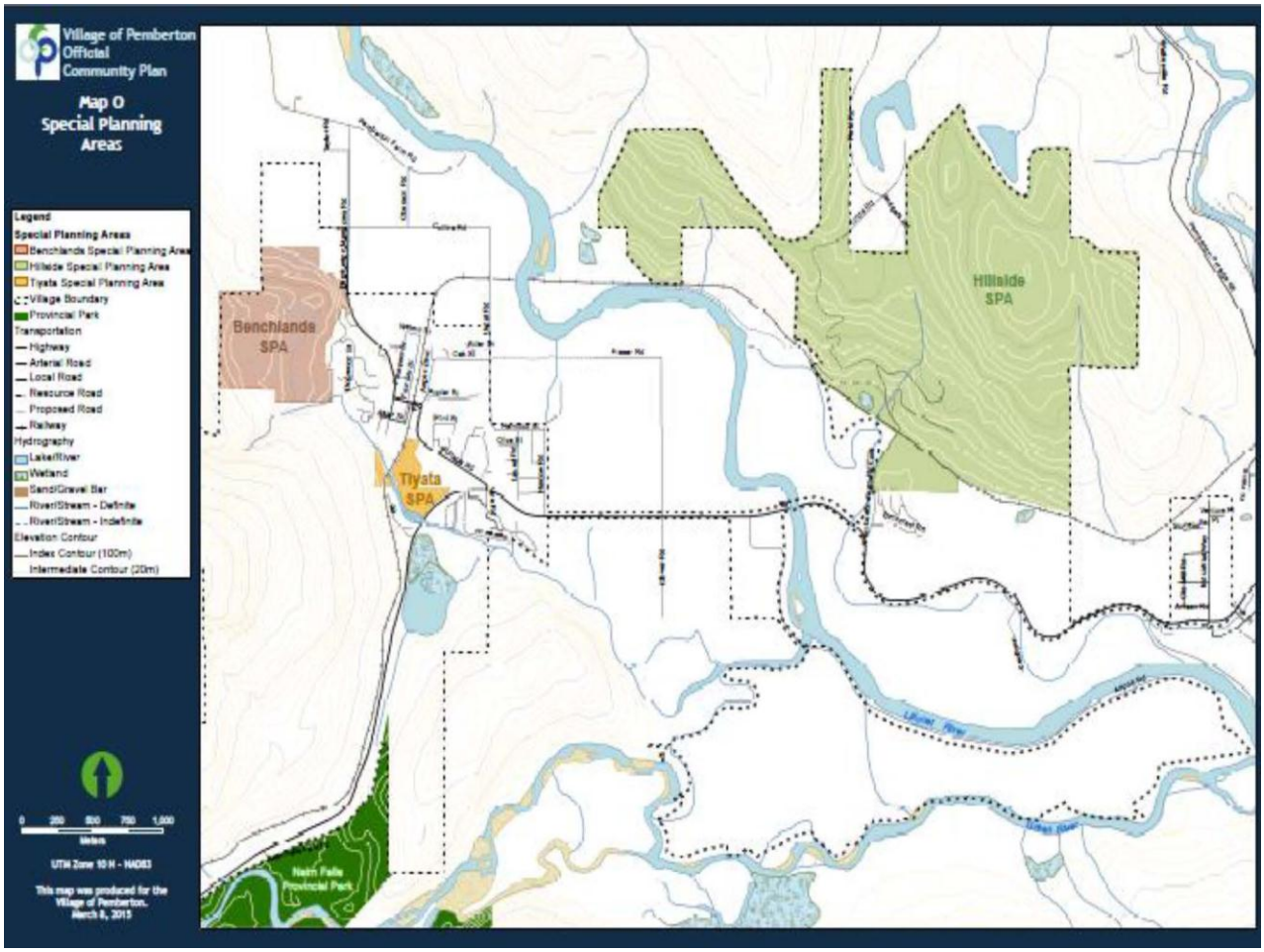


Source: BC Transit, based on Statistics Canada and BC Statistics data

Efficiently serving the growing rural areas around Pemberton with transit will require effective resource planning over the life of the Transit Future Plan.

Significant development – primarily residential - is planned to occur in the long term in the Benchlands, Tiyata, and Hillside areas.

Figure 18: Planned Development Areas in the vicinity of the Village of Pemberton.



Source: Pemberton Official Community Plan

Population, employment, and related land development will continue to increase over the life of the 25-year Transit Future Plan in and around Squamish, Whistler, and The Pemberton Valley.

Creating robust Local and Regional Transit networks to meet these increases will improve the environmental, fiscal, and socioeconomic sustainability of communities in the Sea to Sky region.

Transportation

Transportation within the Sea to Sky region today is comprised of a variety of services. While the area is most commonly accessed by car, an overview of transportation options in the area is provided here.

It is worth noting that most of the data presented in this section are from the Statistics Canada 2011 National Household Survey's Travel Behaviour section. Transportation data have not been collected on a national level since 2011, so more recent or current data have been included here in cases where data were collected and summarized locally.

Public Transit

Squamish, Whistler, and the Pemberton Valley are distinct communities with unique travel needs. Each of these communities is served by its own unique transit system with tailored services. More information about these transit systems is included in the *Transit Today* section.

A small portion of the corridor linking the Sea to Sky and Metro Vancouver regions is currently served by publicly funded BC Transit or TransLink. The Pemberton Valley is connect to Whistler via BC Transit's Pemberton Commuter and Lions Bay is connected to Park Royal via TransLink's Route 259.

School Busing

Public School District 48 (SD48) provides school bus transportation to nearly 1,000 elementary and secondary school students per day between September and June each year. The School District serves several schools throughout the Sea to Sky region with its fleet of about 30 buses, which are stored and maintained at SD48's own sites in Squamish, Whistler, and Pemberton.

SD48 provides school bus transportation when eight or more eligible pupils require transportation. Eligibility for school bus transportation is based on:

- Kindergarten to Grade 3 students living more than 3.2 km from the nearest school, and;
- Grade 4 to 12 students living more than 4 km from the school in their catchment area.

School bus routes are reviewed and finalized in September each year to be effective for the school year. Routes may be extended if population growth warrants.

While no formal school trips are allocated on the conventional transit systems in Squamish, Whistler, and the Pemberton Valley, it is estimated that student ridership comprises less than 30 per cent of all ridership in the Sea to Sky region. The bulk of this - about 20 per cent - is represented in Squamish, due to the community's demographics.

Future partnerships in operations, maintenance, and storage may be worth exploring with school bus and other private transportation providers as communities in the Sea to Sky region grow.

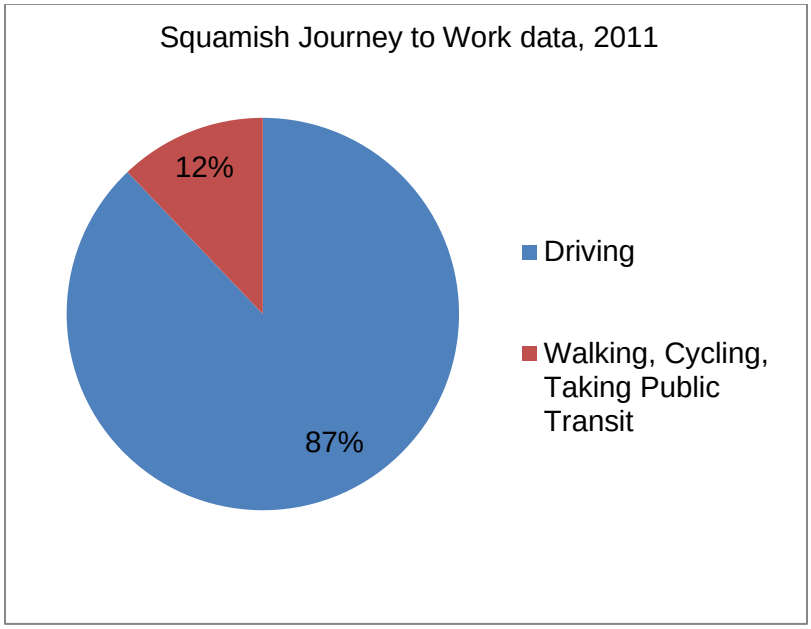
Car Travel (Private Vehicle)

Given the area's climate, topography, tourism/travel demand from other regions, and relatively transient population, transportation to, from, and within the Sea to Sky region is heavily car-oriented.

As reported in the 2011 Census, the majority of journey-to-work trips made in Squamish and Whistler were made by car, as a driver or passenger. These data are described in Figures 19 and 20.

About 87 per cent of all trips to work made in 2011 by Squamish residents were made by car.

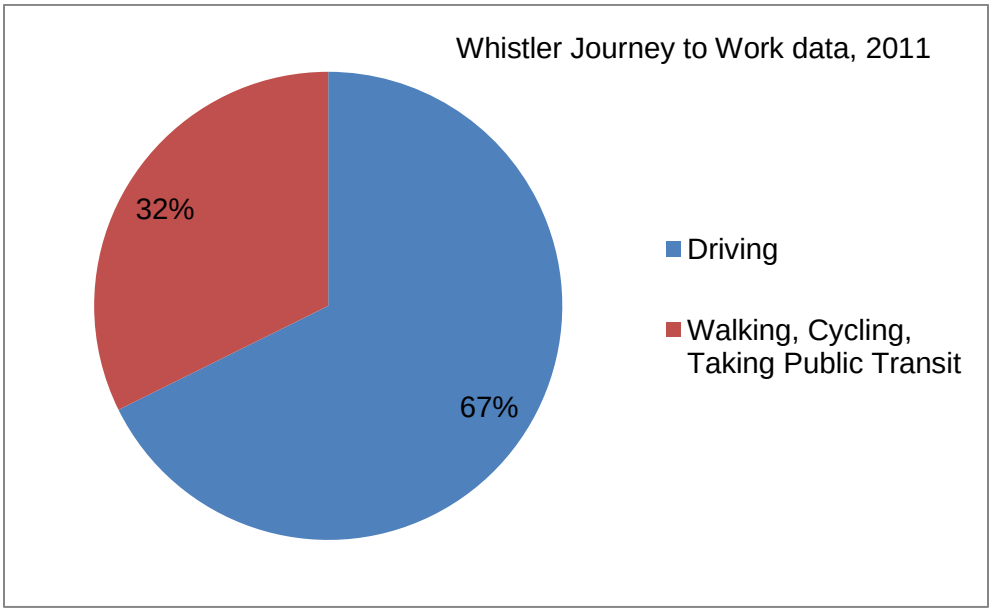
Figure 19: 2011 Squamish Journey to Work Data.



Source: Statistics Canada, 2011

About 67 per cent of all trips to work made in 2011 by Whistler residents were made by car.

Figure 20: 2011 Whistler Journey to Work Data.



Source: Statistics Canada

Although Census transportation data for Pemberton was not collected by Statistics Canada, the Village conducted its own community census in 2010. This census reported that about 46per cent of Pemberton residents use a car to access employment.

Squamish and Whistler are both linear communities that are situated along the Sea to Sky Highway. Although many neighbourhoods include areas of mixed amenity, some origins and destinations within Squamish and Whistler are up to 20 km apart. Robust Local and Core Transit Networks must continue to develop in order to serve this travel demand with transit.

Given the Village of Pemberton's size, origins and destinations within the Village are relatively close to one other. Major destinations outside the Village are spread throughout the Pemberton Valley, with the heaviest travel demand to the south of Pemberton.

Observed travel patterns *within* the Sea to Sky region show that the strongest travel demand exists between Squamish and Whistler, for access to amenities in Squamish and alpine recreation and jobs in Whistler.

The strongest observed travel pattern *outside* of the Sea to Sky region is to and from Metro Vancouver.

Distances between regional and interregional destinations are expressed in Table 1. Drive times between destinations often vary as a result of weather, congestion and based on road conditions.

Table 1: Distances between Metro Vancouver and Sea to Sky Communities.

	Vancouver	**Squamish**	**Whistler**	**Pemberton**
Vancouver		65km	120km	150km
Squamish	65km		60km	90km
Whistler	120km	60km		35km
Pemberton	150km	90km	35km	

In preparation for the 2010 Winter Olympic and Paralympic Games, significant infrastructure improvements were made to the Sea to Sky Highway (Highway 99) to enable improved travel between Metro Vancouver and the Sea to Sky area. The B.C. Ministry of Transportation and Infrastructure (MOTI) reports that at present, nearly 6 million trips are made on this corridor annually.

Less-direct road access to the Sea to Sky region is also possible from the east and north via the Trans-Canada Highway to the Lytton-Lillooet Highway(Highway 97), linking at Lillooet to Duffey Lake Road (Highway 99), which becomes the Sea to Sky Highway.

Several rideshare systems are in place throughout the Sea to Sky region, and hitchhiking and informal ridesharing is observed in the area.

Highway Coach and Shuttle Service

Highway coach and shuttle bus service to, from, and within the Sea to Sky region is overseen by the Passenger Transportation Board (PTB), which approves two Special Authorization Licenses for Inter-City bus service, in addition to approving trip frequency and communication with the public regarding service changes. These services include:

- Greyhound Canada - Through the PTB, Greyhound Canada is required to operate at least four round trips per day between Vancouver and Whistler, with additional requirements to serve West Vancouver, Lions Bay, Britannia Beach, Squamish, Black Tusk, Pinecrest, Pemberton, and Mt. Currie.

- Pacific Coach Lines (PCL) – PCL's SkyLynx service is licensed to provide daily trips from the Vancouver International Airport to Whistler. PCL is also permitted to stop at the Adventure Centre in Squamish and at hotels in downtown Vancouver.

Coordination with the PTB, as well as partnerships for providing Regional and Interregional bus service in the Sea to Sky, should be explored over the life of the Transit Future Plan.

Air Travel

Scheduled air access to the Sea to Sky region is limited to floatplane service to Whistler in the summer months, though unscheduled or chartered flights are also available across the Sea to Sky region.

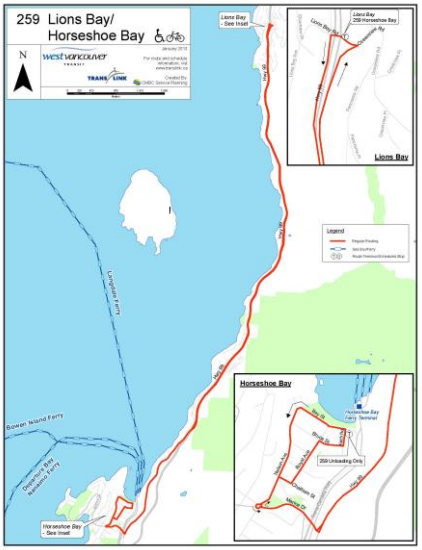
The Whistler floatplane terminal is located less than 1 km from a Route 1 bus stop on the Sea to Sky Highway. Pedestrian and cyclist access is safely accommodated between the floatplane terminal and the bus stop.

Ferry Travel

BC Ferries' Horseshoe Bay Ferry Terminal is located approximately 20 km from Vancouver and approximately 45 km from Squamish, linking Vancouver Island, Bowen Island, and the Sunshine Coast to the Sea to Sky region and to Metro Vancouver. The terminal docks multiple daily ferries all year round.

As illustrated in Figure 23, public transit access is provided by TransLink as far north as Lions Bay, but does not extend further into the Sea to Sky region. Greyhound Canada services Horseshoe Bay once per day.

Figure 21: TransLink Route 259.



Source: TransLink

Active Transportation

The Sea to Sky region is home to a robust cycling community, with many people cycling recreationally as well as for transportation within and between communities. While the Sea to Sky Highway includes a narrow shoulder bike lane in some segments, off-highway facilities are also in place, such as the Whistler Valley Trail and the Sea to Sky Trail. The Sea to Sky Trail is a 180 km multi-use trail that is still under construction, but will ultimately connect the Sea to Sky corridor from Squamish to D'Arcy. To the south, the Marine Trail links Horseshoe Bay to Squamish.

Walking *within* Sea to Sky communities is generally accommodated by sidewalks and trails, though these infrastructure networks are still growing in Squamish, Whistler, and Pemberton. East-west pedestrian access across the Sea to Sky Highway is accommodated by several crossings in Squamish and Whistler, and one crossing in the Village of Pemberton at the intersection of the Sea to Sky Highway and Portage Road. Crossings in Squamish and Whistler are illustrated in the following figure and maps, by crossing type.

Figure 22. Whistler Pedestrian Overpass.

Types of crossings across the Sea to Sky Highway:

- **Above grade crossing:** an overpass or bridge above the ground
- **Below grade crossing:** a tunnel under the ground
- **At grade crossing:** a crossing at ground level

Figure 23: Sea to Sky Highway Pedestrian Crossings in Squamish.

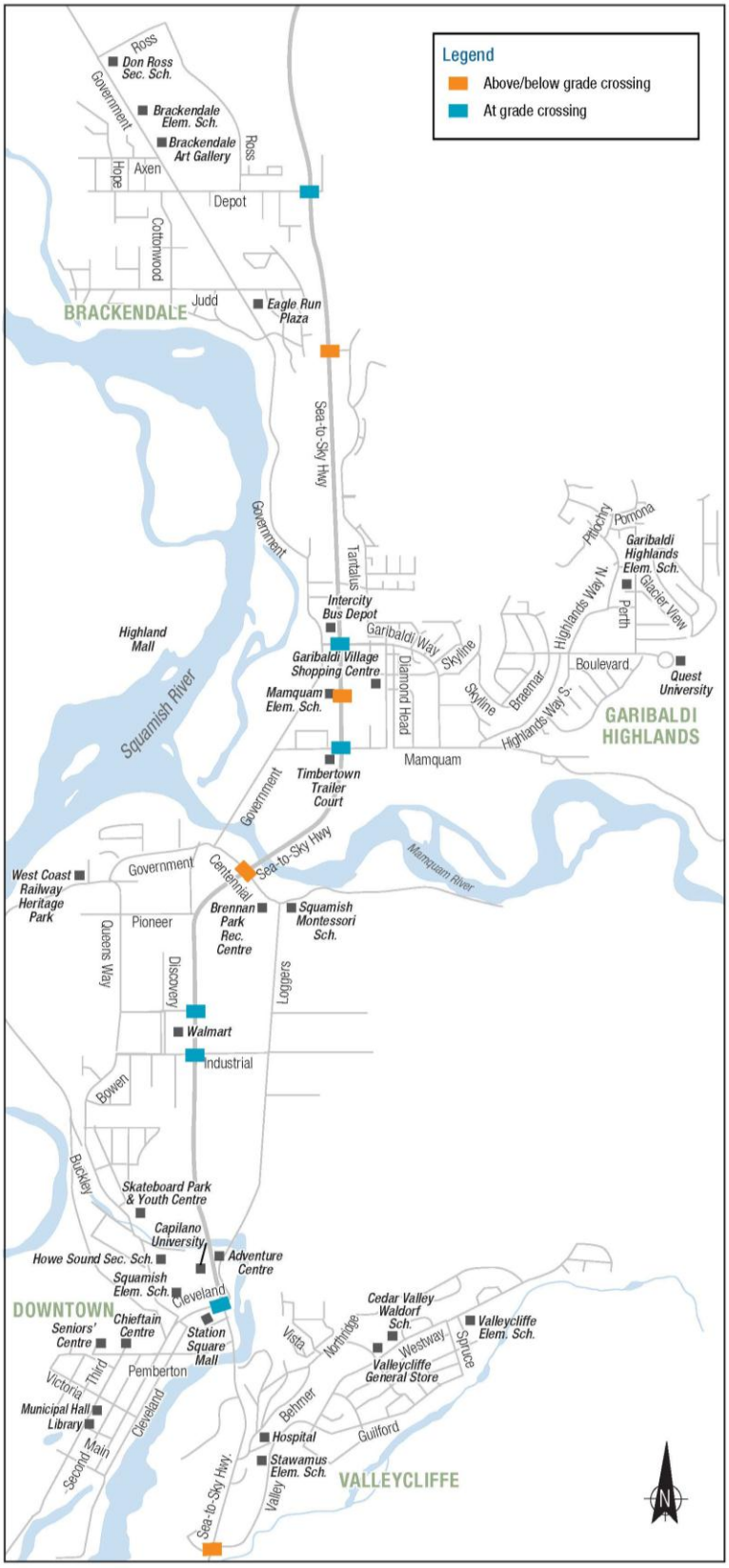
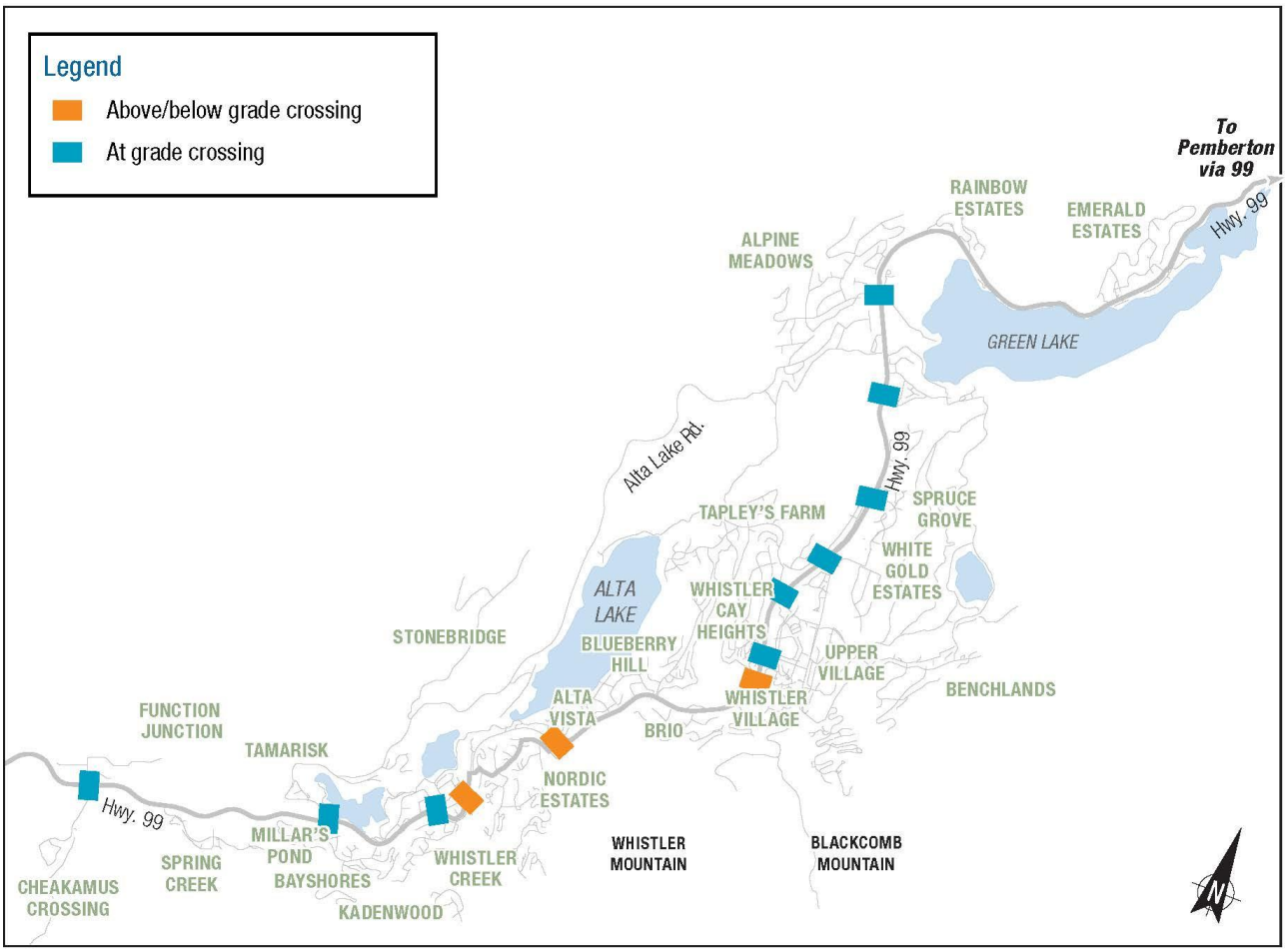


Figure 24: Sea to Sky Highway Pedestrian Crossings in Whistler.



Linking all modes of transportation to public transit to enable multimodal linked trips is a key objective of the Sea to Sky Transit Future Plan.

Links to other Planning Initiatives

A key principle of the Sea to Sky Transit Future Plan is to align with overarching strategic plans, as well as the area's existing land use and transportation plans. These plans and strategies, and their relationships to transit, are described in this section.

B.C. Provincial Transit Plan (2008)

The B.C. Provincial Transit Plan (PTP) is British Columbia's strategy for expanding fast, reliable, and green transit.

The PTP emphasizes that the best means of reducing transportation-related greenhouse gas emissions is to focus on dramatically increasing transit ridership (and thereby reducing single occupancy vehicle use), 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-supportive development. The Province's focus on increasing transit mode share, or the percentage of all trips that are made by transit, is captured in quantifiable targets set in the 2008 Plan, such as:

- Doubling transit ridership in B.C. to over 400 million trips a year by 2020
- Increasing the transit mode share in regional centres (areas outside of Victoria and Vancouver) from three per cent to 4 per cent by 2020, and 5 per cent by 2030
- Reducing greenhouse gas emissions and air contaminants from cars by 4.7 million tons by 2020

These regional transit mode share targets have informed the development of community-level transit mode share targets for each of Squamish, Whistler, and Pemberton.

BC on the Move (2015)

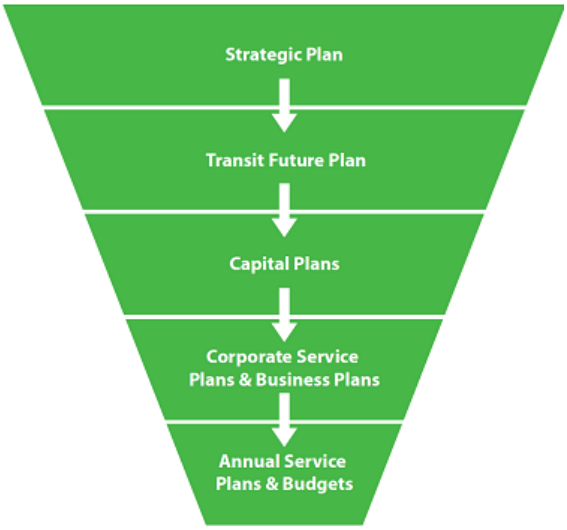
BC on the Move is the Government's 10-year plan for the improvement of the province's transportation network.

The Plan identifies investment in transit as a key priority, including specific provincial transit goals of:

- Maintain the highest level of operating support for transit in Canada, with the Province providing BC Transit with $312 million in operating contributions over the next three years
- Partner with local communities throughout the province to replace half of BC Transit's fleet (about 500 buses) over the next five years
- Partner with local communities to build transit infrastructure to provide more efficient operations and improved transit services
- Continue to work with BC Transit to improve transit service accessibility for people with disabilities

BC Transit 2030 Strategic Plan (2009)

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, and declares the organization's ongoing commitment to develop transportation options that connect people and communities to a more sustainable future.



The Transit Future Plan is designed to support key initiatives and priorities in BC Transit's Strategic Plan, specifically:

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

The Transit Future Plan components developed for each community provide guidance to future BC Transit Capital Plans, Corporate Three Year Service Plans, Annual Business Plans, and budgeting processes.

Squamish-Lillooet Regional District Regional Growth Strategy (2010)

The Squamish-Lillooet Regional District Regional Growth Strategy (SLRD RGS) acts as a guide in promoting development and services that are sustainable, recognizing a long-term responsibility for the quality of life for future generations. The RGS supports an improved regional transportation system that sustains compact, livable communities, economic vibrancy and a healthy environment. Additionally, the SLRD supports the development of a Regional Transit System that is convenient, efficient, integrated with land uses and other transportation modes, is financially sustainable, and connects the region with the Lower Mainland and the B.C. Interior.

The transportation focus of the RGS is to maintain and further improve current levels of transit ridership and to facilitate a regional approach to transit service.

This regional focus has been reflected in the development of the Sea to Sky Transit Future Plan networks.

Squamish-Lillooet Regional District Integrated Sustainability Plan (2013)

The Integrated Sustainability Plan is a document intended to help the Sea to Sky area navigate towards a desired sustainable future. The Plan addresses eleven strategy areas, one of which is transportation, and is concerned with the movement of residents and materials to, from and within the region in a more efficient and sustainable manner.

The Plan outlines the following goals to achieve by 2030:

- Travel modes are prioritized in the following order: 1) pedestrians and cyclists, 2) transit and goods movement, 3) private vehicles
- *Preferred* transportation modes as prioritized above are well-used and connect the region's communities and many rural areas to each other and to major destinations
- The transportation system and infrastructure is convenient, affordable, safe and accessible for people of all ages and abilities, and minimizes impacts on wildlife and natural areas
- Rail systems and rights-of-way have been preserved for passenger and freight service

Specific actions related to transportation and transit for the SLRD include:

- Lobby the Province to adequately fund a Regional Transit System
- Require new development to be transit-friendly, pedestrian-friendly and bike-friendly
- Encourage passenger/commuter rail service through the Sea to Sky corridor through a variety of actions: development approvals, provincial lobbying, etc.

The Transit Future Plan's focus on multimodal integration and regional connections aligns with these objectives.

Squamish-Lillooet Regional District Electoral Area C Official Community Plan (1999)

Based on the community's values, the SLRD Electoral Area C Official Community Plan aims to balance the demands placed on the land base in order to ensure an equitable, comprehensive, and logical distribution of land uses.

Specific objectives related to transportation and transit for the SLRD Electoral Area C include:

- Improving access by providing for a safe and efficient transportation network that allows year-round transportation through and within the area
- Supporting a transit system that connects regional communities
- Integrating road, trail, and transit systems to provide direct access to local and regional destinations

Additionally, in order to accommodate anticipated future growth, the plan recognizes 'special planning areas' with a design focus allowing for efficient and effective transit service.

Squamish-Lillooet Regional District Electoral Area D Official Community Plan (2014)

The SLRD Electoral Area D Official Community Plan addresses long range land use planning issues, and contains objectives and policies to guide local government decisions related to land use and development within Area D.

Specific objectives related to transportation and transit for the SLRD Electoral Area D include:

- Improving public transportation options
- Supporting transit-oriented development, to help ensure that all new development is transit-friendly.
- Identifying and supporting all opportunities for convenient, reliable, and lower impact multimodal transportation, e.g. walking, cycling, transit, auto share, water, rail, etc. and the infrastructure to sustain these amenities
- Designing for transit and alternate transportation modes especially in the designated Planned Communities, as well as retrofitting existing transit deficient communities.

Sea to Sky Air Quality Management Plan (2007)

The Sea-to-Sky Air Quality Management Plan (AQMP) is a regional, collaborative, action plan for protecting air quality in the Sea-to-Sky Airshed. The Sea-to-Sky Airshed is the geographic area that due to its topography and similar meteorology, shares the same air. It consists of the region from Bowen Island to just north of Pemberton including communities along the eastern and western shores of Howe Sound from West Vancouver, Horseshoe Bay, Lions Bay, and Squamish, through to Whistler, Pemberton and Mount Currie. A multi-stakeholder committee, the Sea-to-Sky Air Quality Coordinating Committee (AQCC), which consisted of provincial, region and municipal government representatives of the corridor, transit companies, utility companies and local industry, developed the plan. The implementation plan had three categories of actions identified. The Mobile Sources section has many actions related to improving transportation and transit options in the airshed much of which overlaps with the Sea to Sky Transit Future Plan Study area.

The 2007 AQMP specified that a Five Year AQMP Update Report be undertaken and include a detailed review of progress to date as well as recommendations for adjusting the AQMP over the next five year period. In 2010, the AQCC became Sea to Sky Clean Air Society (SSCAS) and in 2014 the SSCAS conducted a formal review of the Sea to Sky Air Quality Management Plan. The recommendations of the 2014 AQMP Review formed the basis of the S2S AQMP Implementation Framework, completed in 2015. This AQMP Implementation Framework details goals, strategies and actions for moving the AQMP forward, including actions related to transportation and reducing mobile emissions and reinforcing the importance of transportation issues in relation to maintaining good air quality in the Sea to Sky airshed. The Implementation Framework also emphasizes the importance of collaborative efforts among airshed stakeholders.

District of Squamish Official Community Plan (2009)

The District of Squamish Official Community Plan (OCP) outlines that the District will work towards providing a balanced transportation system that encourages transit, cycling, walking and other modes of travel that minimize greenhouse gas emissions. An update to the Squamish OCP is expected to begin in 2016, so the priorities outlined below could shift. Overall, the District is committed to working with Provincial and Regional authorities to ensure a safe and efficient transportation and transit system between the communities in the Sea to Sky area.

Transportation priorities outlined in Squamish's OCP include:

- A transportation network that enables transit to travel with a minimal reliance on the Sea to Sky Highway
- Continue to work with BC Transit to improve transit service frequency, and identify new routes to support emerging neighbourhoods
- Encourage BC Transit to increase transit service, improving transportation choice for residents in an effort to reduce transportation-related greenhouse gas emissions
- Work with BC Transit and other transit service providers to maintain current transit area plans and encourage commuter bus service connecting Pemberton, Whistler and communities to the south of Squamish
- Commercial and higher density residential development is encouraged on collector roads where transit service is planned, as is streetscape design that reflects the needs of transit, cyclists and pedestrians
- New development should follow transit-supportive land-use planning and transit-oriented design principles to encourage:
    - Residential densities that support transit service areas
    - A high proportion of housing within walking distance (400m or less) of a bus stop
    - Commercial developments that incorporate pedestrian and transit-supportive site design
    - Bus stops incorporated with sidewalk design for pedestrian safety and universal accessibility

These directives align closely with BC Transit's standards and objectives and can help ensure the continued expansion of the transit system.

Whistler2020 Moving Toward a Sustainable Future (2005)

Whistler2020 is Whistler's integrated community sustainability plan, highest level policy document, and vision. Whistler2020 is the community's shared vision and plan for continued success to the year 2020 – an ambitious step on a longer journey to a sustainable future. The plan has been developed to address social, economic and environmental challenges in an integrated manner.

The transportation component of Whistler 2020 envisions the movement of residents, visitors, and material to, from, and within Whistler being convenient, safe, seamless, and affordable. Transit-related aspirations include:

- Neighbourhoods are relatively compact and are easily accessed by transit and the Valley Trail
- Residents live, work and play in relatively compact mixed-use neighbourhoods that reflect Whistler's character, and are close to appropriate green space, transit, amenities and services
- Housing has been developed close to transit, pedestrian and bicycle routes, and amenities and services to reduce auto dependency
- Preferred methods of transportation in order of priority are:
    - Pedestrian, bicycle and other non-motorized means
    - Transit and goods movement
    - Private automobile (high-occupancy vehicle, followed by single occupancy vehicle)

This outlook has informed the development of the Transit Future Plan.

The Resort Municipality of Whistler (RMOW) Official Community Plan (1993)

Whistler's most current Official Community Plan (2013 OCP) is currently at third reading and will guide decisions on planning and land-use management for the resort community over the next 5-10 years and beyond in support of the Whistler2020 vision; *to be the premier mountain resort community, while moving toward sustainability*. The OCP and Whistler2020 work together to articulate the resort community's vision, values and shared commitment to collectively maintain a resilient, four-season tourism resort community and economy.

The RMOW has a goal of encouraging walking, cycling, and transit as Whistler's preferred modes of transportation. To this end where transit is concerned, the following policies are included in the OCP:

- Ensure neighbourhoods are well connected to transit, trails, green space, amenities and services
- Continue to operate a successful and accessible transit system in collaboration with funding and operating partners, expanding service area coverage and frequency as demand and resources permit
- Work with Provincial Government and regional stakeholders to develop an equitable regional transit model
- Preserve opportunities to modify Highway 99, such as queue jumper lanes for transit vehicles, while providing for local uses

The RMOW's OCP's sustainability-focused policies have informed the development of incremental, achievable targets in the Transit Future Plan.

Village of Pemberton Official Community Plan (2012)

The Village of Pemberton Official Community Plan provides clear policies and directions that focus on integration between sustainability, growth management, land use planning, and transportation. Specific transit goals include:

- Establishing a sense of arrival to the downtown, catering to transit and pedestrian/cyclist traffic
- Ensuring that transit service and infrastructure meets the needs of the work force, local residents, persons with disabilities, seniors and visitors
- Providing safe, efficient and effective transportation connections between the Village and surrounding employment and population centres

These goals have helped shape the goals and targets within the Transit Future Plan.

Lil'wat 2010-2015 Strategic Plan (2010)

The Lil'wat Strategic Plan describes the Lil'wat vision and values, and sets goals and strategic priorities for the Lil'wat people moving forward. No transportation-specific direction is provided in the Plan, although the Plan's focus on safety, security, and healthy communities aligns closely with the vision and goals of the Transit Future Plan.

Lil'wat Land Use Plan (2009)

The Lil'wat Land Use Plan outlines how land should be treated and used by the Lil'Wat nation and others in order to ensure that the lands and waters in the Lil'wat's Traditional Territory remain healthy. The plan describes the Lil'Wat vision and values for the Traditional Territory. From those values, the plan defines acceptable land uses and applies them to various portions of the Traditional Territory.

Lil'wat Community Land Use Plan (2015)

The 2015 Lil'wat Community Land Use Plan acts as an update to the 2009 Land Use Plan, provides additional details, and sets a vision for community land use objectives for the following five years. A special focus on safety and security related to transportation is echoed in this update from the Strategic Plan.

North Shore Area Transit Plan (2012)

Development of the Sea to Sky Transit Future Plan also includes analysis and input from TransLink's North Shore Area Transit Plan. This area transit plan provides guidance for transit service and infrastructure investments for the five municipalities (the City of North Vancouver, District of North Vancouver, District of West Vancouver, Bowen Island Municipality and the Village of Lions Bay) plus three significant First Nations' lands (covered by two different First Nations – Tsleil-Waututh and Squamish). Similar to the Transit Future Plan, the purpose of this plan is to coordinate transportation and land use, with the goal of increasing transit mode share in support of TransLink's regional objectives as stated in its long term strategy, *Transport 2040*. As part of this plan, an interregional transit service connecting Metro Vancouver with the Sea to Sky region was identified as a potential future project. The report recommends that interregional service along the Sea to Sky Highway be considered where appropriate levels of demand, operational and jurisdictional agreements, and sufficient funding and resources exist.

Future interregional transit studies linking the Sea to Sky region and Metro Vancouver should reference the North Shore Area Transit Plan, and should integrate with and complement TransLink's work and objectives.

Planning and Analysis Previously Completed by BC Transit

Transit systems in the Sea to Sky communities are assessed and reported on continuously. These analyses have helped inform the development of the Transit Future Plan. Recent major undertakings have included:

- Squamish Service Effectiveness Review (2012)
- Whistler Transit Service Review (2011)
- Whistler Transit System Winter Monitoring Program Report (2013)
- The Pemberton Valley Transit Service Review (2010)

Key Conclusions

- The Sea to Sky region and its communities are experiencing significant growth today, and sustained growth is projected over the life of the Transit Future Plan.
- While the bulk of growth is projected to occur in the southern part of the Sea to Sky region in and around Squamish, some growth in other areas of the region is expected. Strategic resource allocation will be required in order to maintain and continuously improve transit in the region overall.
- The region and its communities are home to a combined population that will grow increasingly dependent on public transit – very young people (0-14), people of childbearing age (18-40), and elderly people (65+).
- The absence of robust Regional and Interregional Transit service contributes to a high incidence of private automobile travel. Shifting travel behaviour to include transit as a preferred transportation mode will require significant resources.
- The Sea to Sky area sees a large seasonal variation in population, particularly in the summer and winter peaks when there is an increase in tourism. The transit system needs to be able to consistently and reliably accommodate these seasonal population influxes.
- There are several key transit passenger markets in the Sea to Sky region, including a growing number of seniors, work trips for commuters (within Squamish and Whistler, across the SLRD, and to Metro Vancouver), and trips for visitors to the area. Each of these markets has special needs and expectations for transit service. To grow ridership in each market will require special consideration of these needs, as well as appropriate resource allocation.
- A suite of strategic plans for the Sea to Sky region supports the development and implementation of the Sea to Sky Transit Future Plan to achieve common goals and targets.
- A culture of environmental, economic, and social sustainability is present in the Sea to Sky region, fostering transit-supportive development and travel behaviour.

Transit Today

Squamish, Whistler, and the Pemberton Valley are distinct communities with unique travel needs. Each of these communities is served by its own transit system with tailored services. These systems are represented in two categories:

CONVENTIONAL: A transit service using scheduled, fixed-route vehicles, operating according to published route maps and timetables.

CUSTOM (handyDART): A door-to-door service for customers with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.

Conventional and Custom transit service is provided by Diversified Transportation in Squamish, and Conventional transit service in Whistler and the Pemberton Valley is provided by Whistler Transit Ltd. Pacific Western Transportation is the parent operating company for transit in Squamish, Whistler and Pemberton.

Transit systems in the Sea to Sky region are described in this chapter.

Transit in the Sea to Sky Region

Transit ridership across the Sea to Sky region is among the highest in the province, with significant demand for transit service expansion around Squamish, Whistler, and the Pemberton Valley.

Regional service in this area began in 2000 with the Pemberton Valley Transit System's 99 Pemberton Commuter, which still links Whistler and the Pemberton Valley today.

The Squamish-Whistler Commuter (Route 98) was implemented as a winter-only pilot project linking Squamish to Whistler. The service started on January 3, 2005.

The Squamish-Whistler Commuter pilot project was cost-shared between the District of Squamish and the Resort Municipality of Whistler until 2007/08. In April 2008 this service expanded to include year-round service in when Provincial Government funding became available. At that time, the RMOW committed to continue funding the pilot project for three years to the end of 2010.

A fare increase was implemented in 2010 to help offset rising operational costs, which impacted ridership, along with speculation about the stability of the service and future funding for it. The District of Squamish funded the local share of the service for six months beyond the RMOW's involvement, but ultimately the service ceased in 2011.

The service linking Pemberton and Whistler is still in operation and is provided today by Whistler Transit Ltd. It is described in further detail in the *Transit in The Pemberton Valley* section.

Transit in Squamish

The Squamish Transit System was first introduced in 1990. The early transit system consisted of a single, infrequent, and circuitous route that operated to all neighbourhoods. Now 25 years old, the system has evolved into a multi-route system including Custom and Conventional service that connects most of the neighbourhoods in Squamish.

Conventional transit service is provided via four routes to Brackendale, Highlands and Valleycliffe neighbourhoods, in addition to a route along Tantalus Road that was introduced in 2013. Most of these routes offer service every 60 minutes with increased service during the busy peak periods. The Squamish transit network has a primary exchange in Downtown Squamish where all of the routes connect.

Recently, the Conventional transit ridership in Squamish has grown at one of the highest rates in the province. This is attributable to continuous population growth, transit-supportive land use planning, additional investment in transit, and the environmental sustainability values fostered in the community.

Squamish's Targeted or Custom Transit service (handyDART) is an on-demand transportation service for people who have a disability that is sufficiently severe that they are unable to use Conventional transit service without assistance some or all of the time.

Squamish's handyDART system has been in place since 1982 and has carried an average of 2,500 passengers per year to-date.

Routes

Squamish Transit operates four Conventional transit routes without significant seasonal operational changes. The system is described in Figure 25 and Table 2.

Figure 25: Squamish Transit System, 2015.

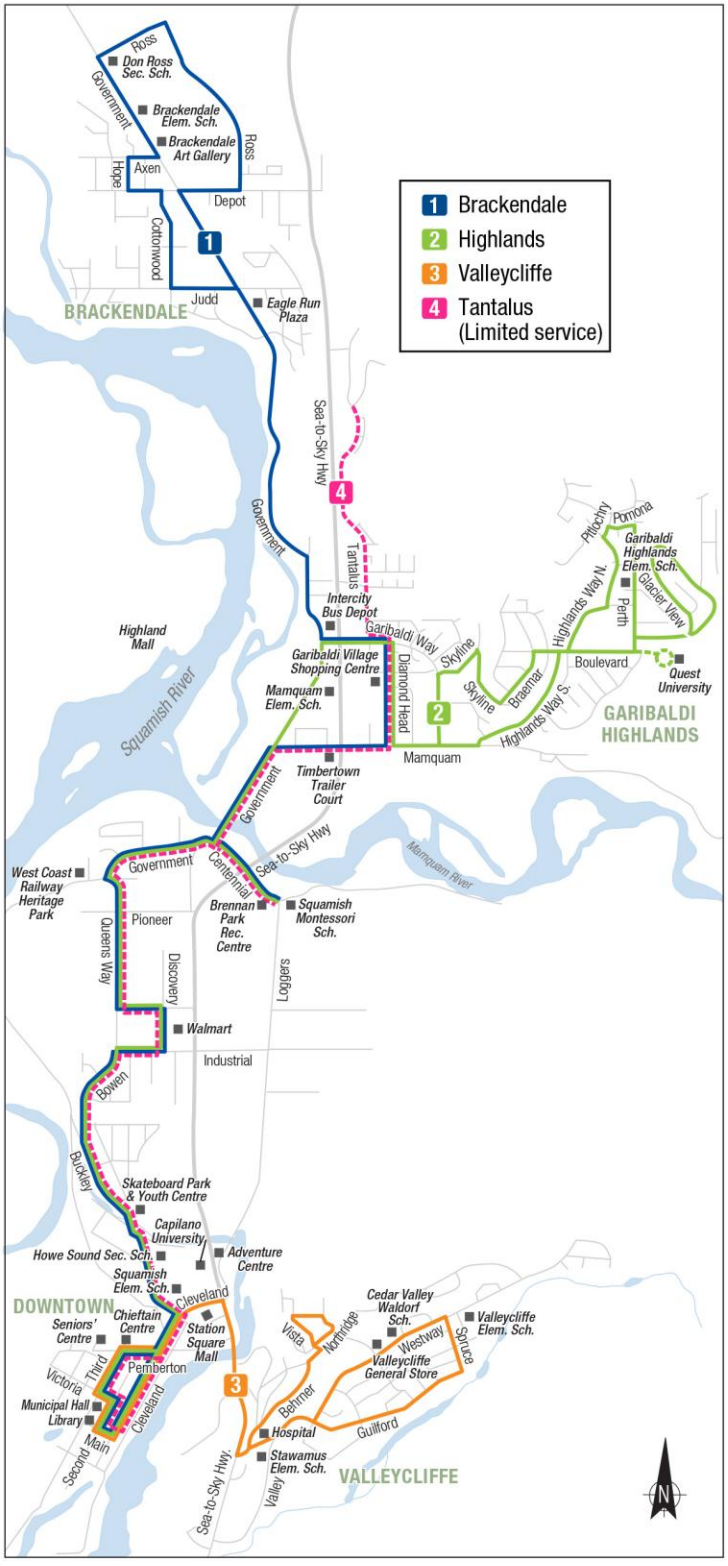


Table 2: Squamish Transit System Routes.

Route	Description
1 Brackendale	Provides service between Downtown Squamish and Brackendale with stops at Municipal Hall, Library, Capilano University, Skateboard Park and Youth Centre, Wal-Mart, Brennan Park Recreation Centre, Squamish Montessori School, Garibaldi Village Shopping Centre, Intercity Bus Depot, Eagle Run Plaza, Brackendale Elementary School and Don Ross Secondary School.
2 Highlands	Provides service between Downtown Squamish and Garibaldi/Highlands with stops at Municipal Hall, Library, Capilano University, Skateboard Park and Youth Centre, Wal-Mart, Brennan Park Recreation Centre, Squamish Montessori School, Intercity Bus Depot, Garibaldi Village Shopping Centre, Canadian Tire, Garibaldi Highlands Elementary School, and Quest University.
3 Valleycliffe	Provides service between Downtown Squamish and Valleycliffe with stops at Municipal Hall, Library, Station Square Mall, Stawamus Elementary School, Squamish General Hospital, Valleycliffe Elementary School, Cedar Valley Waldorf School, and Valleycliffe General Store.
4 Tantalus	Provides service between Downtown Squamish and Tantalus with stops at Municipal Hall, Library, Capilano University, Skateboard Park and Youth Centre, Wal-Mart, Brennan Park Recreation Centre, Squamish Montessori School, Garibaldi Village Shopping Centre, and Tantalus. This route has limited weekday service only.
handyDART	handyDART is not a fixed-route service, and instead provides door-to-door service for registered clients within Squamish's municipal area.

Ridership

The top-performing routes in Squamish are Route 1 Brackendale and Route 2 Highlands. These routes serve corridors of diverse and higher-density developments in Squamish along with connecting key activity centres such as Quest University, Garibaldi Village Shopping Centre and other popular commercial centres.

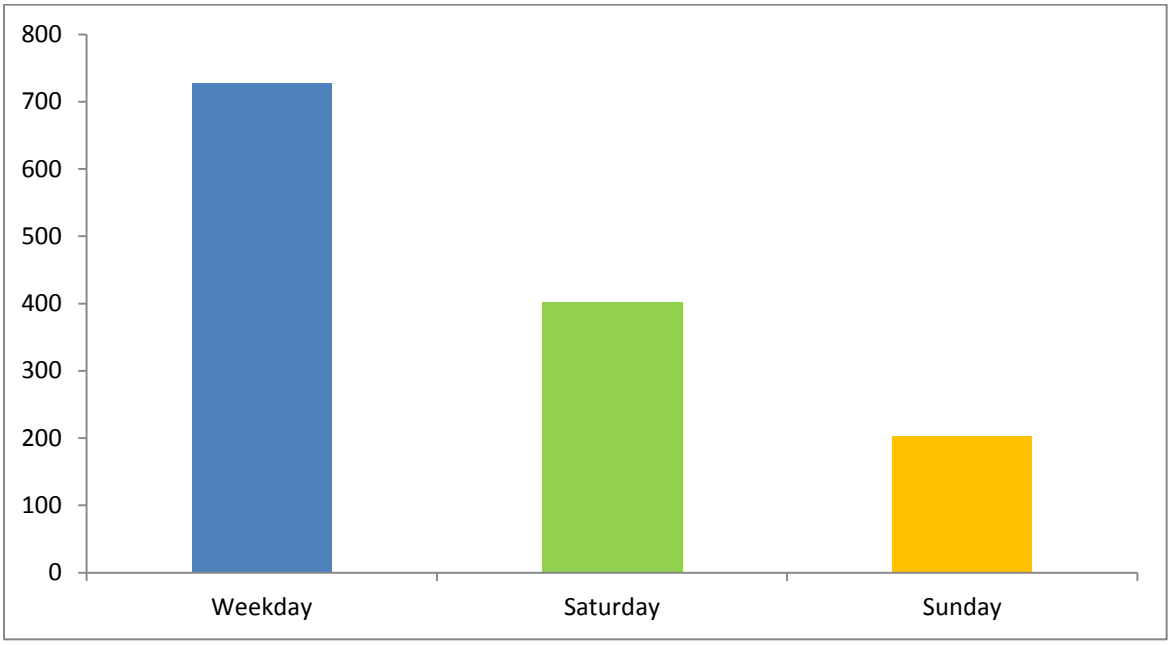
Table 3: Squamish Transit Weekday Ridership by Route.

Route Number	Route Name	Average Ridership Per Weekday	Hours Per Weekday	Rides Per Hour - Weekday
1	Brackendale	269	13.18	20.4
2	Highlands	218.3	13.43	16.3
3	Valleycliffe	186.4	8.57	21.8
4	Tantalus	53.1	4.45	11.9

Source: Farebox Data

Figure 26 illustrates the relative simplicity of ridership in Squamish; that ridership is highest on weekdays. Demand for increased weekend service was raised throughout the Transit Future Plan Participation process, so it is expected that if service increases on weekends, so will the ridership.

Figure 26: Squamish Transit Total Average Daily Ridership, 2014/15.



Source: Farebox data

Service Profile

Squamish enjoys medium frequency and span of Conventional transit service, though demand for increased frequency and span has been observed throughout the Transit Future Plan's Participation process. In 2013, approximately 3,000 service hours were added to the transit system. This expansion included extended evening service, new Sunday and holiday service, and a new peak period service that connects Tantalus to Downtown Squamish.

Table 4: Squamish Transit Service Profile, 2015.

Route		Monday-Friday		Saturday		Sunday and Select Holidays	
		Total Trips	Start/End	Total Trips	Start/End	Total Trips	Start/End
1 Brackendale	**To Brackendale**	17	6:15 am/ 10:56 pm	15	7:21 am/ 10:56 pm	5	11:15 am/ 6:17 pm
	To Downtown	17	6:20 am/ 11:06 pm	15	7:26 am/ 11:06 pm	5	11:24 am/ 6:43 pm
2 Highlands	**To Highlands**	16	7:18 am/ 10:41 pm	15	7:37 am/ 10:41 pm	5	10:30 am/ 6:01 pm
	To Downtown	16	7:27 am/ 10:48 pm	15	7:46 am/ 10:48 pm	5	11:06am/ 6:08 pm
3 Valleycliffe	**Loop Route**	22	6:30 am/ 9:59 pm	15	8:15 am/ 9:59 pm	4	10:00 am/ 3:59 pm
4 Tantalus	**To Tantalus**	7	6:30 am/ 6:26 pm				
	To Downtown	6	6:51 am/ 5:56 pm				
handyDART			8:00 a.m./ 4:30 p.m.				

Fares

Fares vary by demographic and fare type.

Table 5: Squamish Transit Fare Structure.

	Cash	Tickets (10)	DayPASS	Monthly Pass	Semester Pass
Adult	$1.75	$14.50	$3.25	$39.00	-
Seniors 65+	$1.50	$12.00	$2.75	$20.00	-
Student	$1.25	$12.00	$2.75	$20.00	$80.00
Children 4 or under	FREE				
handyDART	$1.75				

Transfers are available on the Conventional system, enabling travel on one fare for up to 90 minutes.

handyDART fares include two types of service:

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

Registered handyDART Customers using wheelchairs or scooters, or CNIB pass holders may travel with an attendant. Attendants travel free but must board and alight at the same times as the customer who requires assistance. Riders must register with the handyDART office before using the service; however, registration is free.

A fare review was conducted in 2012 as part of the Service Effectiveness Review. While the Review recommended a fare increase, this District of Squamish has chosen to maintain current fares with an eye to encouraging ridership.

Fleet

Squamish Conventional Transit operates six Conventional medium-duty buses, with four buses operating during the weekday peaks. Squamish Custom Transit operates two light-duty buses, with one bus operating during the weekday peaks. These ratios of operating-to-spare buses align with BC Transit's Fleet Maintenance and Safety requirements.

A medium-duty bus for Conventional Transit Service in Squamish can transport up to 49 passengers, with 27 seats and one wheelchair seat position.

Figure 27: Conventional Transit Bus.

Squamish Transit operates two light-duty buses for Custom or handyDART Service. Each of these buses can transport up to 20 passengers if no person using a wheelchair is on board, or 17 passengers including one person in a wheelchair.

Figure 28: Custom Transit Bus.

Squamish's Conventional transit bus fleet is equipped with bike racks that can accommodate up to two bicycles per rack.

Figure 29: Bike Rack on Conventional Transit Bus.

Bike rack use on Squamish buses is high. Throughout the Transit Future Plan's Participation process, stakeholders expressed a need for increased bike capacity on buses, including racks that can accommodate wider bike tires.

Bus Stops

Currently, there are 120 bus stops in Squamish, with 8 existing shelters. The District of Squamish reviews opportunities to install new bus stop and shelter infrastructure on an ongoing basis. The District's participation in BC Transit's Development Referral Program helps ensure that bus stop infrastructure is provided for new developments that are projected to generate transit demand.

Figure 30: New Bus Shelter in Downtown Squamish, 2015.

Bus Exchange

Today, Squamish Transit's converges at the Downtown Transit Exchange adjacent to the Chieftain Centre shopping development.

Figure 31: Squamish Transit Exchange.

The exchange has capacity for four medium-sized buses, which is suitable for existing operations. Future system growth may require a larger off-street bus exchange. As the transit system develops,

one prospective site for a secondary exchange is in central Squamish's rapidly-developing commercial and residential Garibaldi-Highlands area.

Park & Ride

While no formal facility exists in Squamish today, the introduction of regional service of any kind will require the identification of a site or multiple sites. Formalized Park & Ride facilities can also deter transit passengers from parking in nearby neighbourhoods.

Operations and Maintenance Facility

The Operations and Maintenance Facility is leased by Diversified Transportation and is located in south-central Squamish. The maintenance facility currently has three bays and fenced outdoor parking that can accommodate five medium-sized buses.

Additional planning work will be required to ensure there is capacity at the existing facility or another appropriate facility to service the system for the next 25 years.

Figure 32: Squamish Transit Garage.

Performance

PERCEPTION OF TRANSIT IN SQUAMISH

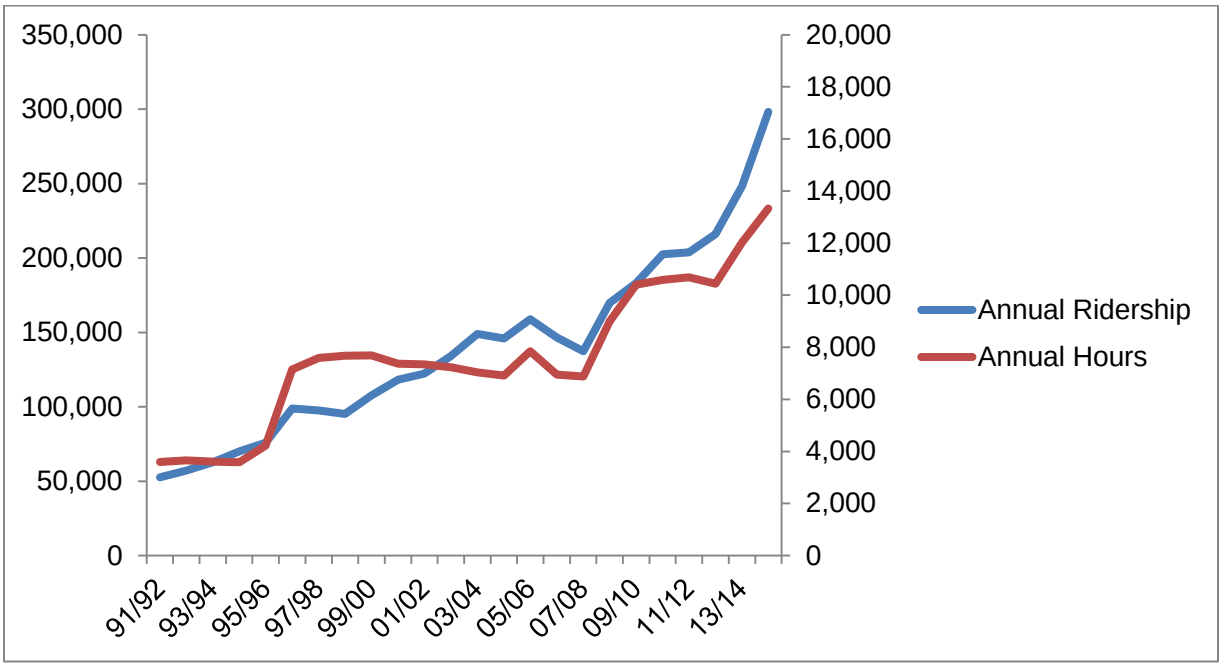
The Squamish Transit Conventional system's ridership is among the fastest-growing in British Columbia, with a reasonable level of customer satisfaction. Known for its focus on environmental sustainability, the District of Squamish has made transit a priority in their community, and is working hard to improve the attractiveness of transit.

PERFORMANCE OF TRANSIT IN SQUAMISH

Peer assessment typically involves comparing one community to other communities with similar population, annual service hours, and annual ridership. Benchmarking in this way can help convey the system's strengths and weaknesses, as outlined below. Operating costs vary significantly across the province due to operating conditions (climate, topography and passenger loads) and personnel costs - which are often driven by local cost of living - and agreements.

Ridership information in Squamish is collected and analyzed using magnetic swipe card data from the bus farebox and observational data from transit operators. Since its inception of service in 1990, Conventional transit ridership in Squamish has grown significantly to nearly 300,000 in 2014/15.

Figure 33: Squamish Conventional Transit Annual Ridership and Annual Hours.



Source: BC Transit IPS Actuals (1991 – 2013)

In 2013/14, Squamish's handyDART ridership was 5,426, which shows little change from the previous year. The existing handyDART system has capacity to serve some short-term ridership growth, though more resources will be required to effectively serve the growth that is expected over the long-term as the population in the Sea to Sky area continues to grow and age.

In general, Squamish Transit performs on par with its peer communities across performance measures. Annual statistics indicate a good use of the system – for every hour of Conventional transit service provided in Squamish, 20-25 passengers use the system. This trend is slightly higher than the peer community average of 19 passenger rides per service hour. On Squamish's Custom transit system, about 2.7 passengers use the system per service hour. This aligns with the average across peer Custom transit service communities.

Other highlights for the Squamish Systems include:

- A total of 248,371 Conventional passenger trips were made in 2013/14, which is 20 per cent higher than the average ridership among peer communities, and is a 20 per cent increase from the previous year
- The cost to the District of Squamish per passenger trip and per service hour for both Conventional and Custom transit service is higher than in peer communities. This is attributable in part to the linear form of the community, which requires more hours to serve it than many of its more compact peers.

Table 6: Squamish Conventional and Custom Transit Performance.

	Approximate Service Area Population	Annual Service Hours		Annual Ridership		Rides Per Hour		Cost Per Ride		Total Cost Per Hour*		Operating Cost Per Hour		Net Local Cost Per Hour**		Annual Cost Recovery	
		Conventional	Custom	Conventional	Custom	Conventional	Custom	Conventional	Custom	Conventional	Custom	Conventional	Custom	Conventional	Custom	Conventional	Custom
Squamish	18,000	12,021	2,000	248,371	5,426	21	2.7	$6.85	$48.96	$141.43	$132.49	$129.07	$119.49	$58.64	$46.17	14.4%	n/a
Cranbrook	19,000	11,716	3,625	224,496	7,522	18	1.9	$5.92	$34.61	$107.94	$69.86	$101.71	$65.10	$42.01	$18.91	18.8	n/a
Nelson	10,000	11,145	n/a	263,010	n/a	24	n/a	$5.39	n/a	$127.10	n/a	$110.23	n/a	$42.98	n/a	24.2	n/a
Penticton	30,000	22,751	3,000	432,384	21,428	19	2.2	$5.52	$11.06	$104.83	$48.64	$104.83	$50.79	$35.88	$11.68	25.5	n/a
Powell River	13,000	11,146	4,164	201,989	13,405	18	3.2	$6.00	$17.72	$108.81	$54.25	$98.76	$54.95	$39.41	$16.77	19.8	n/a
Prince Rupert	11,800	9,603	1,740	318,809	5,691	32	3	$3.22	$20.60	$119.55	$67.27	$103.43	$60.00	$31.48	$22.27	36.7	n/a
Kitimat	8,000	9,078	4,320	148,348	4,337	16	1	$7.58	$40.34	$123.92	$40.51	$106.90	$40.50	$54.02	$10.28	14.6	n/a
Terrace Regional	11,000	8,292	2,082	149,912	7,690	18	3.7	$5.31	$20.91	$95.99	$81.75	$85.25	$75.72	$33.35	$23.57	22.2	n/a

*Total Cost Per Hour is Total System Cost divided by annual service hours

Source: BC Transit IPS Actuals (2013/14)

Key Conclusions – Squamish Transit System

- Transit in Squamish has grown consistently and effectively, and demand for continued expansion has been observed.
- Squamish is a growing community both in terms of population and service area. Expanding transit to meet the needs of the community and its growing neighbourhoods will require careful resource allocation.
- Similarly, growing interest in outlying recreation areas from locals and visitors will require resource allocation.
- Squamish Transit performs strongly among its peers, with room for improvement as the system expands – particularly on its handyDART system.
- Squamish Transit's fleet and facilities will need to grow considerably to accommodate any of the transit service recommendations captured in the following chapters. This includes adding more buses, expanding to a second transit exchange, expanding or relocating its Operations and Maintenance Facility, and establishing Park & Ride sites within the District.
- The Squamish transit network is currently designed primarily for coverage which results in circuitous and long routings. As the community grows and the demand increases, the transit network should evolve to provide more opportunities for faster and more direct service between key activity centres, especially to attract new customers.
- Providing transit service to some of the growing bedroom community areas outside of the Squamish core will be resource-intensive.

Transit in Whistler

Introduced in 1991, what is now known as the Whistler Transit System had a simple vision – to emulate the success of transit systems in other resort communities such as Vail and Aspen, Colorado. The system started with five buses in 1991 and carried just under half a million passengers in its first full year of operation. In 1999, the system was rebranded as the Whistler and Valley Express (WAVE).

In 2010, Vancouver hosted the 2010 Olympic and Paralympic Winter Games with Whistler serving as the Host Mountain Resort. This was a major milestone for the Whistler Transit System, as it provided an opportunity to showcase the efficiency of the transit system and its world-class customer service. In preparation for the Olympics, an Operations and Maintenance Facility was built that is equipped to accommodate the transit system for many years into the future.

The Whistler Transit System has had many service adjustments over the years to match evolving economic conditions, travel demand, and resource availability. A suite of substantial changes was introduced in 2011, when nearly 20 per cent of service was eliminated in response to a decrease in resource availability. Service expansion since 2011 has occurred incrementally as resources have become available. Today, the system operates effectively and responsively.

Routes

The Whistler Transit System comprises five year-round Conventional routes and three seasonal routes. Whistler's system is pictured in Figure 34, and detailed in Table 7.

The Pemberton Commuter route, shown in Figure 35, also terminates Whistler Village. The Commuter is part of the Pemberton Valley Transit System, is operated by Whistler Transit Ltd., and is funded by the Village of Pemberton, the Lil'wat Nation, and the SLRD. The Commuter route is described in more detail in the *Transit in The Pemberton Valley* chapter.

Figure 34: Whistler Transit System, 2015.

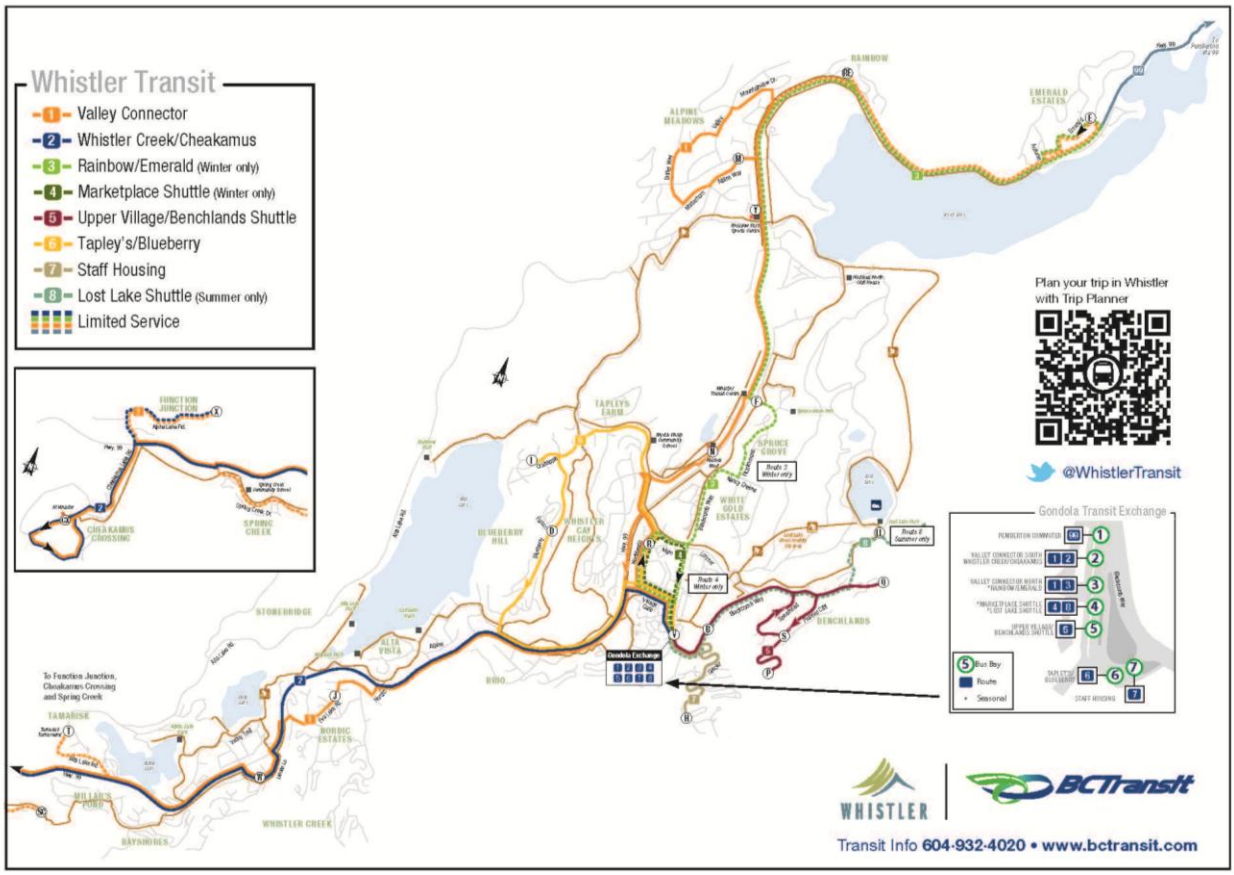


Figure 35: The Pemberton Valley Transit System, 2015.

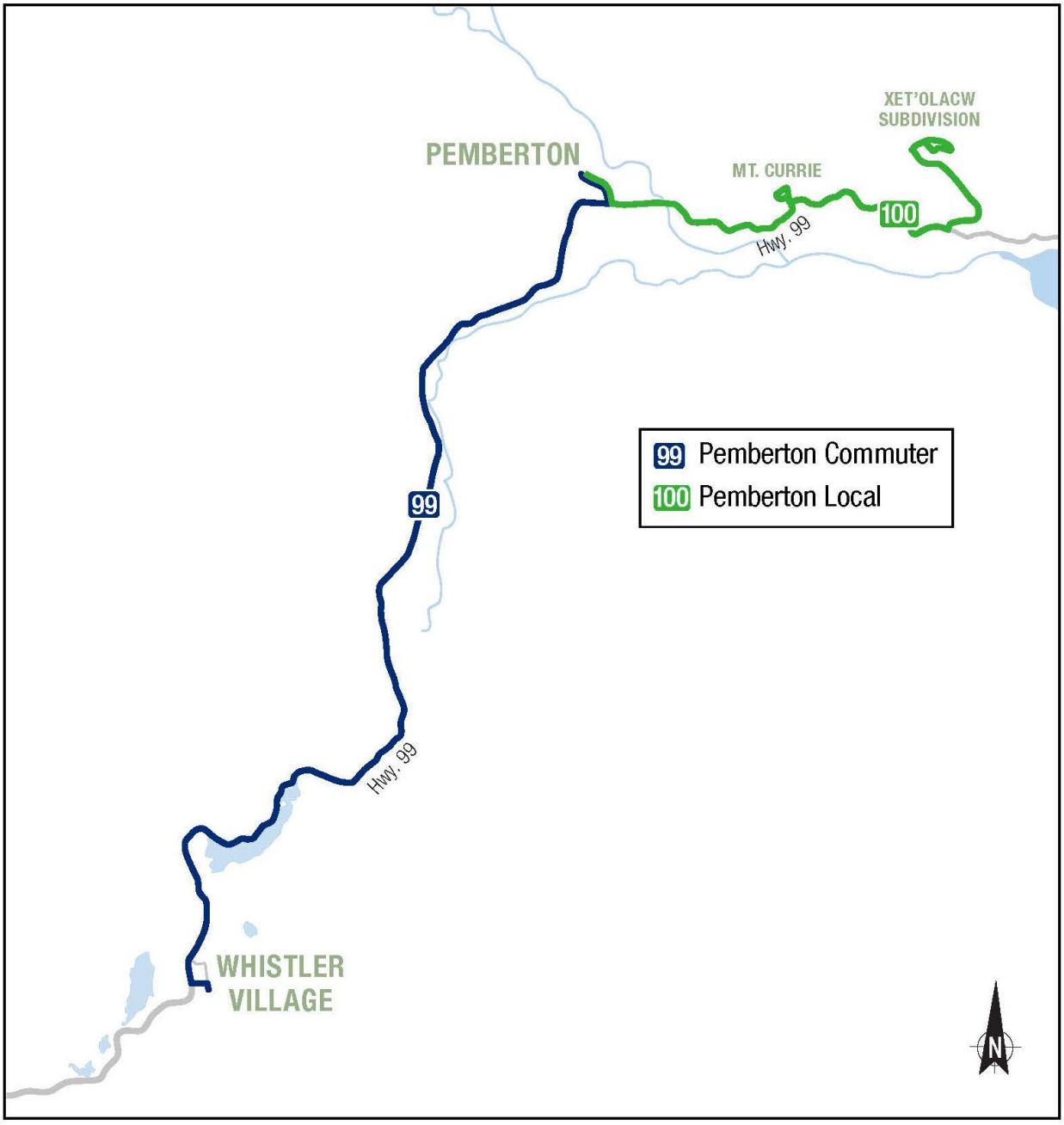


Table 7: Whistler Transit System Routes.

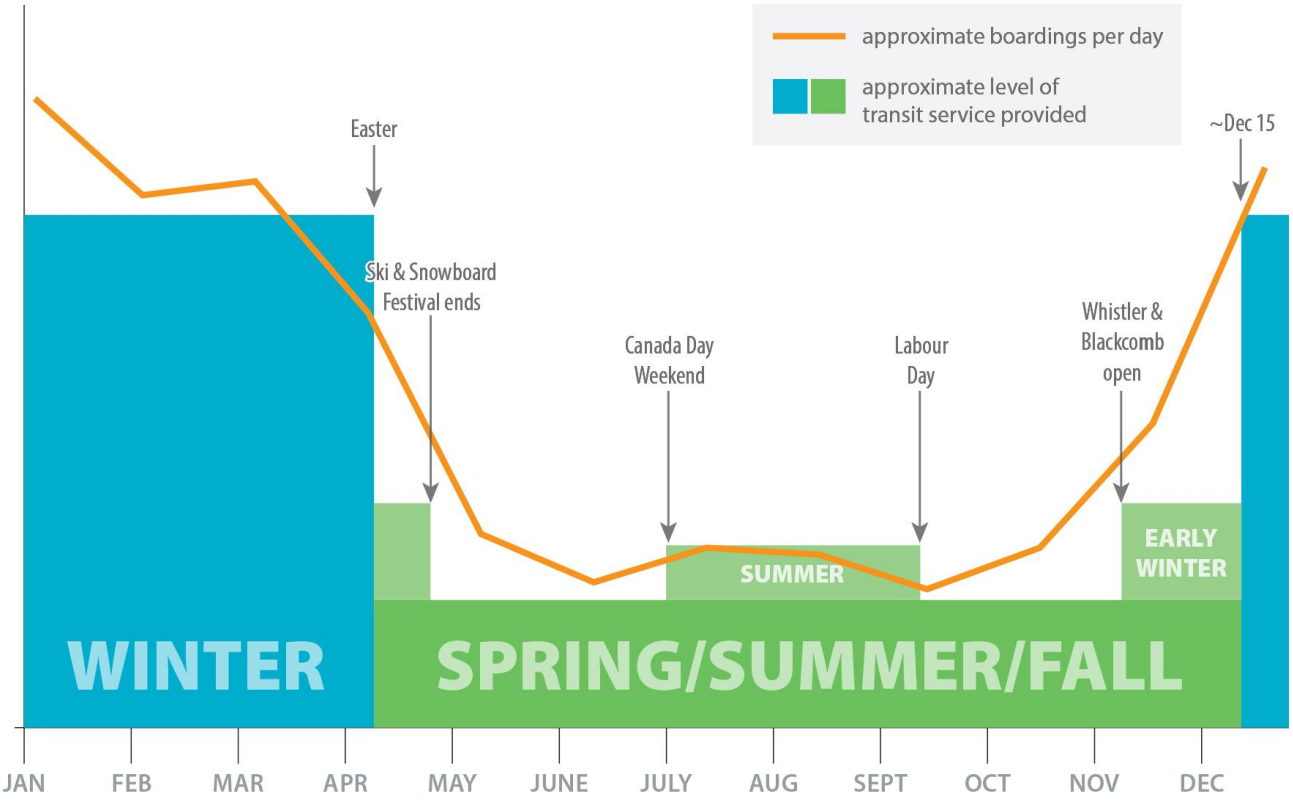
Route	Description	Free Shuttle
1 Valley Connector	Connects most of the residential areas both south and north of Whistler Village with key destinations: serving Cheakamus Crossing, Function Junction, Tamarisk, Spring Creek, Whistler Creek, Nordic, Whistler Village, Nesters, Meadow Park Sports Centre, Alpine Meadows, Rainbow Estates, Emerald Estates.	No
2 Whistler Creek/Cheakamus	Service from Gondola Transit Exchange in Whistler Village with stops along the Sea to Sky Highway at Blueberry, Brio, Alta Vista, Nordic, Whistler Creek, Bayshores, Tamarisk, Millar's Pond, into Spring Creek and into Cheakamus Crossing and Function Junction.	No
3 Rainbow/Emerald	Winter seasonal service from Gondola Transit Exchange in Whistler Village with stops in White Gold Estates, Spruce Grove, at Meadow Park Sports Centre, Rainbow Estates and Emerald Estates.	No
4 Marketplace Shuttle	Winter seasonal service that loops the core of Whistler Village. This service is free to the passengers.	Yes
5 Upper Village/Benchlands Shuttle	Provides service between Gondola Transit Exchange in Whistler Village and accommodations located in the Upper Village and Benchlands. This service is free to passengers.	Yes
6 Tapley's/Blueberry	Service from Gondola Transit Exchange in Whistler Village with stops at Myrtle Philip Community School, Tapley's Farm, Crabapple turnaround, Falcon Drive, and Blueberry Hill.	No
7 Staff Housing	Service from Gondola Transit Exchange in Whistler Village to Glacier Staff Housing Complex.	No
8 Lost Lake Shuttle	Loops between Gondola Transit Exchange in Whistler Village and the Lost Lake parking lot. Operates from the Canada Day long weekend to the Labour Day long weekend and is free to passengers.	Yes

All routes serve the Gondola Transit Exchange in the heart of Whistler Village, with trip frequency varying between 10 – 30 minutes. Route 3 Rainbow/Emerald and Route 4 Marketplace Shuttle operate only during the winter ski season and Route 8 Lost Lake Shuttle operates only during the summer months.

Ridership

As described in Figure 36 below, ridership in Whistler varies significantly by season and by day-of-week. It is clear in the illustration below that ridership is at its peak during the winter season on weekends.

Figure 36: Whistler Transit Service Seasons and Ridership.



Source: GFI Farebox Data

WINTER

Between the peak winter months of December to April, the service levels are high to accommodate the influx of transit-dependent winter staff and visitors. In these winter months, the weekend (Friday-Sunday) and holiday (Canadian and US holiday Mondays as well as school winter holidays) service levels are greater than the weekday (Monday-Thursday) service levels to accommodate these peaks in travel demand.

SPRING, SUMMER AND FALL

Current service is based on current visitation patterns. Between the spring, summer, and fall months of May through November, weekday service levels are reduced to align with significantly decreased overall travel demand. An increase in active transportation use during these months is also observed to influence transit demand over these months. However, Whistler is seeing a longer and busier summer season, which could result in increased transit demand.

During the transition time between the two seasons, layers of service are often added to accommodate projected demand (*Early Winter Extra Service Ramp-Up* and *Late Winter Extra Service Ramp-Down*).

Tables 8 to11 illustrate this seasonal variability, summarizing ridership on the fare-required transit routes from winter 2014/15 and summer 2014. These data have been intentionally collected in recent years in order to maximize efficiency in service planning for Whistler.

Note that the same level of detail has not historically been collected in the Squamish or The Pemberton Valley systems, though future growth could warrant increased data collection and analysis.

Table 8: Winter Weekday (Monday to Thursday) 2014/15 Service Characteristics, Whistler Transit.

Route	**Daily Trips Operated**	**Daily Revenue Hours**	**Average Daily Passenger Boardings***	**Daily Boardings per Revenue Hour***
Average				33.5
1 Valley Connector	183	112	3,876	35
2 Whistler Creek/Cheakamus	94	36	1,694	47
3 Rainbow/Emerald	50	20	504	25
6 Tapley's/Blueberry	34	12	326	28
7 Staff Housing**	27	6	359	59

* All route level performance metrics derived from GFI farebox data collected with an 85 per cent assessed accuracy.

**In Winter 2014/15 from 9:00pm to 8:00am service was free with rides sponsored by local businesses which resulted increased ridership from previous years.

Source: GFI Farebox Data

Table 9: Winter Weekend (Friday to Sunday) 2014/15 Service Characteristics, Whistler Transit.

Route	Daily Trips Operated	Daily Revenue Hours	Average Daily Passenger Boardings*	Daily Boardings per Revenue Hour*
Average				32.9
1 Valley Connector	197	112	4,017	34
2 Whistler Creek/Cheakamus	106	36	1,629	42
3 Rainbow Emerald	50	20	513	25
6 Tapley's/Blueberry	34	12	362	30
7 Staff Housing**	27	6	266	44

* All route level performance metrics derived from GFI farebox data collected with an 85 per cent assessed accuracy.

**In Winter 2014/15 from 9:00pm to 8:00am service was free with rides sponsored by local businesses which resulted increased ridership from previous years.

Source: GFI Farebox Data

Table 10: Summer Weekday (Monday to Thursday) 2014 Service Characteristics, Whistler Transit.

Route	Daily Trips Operated	Daily Revenue Hours	Average Daily Passenger Boardings*	Daily Boardings per Revenue Hour*
Average				19
1 Valley Connector	181	89	1,906	21
2 Whistler Creek/Cheakamus	31	15	406	28
6 Tapley's/Blueberry	24	9	70	8
7 Staff Housing	27	6	67	11

* All route level performance metrics derived from GFI farebox data collected with an 85 per cent assessed accuracy.

Source: GFI Farebox Data

Table 11: Summer Weekend (Friday to Sunday) 2014 Service Characteristics, Whistler Transit.

Route	Daily Trips Operated	Daily Revenue Hours	Average Daily Passenger Boardings*	Daily Boardings per Revenue Hour*
Average				19
1 Valley Connector	181	89	1,975	22
2 Whistler Creek/Cheakamus	31	15	401	28
6 Tapley's/Blueberry	24	9	67	8
7 Staff Housing	27	6	76	13

* All route level performance metrics derived from GFI farebox data collected with an 85 per cent assessed accuracy.

Source: GFI Farebox Data

FREE VILLAGE SHUTTLES

In 1991, BC Transit and the Resort Municipality of Whistler recommended a 'free fare zone' based on best practices gained from Vail and Aspen's transit systems which offer Free Skier Shuttles. The funding mechanism for this service was from an annual contribution from the Hotel Tax.

In the 1990s and early 2000s, the Free Village Shuttle routes carried approximately 50 per cent of all Whistler Transit System customers. Ridership in the fare free zone started with 250,000 annual customers in the early 1990s and peaked to 1,300,000 customers in the mid-2000s prior to the system-wide service reductions that took place in 2011.

The Free Village Shuttles in Whistler (Route 4 Marketplace, Route 5 Upper Village/Benchlands, and Route 8 Lost Lake) play a critical role in the Whistler transit network. The free shuttles are a critical part of the circulation of the Whistler Transit system, continually pumping people between the many activity centres and thus playing a major role in the economic vitality of the community. Today, the Free Village Shuttles are estimated to carry approximately 1,000,000 riders annually, representing 40 per cent of total Whistler Transit System customers. The Shuttles provide an essential service for visitors, employees and locals travelling around the Village.

The total ridership of the Free Village Shuttles between 2011 and 2015 is summarized in Table 12. This ridership is based on a revenue model; therefore all of the ridership for the free shuttles is combined together. Looking ahead, additional strategies are being developed to summarize the ridership on the Free Village Shuttle service on route-by-route basis.

Table 12: Whistler Free Village Shuttle Ridership, 2011-2015.

Year	Village Shuttle Customers	TOTAL System Ridership	System Rides/Hour	Free Rides/Hour
2011/12	983,721	2,608,310	40.9	102.5
2012/13	913,089	2,388,950	40.4	93.3
2013/14	919,918	2,368,693	39.7	88.8
2014/15	960,007	2,404,139	38.6	92.7

Source: BC Transit

In the winter of 2014/15, a pilot project to offer free service on the Route 7 Staff Housing during certain time periods (late evening and early mornings) was conducted. The purpose of the pilot was to improve safety and accessibility for the residents living in Glacier Staff Housing area. This free service was provided through a cost sharing agreement between local businesses in Whistler. This pilot project greatly increased Average Daily Passenger Boardings and Boardings per Revenue Hour from Winter 2013/14. If ridership continues to be successful, this arrangement will be pursued to be implemented on a permanent basis.

Service Profile

As discussed, Whistler enjoys high frequency and span of transit service in its peak season from late-November to April. Service frequency decreases in the spring/summer/fall to reflect transit travel demand. Transit operates seven days per week, 365 days per year, 23 hours per day during winter.

Table 13: Whistler Transit Service Span by Neighbourhood and Season.

Neighbourhood	Routes	Winter Service Span	Routes	Spring/Summer/Fall Service Span
Emerald	1,3	5:30 a.m. – 3:00 a.m.	1	5:30 a.m. – 3:00 a.m.
Rainbow	1,3	5:30 a.m. – 3:00 a.m.	1	5:30 a.m. – 3:00 a.m.
Alpine	1,3	5:30 a.m. – 3:00 a.m.	1	5:30 a.m. – 3:00 a.m.
White Gold/Spruce Grove	3	peak hour service	-	No Service
Marketplace	4	7:00 a.m. – 9:00 p.m.	-	No Service
Upper Village/Benchlands	5	6:30 a.m. – 1:00 a.m.	5	9:30 a.m. - 1:00 a.m.
Nordic	1	5:30 a.m. – 3:00 a.m.	1	5:30 a.m. – 3:00 a.m.
Whistler Creek	1,2	5:30 a.m. – 3:00 a.m.	1,2	5:30 a.m. – 3:00 a.m.
Spring Creek	1	6:00 a.m. – 1:00 a.m.	1	8:30 a.m. – 11:30 p.m.
Function	1,2	5:30 a.m. – 3:00 a.m.	1,2	5:30 a.m. – 3:00 a.m.
Tamarisk	1	after midnight only	1	after midnight only
Cheakamus Crossing	1,2	5:30 a.m. – 3:00 a.m.	1,2	5:30 a.m. – 3:00 a.m.
Staff Housing	7	5:40 a.m. – 2:30 a.m.	7	6:15 a.m. – 2:30 a.m.
Tapley's/Blueberry	6	6:00 a.m. - midnight	6	6:30 a.m. - midnight
Lost Lake	-	No service	8	10:00 a.m. – 6:00 p.m.

Fares

Fares in Whistler vary by demographic and fare type.

Table 14: Whistler Transit Fare Structure.

	Cash	Tickets (10)	DayPASS	Monthly Pass	Seasons Pass (6 Month)	Seasons Pass (12 Month)
Adult	$2.50	$22.50	$7.00	$65.00	$330.00	$585.00
Seniors 65+ / Student	$2.50	$18.00	$7.00	$52.00	$260.00	$470.00
Children 5 or under	FREE					

A paper transfer allows travel for the next connecting bus, but a transfer cannot be used for a return trip.

Passengers can transfer to the Pemberton Commuter Service with a The Pemberton Valley or Whistler Pass when the $2.00 top-up fare is also paid. Passengers on the Pemberton Commuter can transfer onto the Whistler Transit System without an extra charge.

Six- and 12-month Seasons Passes are valid from the day of purchase.

A Family Travel Program is also in place in Whistler, allowing an adult customer (19+) using a valid Whistler Transit System Pass of any kind to bring up to three children (12-) on board for free. This program does not apply to cash fares or tickets. Children must board and alight at the same stops as the pass-carrying adult.

Fare product alternatives may be explored as the system and its ridership continues to grow. These options are discussed in Whistler's *Transit Future* chapter.

Fleet

Whistler Transit operates 25 Conventional heavy-duty buses, with 21 buses operating during the seasonal peaks. This ratio of operating-to-spare buses aligns with BC Transit's Fleet Maintenance requirements.

A heavy-duty bus in Whistler can transport up to 70 passengers, with 32 seats and three wheelchair seat positions.

Figure 37: Conventional Transit Bus.

Whistler's heavy-duty bus fleet is equipped with bike racks on the front of each vehicle that can accommodate up to two bikes per rack.

Figure 38: Bike Rack on Conventional Transit Bus.

Bike rack use on Whistler buses is high. Throughout the Transit Future Plan's Participation process, stakeholders expressed a need for increased bike capacity on buses, including racks that can accommodate wider bike tires.

Bus Stops

There are just over 200 bus stops in Whistler, with approximately 25 per cent of them with bus shelters. As part of their annual infrastructure capital program, the Resort Municipality of Whistler continues to install their own transit shelters at key stops located around the area.

Figures 39 and 40: Whistler Transit Shelters.

Bus Exchange

Today, the local and Regional Transit services in Whistler converge at the off-street Gondola Transit Exchange (GTEX) adjacent to Skiers Plaza, linking the transit system to Whistler Village and both Whistler and Blackcomb Mountains.

Figure 41: Gondola Transit Exchange in Whistler Village.

The exchange includes seven bus bays, which is suitable for existing operations. Future system growth will require expanded facilities. One prospective site has been identified by the RMOW within the scope of its *Gateways, Portals, Connections and Wayfinding Project*, and is also located within Whistler Village at the Gateway Loop. BC Transit supports exploring the relocation of some bus routes to Gateway Loop from GTEX, although maintaining a transit / walk connection to Skiers Plaza for lift users in all seasons is important. Therefore, rerouting buses to Gateway Loop could be seasonal, time-specific, and/or route-specific. BC Transit and the RMOW will continue to work together on this project.

Park & Ride

While no formal facility exists in Whistler or The Pemberton Valley today, the expansion of regional or interregional service will require the identification of a site or multiple sites. Formalized Park & Ride facilities can also deter transit passengers from parking in nearby neighbourhoods.

Operations and Maintenance Facility

The Whistler Transit Facility was completed in 2010 and is located north of Whistler Village. This facility was designed and built to support local and regional transit service requirements through 2050. The centre includes a maintenance and administration building with six maintenance bays, an automated bus wash, diesel fueling station and some covered parking. The design capacity of the Whistler Transit Facility is 50 heavy duty buses despite accommodating crush load capacities of up to 100 vehicles in the short term as was the case during the 2010 Olympic Winter Games.

Figure 42: Whistler Transit Centre.

Performance

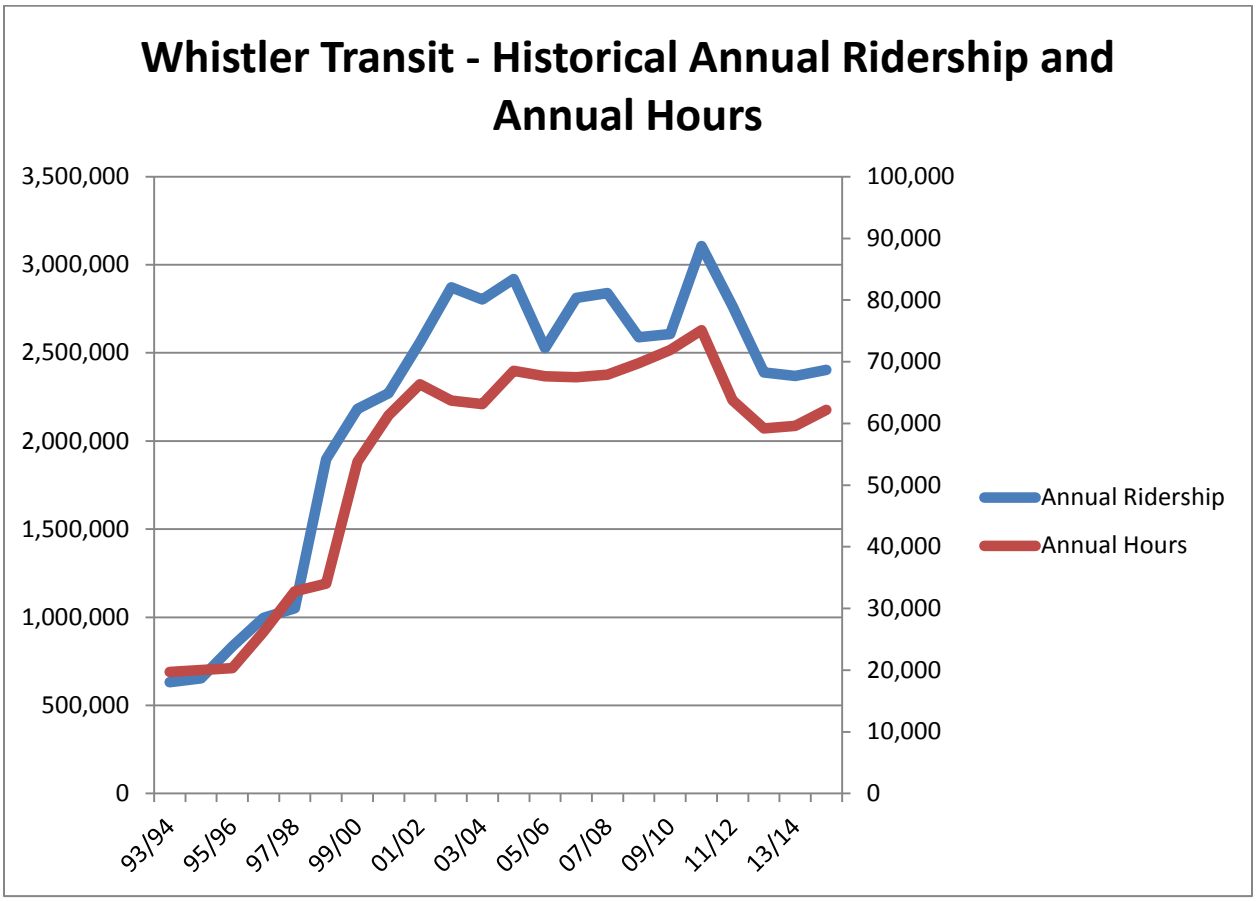
PERCEPTION OF TRANSIT IN WHISTLER

In BC Transit's 2015 customer Satisfaction Tracking survey, 74 per cent of people surveyed in Whistler said transit is "a very important part of the community". This is representative of Whistler's status as one of the top-performing systems in British Columbia. The development of the transit system aligns closely with the RMOW's commitment to environmental sustainability and its support of the preferred modes of transportation of walking, cycling, using transit, and carpooling.

PERFORMANCE OF TRANSIT IN WHISTLER

Ridership information in Whistler is collected and analyzed using magnetic swipe card data from the bus farebox and observational data from transit operators. In 2013/14, Whistler's transit ridership was 2,368,692, which is an increase from the previous year.

Figure 43: Whistler Conventional Transit Annual Ridership and Annual Hours.



Source: BC Transit IPS Actuals (1993-2014)

The Whistler Transit System has one of the highest productivities in the province, boasting an average of 40 passenger rides per service hour. This is due in part to the extensive schedule development work that is undertaken with each service season change each year.

Peer assessment typically involves comparing one community to other communities with similar population, annual service hours, and annual ridership. Benchmarking in this way can help convey the system's strengths and weaknesses, as outlined below. It is important to note that costs vary

significantly across the province due to capital investments and operating conditions (climate, topography and passenger loads) and personnel costs – which are often driven by local cost of living - and agreements.

Benchmarking Whistler against communities with similar populations can be misleading given Whistler's *population equivalent*. *Population equivalent* reflects Whistler's base population of about 10,000 in combination with its visitor and commuting employee population for a total population of about 28,800 in 2014.

Similarly, benchmarking Whistler Transit against other transit systems with similar ridership doesn't accurately illustrate Whistler's performance given its unique population. To remedy this, the Whistler system has been benchmarked here against a variety of communities in Table 15 below; some with similar population to Whistler's *population equivalent*, and some with similar annual ridership numbers.

Table 15: Whistler Conventional Transit Performance.

	Approximate Service Area Population	Annual Service Hours	Annual Ridership	Rides Per Hour	Cost Per Ride	Total Cost Per Hour*	Operating Cost Per Hour	Net Local Cost Per Hour**	Annual Cost Recovery
Whistler	10,000^	59,619	2,368,692	39.7	$4.06	$161.37	$139.62	$22.78	27.1%
Fort St. John	29,739	11,058	100,575	9.1	$17.74	$161.31	$147.98	$78.26	7.2%
Squamish	18,000	12,021	248,371	21	$6.85	$141.43	$129.07	$58.64	14.4%
Kootenay Boundary	30,307	18,982	341,368	17.5	$7.93	$138.62	$118.94	$64.55	13.2%
Nelson	10,313	11,145	263,010	23.6	$5.39	$127.10	$110.23	$42.98	24.2%
Kamloops	80,000	106,192	3,421,960	32	$3.73	$120.13	$102.97	$35.20	29%

*Total Cost Per Hour is Total System Cost divided by annual service hours
**Net local cost per hour is net cost after provincial contribution, revenue and external funding offsets have been considered
^Whistler Service Area permanent population estimated at 10,000, while the daily population equivalent is 28,000.
Source: BC Transit IPS Actuals (2013/14)

Table 15 illustrates that although Whistler is unique, it performs very strongly across BC Transit systems.

Higher operating costs in Whistler are attributable to its, extended hours of operation, operating environment (cold climate, variable topography, consistently heavy passenger loads over long-spanning operating hours) and reflect the high local cost of living for Whistler Transit employees.

Key Conclusions – Whistler Transit System

- The Whistler Transit System has established itself as one of the top-performing systems in the province. Continued success can be realized by prioritizing service optimization and gradual resource increases.
- Whistler continues to establish itself as an all-season recreation destination, inviting new populations to visit and live in Whistler at all times of year. Changes in snow production, seasonality in general, and related seasonal spikes in demand will continue as climate change impacts are realized throughout the Sea to Sky region. The Whistler Transit System will require agility and versatility in order to continue to serve its local and visiting populations.
- The Free Village Shuttles are a critical part of the circulation system of Whistler Village, continually pumping people between activity centres and thus playing a major role in the economic vitality of the community and to the success of the Whistler Transit System. Increasing review and analysis of these services is important to ensuring maximum efficiency.
- Whistler's transit infrastructure, vehicles, and facilities are well-equipped to accommodate growth in the system over the life of the Transit Future Plan.
- The Whistler Transit System is a unique but strong performer among peer transit systems in B.C.

Transit in the Pemberton Valley

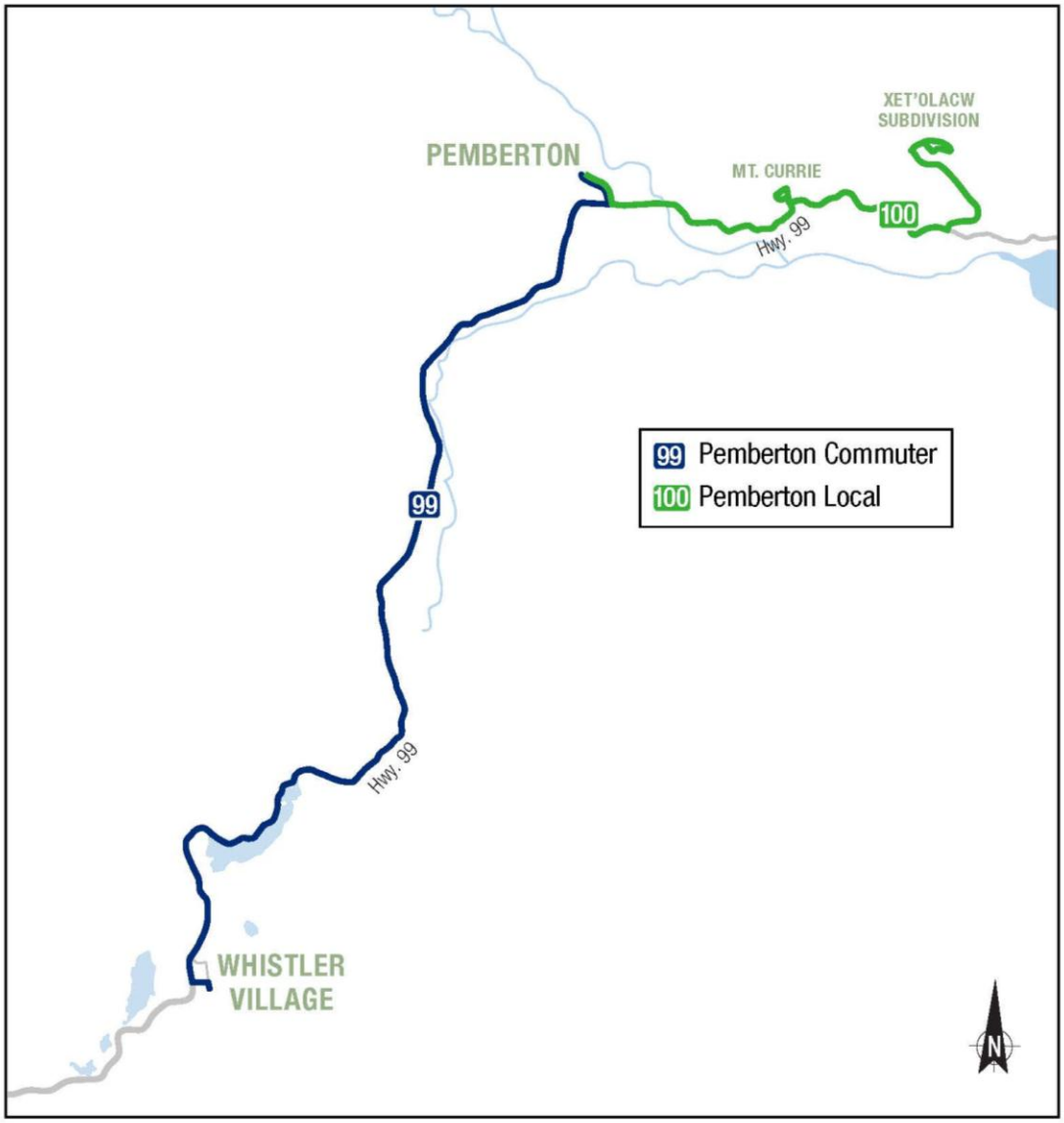
Established in 2000, the Pemberton Valley Transit System comprises two service types, described below. The system is operated by Whistler Transit Ltd. who subcontracts the delivery of local trips in The Pemberton Valley to a local taxi company.

Routes

The Pemberton Commuter (Route 99) operates four round-trips per day between the Village of Pemberton and Whistler Village.

The Local Pemberton service (Route 100) provides seven hours of service per day that links the Village of Pemberton with the Lil'wat Nation communities of Mt. Currie and Xet'olacw.

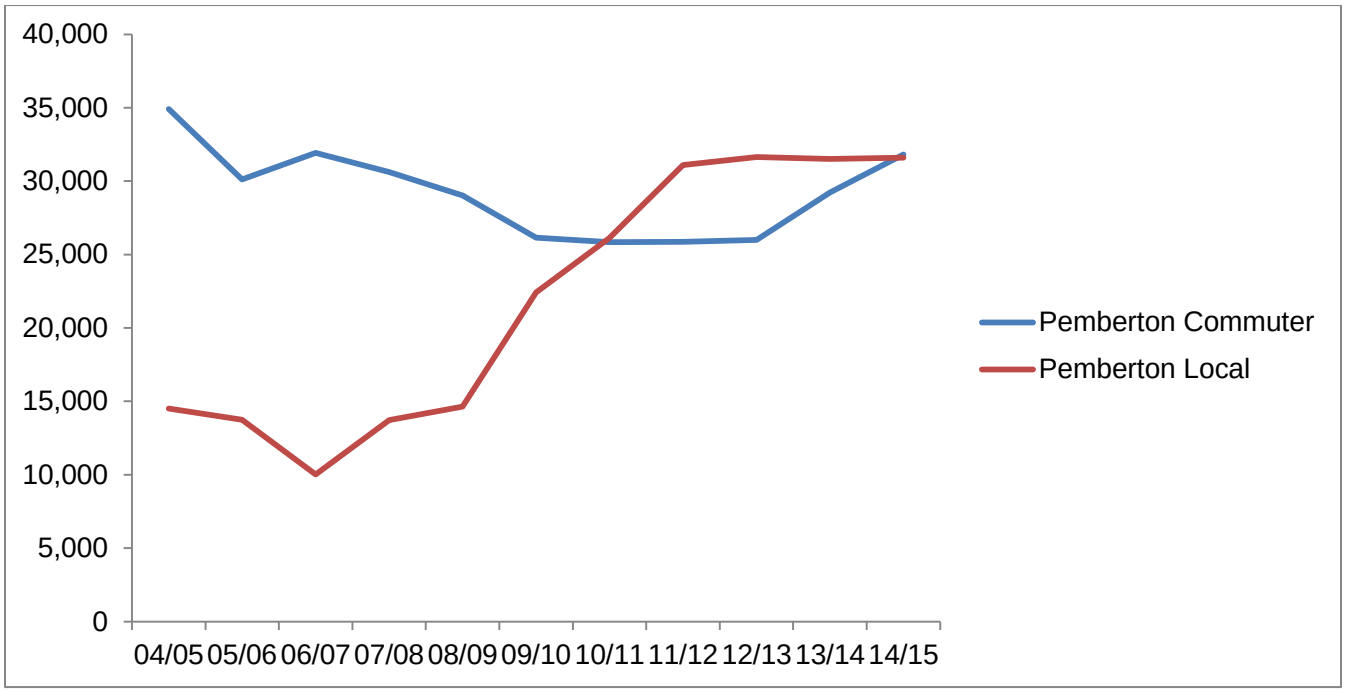
Figure 44: The Pemberton Valley Transit System, 2015.



Ridership

The Pemberton Local system's ridership has doubled in the last ten years, while the Pemberton Commuter's ridership has plateaued at just over 30,000 rides per year.

Figure 45: Pemberton Commuter & Pemberton Local Transit Annual Ridership and Annual Hours.



Significant latent demand has been observed both locally and regionally, meaning that expansions of these systems would likely yield continued ridership growth.

Service Profile

The Commuter Service provides four trips per direction per day.

Table 16: Pemberton Commuter Transit Service Profile, 2015.

Leave Whistler	Arrive Pemberton	Leave Pemberton	Arrive Whistler
6:20 a.m.	6:57 a.m.	7:00 a.m.	7:37 a.m.
7:40 a.m.	8:17 a.m.	8:20 a.m.	8:57 a.m.
4:45 p.m.	5:22 p.m.	5:25 p.m.	6:02 p.m.
6:05 p.m.	6:42 p.m.	6:45 p.m.	7:22 p.m.

Local transit service in Pemberton is provided by Pemberton Taxi Ltd. on taxi vans that deliver local Pemberton transit service which operates service seven days per week, 365 days per year.

Table 17: Pemberton Local Transit Service Profile, 2015.

Pemberton	Mt. Currie	Xet'olacw Stop #1	Xet'olacw Stop #2	Mt. Currie	Pemberton
5:57 a.m.	6:09 a.m.	6:24 a.m.	6:30 a.m.	6:45 a.m.	6:57 a.m.
7:17 a.m.	7:29 a.m.	7:44 a.m.	7:50 a.m.	8:05 a.m.	8:17 a.m.
11:25 a.m.	11:37 a.m.	11:52 a.m.	11:58 a.m.	12:13 a.m.	12:25 a.m.
2:00 p.m.	2:12 p.m.	2:27 p.m.	2:33 p.m.	2:48 p.m.	3:00 p.m.
3:55 p.m.	4:07 p.m.	4:22 p.m.	4:28 p.m.	4:43 p.m.	4:55 p.m.
5:25 p.m.	5:37 p.m.	5:52 p.m.	5:58 p.m.	6:13 p.m.	6:25 p.m.
6:45 p.m.	6:57 p.m.	7:12 p.m.	7:18 p.m.	7:33 p.m.	7:45 p.m.

Fares

Fares vary by demographic and fare type in the Pemberton Valley.

Table 18: The Pemberton Valley Transit Fare Structure.

	Cash		Tickets (10)		Monthly Pass		4-month Pass	6-month Pass	Annual Pass	
	Commuter	**Local**	**Commuter**	**Local**	**Commuter**	**Local**	**Commuter**	**Local**	**Commuter**	**Local**
Adult	$4.50	$2.50	$36	$20	$95	$65	$340	$330	$910	$624
Seniors 65+	$4	$2	$30	$18	$65	$50	$235	$255	$620	$480
Student	$4	$2	$30	$18	$65	$50	$235	$255	$620	$480
Children 4 or under	FREE									

Passengers can transfer to the Pemberton Commuter Service with a The Pemberton Valley or Whistler Transit Pass when the $2.00 top-up fare is also paid. Passengers on the Pemberton Commuter can transfer onto the Whistler Transit System without an extra charge.

Fleet

Whistler Transit Ltd. operates two Conventional, heavy-duty buses for the Pemberton Commuter Service.

These single-door buses can transport up to 67 total passengers (43 seated) between the Village of Pemberton and Whistler Village.

Figure 46: Single-Door Conventional Transit Bus.

The Commuter's heavy-duty bus fleet is equipped with bike racks on the front of each vehicle that can accommodate up to two bikes per rack.

Figure 47: Bike Rack on Conventional Transit Bus.

Bike rack use on Commuter buses is moderate. Throughout the Transit Future Plan's Participation process, stakeholders expressed a need for increased bike capacity on buses, including racks that can accommodate wider bike tires.

The Pemberton Local Transit service is delivered with private taxi vans.

Bus Stops

Currently, there are 21 bus stops in Pemberton, including the four that are used for the Commuter Service. Twelve of these stops include transit shelters, including the canopy at the train station.

Figure 48: Pemberton Bus Shelter.

While the Local system serves dedicated bus stops, Customers can also flag a bus to stop on designated roads due to the rural nature of this service.

Bus Exchange

There is no bus exchange in Pemberton today. Buses converge on the north side of Frontier Street near the AG Food store lot in downtown Pemberton.

On the Whistler end of the Pemberton Commuter service, buses converge at the off-street Gondola Transit Exchange (GTEX) adjacent to Skiers Plaza, linking the transit system to Whistler Village. This exchange is described in more detail in the *Transit in Whistler* section.

Park & Ride

While no formal facility exists in The Pemberton Valley today, the introduction of regional service of any kind and the continued growth of its Commuter Service will require the identification of an appropriate site or multiple sites that can be developed for this purpose. Formalized Park & Ride facilities can also deter transit passengers from parking in nearby neighbourhoods.

Operations and Maintenance Facility

The Pemberton Commuter Service shares the Whistler Transit Operations and Maintenance Facility, which was designed and built to accommodate transit service growth in the area to 2050.

Figure 49: Whistler Transit Centre.

Under its current operation, the Pemberton Local Transit service stores and maintains its own vehicles in Pemberton.

Performance

PERCEPTION OF TRANSIT IN THE PEMBERTON VALLEY

The Pemberton Valley Transit System is a valued asset in the Village and outlying areas. Demand for increased local service demonstrates that the system is valued in The Pemberton Valley. The regional service has proved popular among employees commuting to Whistler as well as residents destined for social activities, and demand for increased services has been heard throughout the Transit Future Plan. Pembertonians are very supportive of transit.

PERFORMANCE OF TRANSIT IN THE PEMBERTON VALLEY

Peer assessment typically involves comparing one community to other communities with similar population, annual service hours, and annual ridership. Benchmarking in this way can help convey the system's strengths and weaknesses, as outlined below. Operating costs vary significantly across the province due to operating conditions (climate, topography and passenger loads) and personnel costs - which are often driven by local cost of living - and agreements.

Pemberton Commuter Service

The Commuter service in Pemberton performs relatively well among its peers, with room for improvement as ridership increases with service hour expansion.

Table 19: Pemberton Commuter Performance.

	approximate service area population	annual service hours	annual ridership	rides per hour	cost per ride	Total cost per hour*	Operating Cost Per Hour	Net Local Cost Per Hour**	annual cost recovery
Pemberton Commuter (Whistler to Pemberton)	6,173	1,953	29,234	15	$11.89	$178.02	$174.83	$37.31	-
Cowichan Valley Connector (Duncan to Victoria)	82,200	4,524	86,294	19.1	$11.44	$218.40	$65.48	$22.96	46.5%
North Okanagan Connector (UBCO to Vernon)	55,135	3,756	92,272	24.6	$6.19	$151.99	$85.90	$53.19	14.7%

*Total Cost Per Hour is Total System Cost divided by annual service hours

Source: BC Transit IPS Actuals (2013/14)

Pemberton Local Service

Since its inception of service, transit ridership on the local service has grown steadily. The service performs well among its peers, and performs well for its size and service area.

Table 20: Pemberton Local Performance.

	approximate service area population	annual service hours	annual ridership	rides per hour	cost per ride	Total cost per hour*	annual cost recovery
Pemberton Local	3,000	2,980	31,515	11	$4.86	$51.44	-
Okanagan - Similkameen	1,844	1,707	7,839	4.6	$16.44	$75.51	11.5%
Hazeltons Regional	3,524	2,568	13,994	5.5	$16.76	$91.22	12.7%

*Total Cost Per Hour is Total System Cost divided by annual service hours

Source: BC Transit IPS Actuals (2013/14)

Key Conclusions – The Pemberton Valley Transit System

- Regional Transit in the Sea to Sky corridor today is limited to the Pemberton Commuter. The limited service frequency on this route yields strong ridership.
- Other regional service in the past has been well-utilized, and demand for service across the region and into neighbouring regions has been observed.
- The Pemberton Commuter performs well amongst its peer regional services, with room for improvement as the system expands.
- This facet of regional service is comfortably accommodated at the Whistler Transit Operations and Maintenance Facility. Future Regional and Interregional Transit service expansion will require additional vehicles and infrastructure, including bus stops with shelters, transit exchanges, and Park & Ride sites.
- It will be important to build on the successes of historical regional service when examining future opportunities for Regional and Interregional Transit service expansion in the Sea to Sky area.
- Demand for increased regional service across the Sea to Sky area has been observed, with transit access to Metro Vancouver and between Squamish, Whistler, and Pemberton being requested. Similarly, demand for increased coverage, span, and frequency of the Local Transit System has also been observed.
- Any expansion of the Local Transit System will require the identification of additional vehicles and facilities in Pemberton, including bus stops with shelters, a transit exchange, a Park & Ride site, and a local Operations and Maintenance Facility. No Operations and Maintenance Facility exists in the Pemberton Valley today, so expansion of the Local Transit System would require a significant amount of resources.

Sea to Sky Transit Future

Participation

The development of the Sea to Sky Transit Future Plan was highly collaborative and included BC Transit, the Squamish-Lillooet Regional District, the local governments of Squamish, Whistler, and Pemberton, Lil'wat First Nation, Squamish First Nation, Transit System staff and contractors from Squamish Transit, Whistler Transit, and The Pemberton Valley Transit, the public, and representatives from a wide array of stakeholder organizations.

The Participation process was designed to be inclusive, reaching riders and non-riders alike.

Partner Participation

Transit Future Plan partners and decision-makers in the Sea to Sky area were engaged continuously throughout the development of the plan. This included presentations, workshops, and in-person and phone meetings with:

- Squamish-Lillooet Regional District staff and Board Area Directors
- District of Squamish staff, Council, and various Committees of Council
- Resort Municipality of Whistler staff, Transit Management Advisory Committee, and Council
- Village of Pemberton staff and Council
- Lil'wat Nation staff
- Squamish Nation staff
- Provincial Government of British Columbia Members of the Legislative Assembly
- BC Transit staff

Ongoing communication and collaboration ensured alignment with strategic goals in the Sea to Sky area and its communities.

Community Participation

Members of the public were engaged over two phases in the Sea to Sky Transit Future Plan process to ensure that the final plan reflects the needs and priorities of the community.

METHODS

The two-phased Participation process for the Sea to Sky Transit Future Plan included a variety of methods, as described below.

Sea to Sky Project Website

Dedicated web pages were established for the duration of the Sea to Sky Transit Future Plan on the BC Transit website.[1]

These pages provided information and materials for the Transit Future Plan process, as well as updates on opportunities for involvement.

[1] http://bctransit.com/squamish/transit-future/sea-to-sky-transit-future-plan,

http://bctransit.com/whistler/transit-future/sea-to-sky-transit-future-plan, and

http://bctransit.com/pemberton-valley/transit-future/sea-to-sky-transit-future-plan.

Advertising and Media

A variety of methods was used to advertise opportunities for getting involved in the Participation process. Print media for each phase of public engagement included press releases, advertisements in local papers, and posters at bus shelters and on-board buses. Digital media used to promote involvement in the Sea to Sky Transit Future Plan included posts on various social media channels by BC Transit and local and regional government partners.

Local media published a variety of stories in each phase, detailing the Participation process and outcomes.

Communication

The Participation process included ongoing communication with stakeholders and the public. People were also welcomed to submit questions and suggestions to the Transit Future Plan team via email, letter mail, or phone.

Survey

Surveys soliciting feedback in each phase were available in hard copy on in-service buses and at Transit Future Bus events. Identical electronic copies were hosted on the Sea to Sky Transit Future website, and were available on iPads at Transit Future Bus events.

Transit Future Bus Tour

The Transit Future Bus is a retrofitted Conventional-sized bus that BC Transit brings to communities across B.C. to promote the development of Transit Future Plans. In the Sea to Sky area, staff welcomed the public aboard the parked bus to get information and provide feedback through interactive displays. The bus also featured a kids' zone where kids were invited to draw pictures of future transit.

The Transit Future Bus visited the Sea to Sky region in March and December 2014, visiting Squamish, Squamish Nation, Whistler, Pemberton, and the Lil'wat Nation in Mt. Currie.

Stakeholder Workshops

Stakeholder workshops were hosted in Squamish, Whistler and Pemberton in each phase of public engagement, for a total of six workshops over the development of the Transit Future Plan.

These workshops included representatives from various organizations in each community and the region. Members of the public who expressed interest were also invited to attend. Content at these workshops was the same as the information BC Transit solicited feedback on from the general public. The purpose of these workshops was to collect more stakeholder- or user-specific information from people and organizations in the Sea to Sky area.

Table 21 includes highlights from the Transit Future Plan Participation process.

Engagement Activity	Participants
Transit Future Plan webpage in 2014/15	80,000+ visitors
Transit Future Bus	800+ visitors
Surveys	500+ completed
Key Stakeholder Workshops	100+ attendees

PHASE 1 PROCESS: MARCH - APRIL 2014

Before Phase 1 began, a stakeholder database of nearly 150 people was built collaboratively between BC Transit and Transit Future Plan partners. This database grew as the Participation process moved forward.

In Phase 1, members of the public and key stakeholders were asked to provide information about their communities and their transit systems. A great deal of information about how people use the existing transit system was collected, and helped shape the development of the Local, Regional, and Interregional Transit Future networks discussed later in the Transit Future Plan. Predictably, the majority of survey respondents were transit users, with those respondents who do not use transit citing infrequent service as the number one reason for not using transit in the Sea to Sky region.

Key Participation Outcomes

Key insights gathered in Phase 1 include:

- 31 per cent of responses requested transit service to new areas, including:
  - Metro Vancouver (Downtown Vancouver, North Vancouver, YVR, Horseshoe Bay, Lions Bay)
  - Reinstatement of the Squamish-Whistler Commuter
  - Summer service to Alice Lake, Shannon Falls, Paradise Valley, Stawamus Chief
  - D'Arcy

- 9 per cent of responses proposed new ideas to improve the passenger experience
    - Automated Stop Announcements
    - Lower fares / integrating fares with other costs such as ski hill passes
    - Fares based on distance travelled
    - Buses better suited to highway driving (comfort, speed)
    - Ski racks
    - Better bike racks
    - Better schedule information posted at stops
    - Better sidewalks to stops
    - Garbage cans and recycling bins at stops

- 27 per cent of responses requested changes to the existing transit service, as described below:

Frequency

- Additional Pemberton trips (Local and Commuter)
- General frequency improvement requests across all systems
- Better frequency to Emerald Estates in Whistler
- More buses to Quest University in Squamish
- Better frequency to Function Junction in Whistler
- Improve service to Alpine Meadows in Whistler
- Better frequency to Staff Housing in Whistler

Service Span

- Later service to Pemberton from Whistler
- General requests for later service in Squamish and The Pemberton Valley systems
- Better Sunday service in Squamish
- Matching spring, summer, fall service to what is provided in winter in Whistler
- Later service for handyDART in Squamish
- Requests for 24/7 service in Squamish
- Earlier service start in Squamish

Routes

- Route from Valleycliffe to Brackendale in Squamish
- More buses stopping in Tamarisk in Whistler
- More buses and stops into Spring Creek in Whistler
- Buses should service both Function Junction and Cheakamus in Whistler
- Direct service to Spring Creek from Whistler Village and to/from Function Junction and Cheakamus Crossing

Scheduling

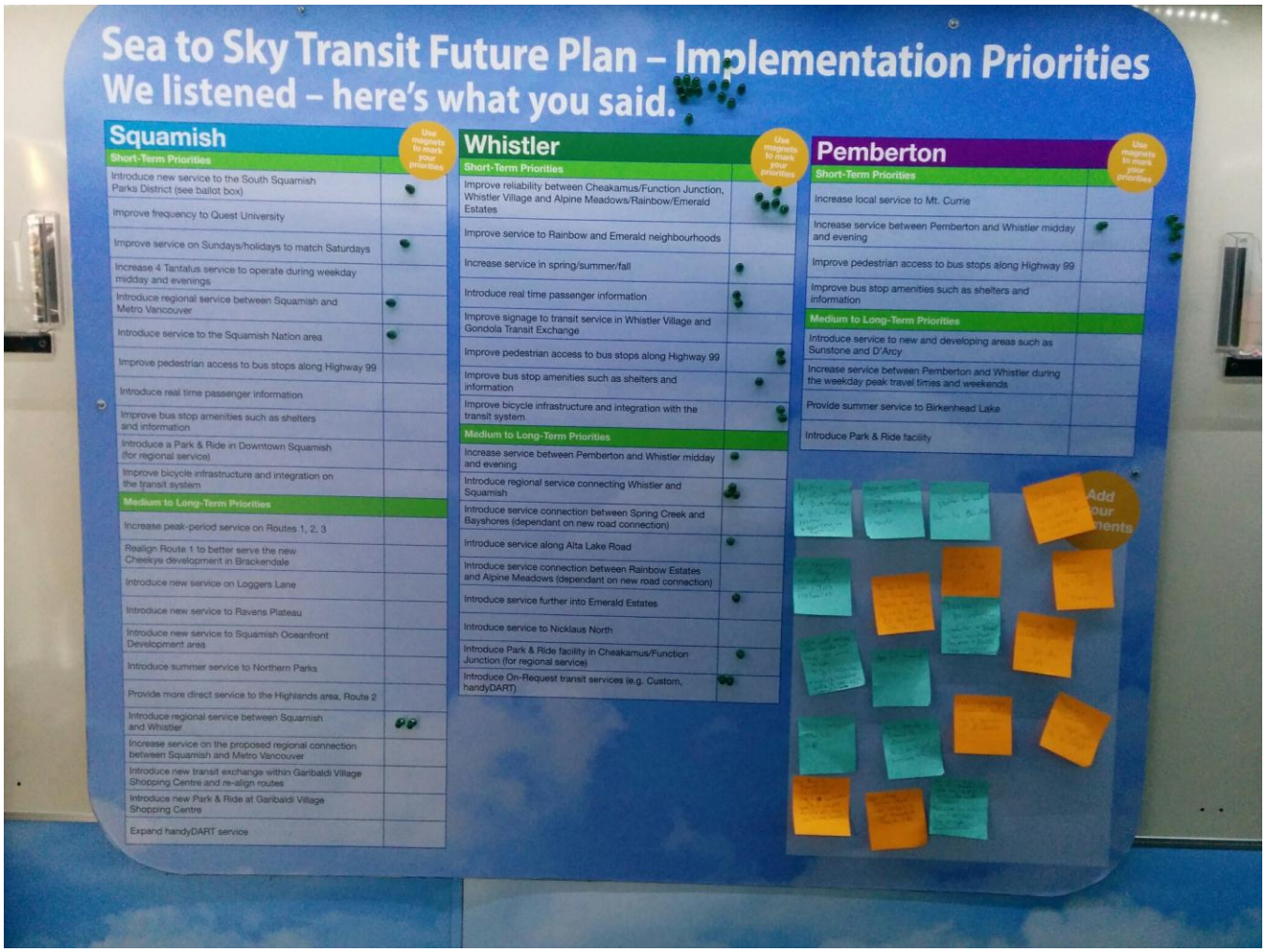
- Better schedule reliability across all systems
- Better connections between buses in Squamish and Whistler
- Schedule around work shift times within region

A significant amount of feedback on technology was heard throughout the Participation process. Technology and transit is discussed later in the *Transit Future Foundations* section.

All of the feedback collected in Phase 1 helped shape the Transit Future priorities that were presented for refinement in Phase 2.

PHASE 2 PROCESS: DECEMBER 2014 – JANUARY 2015

The feedback collected in Phase 1 about what people felt was and wasn't working in their transit systems helped shape the key consultation topics for Phase 2. In Phase 2, draft vision, goals, and Local, Regional and Interregional Transit networks were presented for feedback and collaborative refinement. People were also invited (online and in person) to add their own suggestions. Additionally, Phase 2 included information on the Transit Future Plan development and implementation process.



Developing inspirational statements for the Sea to Sky region that could capture the unique needs and desires of each community was a necessarily iterative process. The vision and goals were shaped with stakeholders and members of the public by adding words and ideas that would make the vision and goals meaningful and actionable. Stakeholders were able to hear what was important to their neighbours, which contributed to the Plan's focus on inclusion.

Similarly, people offered ideas about how and where to expand the Local, Regional and Interregional Transit networks, identifying gaps in the existing networks as well as areas for future expansion. These networks were developed iteratively over winter 2014.

Indicated by feedback collected on-board the Transit Future Bus, as well as at stakeholder workshops and online, people were invited to vote on the service and infrastructure options they felt were the most important, and on which timeline (e.g. priorities for immediate implementation, priorities for long-term implementation, etc.). The outcomes of this process are detailed in the following section.

KEY PARTICIPATION OUTCOMES

Sea to Sky Region

Options to expand Regional Transit service and introduce Interregional Transit service garnered significant positive feedback throughout the Participation process. Residents in Squamish, Whistler, and the Pemberton Valley advocated for reliable, frequent transit access between these three communities, as well as to Metro Vancouver. Tourists who visited the Transit Future Bus also expressed significant interest in Regional and Interregional Transit service for the Sea to Sky.

Providing real-time service information and using technology to enhance the passenger experience was also discussed widely for Regional and Interregional Transit options.

Squamish

The most popular short-term priority of the public for the Squamish area was by far an Interregional service to Metro Vancouver. Other short term priorities that were frequently selected included improved Sunday and holiday service, improved bicycle infrastructure and integration on the transit system, and improved frequency to Quest University.

The most popular medium- to long-term priority for Squamish was to increase the service on the proposed Interregional connection to Metro Vancouver once it is implemented. This was followed closely by the reintroduction of regional service to Whistler, demonstrating the importance of regional connections to Squamish area residents. Increasing service levels, improving directness on existing Local routes, and expanding handyDART service were also noted as top priorities.

Additional ideas that were shared as priorities for consideration in Squamish include:

- Service to new areas such as Cheekye, Highlands, Loggers Lane, Ravens Plateau, Squamish Oceanfront Development area
- Implementation of more *express* service (higher frequency service with fewer stops)
- Implementation of Wi-Fi on buses
- More youth-focused service to Local and regional recreation destinations on evenings and weekends
- Improving transit's image to attract more riders – make transit *cool* by improving amenities and service
- Improving availability of fare products
- Improved capacity for bikes on buses (wider tire slots on racks, more carrying capacity), as well as making various infrastructure and operational changes to improve bike-bus integration (reserve-a-rack system on the bus, more bike-friendly amenities at bus stops and transit exchanges, etc.)

At the request of the District of Squamish, in 2014 BC Transit also presented a draft plan for the South Squamish Parks District pilot transit service, and collected feedback on this proposed pilot at the Transit Future Bus events and online. A good deal of support and interest was heard for the proposed pilot service, which could provide summer service from downtown Squamish to Shannon Falls Provincial Park, the Sea to Sky Gondola Basecamp, and Stawamus Chief Provincial Park. This option is described in more detail in Squamish's *Transit Future* chapter.

Whistler

The highest-ranking priority of the public in Whistler was to increase service in spring, summer and fall. Service is currently increased in winter to meet travel demand created by Whistler's seasonal population spike. Locals have requested that the same or similar levels of service be maintained year-round. Participants also indicated that the implementation of real-time information is of high importance. Various formats and ideas for this were shared. Improved service reliability continues to be a top priority for transit passengers in Whistler.

Other top priorities included:

- Improved / safer access to bus stops along the Sea to Sky Highway (lighting, dedicated / segregated pedestrian areas)
- Collaboration and integration with private bus operators to meet regional travel demand
- Availability of a seasons' transit pass linked with ski seasons' pass
- Improved capacity for bikes on buses (wider tire slots on racks, more carrying capacity), as well as making various infrastructure and operational changes to improve bike-bus integration (reserve-a-rack system on the bus, more bike-friendly amenities at bus stops and transit exchanges, etc.)

In the medium- to long-term, the top priority was the reintroduction of service connecting Whistler and Squamish, as well as a connection between Whistler and Metro Vancouver, highlighting the importance of regional connections to people in the Sea to Sky area.

The Pemberton Valley and Area

The short-term priorities in the Pemberton Valley all received similar levels of support from the public, with increased service between Pemberton and Whistler during the midday and evening being the most frequently-heard priority.

Likewise, in the medium to long-term, people's top priority was increased service between Pemberton and Whistler during weekday peak times and weekends.

Overall, improvements to passenger amenities such as pedestrian access, bus stop facilities, and the introduction of a Park & Ride received considerable interest.

Additional priority ideas from stakeholders and the public included:

- Service beyond the Village of Pemberton to D'Arcy (contingent on road infrastructure improvements coordinated between local, regional, and Provincial Governments as well as with First Nations)
- Improved capacity for bikes on buses (wider tire slots on racks, more carrying capacity), as well as making various infrastructure and operational changes to improve bike-bus integration (reserve-a-rack system on the bus, more bike-friendly amenities at bus stops and transit exchanges, etc.)

Outcomes of the Participation process have directly informed the service and infrastructure recommendations found in the Transit Future Plan chapters of this document.

A complete summary of the feedback collected in each Participation phase is included on BC Transit's Transit Future Plan webpages for Squamish, Whistler, and The Pemberton Valley.

Vision, Goals and Targets

The vision and goal statements for the Sea to Sky Transit Future Plan were developed by the people of the Sea to Sky region. These statements can function as a barometer, allowing the public and decision-makers in the Sea to Sky area to ask:

By making these changes, are we getting closer to achieving our collective

Transit Future vision and goals?

Vision

The vision statement is based on the overarching visions captured in existing strategic plans in the Sea to Sky area. Collaboration with stakeholders, the public, and government and First Nations partners has helped shape the vision through four different versions, with the final vision statement below representing what the Transit Future Plan aims to inspire:

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

Goal statements reflect the vision and represent the hoped-for outcomes of the Sea to Sky Transit Future Plan between now and 2040.

As with the development of the vision statement, drafting the goals was an iterative and collaborative process with stakeholders, the public, and government and First Nations partners. The goals have also been developed in consideration of overarching goals captured in local and regional planning documents such as the SLRD's Regional Growth Strategy and each community's Official Community Plan. The goals have been crafted to reflect the most commonly-heard themes; **Inclusive, Integrated, Safe, and Sustainable**.

By 2040, local and regional public transit networks in the Sea to Sky area are:

For everyone

- Accessible, reliable, and convenient for residents and visitors of all ages and abilities.
- Affordable for passengers and our governments.
- Adaptable – able to meet the changing travel needs of our unique communities and our region.

Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling

- Planned and operated collaboratively to provide seamless access to other modes of transportation, regionally and locally.
- Linked to walking and cycling infrastructure, such as trails, sidewalks, and bike parking, making linked trips easy.

Safe

- For passengers before, during, and after their ride.
- Secure, with bus stops and exchanges designed and located with security and comfort in mind.
- For all road users.

Environmentally Sustainable

- An attractive transportation option, enabling our communities to shift transportation modes and decrease the proportion of trips made by Single Occupancy Vehicles.
- Efficient, ensuring schedules and vehicles match the community's needs.

Transit Mode Share Targets

Transit Mode Share is the percentage of all trips that are made by transit in a given community, and is typically measured on an annual basis. Transit Mode Share is a representation of transit ridership overall.

Setting transit mode share targets and identifying methods for achieving these targets is a goal of the B.C. Provincial Government per its aims to mitigate provincial contributions to climate change. In transportation, this relates directly to reducing greenhouse gas (GHG) emissions by making more trips by active and alternative transportation modes. Alternative transportation is thought of as almost any mode of transportation other than single-occupancy vehicle driving, and in the Sea to Sky region, is known as a suite of *preferred modes*.

With this in mind, it is important to acknowledge that increases in active transportation can lead to increases in transit use and thereby transit ridership. Similarly, decreases in driving can be viewed as opportunities to increase transit mode share. Ongoing coordination with relevant local, regional, and provincial transportation planning activities should be given in setting and achieving future transit mode share targets.

The 2008 Provincial Transit Plan (PTP) states that by 2030, 5 per cent of all trips in areas outside of Vancouver and Victoria should be made by transit. Communities in the Sea to Sky region have already cumulatively achieved this target. Implementation of the Transit Future Plan will help the Sea to Sky region's transit mode share continue to increase.

Considering local targets described in strategic plans was an important first step in establishing transit mode share targets for Squamish, Whistler, and Pemberton.

While setting ambitious targets can incent change and investment, balancing the desire to dramatically increase transit mode share within a community's resource realities is important.

To reflect each community's unique land use, travel behaviour, and existing transit use, separate transit mode share targets have been developed for Squamish, Whistler and Pemberton. Transit mode share targets have been modestly set, and are expressed incrementally between today and 2040.

Table 22: Sea to Sky Transit Mode Share Targets.

	Sea to Sky Region	Squamish	Whistler	Pemberton
2015 Transit Mode Share	5% by 2030	1.3%	15%	1.5%
2020 Transit Mode Share Target		2.5%	16%	2%
2025 Transit Mode Share Target		5%	20%*	4%
2040 Transit Mode Share Target		10%	25%*	6%

These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process.

*Long-term targets for Whistler will be defined in coordination with the RMOW's Transit Management Advisory Committee or its forthcoming Transportation Advisory Group.

Transit service and infrastructure improvements, marketing and communications actions, fare strategies, and transit-supportive land use planning can result in more people taking transit, helping to achieve these targets.

Transit Future Foundations

These priorities and principles will guide the implementation of any of the transit service and infrastructure recommendations that follow in each community's *Transit Future* sections.

Collaboration

To guide the Sea to Sky Transit Future Plan from vision to reality, an ongoing dialogue between the Province, BC Transit, and Transit Future Plan partners is required. These parties can use this Plan:

- As a tool to communicate the vision for transit in the Sea to Sky region
- To identify where and in what order key transit investments will occur
- To inform the three year service planning process
- To work with partners on integrating transit plans and investments with other major infrastructure plans and projects
- To continue to develop Sea to Sky communities in an environmentally- and fiscally-sustainable, transit-oriented way, by ensuring that land development plans consider future transit plans

Marketing and Communications

Marketing falls within BC Transit's purview and is complemented by Partner and Transit Operating Company efforts at the community level.

Marketing transit is a much more complex task than traditional advertising because it is not just about selling a product. Rather, it's about changing perceptions and behaviours. By using marketing techniques that go beyond providing information, transit can be positioned as part of a family of healthy, socially responsible transportation choices and give people more incentives and tools to change their behaviour. This can result in ridership increases, and in turn, increased transit mode share in Sea to Sky communities.

In alignment with BC Transit's Strategic Plan and in response to Transit Future Plan stakeholders advocating to improve the image of transit in the Sea to Sky region, BC Transit is committed to working with partners and operating companies to leverage Marketing and Communications efforts to increase ridership and improve passenger experience.

Sustainability

BC Transit's vision is to connect people and communities to a more sustainable future. This includes fostering financial and environmental sustainability in the delivery of transit services. In alignment with the Sea to Sky Transit Future Plan's vision and goals, transit expansion in the Sea to Sky region should be affordable to governments and passengers, and should contribute to the overall goal of decreasing GHG emissions in the region. This will require incremental, strategic growth paired with continuous service optimization – the process by which transit service is monitored and allocated to where it is needed on an ongoing basis.

Sound Planning

In general, the following best practice principles should be considered in developing the Sea to Sky Transit Future:

- **Easy-to-Use:** Routes should be direct and straightforward, and service frequencies and schedules should be consistent on each route and during each time period, where possible. Transit routes should be as direct as possible in denser areas and between major activity centres. Service may be less direct within rural neighbourhoods to improve service area coverage.

- **Attractive:** Transit routes should connect residents to the local neighbourhood centre, and transit trips between neighbourhood centres should be able to be made with no more than one transfer.

- **Convenient:** In general, bus stops should be located in areas that are safe to board and alight passengers, ideally near intersections, to minimize walking distances to transit.

- **Integrated:** Future arterial and collector roads should be designed to accommodate transit stops and transit priority measures.

- **Legible:** customer information should be designed to be straightforward with simple route and schedule information.

- **Accessible:** People with mobility and cognitive impairments should be provided with a range of transit options, including handyDART service, taxi programs, and fully accessible Conventional transit vehicles and bus stop infrastructure.

- **Safe:** Transit infrastructure should be planned, designed, and constructed per CPTED (Crime Prevention through environmental Design), as well as local, provincial, national, and industry standards and guidelines.

- **Comfortable:** Assigning the right bus to the right route is an important part of delivering effective transit service. Bus types should be determined by assessing passenger loads during the peak hour of a given operating period. On routes where buses are full or overcrowded, consideration should be given to operating larger buses or increasing service frequency. On routes where a small bus would accommodate passenger loads at peak times, consideration should be given to operating a smaller bus and maintaining existing frequency.

  Similarly, ensuring that the right infrastructure is in place for customers is important. A bus stop can be implemented when demand is forecasted or observed, and a shelter should be considered for installation at a bus stop when any (or all) of the following criteria are met:

  - The bus stop experiences a high volume of boardings
  - The bus stop is a major connection point to other modes of transportation
  - The installation of a transit shelter could encourage increased ridership
  - Particular weather issues

Integrated Land Use and Transportation Planning

Transportation and land use planning must be integrated in order to best serve people, as illustrated in Figure 50.

Figure 50: Transit catchment areas.

Some examples of how integrated land use and transportation planning can be achieved in the Sea to Sky region include:

- **Develop medium- to high-density residential areas (including in smaller and non-urban contexts, in order to be able to serve more people with transit more efficiently)**
- **Develop non-residential density**: employment and other non-residential destinations can be much more efficiently served by transit when they are located together.
- **Develop mixed-use sites**: Combining people and amenities, especially in medium- and high densities, will enable efficient access by preferred modes of transportation like transit, walking, and cycling. Providing transit access to and from these concentrated areas can reduce single-occupancy vehicle dependence in the Sea to Sky region.
- **Enable transit assessment of new developments**: BC Transit encourages collaboration with local governments and other stakeholders in land use planning exercises to offer a multimodal transportation lens. To this end, BC Transit recommends that Whistler and Pemberton participate in BC Transit's Development Referral program, which enables the local government to send development or rezoning applications to BC Transit for transportation-focused review and comment.

  As part of this referral process, BC Transit reviews the proposal and provides local government with comments on how the proposed development fits within the existing transit network, the outlook for future transit service to the development area, and comments on active transportation links or transit amenities that would make the development more transit-friendly. The District of Squamish currently participates in this program to good effect. More information on this program can be found by contacting *developmentreferrals@bctransit.com*.

Multimodal Integration

Communities in the Sea to Sky region aim to shift trips away from single occupancy vehicle driving to the preferred modes of walking, cycling, and using transit. Planning and design actions that can encourage multimodal transportation include ensuring that:

- Transit service connects to other transportation systems to allow passengers to conveniently connect to cycling and pedestrian networks, regional transit, ferry and rail passenger services, as well as custom transit services
- Transit routes are planned and designed to complement existing pedestrian and cycling infrastructure such as major walking paths or bike lanes, and likewise, new active transportation infrastructure is planned and designed to integrate with existing and planned transit routes
- Transit routes are planned and designed to serve areas that are difficult to access as a pedestrian or cyclist, such as areas with variable topography and steep grades
- Bike parking and/or storage is provided at transit facilities as well as on buses

Linking active transportation and transit is a key objective of the Transit Future Plan. BC Transit recommends collaboration with Transit Future Plan partners, transit operators, and key stakeholders across the Sea to Sky region to determine how best to combine preferred modes of transportation. Some examples of solutions that can be explored include:

- Improving pedestrian safety at and near bus stops along the Sea to Sky Highway
- Improving passenger comfort at bus stops and transit exchanges by providing amenities such as seating and climate protection
- Improving passengers' perception of safety at bus stops and transit exchanges by providing amenities such as lighting, information, closed-circuit television (CCTV), and emergency phones
- Implementing front-of-bus racks with wider tire slots and/or the ability to carry more than two bikes
- Implementing an online Request-a-Rack program for front-of-bus bike rack use
- Operating transit trips at specific times of day to allow bicycles on-board the bus (schedules can align with opening and closing times for major mountain biking lift operations in Whistler or for access to Quest University in the evenings).
- Amending existing safety guidelines to allow transit operators to allow additional bicycles on-board during off-peak periods so long as it deemed as safe for other passengers
- Retrofitting one or more special buses in summer by removing seating to allow on-board bike transport
- Undertaking data collection and analysis of bike rack use, both on buses and at transit facilities

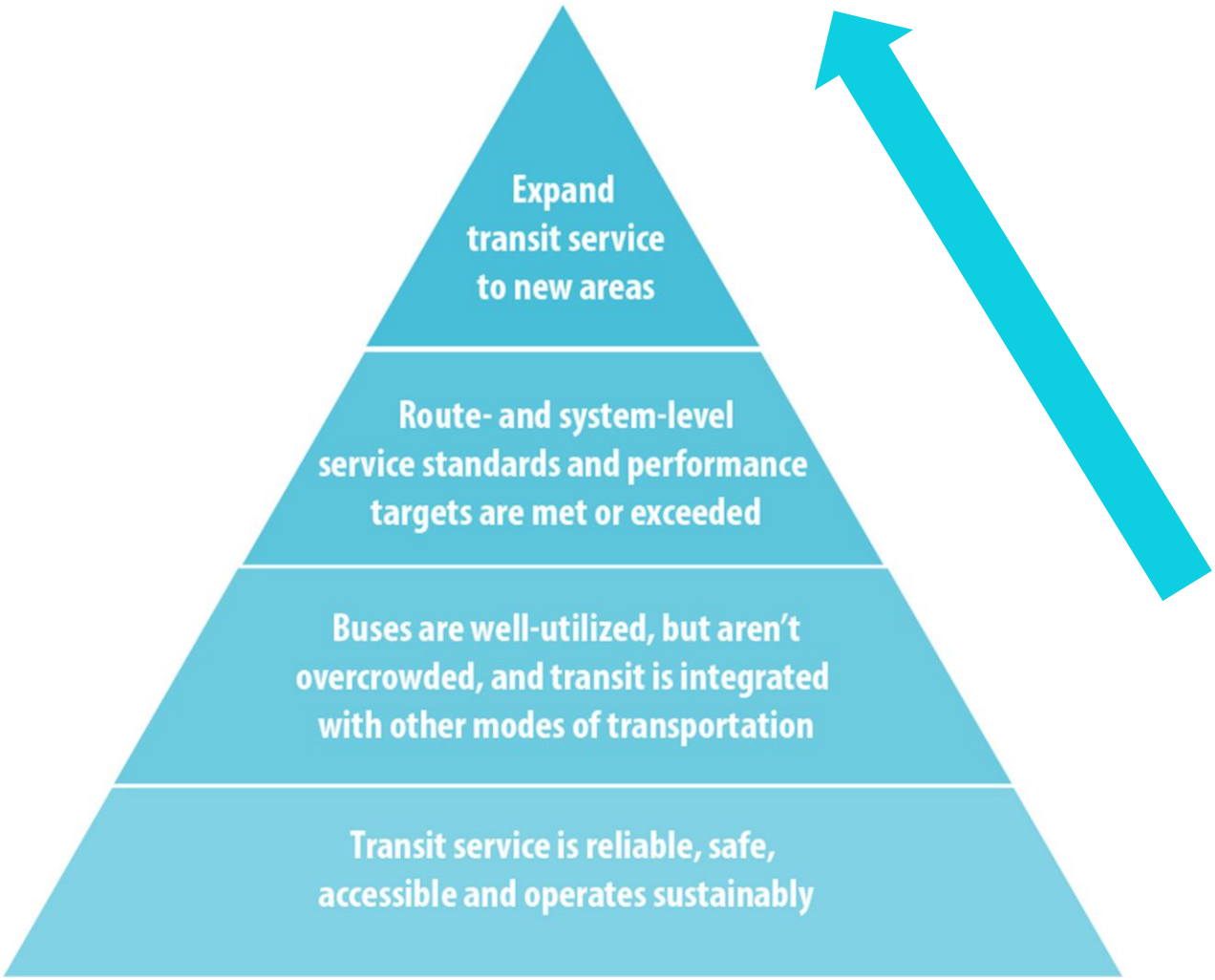
Increasing Transit Service or Coverage

Before increasing transit service or coverage, and in advance of implementing the larger transit service and infrastructure recommendations in the Transit Future Plan, it is important to ensure that the existing transit systems are performing effectively.

Figure 51: Hierarchy of Transit System Investment.

Only when the bottom level is operating at a satisfactory rate should the next level be considered as an area for resource investment.

Priority order for consideration moves from bottom to top.



Continuous Service Optimization

Implementing the Sea to Sky Transit Future Plan will be an incremental, and at times non-linear, process. Part of achieving the Transit Future Plan's vision, goals, and targets is dependent on continuous optimization of the transit system.

Service optimization includes assessing the existing system and finding qualitative and quantitative areas for improvement. Work can include reallocating resources from lower-performing routes to those that are higher performing, addressing service reliability and on-time performance, and enhancing the overall passenger experience.

This is captured in BC Transit's Annual Performance reporting, which provides a foundation for evidence-based decision-making about transit. All Transit Future Plan communities receive Annual Performance Summaries.

A key component of service optimization is achieving on-time performance, as discussed below.

ACHIEVING ON-TIME PERFORMANCE

The on-time performance of transit service plays a key role in the success of the overall system. To customers, unreliable service affects their perception of service quality, transit utility compared to other modes, and value for money. To transit agencies, this can translate to loss of ridership and revenue.

For transit in the Sea to Sky region, the most common causes of service reliability issues are inclement weather and/or road conditions, traffic congestion, longer passenger boarding and alighting times, and insufficient scheduled running times.

Since some of these factors cannot be controlled, the best strategy to deal with on-time performance issues is to schedule running times that are reflective of actual operating conditions. This means that schedules should be built in consideration of known delays, and with sufficient recovery time.

Recovery time is a planned time allowance between the arrival time of a just-completed trip and the departure time of the next trip in order to allow the route to return to schedule if the trip has arrived late. Recovery time is a concept that is included in all transit scheduling and, on average, best practice is to include approximately 10-15 per cent recovery time across a whole transit system, varying based on congestion and ridership.

Additional strategies to maintain and improve on-time performance include:

- Additional on-road supervision to monitor transit schedules
- The coordination of passenger loads to avoid poor departure spacing of buses and overcrowding
- When all-mode traffic volumes warrant it, the implementation of traffic signal priority and transit-only lanes or queue jump lanes at congested intersections can also help to reduce the variability in running times and balance headways to reduce the occurrence of bunches and gaps in service. Queue jump lanes enable buses to move to the head of intersections, and signal priority technology gives buses an advance, transit-only green light at intersections.

Technology and Transit

Technology presents tremendous opportunities to better engage and inform our customers, share best practices among employees and transit systems, reduce environmental impacts, and improve the efficiency and reliability of our services.

The public increasingly expects BC Transit to make use of the latest available technologies. Potential risks related to new technologies include costs associated with their implementation and the need to ensure that they are viable and compatible over the longer term.

In recognition of this reality, BC Transit is undertaking an *Information Technology Strategic Plan* to prioritize new technology investments and ensure that our future information systems are integrated, supported, and sustainable. Outcomes of the *Information Technology Strategic Plan* may benefit transit service delivery and passenger experience in the Sea to Sky region.

One example of BC Transit's commitment to developing new technologies is the use of *Smart Bus* technology. *Smart Bus* gathers information to assist transit agencies, and shares information outwardly to allow for improved communication and customer service. *Smart Bus* technology provides an integrated Intelligent Transportation System (ITS) on buses that may include some of the components in Table 23.

Today, BC Transit relies on various data collection methodologies to undertake continuous service optimization at the route- and system-levels. Sea to Sky communities could benefit from using these data collection and analysis tools throughout the life of the Transit Future Plan.

Table 23: Data Collection Methodologies at BC Transit.

Method / Device	What it Measures	Why it's Important	Notes
Automated Passenger Counter Data (APC) (High amount of Detail)	How many passengers board and alight a bus	Ridership information can influence stop locations, routing, vehicle selection, and scheduling	• Best tool for viewing ridership at the stop- and trip-level. • Takes a representative sample over the course of several weeks / months to accurately estimate ridership. • Passive system (requires no operator interaction).
Farebox Data (Medium amount of Detail)	• Records Farebox interactions • Estimates how many passengers board a bus • How these passengers pay	Can build on ridership data and provide information on types of passengers, the usefulness of existing fare products, and future budgeting	• Counts swipes and tickets individually, ignores transfers and divides the cash by the full fare to estimate the number of cash passengers • Cannot count people alighting • Can be configured to allow the operator to record custom events (Fare Evasion, Transfer, etc.) • Provides ridership data at the route- and system-level. • Counts every single transaction/interaction with the farebox on equipped buses. • Active System (requires operators to interact with the system).

Method / Device	What it Measures	Why it's Important	Notes
Automated Vehicle Locator Data (AVL) (High amount of Detail)	Where the bus is at any given time.	Provides transit passengers with real-time schedule information in the case of bus delays. Can assist in schedule refinement by identifying areas where delay is experienced.	• When merged with farebox or APC data, gives us the location of boardings alightings and farebox activity. • Can be passive or active (Some systems require driver login).
Manual ridechecks	Anything that can be observed: • Boardings • Alightings • Fare payment method • Characteristics of passengers • Operator performance • Occasionally used to validate the performance of automated systems	Can provide information about passengers, fares, operators, and operating environment. Provides an opportunity for an in-person experience of a system in operation.	Even with electronic data collection systems, manual data collection is a useful validation tool.
Feedback from transit passengers, operators, stakeholders, and the general public	Can focus on any aspect of transit operation.	Commendations and concerns help BC Transit and the operating companies in the Sea to Sky region collaboratively, continuously improve service.	

Changes in technology are expected over the life of the Transit Future Plan, influencing costs, transit operations, environmental impacts and the passenger experience. Exploring technological advancements in vehicles, fuels, and in information gathering, analysis, and dissemination can positively impact transit ridership and operations. To this end, BC Transit is committed to working with Transit Future Plan partners to explore advancements in technology on an ongoing basis.

Transit Future Network

The Sea to Sky Transit Future Network has been designed with the passenger in mind, linking people to popular origins and destinations, aiming to provide a reasonable alternative to driving. The network builds upon the existing network's directness, reliability, and frequency, and has been created in consideration of current and planned land uses.

Transit Service Layers

The Transit Future Networks comprise five types of transit service. Together, the different layers of service create a comprehensive Transit Future Network to best meet the existing and future needs of communities in the Sea to Sky region.

Core Transit Network

Direct, frequent networks serve areas where higher travel demand is observed along key transportation corridors or arterial roads. These routes link people to major origins and destinations, often through multimodal exchanges or Park & Ride facilities. Stops are typically spaced 300 – 500m apart.

Local Transit Network

Local Transit Networks link people to work, school, basic neighbourhood amenities, and to the other network layers. Local Networks can sometimes overlap in segments with the Core Transit Networks, though they typically operate on collector or local roads. Stops are typically spaced 250 – 300m apart.

Also a part of the Local Transit Network, Dial-a-Ride or Paratransit can include on-demand service designed to provide transit service to low-density areas that cannot support fixed-route transit service. Some of the yellow shaded areas on the network maps labelled *Future Transit Expansion Area* may ultimately be served by Paratransit.

Custom Transit Network

handyDART

handyDART is a door-to-door service for Customers with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time. Providing this type of transit service is particularly important as people in the Sea to Sky region continue to age.

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

In addition to handyDART, other custom transit options may include Taxi Saver and Taxi Supplement for when the handyDART system is unavailable or at capacity.

Targeted Transit Network

Targeted Transit is a collection of transit services tailored to specific travel needs that cannot be met by the Conventional transit system. While no fixed route is identified, the transit service area is predefined. These include Regional and Interregional Transit networks.

REGIONAL TRANSIT NETWORK

Regional networks include public transit service *within* the Sea to Sky area. Regional transit service promotes local and regional economic development by linking Sea to Sky area residents and visitors to amenities, employment, and recreation in Squamish, Whistler, and the Pemberton Valley. Today, regional service connects Pemberton and Whistler. By 2040, frequency and span of this service will increase, and intraregional service between Squamish and Whistler will be reinstated.

INTERREGIONAL TRANSIT NETWORK

Interregional networks include public transit service *between* the Sea to Sky area and other regions, namely the Metro Vancouver region. Interregional Transit service will sustainably connect residents and visitors to Metro Vancouver, improving access to hubs like Vancouver International Airport and Horseshoe Bay Ferry Terminal.

Given that bus service to and within the area is already being offered by several Provincially-licensed private entities, public transit service does not need to replace private transportation services. Instead, a collaborative approach to regional and interregional bus service can be explored.

Phasing of the Sea to Sky's Regional Transit networks has not been definitively determined within the context of the Transit Future Plan.

Sections of regional service will be implemented and expanded based on travel demand, ridership, and continuous collection and analysis of other qualitative and quantitative data.

Figure 52: Sea to Sky Transit Future Regional and Interregional Networks.

Figure 53: Squamish Transit Future Network.

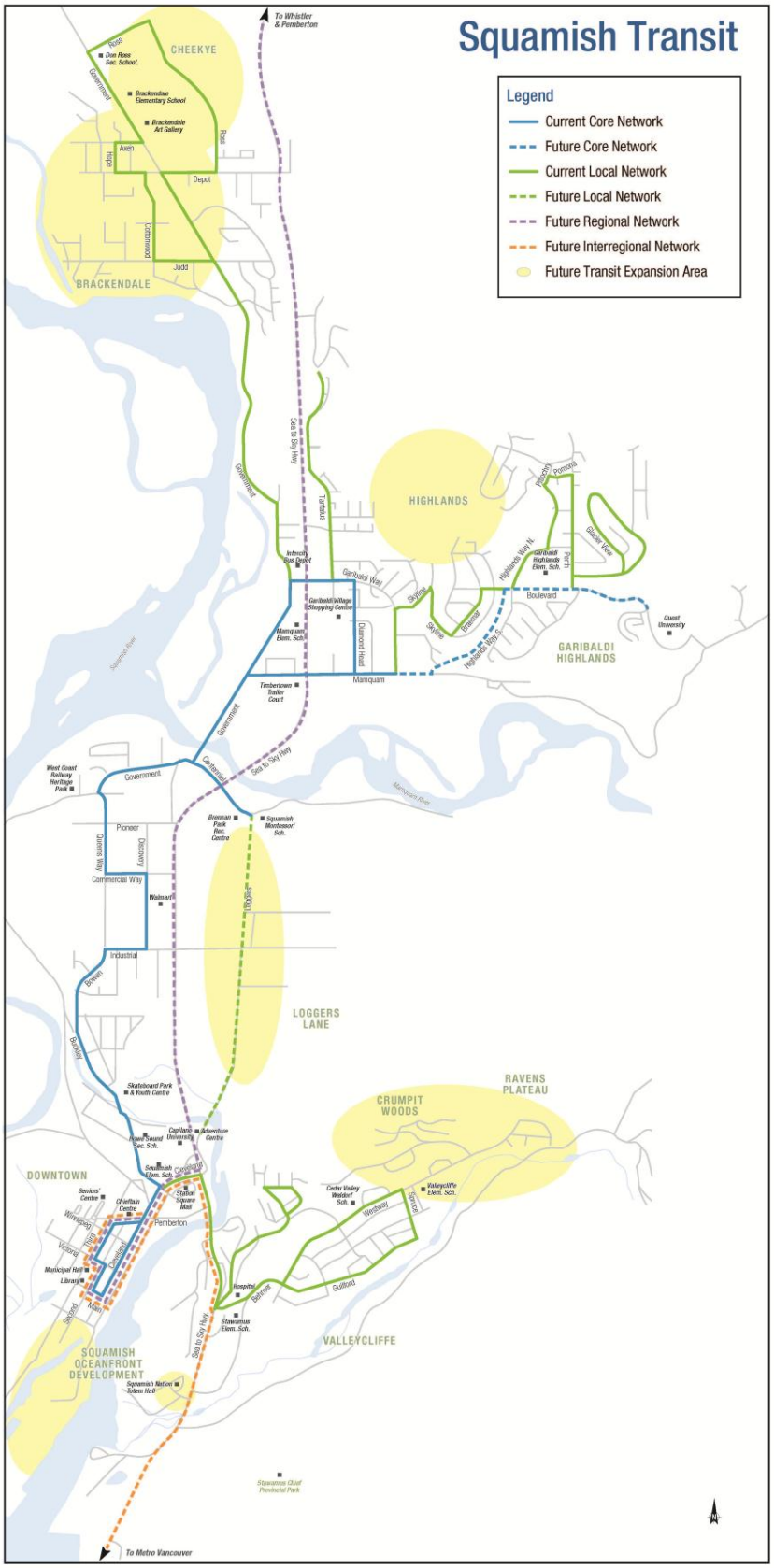


Figure 54: Whistler Transit Future Network.

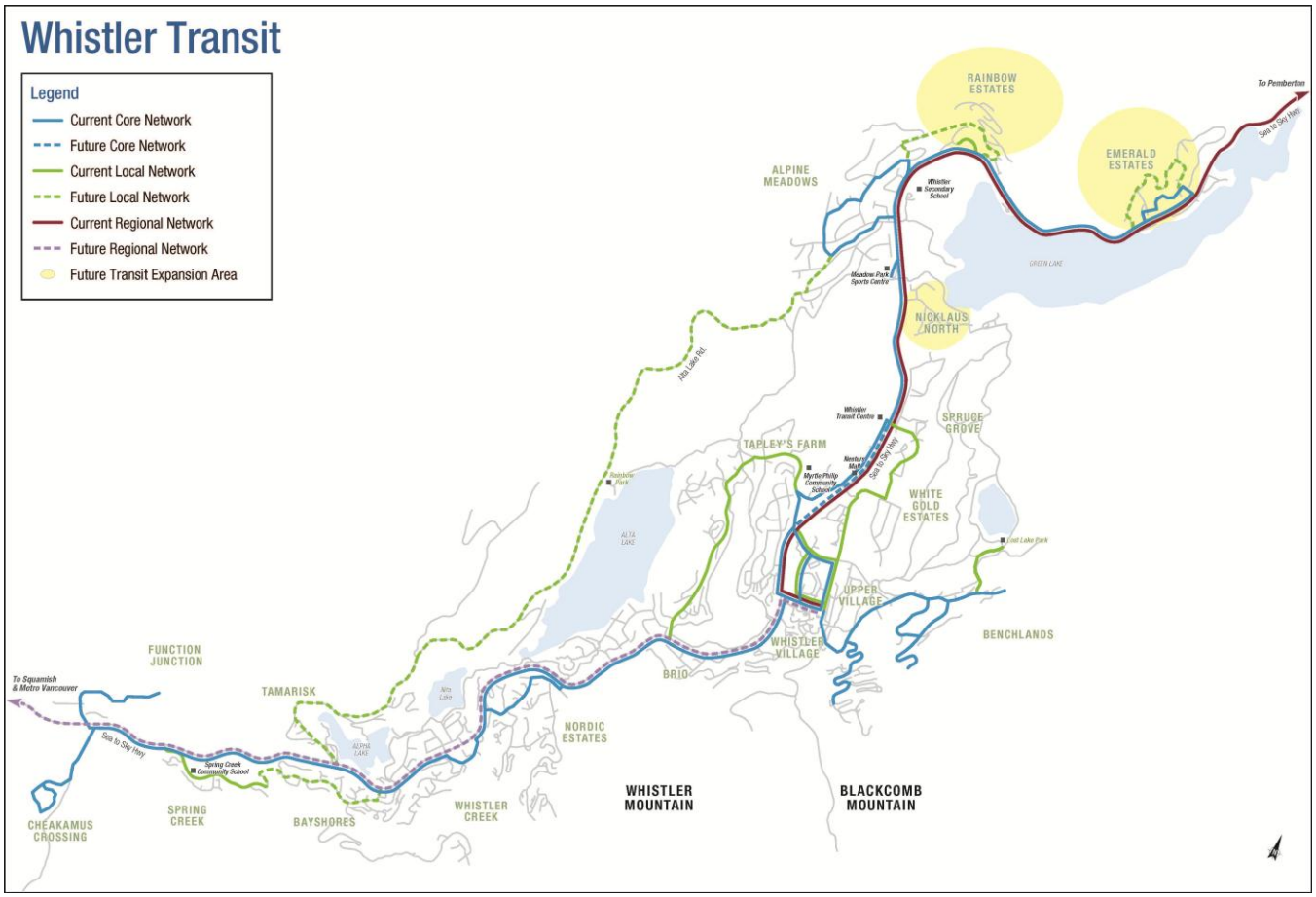
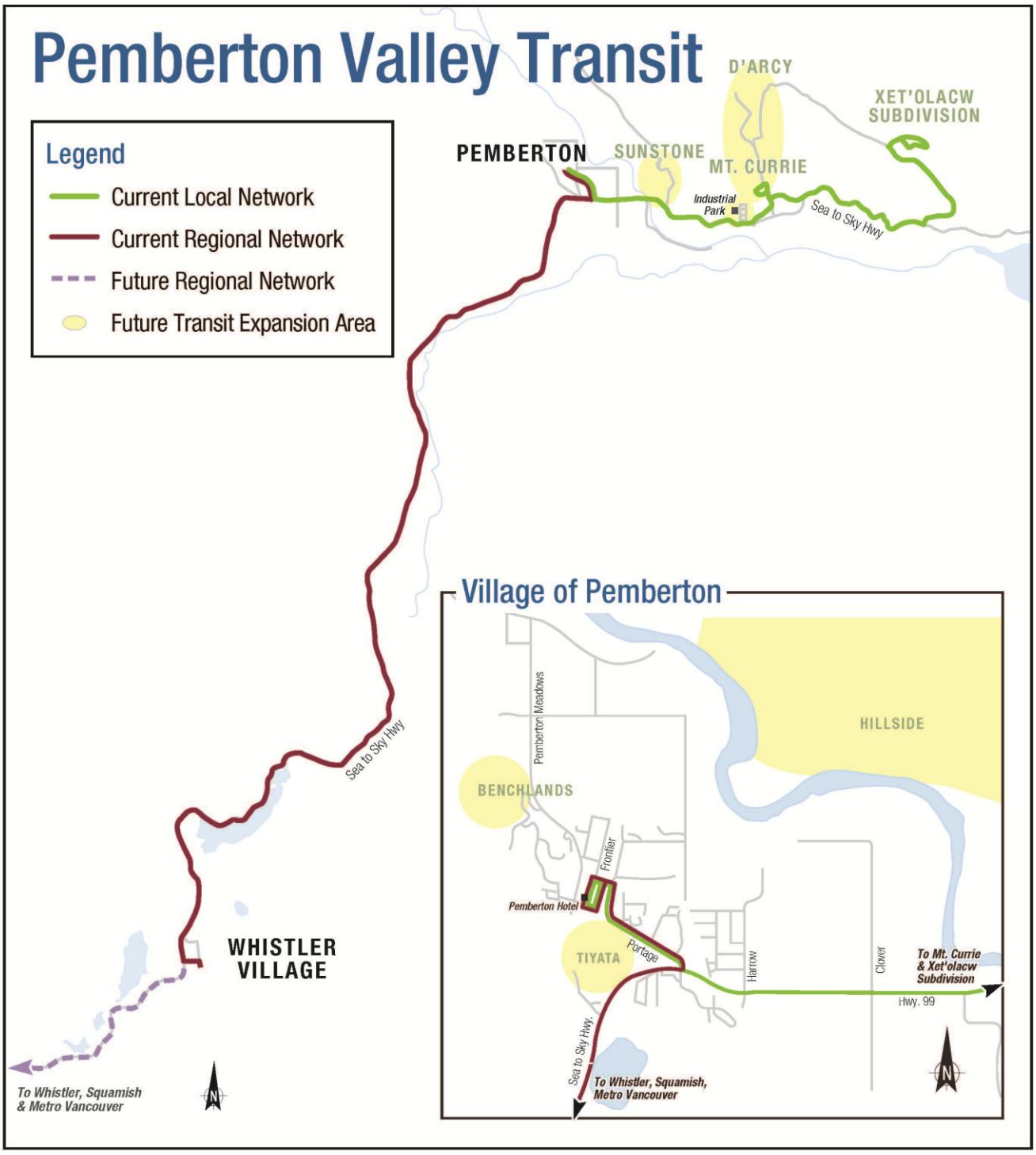


Figure 55: Pemberton Valley Transit Future Network.



Transit Future: Focus on the Sea to Sky Region

The Vision, Goals, and Transit Mode Share Targets outlined here guide the implementation of the Transit Future Plan. The service and infrastructure recommendations made later in this chapter align with these components and have been made to help achieve the Transit Future.

Vision

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

Transit systems in the Sea to Sky region will be:

- For everyone
- Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling
- Safe
- Environmentally Sustainable

Transit Mode Share Targets

The 2008 Provincial Transit Plan (PTP) states that by 2030, 5 per cent of all trips in areas outside of Vancouver and Victoria should be made by transit. Communities in the Sea to Sky region have already cumulatively achieved this target. Implementation of the Transit Future Plan will help the Sea to Sky area's transit mode share continue to increase.

Transit Future Network

Figure 56: Sea to Sky Transit Future Regional and Interregional Networks.

Note that the Transit Future network as envisioned here is not fixed – route numbers, route locations, and route operations are subject to change over the life of the Plan.

Regional networks include public transit service within the Sea to Sky region, linking the communities of Squamish, Whistler, and The Pemberton Valley.

Interregional networks include public transit service between the Sea to Sky region and other regions, namely the Metro Vancouver region.

By 2040, these networks will serve residents and visitors with frequent transit service seven days a week.

Network Service Standards: Frequency and Span

The success of the Regional and Interregional Transit Networks in the Sea to Sky region is not achieved by the service simply being implemented, as described in the Transit Future Foundations section of this Plan. Integrated and continuous planning, designing, monitoring, and optimizing of the transit network is required to achieve the Sea to Sky region's Transit Future. The monitoring and optimizing aspects of this work can be informed by tailored Service Standards that guide local governments and BC Transit staff in determining and managing community expectations regarding the level of transit service to be provided. Specifically, Service Standards for Regional Transit service outline the minimum acceptable span and frequency of transit service.

Span of service defines the operating hours that a route is in service. In general, regional services operate primarily during the peak periods, as this is when demand is highest. For the morning and afternoon peaks, the service should be designed to allow people to access typical employee start times in the destination communities.

As travel demand on transit services in the Sea to Sky region increases, the hours that transit operates should also increase, extending to off-peak periods including midday, evenings and weekends. Efficient, tailored service frequency and span meets demand when it is greatest, while also keeping operating costs in check.

BC Transit recommends the long term minimum Service Standards for Regional and Interregional Transit service be achieved over the life of the Transit Future Plan. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 24: Sea to Sky Regional and Interregional Transit Service Standards.

<table>
<tr><th>Transit Service Type</th><th>Transit Service Description</th><th>Period</th><th>Minimum Transit Service Span</th><th>Minimum Transit Service Frequency</th></tr>
<tr><td>Regional</td><td>Regional networks include public transit service within the Sea to Sky region, linking the communities of Squamish, Whistler, and The Pemberton Valley.</td><td colspan="3" rowspan="2">Monday to Friday
5:00 a.m. to 9:00 p.m.
Service every 30-60 minutes
Saturday
8:00 a.m. to 6:00 p.m.
Service every 60-120 minutes
Note that seasonal demand may extend service span and increase frequencies
Sunday and Holiday
9:00 a.m. to 5:00 p.m.
Service every 60-120 minutes
Note that seasonal demand may extend service span and increase frequencies</td></tr>
<tr><td>Interregional</td><td>Interregional networks include public transit service between the Sea to Sky region and other regions, namely the Metro Vancouver region.</td></tr>
</table>

Span of service extensions can be considered when the first and last hour of service has productivity greater than the average productivity on the entire route. Extensions of the span of service may also be triggered by seasonal fluctuations, or a major employer change in start or finish times.

Network Performance Guidelines

Performance Guidelines are unique evaluation tools that can be used to help plan new transit services, make adjustments to existing service, and measure how well the transit system is progressing towards achieving its goals. These guidelines will evolve with the growth of Regional and Interregional Transit services in the Sea to Sky region.

As a starting point, an approximate 10 per cent improvement over the baseline has been suggested here. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 25: Sea to Sky Regional and Interregional Transit Performance Guidelines.

Performance Measure	Definition	2014 Baseline (Regional)	2040 Target (Regional & Interregional)
Average rides per service hour	Measures the total volume of ridership as compared to the supply of transit service	15	17
Cost per passenger trip	Measures the average cost to provide service per passenger trip	$11.89	$10.75
Cost recovery	Measures the financial performance of the transit system, usually expressed in terms of total operating revenue after total operating expenses	-	30%

Trends will be monitored over time to determine if the system or routes are becoming more or less efficient.

Significant variance (+/ – 25%) from the target will place a route on an action list for further investigation, and will require more detailed analysis. For example, if efficiencies to the system are required, then routes that fall below the 25 per cent variance will be candidates for corrective action. Further, if expansion resources are available or resource re-allocation is being pursued, then routes that rise above the 25 per cent variance will be candidates for service improvement.

BC Transit will report on these performance measures annually to help guide planning decisions.

Sea to Sky Regional Transit Service and Infrastructure Recommendations

The recommendations in this section have been created and prioritized based on technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

Options do not represent all of the possible changes that could be made to the Regional and Interregional Transit systems in the region between today and 2040, but should serve as a starting point each time the systems undergo analysis or change. Recommendations vary in terms of required timelines, complexity, cost, and process, meaning that initiatives may not be undertaken linearly.

Efficiencies may be realized by developing partnerships with organizations providing existing regional and interregional bus service.

Phasing of regional and Interregional transit service options with local options has not been identified in this Plan. Regional and Interregional transit service options may be implemented at different times than the local transit service options that follow in the Squamish, Whistler, and Pemberton Valley chapters.

The realization of these recommendations and targets is contingent on:

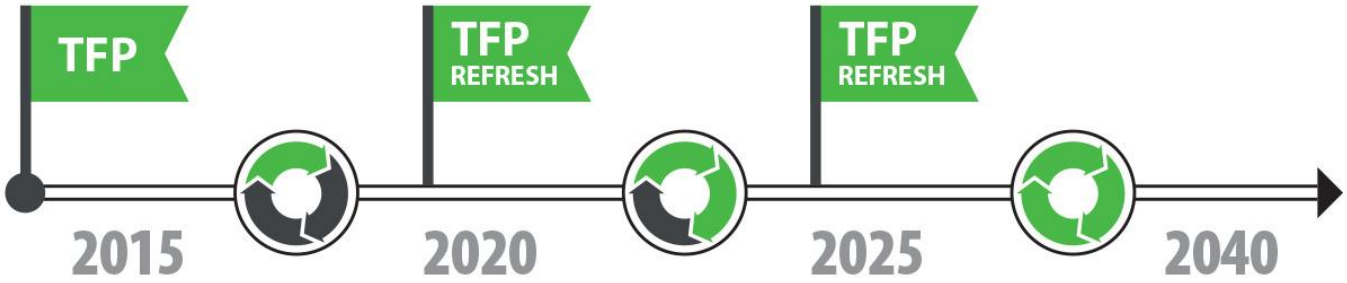
- The availability of local and provincial funding
- Community growth factors
- Phasing of major projects
- Service demand and emerging issues
- Opportunities for value added-partnerships
- Ongoing efforts to optimize service and ensure reliability and on-time performance

Note that any costs shown:

- Are approximate and are subject to change based on final operational and implementation details and timing
- Are based on 2014/15 Operating Costs
- Do not include provincial contribution to lease fees
- Do not include revenue offsets
- Do not include inflation

Transit Future Plan Refresh

Realizing the Sea to Sky Transit Future Plan requires a phased approach. Work undertaken will be evaluated every five years as part of BC Transit's Transit Future Plan Refresh process, as illustrated in Figure 58. Recommendations that have not been implemented will be re-examined, and new changes to the transit system can be explored. This Refresh also provides an opportunity to reflect collaboratively on lessons learned in the previous implementation phase.



= Ongoing service and infrastructure analysis and implementation

Short Term – Explore Between 2015-2020

REGIONAL TRANSIT SYSTEM MANAGEMENT

R1. Undertake a Sea to Sky Corridor Transit Study

A corridor study can help determine detailed aspects of expanding regional and interregional Transit service, including phasing, funding, route alignment, key facility locations (stops, exchanges, Park & Ride sites, transit priority warrants), transit priority measures and continued stakeholder and community participation. This study will include the entire corridor (Metro Vancouver to the Pemberton Valley) and will be a collaborative exercise between BC Transit and all other participating partners, including relevant potential private sector partners.

R2. Explore the Development of a Sea to Sky Corridor Regional Governance Structure

Sea to Sky communities should explore the possibility of developing a regional governance structure to streamline the implementation of regional and interregional transit. This could enable more comprehensive system management and performance monitoring, and could involve establishing a Regional Transit Advisory Committee with an agreed-upon Terms of Reference and decision-making process.

The benefits of establishing some form of an integrated regional governance structure relates to adopting a more comprehensive and coordinated approach to transit planning and service delivery. Benefits which could potentially be achieved through regional cooperation and/or service integration for Regional and Interregional transit include:

- **Improved Rider Experience**
  - Potential fare integration and seamless transfers will provide a simple and more user-friendly environment
  - With integration of transit systems, a comprehensive, simple and understandable zone based fare system could be developed
  - Standardization of transit policies (e.g. transfers, free rides, service days, etc.) will reduce confusion and improve rider experience
  - Coordinated marketing efforts could offer cost savings and effectively grow ridership

- **Operational Efficiencies**
  - Better integration of transit systems and routes in the region could enable more coordinated and direct trips
  - Integrated schedules will allow regional and local services to complement each other
  - Fleet and vehicle maintenance facility optimization strategies could be pursued
  - Cost savings could be converted into increased service levels
  - Overall improved management of Local and Regional Transit Systems
  - Explore the integration of existing service providers for economies of scale

Connections and transfers for Regional and Interregional transit can be coordinated. A coordinated approach would enable BC Transit and local governments, along with other partners, to plan for more comprehensive and integrated Regional and Interregional travel. Reassessing boundaries between transit systems could allow for:

- More direct trips to/between regional centres
- More connections between regional and local services
- Expanded service area
- Efficient scheduling and bus blocking: buses can be scheduled across the region as one system, resulting in direct trips and emphasizing transfer opportunities

Improved efficiencies will likely lead to increased demand and growth in Regional and Interregional transit ridership, which could lead to revenue growth.

TRANSIT SERVICE

The following service proposals include conceptual options for discussion purposes only. The feasibility of these options would be part of the process during the development of the Sea to Sky Transit Corridor Study (R1).

R3. Introduce weekday Interregional Transit service between Squamish and Metro Vancouver

Interregional Transit service would provide a low-emission travel option from the Sea to Sky area to Metro Vancouver and surrounding regions, boosting local and regional economic development and tourism. This transit connection would also link Sea to Sky residents to regional hubs such as Horseshoe Bay, the North Shore, downtown Vancouver, and YVR airport. Providing this interregional connection is a top priority of the public, stakeholders and local Partners.

The existing volume of travel between Squamish and Metro Vancouver is high and is continuing to grow. Implementing service along this corridor will vastly improve regional connections and also help reduce congestion along this corridor. This service is in high demand particularly by those commuting between Squamish and Metro Vancouver as well as those needing to access medical facilities, students travelling to post-secondary institutions and recreational destinations. The goal of this service is to be an attractive alternative to the private automobile by being competitive in travel time.

BC Transit recommends collaboration with Transit Future Plan partners, transit operators, and key stakeholders across the Sea to Sky region to undertake operational planning for this service. Operational planning includes bus route and bus stop planning, scheduling, and exploring partnerships for cost-sharing and service delivery. The detailed review of this service option should leverage the experience gained from recently introduced interregional connectors including the Fraser Valley Express and the Cowichan Valley Connector.

Coordination and analysis will need to be undertaken to determine phasing of this option with local implementation recommendations made for Squamish. While the recommendations are not mutually exclusive, resource availability will be a factor in implementation and phasing.

While variations of this service can be implemented later, the introductory service described here is based on the following assumptions:

- Introductory service includes weekday peak trips from 6:00 – 9:00 a.m. / 3:00 – 6:00 p.m. to primarily serve commuting passengers, especially from Squamish to Metro Vancouver.
- All bus stop locations, as well as start and end points in Squamish and Metro Vancouver would be determined through future detailed planning. To be competitive with the private automobile it

is recommended that the amount of bus stops be limited to improve the service's speed and efficiency.

- Service operates five days a week
- The service is integrated with Local Transit networks in Squamish as well as Metro Vancouver.

Approximate resources required to provide introductory transit service:

Initial High Level Estimate – Additional Annual Impacts			
R3: Introduce weekday Interregional Transit service between Squamish and Metro Vancouver			
Service Hours:	4,040	Passenger Revenue:	$121,200
Annual Ridership:	40,400	Total Cost*:	$626,600
Vehicles Required**:	3	Net Local Share of Costs:	$267,500
		Provincial Share of Costs*:	$237,900

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

R4. Introduce midday or evening Regional Transit service between Pemberton and Whistler

Travel demand on the Pemberton Commuter Service is growing continuously. There are currently four round trips per day on this service during the morning and afternoon periods that are designed specifically for commuters. Technical analysis and public engagement helped determine that expanding service in the midday and evening would improve access for recreation and tourism, shift employment, and access to amenities.

Increasing transit service span and frequency between Pemberton and Whistler can be achieved by adding two round trips during either the midday or evening on all day types. Additional analysis and consultation would take place prior to implementation to identify the ideal times for the expanded service.

Approximate resources required to increase transit service:

Initial High Level Estimate – Additional Annual Impacts			
R4: Introduce midday or evening Regional Transit service between Whistler and Pemberton			
Service Hours:	1,100	Passenger Revenue:	$27,300
Annual Ridership:	13,200	Total Cost*:	$176,500
Vehicles Required**:	1	Net Local Share of Costs:	$85,000
		Provincial Share of Costs*:	$64,200

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

TRANSIT INFRASTRUCTURE

R5. Establish a Park & Ride facility in downtown Squamish

To improve access to the proposed interregional connector between Squamish and Metro Vancouver, formalized Park & Ride facilities should be introduced along the corridor to encourage ridership. These Park & Ride facilities can include bike and car parking to encourage multimodal linked trips, and can help deter transit passengers from parking in nearby neighbourhoods.

R6. Examine existing transit exchanges to ensure that capacity is available for introduction of regional and interregional service

Depending on the preferred alignment of the new interregional service, the existing downtown Squamish transit exchange should be reviewed to ensure that adequate capacity is available. In addition, the customer and bus driver amenities should also be reviewed to ensure that it meets the short, medium and long term needs.

Since the routing alignment may also include service connections to Garibaldi Village, a potential transit exchange in this area should be considered to accommodate new service.

R7. Examine the impact of fleet increases to existing Transit Operations and Maintenance Facilities

Implementing any transit service recommendations in the Transit Future Plan may require new or expanded facilities in Squamish and/or Pemberton.

R8. Explore highway improvement measures on the Sea to Sky Highway at Britannia Beach

Improve highway safety and transit operations at this intersection by exploring congestion relief options.

Medium Term – Explore Between 2020-2025

TRANSIT SERVICE

Increase Interregional Transit service between Squamish and Metro Vancouver on weekdays and introduce service on weekends

As the ridership demand grows on the service linking Squamish and Metro Vancouver, it is important to expand the service to continue to attract new ridership. Increasing service frequency and span on weekdays and weekends is an important step toward improving the link between the Sea to Sky region to Metro Vancouver.

While variations of this service can be implemented later, this initial expansion is based on the following assumptions:

- Service is expanded on weekdays to provide frequency during the midday and evenings between 9:00am – 3:00pm / 6:00 – 10:00pm
- Limited service is introduced on weekends, starting with four round trips per day, operating every two hours

Reinstate Regional Transit service between Squamish and Whistler

On January 3, 2005, the Squamish-Whistler Commuter (Route 98) was implemented as a winter-only pilot project linking Squamish to Whistler.

The Squamish-Whistler Commuter pilot project was cost-shared between the District of Squamish and the Resort Municipality of Whistler until 2007/08. In April 2008 this service expanded to include year-round service in when Provincial Government funding became available. At this time, the RMOW committed to continue funding the pilot project for three years to the end of 2010.

A fare increase was implemented in 2010 to help offset rising operational costs, which impacted ridership, along with speculation about the stability of the service and future funding for it. The District of Squamish funded the local share of the service for six months beyond the RMOW's involvement, but ultimately the service ceased in 2011.

Figure 57: 98 Squamish-Whistler Commuter schedule, 2011.

98 Squamish Commuter — **To Whistler**

Daily

(A) Squamish: Chieftain Centre	(J) Valleycliffe: Vista at Northridge	(K) Valleycliffe: Spruce at Westway	(A) Squamish: Chieftain Centre	(F) Squamish: Highlands Mall	(G) Squamish North: Greyhound Depot	(W) Whistler Creek	(V) Whistler: Gondola Transit Exchange
—	6:04	6:06	6:14	6:30	—	7:15	7:22
—	—	—	6:25G	—	6:50G	7:25G	7:45G
—	6:24	6:26	6:34	6:50	—	7:35	7:42
—	—	—	—	—	7:30G	8:15G	8:30G
—	—	—	9:10G	—	9:40G	10:20G	10:30G
—	—	—	11:25G	—	11:55G	12:35G	12:45G
1:05	1:14	1:16	1:24	1:40	—	2:25	2:32
—	—	—	1:40G	—	2:10G	2:50G	3:00G
—	—	—	4:10G	—	4:40G	5:20G	5:30G
—	—	—	6:10G	—	6:40G	7:16G	7:30G
—	—	—	8:10G	—	8:40G	9:20G	9:30G
9:10	9:19	9:21	9:29	9:45	—	10:30	10:37

G via Greyhound. Trips arrive/depart Whistler Village at Visitor Centre bus loop on Village Gate Boulevard.

ATTENTION: For up-to-date information on Greyhound schedules and fares, visit www.greyhound.ca or call Greyhound at 604·898·3914 Squamish, or 604·932·5031 Whistler.

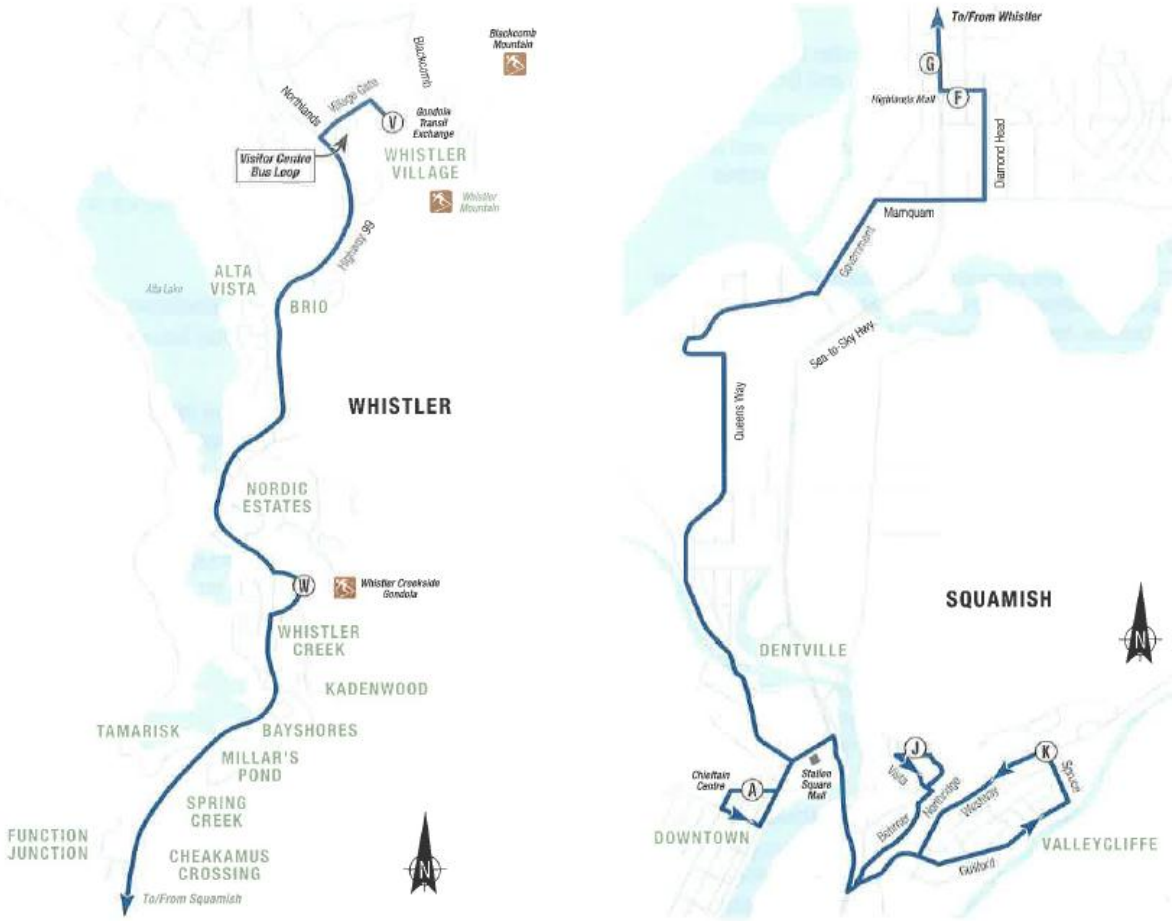
98 Squamish Commuter — **To Squamish**

Daily

(V) Whistler: Gondola Transit Exchange	(W) Whistler Creek	(F) Squamish: Highlands Mall	(G) Squamish North: Greyhound Depot	(A) LSquamish: Chieftain Centre	(J) Valleycliffe: Vista at Northridge	(K) Valleycliffe: Spruce at Westway	(A) Squamish: Chieftain Centre
6:15G	6:20G	—	7:05G	—	—	—	—
7:45	7:52	8:42	—	8:54	9:03	9:05	9:13
8:15G	8:20G	—	9:10G	9:20G	—	—	—
10:30G	10:35G	—	11:35G	11:45G	—	—	—
1:30G	1:35G	—	2:35G	2:45G	—	—	—
4:30G	4:35G	—	5:30G	5:40G	—	—	—
4:45	4:52	5:42	—	5:54	6:03	6:05	6:13
5:00G	5:05G	—	6:00G	6:10G	—	—	—
5:10	5:17	6:07	—	6:19	6:29	6:30	6:38
6:30G	6:35G	—	7:35G	7:45G	—	—	—
9:00G	9:05G	—	9:50G	10:00G	—	—	—
12:30	12:37	1:27	—	1:39	1:48	1:50	1:58

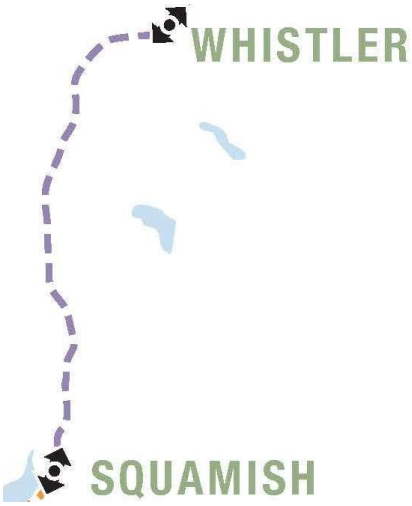
G via Greyhound. Trips arrive/depart Whistler Village at Visitor Centre bus loop on Village Gate Boulevard.
Brackendale Detour: Upon request southbound trips to Squamish will detour into Brackendale.

Figure 58: 98 Squamish-Whistler Commuter map, 2011.



Following the introduction of interregional service between Squamish and Metro Vancouver, there will be new incentive to reintroduce the Squamish-Whistler Commuter; linking all Sea to Sky communities to Metro Vancouver. The reintroduction of this transit service would provide transit access between Metro Vancouver, Squamish, Whistler, the Pemberton Valley and surrounding regions, boosting local and regional economic development and tourism, as well as providing improved access to employment, education, and healthcare. This connection will also link Sea to Sky residents to regional hubs such as Horseshoe Bay, the North Shore, downtown Vancouver, and the Vancouver International Airport. Providing interregional connections is a top priority of stakeholders, the public and local partners.

The existing volume of travel between Metro Vancouver, Squamish, and Whistler is observed to be high and is continuing to grow. Implementing public transit service along this corridor will help realize local, regional, and provincial benefits, and can help reduce GHG emissions and congestion along the Sea to Sky corridor. This service is in demand for recreation and tourism, and for local residents wanting to access amenities, medical facilities, employment, and post-secondary education. The connection between Squamish and Whistler is also important for Whistler residents to access the shopping centres in Squamish which offers retail options not available in Whistler.



While variations of this service can be implemented later, the introductory service described here is based on the following assumptions:

- Introductory service that closely matches what was provided between 2004-2011, focusing primarily on employee start and finish times.
- The service would operate between the major transit exchanges in Squamish and Whistler with direct connectivity to the service operating to Metro Vancouver. To be competitive with the private automobile, it is recommended that the amount of bus stops be limited to improve the service's trip duration and efficiency.
- Service operates seven days a week
- The service is integrated with transit networks in Squamish and Whistler, as well as service provided by TransLink
- Opportunities to interline the Squamish-Metro Vancouver service with this service would be pursued to provide more efficient and attractive service for customers

TRANSIT INFRASTRUCTURE

Identify sites and develop new Park & Ride and Transit Exchange Facilities

With the introduction of expanded service between Squamish and Metro Vancouver and the reintroduction of the Squamish-Whistler Commuter, the following infrastructure improvements should be considered:

- A second Park & Ride site in Squamish (Garibaldi Village)
- A Park & Ride site in Whistler (Cheakamus / Function Junction)
- A secondary Transit Exchange in Squamish (Garibaldi Village)
- Improved transit infrastructure at Gateway Loop in coordination with RMOW plans (Whistler Village)

Any additional corridor improvements or transit priority measures identified in the corridor study that are associated with these service introductions should also be pursued. Any of these capital facilities should be implemented in a phased approach between 2020-2025 that is informed by the service expansion, ridership on separate segments of the network, as well as resource availability.

Long Term – Explore Between 2025-2040

TRANSIT SERVICE

Sea to Sky communities can focus on the following long term Regional and Interregional Transit service and infrastructure recommendations:

- Continue to improve service frequency and extend service span on connections as demand on the corridor grows.
- Continue to improve local system service in each community to provide efficient, reliable and safe connectivity across the region.

Summary of Resource Requirements: Short-Term

Table 26 summarizes the short-term recommendations made in this chapter, and the estimated resources required to implement them.

Sea to Sky Transit Future Plan - Regional Transit Service Preliminary Estimated Additional Annual Impacts*								
Recommendation	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs
Transit Service								
R1. Undertake a Sea to Sky Corridor Transit Study								
R2. Explore the Development of a Sea to Sky Corridor Regional Governance Structure								
R3. Introduce weekday Interregional Transit service between Squamish and Metro Vancouver	3	242,400	4,040	40,400	$121,200	$626,600	$267,500	$237,900
R4. Introduce midday or evening Regional Transit service between Pemberton and Whistler	1	66,000	1,100	13,200	$27,300	$176,500	$85,000	$64,200
Transit Infrastructure								
R5. Establish a Park & Ride facility in downtown Squamish								
R6. Examine existing transit exchanges to ensure that capacity is available for introduction of regional and interregional service								
R7. Examine the impact of fleet increases to existing Transit Operations and Maintenance Facilities in Squamish and Pember								
R8. Explore highway improvement measures on the Sea to Sky Highway at Britannia Beach								

*Based on 2014/15 AOA Operating Costs. Final costs may change based on final budgets and confirmation of final operational details.

**The vehicle requirements shown here appear feasible but will require confirmation by BC Transit Fleet department closer to implementation.

These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated revenue is approximate and is based on high-level ridership estimates.

Transit Future: Focus on Squamish

The Vision, Goals, and Transit Mode Share Targets outlined here guide the implementation of the Transit Future Plan. The service and infrastructure recommendations made later in this chapter align with these components and have been made to help achieve the Transit Future.

Vision

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

Transit systems in the Sea to Sky region will be:

- For everyone
- Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling
- Safe
- Environmentally Sustainable

Transit Mode Share Targets

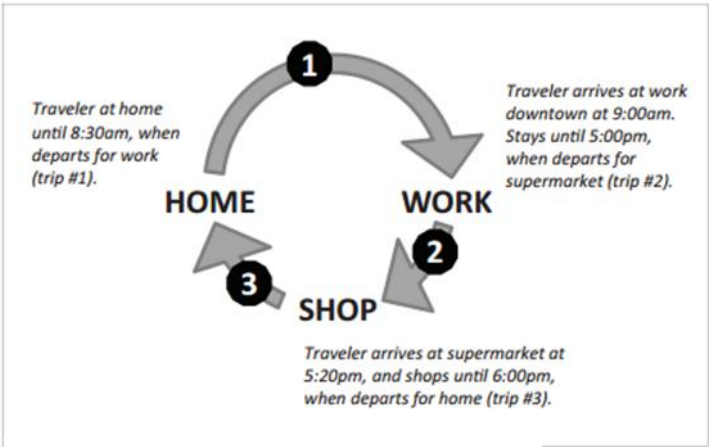
Transit Mode Share is the percentage of all trips that are made by transit in a given community, and is typically measured on an annual basis. Transit Mode Share is a representation of transit ridership overall.

Today, Squamish's transit mode share, or the percentage of all trips currently made in Squamish by transit, is 1.3 per cent. This is equal to about 266,000 transit passengers per year.

BC Transit has developed current and potential transit mode share calculations for Squamish based on:

- **historical, current and projected population** (from local strategic plans and BC Statistics population forecasts)

- **Historical, current and projected travel data across all modes of transportation** (assuming an average of 3 trips per person per day). For high-level target-setting within the context of this Transit Future Plan, it is assumed that people in Sea to Sky communities will continue to make about the same number of trips per day and per year as they do today. Consider a trip as traveling from home to work. On average, people make 3 trips per day.



Source: Transportation Research Board – Activity-Based Travel Demand Models, 2015

- **Historical, current and projected travel data across transit** (based on transit ridership data from local operating companies)

In order to develop achievable, actionable targets for Squamish, transit mode share targets have been modestly set, and are expressed incrementally between today and 2040.

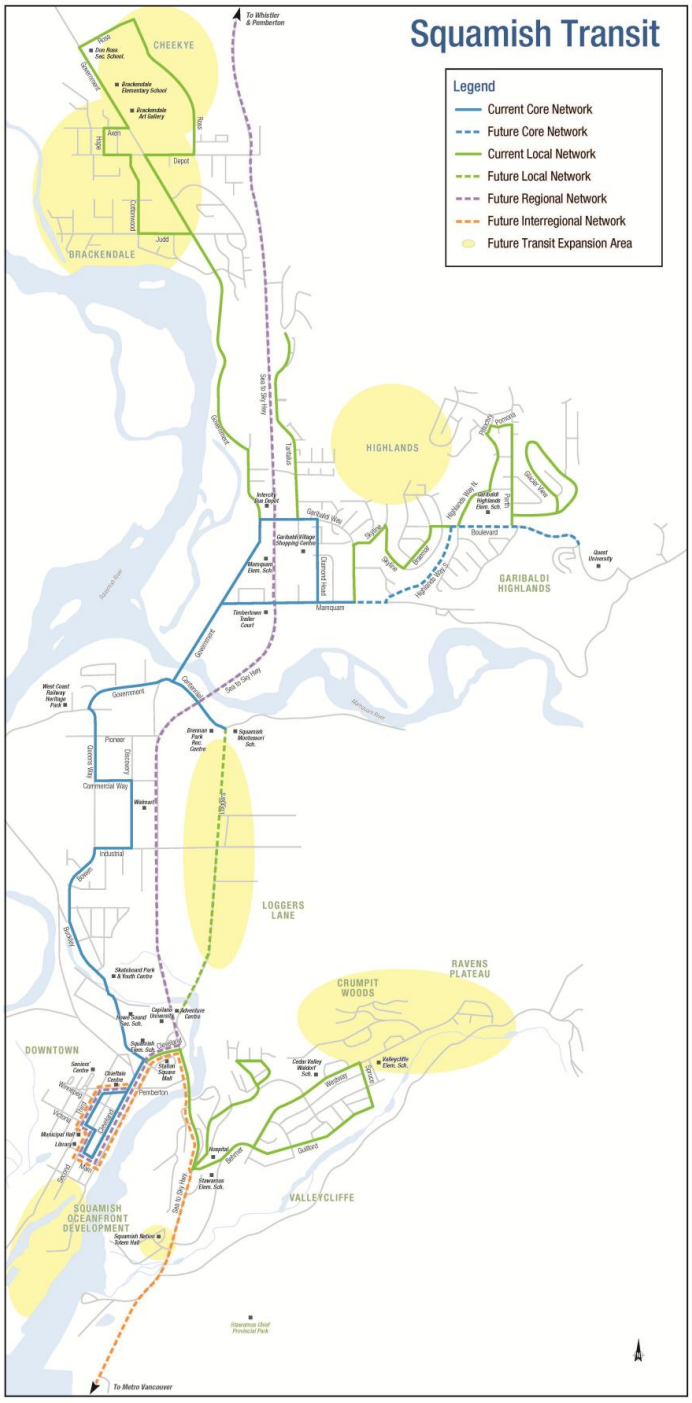
	Squamish
Current Transit Mode Share	1.3%
2020 Transit Mode Share Target	2.5%
2025 Transit Mode Share Target	5%
2040 Transit Mode Share Target	10%

This sets a target that by 2040, 10per cent of all trips made in Squamish will be made by transit. This 10per cent target can be achieved incrementally over the next 25 years, and can be reevaluated every five years as part of BC Transit's Transit Future Plan Refresh process. The sections that follow include transit service and infrastructure recommendations with an eye to achieving these targets.

The *Transit Future Foundations* chapter includes recommendations on how the existing transit mode share can increase without significantly expanding transit service hours or infrastructure. This can be achieved by implementing mechanisms for increasing existing capacity utilization on buses, such as marketing and communications actions, fare strategies, and transit-supportive land use planning.

Transit Future Network

Figure 59: Squamish Transit Future Network.



Core Transit Network – Links people to major destinations within Squamish, typically through downtown.

Local Transit Network – Links people to destinations within neighbourhoods, as well as to the other Transit Networks.

Targeted Transit Network – Links people to regional and Interregional destinations.

Custom Transit – provides transit service to people within 1.5 km of Squamish with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.

Note that the Transit Future network as envisioned here is not fixed – route numbers, route locations, and route operations are subject to change over the life of the Plan.

Network Service Standards: Frequency and Span

The success of the Transit Future Network in Squamish is not achieved by the service simply being implemented, as described in the Transit Future Foundations section of this Plan. Integrated and continuous planning, designing, monitoring, and optimizing of the transit network is required to achieve Squamish's Transit Future. The monitoring and optimizing aspects of this work can be informed by tailored Service Standards that guide local governments and BC Transit staff in determining and managing community expectations regarding the level of transit service to be provided. Specifically, Service Standards for transit in Squamish outline the minimum acceptable span and frequency of transit service.

Span of service defines the operating hours that a route is in service. In general, services operate primarily during the peak periods, as this is when demand is highest. For the morning and afternoon peaks, the service should be designed to allow people to access typical employee start times in the area.

As travel demand on transit services in Squamish increases, the hours that transit operates should also increase, including in off-peak periods in the midday, on evenings and on weekends. Efficient, tailored service frequency and span meets demand when it is greatest, while also keeping operating costs in check.

BC Transit recommends the long term minimum Service Standards be achieved over the life of the Transit Future Plan. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 27: Squamish Transit Service Standards.

Transit Service Type	Transit Service Description	Existing Routes	Short Term Routes	Long Term Routes	Period	Minimum Transit Service Span	Minimum Transit Service Frequency
Core Transit	Links people to major destinations within Squamish, typically through downtown.	1	1, Quest University	1	Monday to Friday	6:30 am to 12:00 am	Peak: 20 minutes Base: 20 minutes
					Saturday	8:00 am to 12:00 am	Base: 30 minutes
					Sunday and Holiday	6:30 am to 11:00 pm	Base: 30 minutes
Local Transit	Links people to destinations within neighbourhoods, as well as to the other Transit Networks.	2, 3, 4	2, 3, 4	2, 3, 4, Loggers Lane, Ravens Plateau, Squamish Oceanfront Development site, Garibaldi Highlands, Brennan Park, Cheekye, North Squamish Parks District, Furry Creek, Britannia Beach, Squamish Nation	Monday to Friday	6:30 am to 10:00 pm	Peak: 30-60 minutes Base: 60 minutes
					Saturday	8:00 am to 10:00 pm	Base: 60 minutes
					Sunday and Holiday	8:00 am to 10:00 pm	Base: 60 minutes
Custom Transit - handyDART	Provides transit service to people within 1.5 km of Squamish with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.	-	-	-	Monday to Friday	8:00 am to 6:00pm	On demand
					Saturday	Limited service, TBD	Limited service, TBD
					Sunday and Holiday	-	-

Span of service extensions can be considered when the first and last hour of service has productivity greater than the average productivity on the entire route. Extensions of the span of service may also be triggered by seasonal fluctuations, or a major employer change in start or finish times.

Network Performance Guidelines

Performance Guidelines are unique evaluation tools that can be used to help plan new transit services, make adjustments to existing service, and measure how well the transit system is progressing towards achieving its goals. The guidelines will evolve with the growth of transit service in Squamish.

As a starting point, an approximate 10 per cent improvement over the baseline has been suggested here. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 28: Squamish Transit Performance Guidelines.

Performance Measure	Definition	2014 Baseline	2040 Target
System Level			
Average rides per service hour	Measures the total volume of ridership as compared to the supply of transit service	21	23
Cost per passenger trip	Measures the average cost to provide service per passenger trip	$6.85	$5.70
Cost recovery	Measures the financial performance of the transit system, usually expressed in terms of total operating revenue after total operating expenses	14.4%	16%
Route Level			
Average rides per service hour	Measures the total volume of ridership as compared to the supply of transit service	Core: 18	Core: 30
		Local: 10	Local: 15
Average rides per trip	Measures the total number of people that board a vehicle on a specific trip specific trip and route	Detailed ridership count forthcoming in Fall 2015	Core: 25
			Local: 15

Trends will be monitored over time to determine if the system or routes are becoming more or less efficient.

Significant variance (+/ – 25%) from the target will place a route on an action list for further investigation, and will require more detailed analysis. For example, if efficiencies to the system are required, then routes that fall below the 25 per cent variance will be candidates for corrective action. Further, if expansion resources are available or resource re-allocation is being pursued, then routes that rise above the 25 per cent variance will be candidates for service improvement.

BC Transit will report on these performance measures annually to help guide planning decisions.

Squamish Transit Service and Infrastructure Recommendations

The recommendations in this section have been created and prioritized based on technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

Options do not represent all of the possible changes that could be made to transit in Squamish between today and 2040, but should serve as a starting point each time the system undergoes analysis or change. Recommendations vary in terms of required timelines, complexity, cost, and process, meaning that initiatives may not be undertaken linearly.

Regional and Interregional transit service options are described in detail in the chapter titles *Transit Future: Focus on the Sea to Sky Region*. Phasing of regional and Interregional transit service options with local options has not been identified in this Plan. Regional and Interregional transit service options may be implemented at different times than the local transit service options that follow in this chapter. While Local, Regional, and Interregional recommendations are not mutually exclusive, resource availability will be a factor in implementation and phasing. Efficiencies may be realized by developing partnerships with organizations providing existing regional and interregional bus service.

The realization of these recommendations and targets is contingent on:

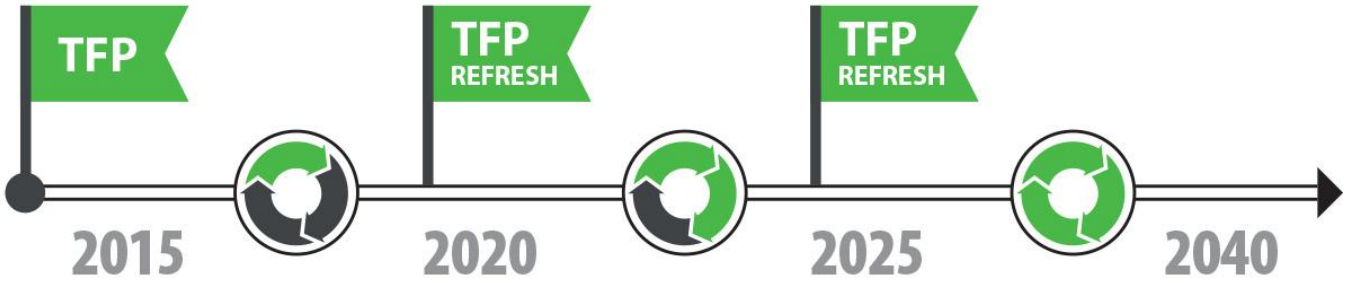
- The availability of local and provincial funding
- Community growth factors
- Phasing of major projects
- Service demand and emerging issues
- Opportunities for value added-partnerships
- Ongoing efforts to optimize service and ensure reliability and on-time performance

Note that any costs shown:

- Are approximate and are subject to change based on final operational and implementation details and timing
- Are based on 2014/15 Operating Costs
- Do not include provincial contribution to lease fees
- Do not include revenue offsets
- Do not include inflation

Transit Future Plan Refresh

Realizing the Sea to Sky Transit Future Plan requires a phased approach. Work undertaken will be evaluated every five years as part of BC Transit's Transit Future Plan Refresh process, as illustrated in Figure 61. Recommendations that have not been implemented will be re-examined, and new changes to the transit system can be explored. This Refresh also provides an opportunity to reflect collaboratively on lessons learned in the previous implementation phase.



= Ongoing service and infrastructure analysis and implementation

Immediate Term – Explore Between 2015-2016

TRANSIT SERVICE

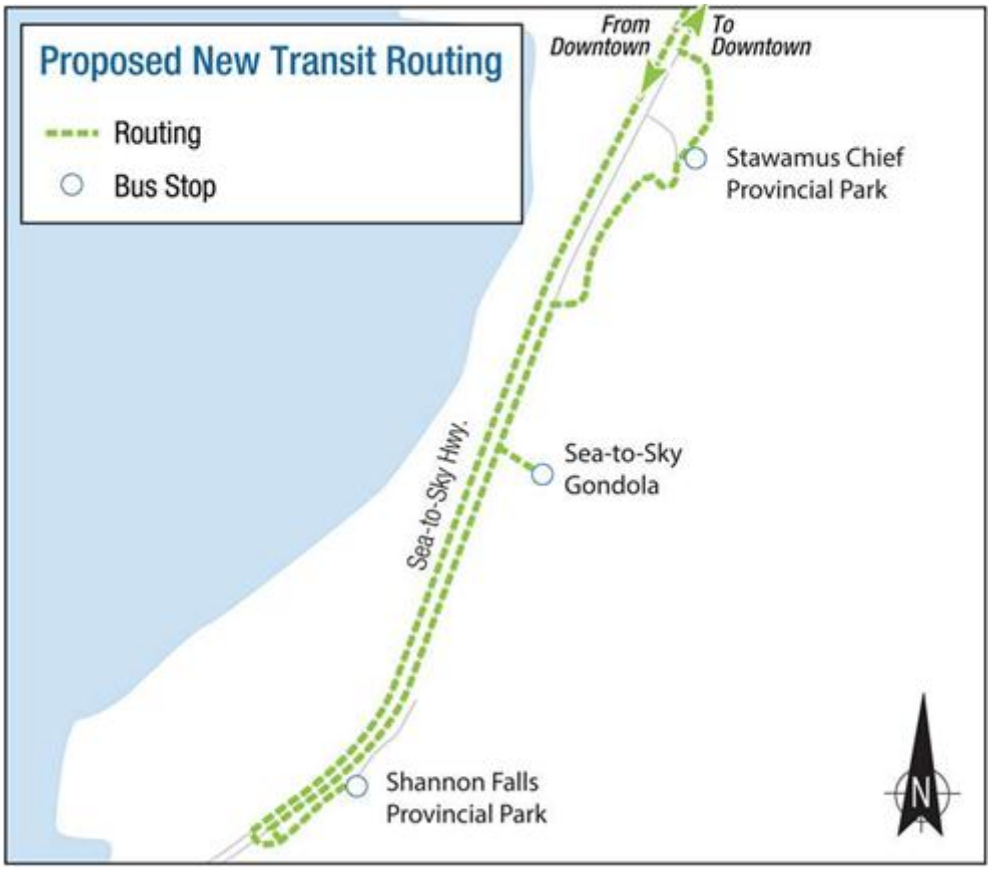
S1. Finalize Operational Plans for South Squamish Parks Pilot Transit Service

Shannon Falls Provincial Park, the Sea to Sky Gondola Basecamp, and Stawamus Chief Provincial Park are located within close proximity to one another and are about 60 km north of Vancouver and 2 km south of Squamish. This area is known as the South Squamish Parks District.

The multi-activity park sites are accessible year-round, with the seasonal peak occurring between May and October. The Parks District is currently accessible by private vehicle, on foot, by bike, and by over a dozen private bus transport companies who access the sites via the Sea to Sky Highway.

Building on the conceptual assessment of this pilot project undertaken by BC Transit in 2014, BC Transit recommends finalizing operational plans to introduce summer transit service connecting downtown Squamish to the South Squamish Parks District.

Figure 60: South Squamish Parks Pilot Service Route Map.



While variations of this service can be implemented later, the summer pilot described here is based on the assumption that the service would operate from 9:00 a.m. – 2:00 p.m., seven days per week from June – September.

Figure 61: South Squamish Parks Pilot Service Preliminary Schedule.

Downtown	Shannon Falls	Sea to Sky Gondola	Stawamus Chief	DT
6:15	6:23	6:27	6:30	6:39
9:00	9:08	9:12	9:15	9:24
9:30	9:38	9:42	9:45	9:54
10:00	10:08	10:12	10:15	10:24
10:30	10:38	10:42	10:45	10:54
11:00	11:08	11:12	11:15	11:24
11:30	11:38	11:42	11:45	11:54
12:00	12:08	12:12	12:15	12:24
12:30	12:38	12:42	12:45	12:54
13:00	13:08	13:12	13:15	13:24
13:30	13:38	13:42	13:45	13:54
14:00	14:08	14:12	14:15	14:54
18:34	18:42	18:46	18:49	18:58
19:04	19:12	19:16	19:19	19:28
19:34	19:42	19:46	19:49	19:59

Additional stops along the highway in the Squamish Nation area may also be added to improve access and connectivity to the area.

Approximate resources required to provide this transit service:

Initial High Level Estimate – Additional Annual Impacts			
S1. Finalize Operational Plans for South Squamish Parks Pilot Transit Service			
Service Hours:	1,100	Passenger Revenue:	$7,300
Annual Ridership:	8,800	Total Cost*:	$129,500
Vehicles Required**:	0	Net Local Share of Costs:	$61,800
		Provincial Share of Costs*:	$60,400

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

Short Term – Explore Between 2015-2020

S2. Increase Sunday and Holiday transit service

Squamish Transit currently operates a reduced schedule on Sundays and Holidays. Access to employment, recreation, and shopping areas on Sundays and Holidays was identified as a priority to stakeholders and the public in Squamish, and can also benefit visitors to Squamish. Therefore, BC Transit recommends increasing transit service frequency and span on Sundays and holidays as follows:

- Introduce base level service between 8:00am and 10:00am
- Introduce improved service frequency between 11:00am to 7:00pm
- Introduce base level service between 7:00pm and 9:00pm

Table 29: Transit Service Increase.

Route	Existing Saturday Trips	Existing Sunday and Holiday Trips	Proposed Sunday and Holiday Trips
1 Brackendale	15	5	11
2 Highlands	15	5	11
3 Valleycliffe	15	4	10
Total	45	14	32

Note: combined trips are counted for both.

Approximate resources required to increase transit service:

Initial High Level Estimate – Additional Annual Impacts			
S2: Increase Sunday and Holiday transit service			
Service Hours:	820	Passenger Revenue:	$5,400
Annual Ridership:	6,600	Total Cost*:	$117,400
Vehicles Required**:	0	Net Local Share of Costs:	$57,200
		Provincial Share of Costs*:	$54,800

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. Final costs may change based on final budgets and confirmation of final operational details.

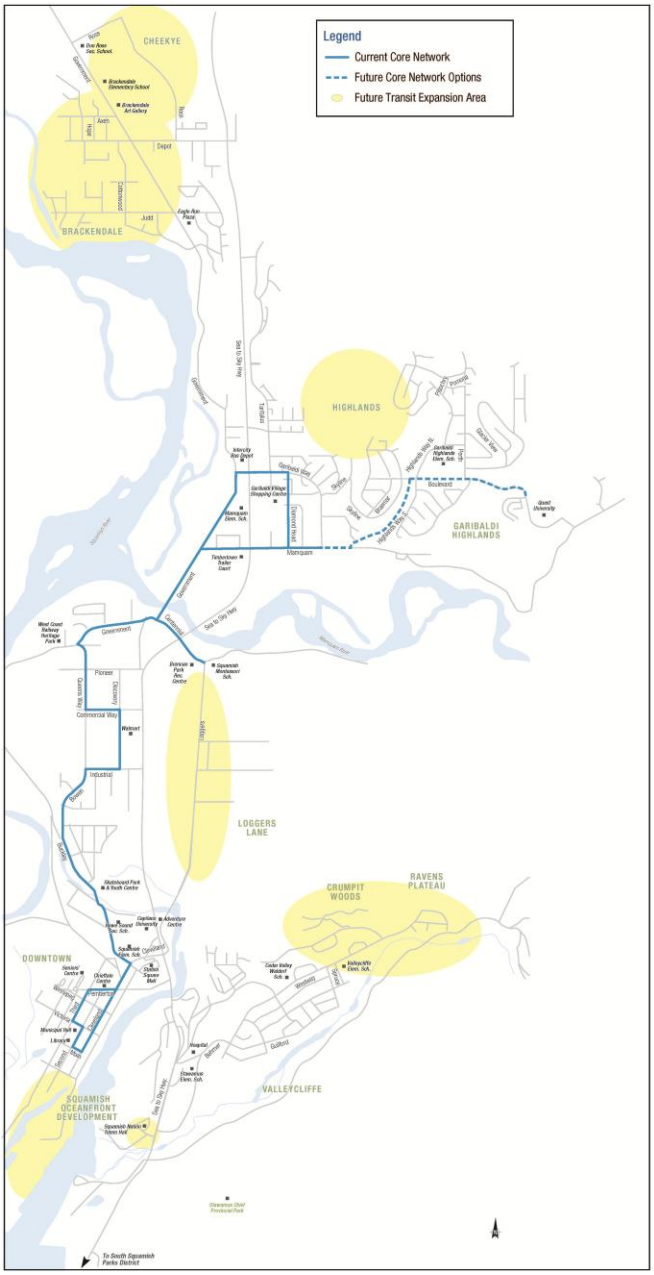
** The vehicle requirements shown here appear feasible but would need to be confirmed by BC Transit's Fleet Standards department closer to the implementation date.

S3a. Improve Core Transit Network service during off-peak periods between Garibaldi Village and Downtown Squamish

Garibaldi Village includes a retail shopping area that has become a regional destination. While the shopping area has generally developed in a car-oriented way, providing improved transit access to the area can foster a more people-oriented design approach as the area continues to grow.

To meet the travel demand to this area with transit, BC Transit recommends extending transit service on the Route 4 to the midday and evenings until 8:00 p.m. Coupled with other routes, this option would provide combined service every 20 minutes along the Core Transit corridor all day between Garibaldi Village and Downtown Squamish.

Figure 62: Squamish Transit Future Core Network.



Since this improvement requires another vehicle, this provides an opportunity to implement another project simultaneously to maximize the operational efficiency. A possible collaborative project is to improve service to Quest University. More information on this improvement is in the next section.

Approximate resources required to increase transit service:

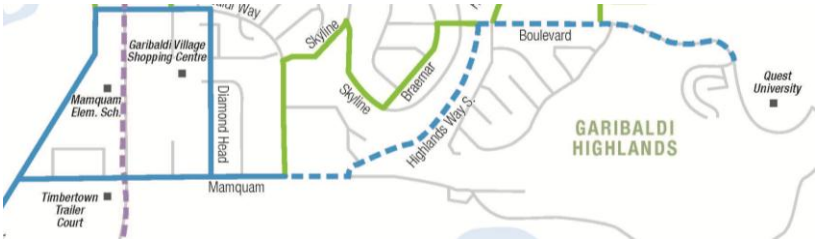
Initial High Level Estimate – Additional Annual Impacts			
S3a. Improve Core Transit Network service during off-peak periods between Garibaldi Village and Downtown Squamish			
Service Hours:	2,270	Passenger Revenue:	$22,400
Annual Ridership:	27,200	Total Cost*:	$314,200
Vehicles Required**:	1	Net Local Share of Costs:	$163,300
		Provincial Share of Costs*:	$128,500

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

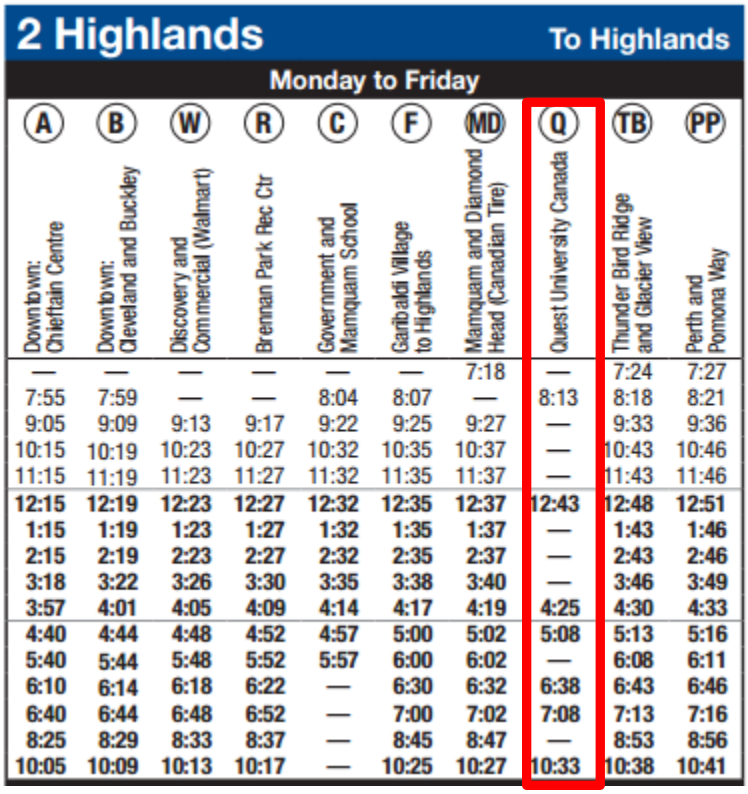
S3b. Increase service on the Core Transit Network to improve access to Quest University Canada

Students, staff, faculty, and visitors to Quest University identified a need for improved transit access during the Sea to Sky Transit Future Plan Participation process. The Quest University campus is located at the end of a curvilinear road with a steep grade that can be difficult to walk and cycle on, so having direct, frequent, reliable transit access to the campus is important.



Currently, service is provided to Quest University by the Route 2 Highlands on select trips. The schedule summary below demonstrates that only 50 per cent of weekday Route 2 Highland trips are extended to Quest University.

Figure 63: Squamish Transit Route 2 Highlands Schedule, 2015.



2 Highlands — **To Highlands**

Monday to Friday

(A) Downtown: Chieftain Centre	(B) Downtown: Cleveland and Buckley	(W) Discovery and Commercial (Walmart)	(R) Brennan Park Rec Ctr	(C) Government and Mamquam School	(F) Garibaldi Village to Highlands	(MD) Mamquam and Diamond Head (Canadian Tire)	(Q) Quest University Canada	(TB) Thunder Bird Ridge and Glacier View	(PP) Perth and Pomona Way
—	—	—	—	—	—	7:18	—	7:24	7:27
7:55	7:59	—	—	8:04	8:07	—	8:13	8:18	8:21
9:05	9:09	9:13	9:17	9:22	9:25	9:27	—	9:33	9:36
10:15	10:19	10:23	10:27	10:32	10:35	10:37	—	10:43	10:46
11:15	11:19	11:23	11:27	11:32	11:35	11:37	—	11:43	11:46
12:15	**12:19**	**12:23**	**12:27**	**12:32**	**12:35**	**12:37**	**12:43**	**12:48**	**12:51**
1:15	**1:19**	**1:23**	**1:27**	**1:32**	**1:35**	**1:37**	—	**1:43**	**1:46**
2:15	**2:19**	**2:23**	**2:27**	**2:32**	**2:35**	**2:37**	—	**2:43**	**2:46**
3:18	**3:22**	**3:26**	**3:30**	**3:35**	**3:38**	**3:40**	—	**3:46**	**3:49**
3:57	**4:01**	**4:05**	**4:09**	**4:14**	**4:17**	**4:19**	**4:25**	**4:30**	**4:33**
4:40	**4:44**	**4:48**	**4:52**	**4:57**	**5:00**	**5:02**	**5:08**	**5:13**	**5:16**
5:40	**5:44**	**5:48**	**5:52**	**5:57**	**6:00**	**6:02**	—	**6:08**	**6:11**
6:10	**6:14**	**6:18**	**6:22**	—	**6:30**	**6:32**	**6:38**	**6:43**	**6:46**
6:40	**6:44**	**6:48**	**6:52**	—	**7:00**	**7:02**	**7:08**	**7:13**	**7:16**
8:25	**8:29**	**8:33**	**8:37**	—	**8:45**	**8:47**	—	**8:53**	**8:56**
10:05	**10:09**	**10:13**	**10:17**	—	**10:25**	**10:27**	**10:33**	**10:38**	**10:41**

This increase in transit service includes extending **all** existing weekday Route 2 trips to Quest University. This would significantly improve access to the University between the key activity centres around Squamish, and would also improve the consistency of the schedule for other users. With the additional vehicle being used for Recommendation S3a, this service expansion can be made in collaboration with that improvement to maximize the efficiency of the expansion vehicle.

Approximate resources required to increase transit service:

Initial High Level Estimate – Additional Annual Impacts			
S3b: Increase service on the Core Transit Network to improve access to Quest University			
Service Hours:	1,160	Passenger Revenue:	$9,600
Annual Ridership:	11,600	Total Cost*:	$136,600
Vehicles Required**:	0	Net Local Share of Costs:	$63,300
		Provincial Share of Costs*:	$63,700

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

S4. Implement a handyDART Registration Program

Providing handyDART service to Squamish residents who have a disability that prevents them from using the Conventional transit system some or all of the time is important. Maintaining this specialized level of service for the people who need it most while linking able passengers to the Conventional transit system can help achieve cost savings and improve efficiency of the entire Squamish Transit System.

To this end, BC Transit recommends implementing a handyDART Registration Program that includes an in-person assessment with a mobility coordinator (staffed by contracted third-party occupational therapists) in order to match the applicant's needs with the most appropriate type of transit services available.

The process takes into account an individual's travel needs in addition to their cognitive and physical abilities with regard to using Conventional transit services. Mobility coordinators will also inform applicants about the accessible transit options available in Squamish, assess their ability to travel safely, and ensure their mobility aids are appropriate for transport.

Implementing the handyDART Registration Program would not change travel for people who currently use handyDART, but would apply to new applicants to the system.

Approximate resources required to initiate this program for one year:

TOTAL COST*:	$6,000
NET LOCAL SHARE OF COST*:	$2,000

Final costs may change based on final budgets and confirmation of final Program details.

TRANSIT INFRASTRUCTURE

S5. Continue to improve transit customer facilities

Continued improvement and maintenance of transit facilities and on-street customer amenities is important for the successful operation and future growth of the transit system. Some improvements that have been identified include:

a) Invest in on-street customer amenities such as transit shelters, customer information and benches. Implement bike parking at key stops and pedestrian-oriented lighting at transit stops.
b) Improve transit wayfinding and customer connectivity on the street and online
c) Improve universal accessibility of transit stops

Foundational concepts that can be applied to improving passenger experience are discussed in more detail in the Ongoing Initiatives section later in the Transit Future Plan.

S6. Examine the downtown exchange to ensure that capacity is available for service expansion

Depending on the preferred alignment of the new Interregional Transit service and any major expansion to the Squamish Transit System, the existing downtown Squamish transit exchange should be reviewed to ensure that adequate capacity is available. In addition, the customer and bus driver amenities should also be reviewed to ensure that they meet the short, medium and long term needs.

Since the routing alignment may also include service connections to Garibaldi Village, a potential transit exchange in this area should be considered to accommodate this new service.

S7. Examine the impact of fleet increases to existing Transit Operations and Maintenance Facility

Implementing any transit service recommendations in the Transit Future Plan may cause the existing facility to reach operational capacity.

Medium Term – Explore Between 2020-2025

TRANSIT SERVICE

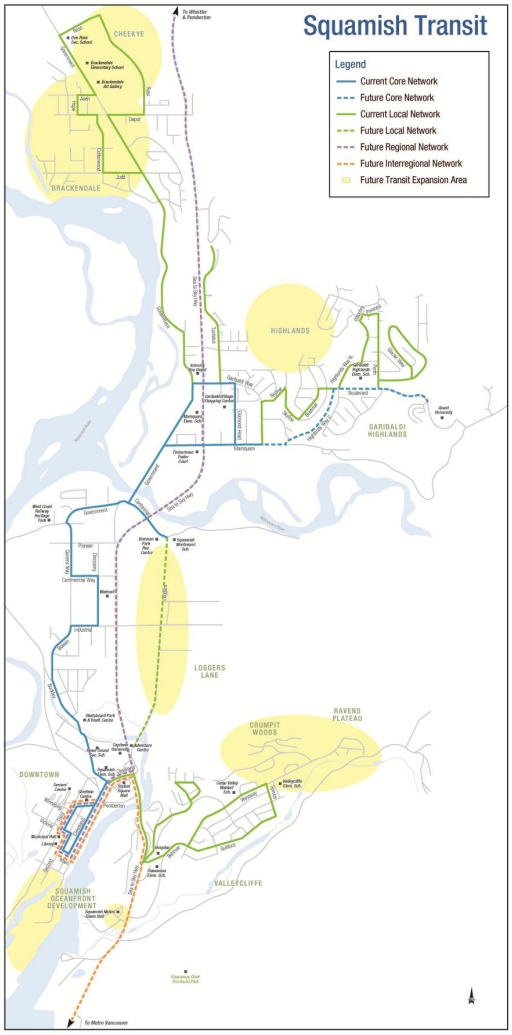
Service improvements on Core Transit Network to meet Service Standards

- Introduce weekend midday service on the Route 4, which is local in nature and provides the foundation for expansion to the ultimate Core Transit Network in Squamish. Enhancing the Route 4 to provide improved frequency between Garibaldi Village and downtown Squamish strengthens the Core Transit Network by improving the Local Transit Network.
- Expand service on the primary Routes 1 and 2 to provide 15 minute combined peak period frequency between Garibaldi Village and downtown Squamish, firmly establishing the Local and Core Transit Networks in Squamish.
- Provide limited late night service on Friday and Saturday until midnight on the Core Transit Network.

Introduce Local Transit service to developing areas

Squamish is growing and densifying, as shown in the yellow shaded areas in Figure 63.

Figure 64: Projected development areas in Squamish.



Serving new areas with transit is important to achieving Squamish's Transit Mode Share Target of 5 per cent by 2025. Possible candidates for Local Transit service expansion include:

- Cheekye
- Loggers Lane
- Ravens Plateau
- Squamish Oceanfront Development site
- Brennan Park

Service to these areas will initially be limited to introductory service levels, including weekday peak service operating approximately every hour.

Funding and implementation options, as well as route planning for these areas will be completed in the long term.

TRANSIT INFRASTRUCTURE

Introduce new bus stops for any expansion areas

Transit service expansion to new areas must be preceded by the implementation of bus stops and customer infrastructure such as seating, bike parking, and schedule information. Developing areas are subject to a review that considers these elements as part of BC Transit's Development Referral Program. It is recommended that the District of Squamish continues to participate in this Program.

Long Term – Explore Between 2025-2040

In the long term, the District of Squamish can also explore the following recommendations. These recommendations are made in light of technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

- Introduce new Local Transit service to select areas such as North Squamish Parks District, Furry Creek, Britannia Beach
- Reinstate Local Transit service to Squamish Nation area if it is not already served by Regional Transit
- Continue to improve service frequency and extend service span on regional and interregional connections as demand on the corridor grows
- Continue to improve local system service to provide efficient, reliable and safe connectivity

Funding and implementation options, as well as route planning for these areas will be completed in the long term.

Summary of Resource Requirements: Short-Term

Table 30 summarizes the immediate- and short-term recommendations made in this chapter, and the estimated resources required to implement them.

Sea to Sky Transit Future Plan - Squamish Preliminary Estimated Additional Annual Impacts*								
Recommendation	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs
Transit Service								
S1. Finalize Operational Plans for South Squamish Parks Pilot Transit Service	0	33,700	1,100	8,800	$7,300	$129,500	$61,800	$60,400
S2. Increase Sunday and Holiday transit service	0	25,100	820	6,600	$5,400	$117,400	$57,200	$54,800
S3a. Improve Core Transit Network service during off-peak periods between Garibaldi Village and Downtown Squamish	1	69,500	2,270	27,200	$22,400	$314,200	$163,300	$128,500
S3b. Increase service on the Core Transit Network to improve access to Quest University	0	35,500	1,160	11,600	$9,600	$136,600	$63,300	$63,700
S4. Implement a handyDART Registration Program						$6,000	$2,000	
Transit Infrastructure								
S5. Continue to improve transit customer facilities								
S6. Examine the downtown exchange to ensure that capacity is available for service expansion								
S7. Examine the impact of fleet expansion to Squamish Transit Operations and Maintenance Facility								

*Based on 2014/15 AOA Operating Costs. Final costs may change based on final budgets and confirmation of final operational details.

**The vehicle requirements shown here appear feasible but will require confirmation by BC Transit Fleet department closer to implementation.

These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated revenue is approximate and is based on high-level ridership estimates.

Transit Future: Focus on Whistler

The Vision, Goals, and Transit Mode Share Targets outlined here guide the implementation of the Transit Future Plan. The service and infrastructure recommendations made later in this chapter align with these components and have been made to help achieve the Transit Future.

Vision

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

Transit systems in the Sea to Sky region will be:

- For everyone
- Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling
- Safe
- Environmentally Sustainable

Transit Mode Share Targets

Transit Mode Share is the percentage of all trips that are made by transit in a given community, and is typically measured on an annual basis. Transit Mode Share is a representation of transit ridership overall.

An important factor in calculating current transit mode share and projecting transit mode share targets is population. Whistler's population fluctuates seasonally, and so does its transit ridership. In reflection of this, the Resort Municipality of Whistler has developed a *population equivalent*. *Total population equivalent* is an estimate of the total population in Whistler on average at a given time during peak (winter) season. While Whistler's base population in 2014 was about 10,500, the RMOW estimates that the Population Equivalent in 2014 was about 28,800. This population equivalent can be considered in three subsets; the permanent population, one temporary population of visitors or tourists, and one semi-temporary population of seasonal workers who live in Whistler transiently.

Today, Whistler serves nearly 2.5 million passengers per year. When Whistler's base population of about 10,500 is considered, the current transit mode share or the percentage of all trips made in Whistler by transit today is about 22 per cent.

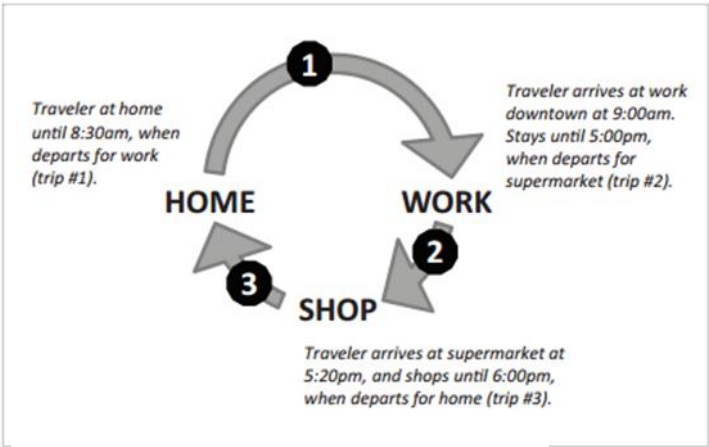
In considering Whistler's *population equivalent* of about 28,800, or the population of Whistler at its peak, the current transit mode share or the percentage of all trips made in Whistler by transit today is about 8per cent.

The average of these two transit mode share calculations, or the averaged current transit mode share in Whistler, is 15 per cent, which is 1 per cent higher than the 2011 Census findings.

BC Transit has developed current and potential transit mode share calculations for Whistler based on:

- **historical, current and projected population** (from local strategic plans and BC Statistics population forecasts, in consideration of an averaged population to reflect the number of people using transit in Whistler on average)

- **Historical, current and projected travel data across all modes of transportation** (assuming an average of 3 trips per person per day). For high-level target-setting within the context of this Transit Future Plan, it is assumed that people in Sea to Sky communities will continue to make about the same number of trips per day and per year as they do today. Consider a trip as traveling from home to work. On average, people make 3 trips per day.



Source: Transportation Research Board – Activity-Based Travel Demand Models, 2015

- **Historical, current and projected travel data across transit** (based on transit ridership data from local operating companies)

In order to develop achievable, actionable targets for Whistler, transit mode share targets have been modestly set, and are expressed incrementally between today and 2040.

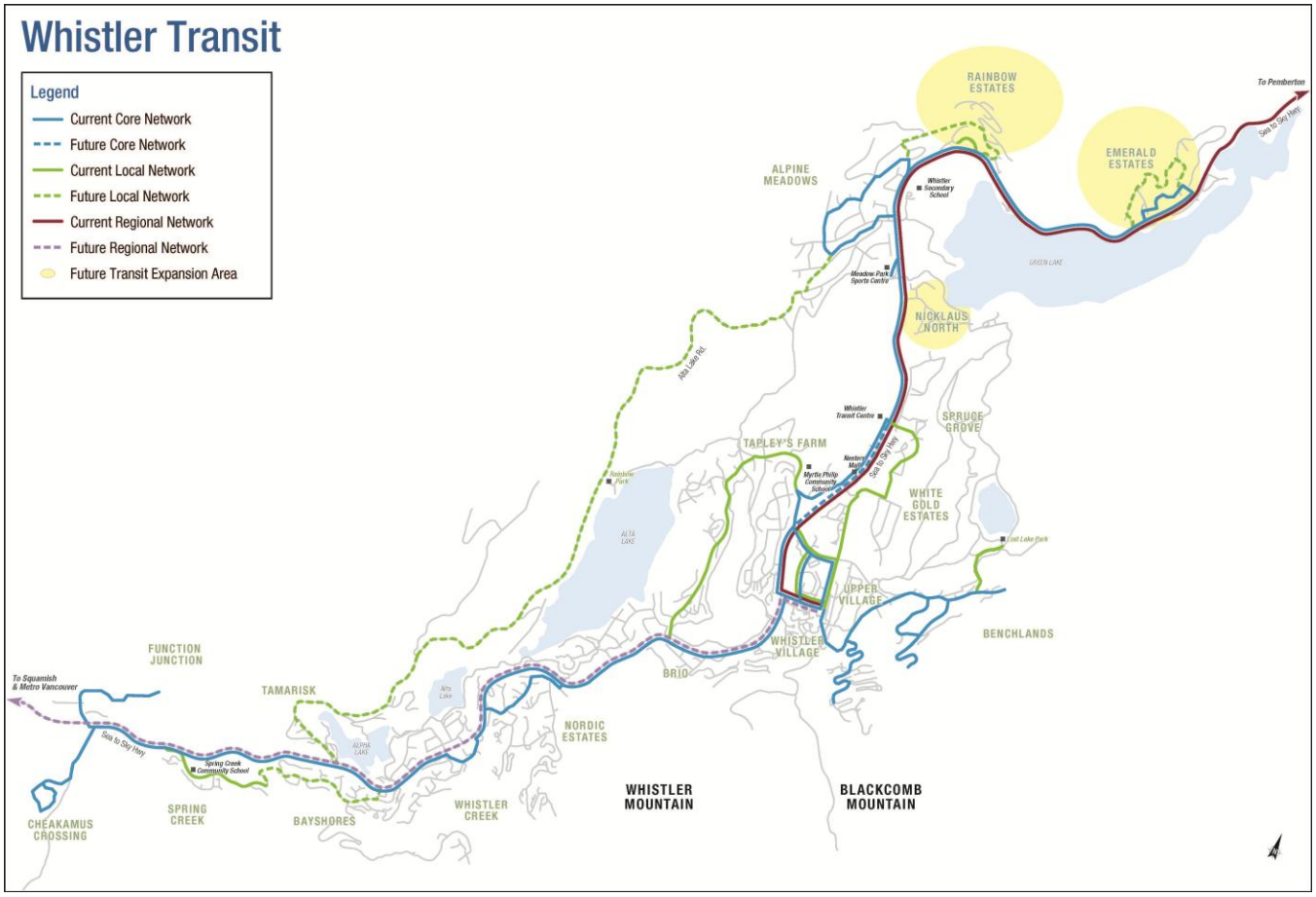
	Whistler
Current Transit Mode Share	15%
2020 Transit Mode Share Target	16%
2025 Transit Mode Share Target	20%*
2040 Transit Mode Share Target	25%*

*This sets a target that by 2040, 25 per cent of all trips made in Whistler will be made by transit. This 25 per cent target can be achieved incrementally over the next 25 years, and can be reevaluated every five years as part of BC Transit's Transit Future Plan Refresh process, in coordination with the RMOW's Transit Management Advisory Committee (TMAC) or its forthcoming Transportation Advisory Group (TAG).

The *Transit Future Foundations* chapter includes recommendations on how the existing transit mode share can increase without significantly expanding transit service hours or infrastructure. This can be achieved by implementing mechanisms for increasing existing capacity utilization on buses, such as marketing and communications actions, fare strategies, and transit-supportive land use planning.

Transit Future Network

Figure 65: Whistler Transit Future Network.



Note that the Transit Future network as envisioned here is not fixed – route numbers, route locations, and route operations are subject to change over the life of the Plan.

Core Transit Network – Links people to major destinations within Whistler, typically through the Whistler Village.

Local Transit Network – Links people to destinations within neighbourhoods, as well as to the other Transit Networks.

Targeted Transit Network – Links people to regional and interregional destinations.

Custom Transit – provides transit service to people within 1.5 km of Whistler with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.

Network Service Standards: Frequency and Span

The success of the Transit Future Network in Whistler is not achieved by the service simply being implemented, as described in the Transit Future Foundations section of this Plan. Integrated and continuous planning, designing, monitoring, and optimizing of the transit network is required to achieve Whistler's Transit Future. The monitoring and optimizing aspects of this work can be informed by tailored Service Standards that guide local governments and BC Transit staff in determining and managing community expectations regarding the level of transit service to be provided. Specifically, Service Standards for transit in Whistler outline the minimum acceptable span and frequency of transit service.

Span of service defines the operating hours that a route is in service. In the case of Whistler, transit service already operates 23 hours per day, seven days per week, so improving transit service can be limited to tailoring service by season and by neighbourhood.

BC Transit recommends the long term minimum Service Standards be achieved over the life of the Transit Future Plan. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 30: Whistler Transit Service Standards.

Transit Service Type	Transit Service Description	Existing Routes	Short Term Routes	Long Term Routes	Period	Minimum Transit Service Span	Minimum Transit Service Frequency
Core Transit	Links people to major destinations within Whistler, typically through the Whistler Village.	1, 2, 3, 4, 5, 7, Nordic Estates, Nesters, Alpine Meadows, Emerald Estates, Function Junction, Cheakamus Crossing	1, 2, 3, 4, 5, 7, Nordic Estates, Nesters, Alpine Meadows, Emerald Estates, Function Junction, Cheakamus Crossing	1, 2, 3, 4, 5, 7, Nordic Estates, Nesters, Alpine Meadows, Emerald Estates, Function Junction, Cheakamus Crossing	Monday to Friday	5:30 am to 3:00am	Service every 15-30 minutes
					Saturday	5:30 am to 3:00am	Service every 15-30 minutes
					Sunday and Holiday	5:30 am to 3:00am	Service every 15-30 minutes
Local Transit	Links people to destinations within neighbourhoods, as well as to the other Transit Networks.	1, 3, 6, 7, 8, Spring Creek, White Gold Estates, Spruce Grove, Rainbow Estates	1, 3, 6, 7, 8, Spring Creek, White Gold Estates, Spruce Grove, Rainbow Estates	Building on Existing: Rainbow Estates, Alta Lake Road, Bayshores/Millar's Pond, Nicklaus North	Monday to Friday	6:30 am to Midnight	30-60 minutes
					Saturday	6:30 am to Midnight	30-60 minutes
					Sunday and Holiday	6:30 am to Midnight	30-60 minutes
Custom Transit (currently N/A)	Provides transit service to people within 1.5 km of Whistler with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.	-	-	-	Monday to Friday	8:00 am to 4:00 pm	On demand
					Saturday	Limited service	On demand
					Sunday and Holiday	-	-

Span of service extensions can be considered when the first and last hour of service has productivity greater than the average productivity on the entire route. Extensions of the span of service may also be triggered by seasonal fluctuations, or a major employer change in start or finish times.

Network Performance Guidelines

Performance Guidelines are unique evaluation tools that can be used to help plan new transit services, make adjustments to existing service, and measure how well the transit system is progressing towards achieving its goals. These guidelines will evolve with the growth of transit service in Whistler.

As a starting point, an approximate 10 per cent improvement over the baseline has been suggested here. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 31: Whistler Transit Performance Guidelines.

<table>
<tr><th>Performance Measure</th><th>Definition</th><th>2014 Baseline</th><th>2040 Target</th></tr>
<tr><td colspan="4">System Level</td></tr>
<tr><td>Average rides per service hour</td><td>Measures the total volume of ridership as compared to the total capacity of transit service</td><td>39.7</td><td>44</td></tr>
<tr><td>Cost per passenger trip</td><td>Measures the average cost to provide service per passenger trip</td><td>$4.06</td><td>$3.65</td></tr>
<tr><td>Cost recovery</td><td>Measures the financial performance of the transit system, usually expressed in terms of total operating revenue after total operating expenses</td><td>27.1%</td><td>30%</td></tr>
<tr><td colspan="4">Route Level</td></tr>
<tr><td rowspan="2">Average rides per service hour</td><td rowspan="2">Measures the total volume of ridership as compared to the supply of transit service</td><td rowspan="4">Robust route- and corridor-level data collection and analysis is a priority of the Transit Future Plan. Targets have been developed based on best practices and other high-performing systems.</td><td>Core: 40</td></tr>
<tr><td>Local: 25</td></tr>
<tr><td rowspan="2">Average rides per trip</td><td rowspan="2">Measures the total number of people that board a vehicle on a specific trip specific trip and route</td><td>Core: 30</td></tr>
<tr><td>Local: 12</td></tr>
</table>

Trends will be monitored over time to determine if the system or routes are becoming more or less efficient.

Significant variance (+/ – 25%) from the target will place a route on an action list for further investigation, and will require more detailed analysis. For example, if efficiencies to the system are required, then routes that fall below the 25 per cent variance will be candidates for corrective action. Further, if expansion resources are available or resource re-allocation is being pursued, then routes that rise above the 25 per cent variance will be candidates for service improvement.

BC Transit will report on these performance measures annually to help guide planning decisions.

Whistler Transit Service and Infrastructure Recommendations

The recommendations in this section have been created and prioritized based on technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

Options do not represent all of the possible changes that could be made to transit in Whistler between today and 2040, but should serve as a starting point each time the system undergoes analysis or change. Recommendations vary in terms of required timelines, complexity, cost, and process, meaning that initiatives may not be undertaken linearly.

Regional and Interregional transit service options are described in detail in the chapter titles *Transit Future: Focus on the Sea to Sky Region*. Phasing of regional and Interregional transit service options with local options has not been identified in this Plan. Regional and Interregional transit service options may be implemented at different times than the local transit service options that follow in this chapter. While Local, Regional, and Interregional recommendations are not mutually exclusive, resource availability will be a factor in implementation and phasing. Efficiencies may be realized by developing partnerships with organizations providing existing regional and interregional bus service.

The realization of these recommendations and targets is contingent on:

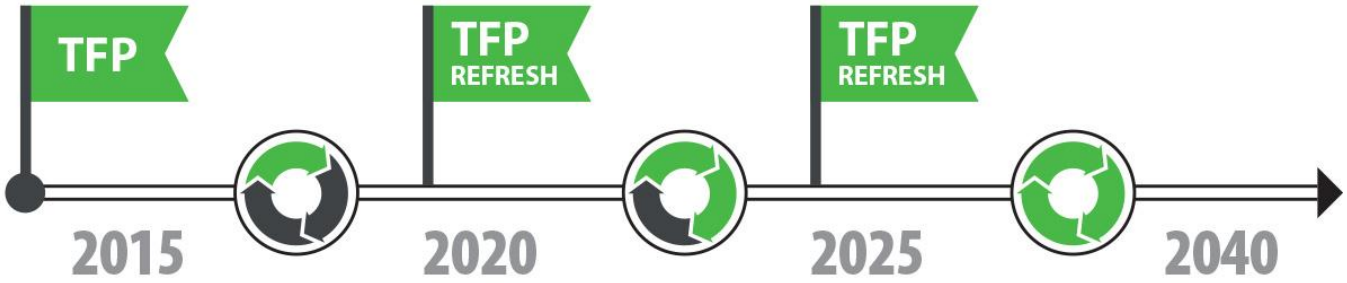
- The availability of local and provincial funding
- Community growth factors
- Phasing of major projects
- Service demand and emerging issues
- Opportunities for value added-partnerships
- Ongoing efforts to optimize service and ensure reliability and on-time performance

Note that any costs shown:

- Are approximate and are subject to change based on final operational and implementation details and timing
- Are based on 2014/15 Operating Costs
- Do not include provincial contribution to lease fees
- Do not include revenue offsets
- Do not include inflation

Transit Future Plan Refresh

Realizing the Sea to Sky Transit Future Plan requires a phased approach. Work undertaken will be evaluated every five years as part of BC Transit's Transit Future Plan Refresh process. Recommendations that have not been implemented will be re-examined, and new changes to the transit system can be explored. This Refresh also provides an opportunity to reflect collaboratively on lessons learned in the previous implementation phase.



= Ongoing service and infrastructure analysis and implementation

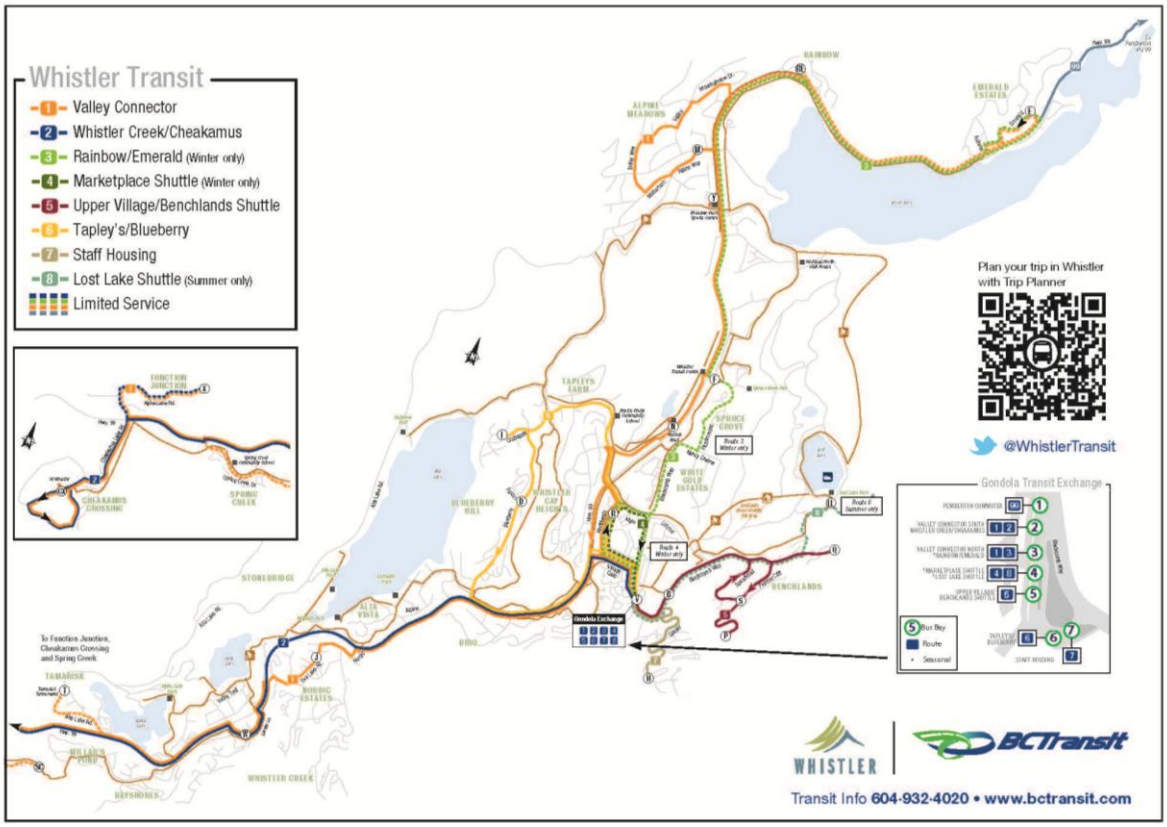
Immediate Term – Explore Between 2015-2016

TRANSIT SERVICE

W1. Improve the operational efficiency of Route 1 Valley Connector

In 2011, a review of the Whistler Transit System was completed, which resulted in a new route structure and modified service profile that aligned with both the needs of the Customers as well as the financial constraints of the municipality. One key outcome of this review was the introduction of the Route 1 Valley Connector. This route acts as the spine of Whistler's entire network, connecting the southern neighbourhoods with the northern neighbourhoods as well as providing access to the centralized Village. The Route 1 Valley Connector has become the busiest route in the transit system.

Figure 66: Whistler Transit Map.



One advantage of the existing route design is that the Valley Connector provides a one-ride / no-transfer service for many Customers travelling the north-south corridor. The other benefit of the current route design is that it creates some resource efficiency by linking trips ("interlining") the north service with the south service to the service provided on Route 2 Whistler Creek/Cheakamus and Route 3 Rainbow/Emerald.

In spite of these efficiencies, there are opportunities to further improve the design of the Route 1 to address on-time performance issues caused by the route's length and its multiple termini in south Whistler. These opportunities are supported by the data that has been collected since 2012. These opportunities include:

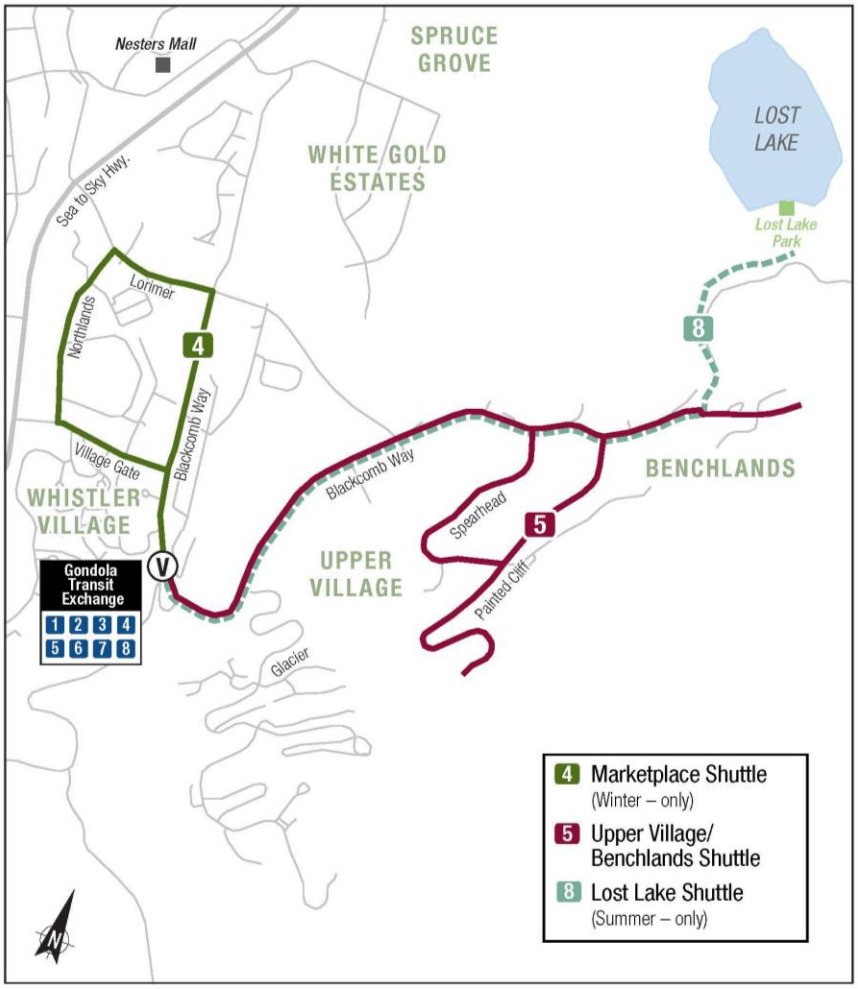
- Splitting the Route 1 Valley Connector into two separate routes during certain parts of the day, establishing the Core Transit Network in Whistler
- Reducing the number of termini in the south through potential routing, scheduling and infrastructure improvements

Ridership analysis indicates that splitting the Route 1 into two distinct routes could be valuable, since the majority of northbound and southbound customers disembark in Whistler Village on Village Gate Boulevard or at Gondola Transit Exchange.

BC Transit recommends collaborative review with the RMOW to improving the Route 1's efficiency per these proposed measures.

W2. Undertake an in-depth ridership analysis of the Free Village Shuttles and make any necessary adjustments or improvements

The Free Village Shuttles in Whistler (Route 4 Marketplace, Route 5 Upper Village / Benchlands, and Route 8 Lost Lake) play a critical role in the Whistler transit network. Responsible for close to 40 per cent of the ridership on the system, the Shuttles provide an essential service for visitors, employees and locals travelling around the Village.



It is recommended that a detailed review of the ridership on the Free Village Shuttles be undertaken to assess the performance of the service and determine whether additional resources should be invested. Additionally, the routings of the Village Shuttles should be reviewed to determine whether there are any opportunities for improvement of efficiency.

Opportunities for future expansion should also be considered based on the detailed analysis. Possible candidates based on consultation is extending the Route 4 Marketplace into the spring, summer and fall seasons and also improving the Route 5 Upper Village / Benchlands Shuttle during the afternoon peak during winters.

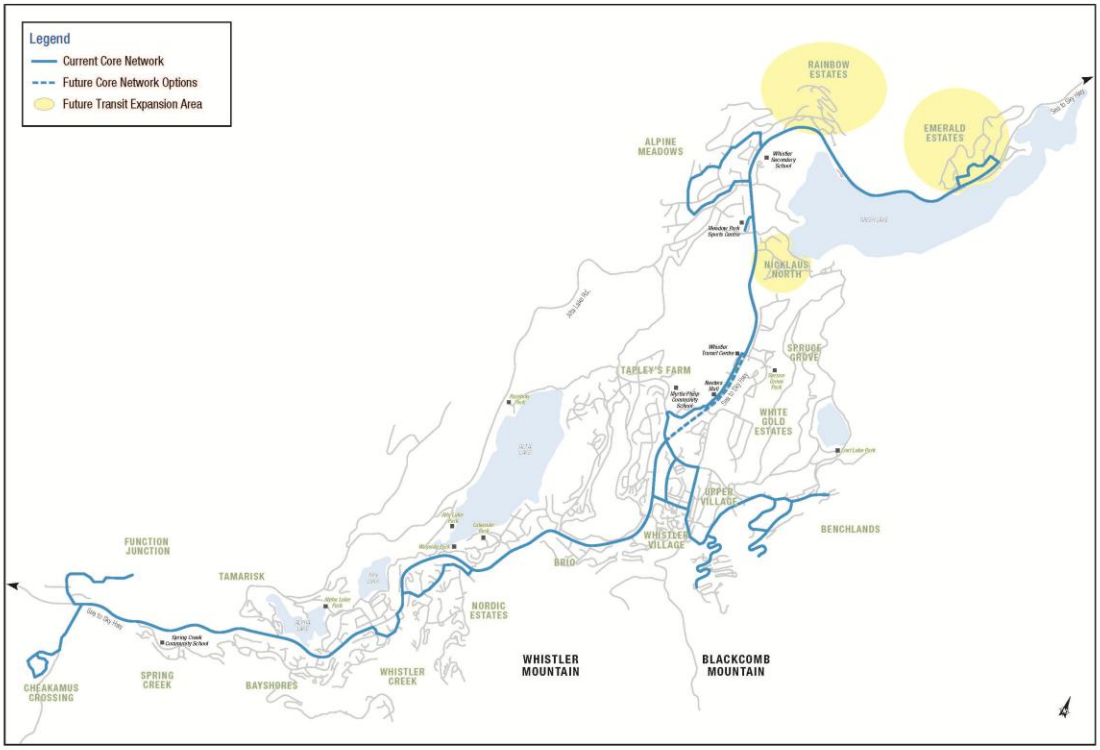
Short Term – Explore Between 2015-2020

TRANSIT SERVICE

W3. Increase service on the Core Transit Network during the Winter Season

With the majority of ridership taking place during the busy winter season, it is a priority to ensure that transit travel demand is being met for locals and visitors. BC Transit recommends increasing transit frequency during the busiest times of the Winter season on primary routes 1, 2, and the Winter-only Route 3, to strengthen the Core Transit Network and to continue to meet the growing demand. This increase in transit service is also beneficial given the lack of other viable preferred transportation options in winter weather.

Figure 67: Whistler Transit Future Core Network.



Approximate resources required to increase transit service:

Initial High Level Estimate – Additional Annual Impacts			
W3. Increase Service on the Core Transit Network during the Winter season			
Service Hours:	500	Passenger Revenue:	$13,800
Annual Ridership:	12,500	Total Cost*:	$62,000
Vehicles Required**:	0	Net Local Share of Costs:	$19,300
		Provincial Share of Costs*:	$28,900

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

W4. Increase service on the Core Transit Network during the Spring, Summer and Fall Season

Today, transit service in Whistler is best in the winter to meet increased travel demand related to alpine tourism. Whistler is positioning itself as a year-round resort destination, and is home to over 10,000 year-round residents. Serving visiting and local populations in all seasons was heard as a top priority in the Sea to Sky Transit Future Plan's Participation process. BC Transit recommends increasing transit service frequency and span in the Spring, Summer, and Fall.

Approximate resources required to increase transit service:

Initial High Level Estimate – Additional Annual Impacts			
W4. Increase service on the Core Transit Network during the spring summer and fall			
Service Hours:	250	Passenger Revenue:	$4,200
Annual Ridership:	3,800	Total Cost*:	$31,000
Vehicles Required**:	0	Net Local Share of Costs:	$12,300
		Provincial Share of Costs*:	$14,500

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

TRANSIT INFRASTRUCTURE

W5. Continue to improve transit customer facilities

Continued improvement and maintenance of transit facilities and on-street customer amenities is important for the successful operation and future growth of the transit system. Some improvements that have been identified include:

a) Invest in on-street customer amenities such as transit shelters, customer information and benches. Implement ski racks and bike racks at key stops and pedestrian-oriented lighting at transit stops.
b) In alignment with projects the RMOW is already undertaking, improve signage and wayfinding at and around the Gondola Transit Exchange. This should include information about how to access schedule and wayfinding information online.
c) Improve universal accessibility of transit stops
d) Introduce new southbound bus stop on the Sea to Sky Highway at Rainbow to improve service efficiency
e) To improve safety conditions for Customers, relocate southbound bus stop at far side of Alta Lake Road to near side of Alta Lake Road. This will provide easier access via the crosswalks for customers.
f) Explore opportunities to introduce a protected left hand turn lane from Whistler Road southbound onto the Sea to Sky Highway. Transit vehicles are regularly delayed at this intersection to wait for an appropriate northbound and southbound gap in highway traffic to make the southbound turn. These delays cause issues with on-time performance and reliability. The introduction of this protected left hand turn lane on southbound Sea to Sky Highway would alleviate these issues.

Foundational concepts that can be applied to improving passenger experience are discussed in more detail in the *Transit Future Foundations* section.

SUPPORTING TRANSIT IMPROVEMENTS

W6. Explore Opportunities to Improve the Fare Structure & Media

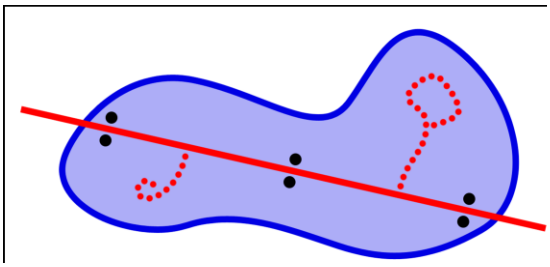
The economic sustainability of operating the existing transit system in Whistler, as well as expanding it, is in part dependent on passenger fare revenue. Transit should be attractive and affordable to a number of different passenger markets. While a diversity of fare products is currently available in Whistler, interest in introducing a ski season-related pass has been expressed. BC Transit recommends collaboration with Whistler Blackcomb to explore the feasibility of providing a seasons' transit pass linked with a Whistler Blackcomb ski seasons' pass.

W7. Conduct feasibility assessment around the introduction of Custom transit services

Examining a suite of Custom transit options could benefit Whistler as the community ages and as travel needs in Whistler continue to diversify. It would also significantly benefit the population in Whistler who may not be able to use the fixed-route service because of a disability.

Custom transit is a collection of transit services tailored to specific travel needs that cannot be met by the Conventional transit system. These services include:

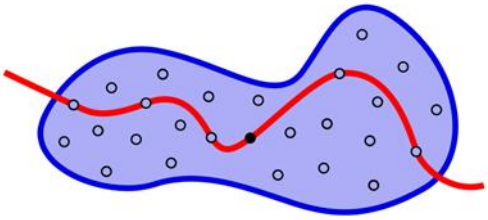
***Flex-route transit*:** Like Conventional transit, flex-route buses follow a fixed route and fixed schedule. The difference is that buses can deviate from the route to pick up or drop off passengers at nearby locations, such as a house, child care center or employment site, for example. After completing the pickup or drop off, the bus returns to the bus route at the location where it deviated. A flex-route service is scheduled with extra time in the schedule to accommodate route deviations.



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

Flex-routing could be particularly effective in low-density neighbourhoods.

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



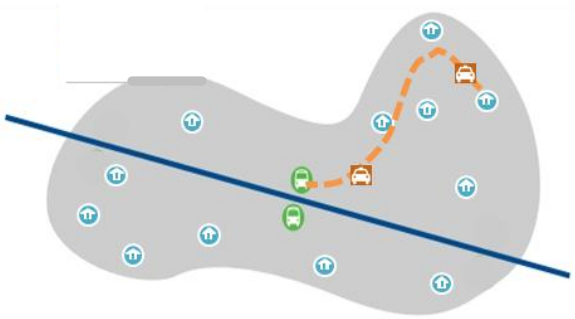
Some dial-a-bus services provide “door-to-door” service, while others pick up and drop off passengers at “request stops.” Door-to-door service means passengers are picked up and dropped off at the curb in front of their home or destination. Request stops are designated bus stops located throughout an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

Dial-a-bus services operate on a fixed schedule, which means that travel times are limited to specific time periods during which a bus is scheduled to operate in the area.

Demand-Responsive: Unlike Conventional, Flex-route and Dial-a-Bus services which operate at fixed times, demand-responsive transit services such as handyDART operate only in response to requests for service. Service is provided only when and where it is requested. If no service is requested at a particular time or in a particular area, no service is provided.

- ***handyDART***: A type of demand-responsive transit, handyDART is door-to-door service for customers with physical or cognitive impairments who cannot independently use the Conventional transit system some or all of the time.

  - ***Taxi Saver*** – For times when the handyDART system is unavailable, the Taxi Saver Program provides registered handyDART passengers with subsidized taxi service, giving them the flexibility to coordinate their own trips.
  - **Taxi Supplement Program** – The Taxi Supplement Program enables the handyDART operator to book trips in taxis when the regular vehicle(s) is unavailable, either because of capacity issues or because the trip cannot be accommodated in a timely manner. In essence, the handyDART oerator becomes one large regular client to the taxi company, while in turn the vehicles of the taxi company act like extra vehicles to the handyDART operator. For instance, if a passenger requests a trip when the handyDART vehicle is unavailable, Taxi Supplement enables the handyDART dispatcher to relay the passenger's name, pickup and drop off details to a participating taxi company. The taxi company then slots that passenger into their bookings for the day and picks up and drops off the passenger at the assigned locations and times. There may be restrictions on the use of this service including requirements for ride sharing and budget limitations.



Transit alternatives such as car- or van-pooling can also compliment Conventional transit.

Exploring the suitability of any of these options in the Whistler context would be of value.

Strategic partnerships with private industry or community groups can be beneficial in diversifying the existing transit system.

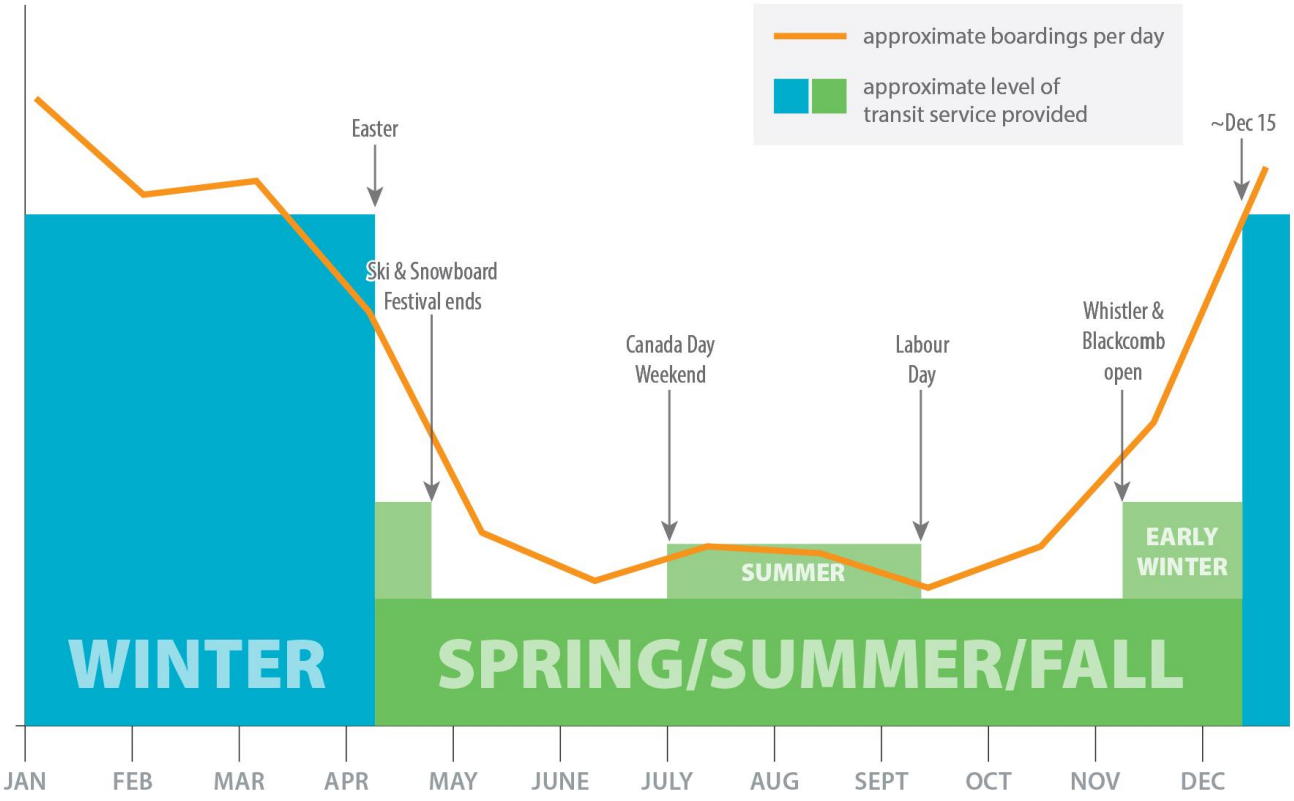
Medium Term – Explore Between 2020-2025

TRANSIT SERVICE

Continue to examine seasonal service trends and rebalance service levels if necessary

As Whistler continues to position itself as a year-round resort destination, and is home to over 10,000 year-round residents, spring, summer and fall ridership is expected to continue to increase. The impacts of climate change to the peak seasonal demand may also contribute to a shift in ridership patterns.

These seasonal ridership trends should be examined closely to ensure resources are being utilized at their maximum effect.



TRANSIT INFRASTRUCTURE

Introduce Transit Priority Measures / Improve Transit Operations

- Explore opportunities to introduce transit priority infrastructure from Whistler Village to Function Junction during peak periods. The traffic volumes along this section of the highway result in the highest levels of traffic, resulting in transit on-time performance issues. Transit priority measures could include queue jumpers, or high-occupancy vehicle or bus-only lanes. Introducing transit priority on this corridor would improve on-time performance and attract new ridership.
- Explore opportunities to introduce a protected left hand turn lane from Spring Creek Road southbound onto the Sea to Sky Highway, and/or introduce a pedestrian- or transit-actuated signal. This could eliminate the need for buses to truncate their route at Spring Creek, and could also facilitate implementing a southbound bus stop on the Sea to Sky Highway at Spring Creek.
- Explore opportunities to improve the left turn from Meadow Park Sports Centre to northbound Sea to Sky Highway to address increasing traffic volumes.

Continue to improve transit customer facilities

- Introduce new northbound bus stop on the Sea to Sky Highway at Rainbow to improve service efficiency
- Improve lighting at highway bus stops and crosswalks accessing bus stops between Whistler Village and Function Junction, and Whistler Village and Emerald Estates
- Continue to improve pedestrian infrastructure along the Sea to Sky Highway that directly accesses the bus stops

Transit service expansion to new areas must be preceded by the implementation of bus stops and customer infrastructure such as seating, bike parking, and schedule information. Developing areas are subject to a review that considers these elements as part of BC Transit's Development Referral Program. It is recommended that the RMOW participates in this Program.

Long Term – Explore Between 2025-2040

TRANSIT SERVICE

In the long term, the RMOW can also explore the following recommendations. These recommendations are made in light of technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

- Examine the feasibility of introducing Dial-a-Ride / Paratransit service to Alta Lake Road between Tamarisk and Alpine Meadows, Upper Nordic, and Upper Emerald
- Introduce Local Transit service connection between Rainbow Estates and Alpine Meadows (dependent on new road connection)
- Introduce Local Transit service connection between Spring Creek and Bayshores (dependent on new road connection)
- Explore the feasibility of introducing Local Transit or Paratransit service along Alta Lake Road and further into Emerald Estates with introductory service levels
- Explore the feasibility of introducing service to Whistler Olympic Park and Whistler Sliding Centre with some form of transit
- Continue to improve local system service to provide efficient, reliable and safe connectivity

Funding and implementation options, as well as route planning for these areas will be completed in the long term.

Summary of Resource Requirements: Short-Term

Table 32 summarizes the immediate- and short-term recommendations made in this chapter, and the estimated resources required to implement them.

Sea to Sky Transit Future Plan - Whistler								
Preliminary Estimated Additional Annual Impacts*								
Recommendation	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs
Transit Service								
W1. Improve the operational efficiency of Route 1 Valley Connector								
W2. Undertake an in-depth ridership analysis of the Free Village Shuttles and make any necessary adjustments or improvements								
W3. Increase Service on the Core Transit Network during the Winter Season	0	12,700	500	12,500	$13,800	$62,000	$19,300	$28,900
W4. Increase service on the Core Transit Network during the Spring, Summer, and Fall Season	0	6,400	250	3,800	$4,200	$31,000	$12,300	$14,500
Transit Infrastructure								
W5. Continue to improve transit customer facilities								
Supporting Transit Improvements								
W6. Explore Opportunities to Improve the Fare Structure & Media								
W7. Conduct feasibility assessment around the introduction of Custom transit services								

*Based on 2014/15 AOA Operating Costs. Final costs may change based on final budgets and confirmation of final operational details.

**The vehicle requirements shown here appear feasible but will require confirmation by BC Transit Fleet department closer to implementation.

These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated revenue is approximate and is based on high-level ridership estimates.

Transit Future: Focus on the Pemberton Valley

The Vision, Goals, and Transit Mode Share Targets outlined here guide the implementation of the Transit Future Plan. The service and infrastructure recommendations made later in this chapter align with these components and have been made to help achieve the Transit Future.

Vision

Sea to Sky communities are connected by efficient local and regional public transit networks that serve our unique climate, culture, and economy. Our transit system is safe, convenient, accessible, and reliable for residents and visitors of all ages and abilities.

Goals

Transit systems in the Sea to Sky region will be:

- For everyone
- Part of a multimodal transportation system that is integrated with other preferred transportation choices like walking, cycling, and carpooling
- Safe
- Environmentally Sustainable

Transit Mode Share Targets

Transit Mode Share is the percentage of all trips that are made by transit in a given community, and is typically measured on an annual basis. Transit Mode Share is a representation of transit ridership overall.

Today, Pemberton's transit mode share, or the percentage of all trips currently made in Pemberton by transit, is 1.5per cent. This is equal to about 30,000 transit passengers per year.

BC Transit has developed current and potential transit mode share calculations for Pemberton based on:

- **historical, current and projected population** (from local strategic plans and BC Statistics population forecasts)

- **Historical, current and projected travel data across all modes of transportation** (assuming an average of 3 trips per person per day). For high-level target-setting within the context of this Transit Future Plan, it is assumed that people in Sea to Sky communities will continue to make about the same number of trips per day and per year as they do today. Consider a trip as traveling from home to work. On average, people make 3 trips per day.

Source: Transportation Research Board – Activity-Based Travel Demand Models, 2015

- **Historical, current and projected travel data across transit** (based on transit ridership data from local operating companies)

In order to develop achievable, actionable targets for Pemberton, transit mode share targets have been modestly set, and are expressed incrementally between today and 2040.

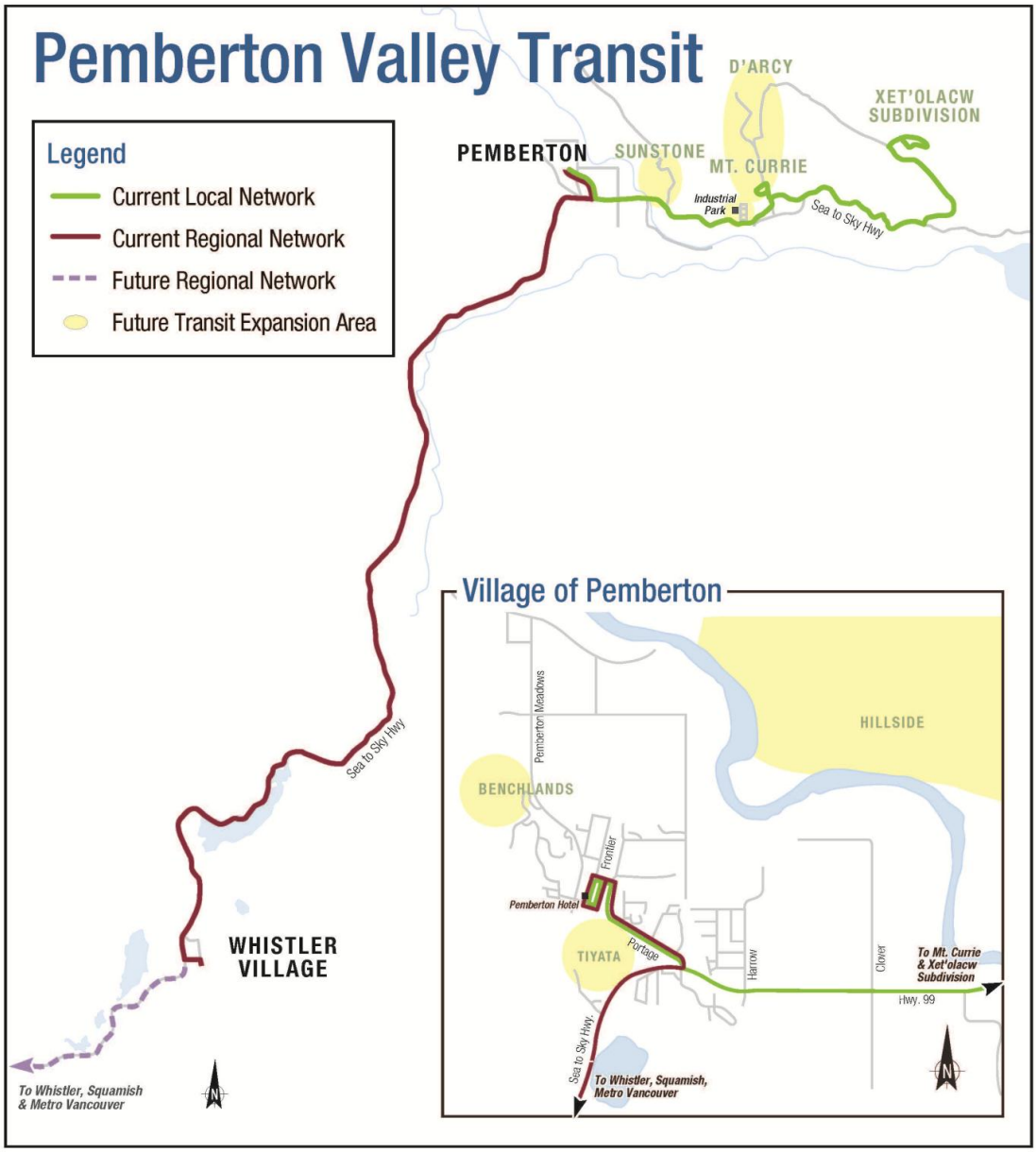
	Pemberton
Current Transit Mode Share	1.5%
2020 Transit Mode Share Target	2%
2025 Transit Mode Share Target	4%
2040 Transit Mode Share Target	6%

This sets a target that by 2040, 6per cent of all trips made in Pemberton will be made by transit. This 8per cent target can be achieved incrementally over the next 25 years, and can be reevaluated every five years as part of BC Transit's Transit Future Plan Refresh process. The sections that follow include transit service and infrastructure recommendations with an eye to achieving these targets.

The *Transit Future Foundations* chapter includes recommendations on how the existing transit mode share can increase without significantly expanding transit service hours or infrastructure. This can be achieved by implementing mechanisms for increasing existing capacity utilization on buses, such as marketing and communications actions, fare strategies, and transit-supportive land use planning.

Transit Future Network

Figure 68: Pemberton Valley Transit Future Network.



Note that the Transit Future network as envisioned here is not fixed – route numbers, route locations, and route operations are subject to change over the life of the Plan.

Local Transit Network – Links people to destinations within neighbourhoods, as well as to the other Transit Networks.

Targeted Transit Network – Links people to regional and interregional destinations.

Network Service Standards: Frequency and Span

The success of the Transit Future Network in Pemberton is not achieved by the service simply being implemented, as described in the Transit Future Foundations section of this Plan. Integrated and continuous planning, designing, monitoring, and optimizing of the transit network is required to achieve Pemberton's Transit Future. The monitoring and optimizing aspects of this work can be informed by tailored Service Standards that guide local governments and BC Transit staff in determining and managing community expectations regarding the level of transit service to be provided. Specifically, Service Standards for transit in Pemberton outline the minimum acceptable span and frequency of transit service.

Span of service defines the operating hours that a route is in service. In general, services operate primarily during the peak periods, as this is when demand is highest. For the morning and afternoon peaks, the service should be designed to allow people to access typical employee start times in the area.

As travel demand on transit services in Pemberton increases, the hours that transit operates should also increase, including in off-peak periods in the midday, on evenings and on weekends. Efficient, tailored service frequency and span meets demand when it is greatest, while also keeping operating costs in check.

BC Transit recommends the long term minimum Service Standards be achieved over the life of the Transit Future Plan. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 33: Pemberton Valley Transit Service Standards.

Transit Service Type	Transit Service Description	Existing Routes	Short Term Routes	Long Term Routes	Period	Minimum Transit Service Span	Minimum Transit Service Frequency
Local Transit	Links people to destinations within neighbourhoods, as well as to the other Transit Networks.	100	100	100, Benchlands, Tiyata, Hillside, Mt. Currie, D'Arcy/N'Quatqua, Sunstone, WedgeWoods	Monday to Friday	6:00 am to 7:30 pm	60-120 minutes
					Saturday	6:00 am to 7:30 pm	60-120 minutes
					Sunday and Holiday	6:00 am to 7:30 pm	60-120 minutes

Span of service extensions can be considered when the first and last hour of service has productivity greater than the average productivity on the entire route. Extensions of the span of service may also be triggered by seasonal fluctuations, or a major employer change in start or finish times.

Network Performance Guidelines

Performance Guidelines are unique evaluation tools that can be used to help plan new transit services, make adjustments to existing service, and measure how well the transit system is progressing towards achieving its goals. These guidelines will evolve with the growth of transit service in Pemberton.

As a starting point, an approximate 10 per cent improvement over the baseline has been suggested here. These targets should be re-examined and renewed every five years as part of the Transit Future Plan Refresh process described in the following section.

Table 34: Pemberton Valley Transit Performance Guidelines.

Performance Measure	Definition	2014 Baseline	2040 Target
Route Level (Local Transit Network)			
Average rides per service hour	Measures the total volume of ridership as compared to the total capacity of transit service	11	12
Cost per passenger trip	Measures the average cost to provide service per passenger trip	$4.86	$4.37
Cost recovery	Measures the financial performance of the transit system, usually expressed in terms of total operating revenue after total operating expenses	-	10%
Average rides per trip	Measures the total number of people that board a vehicle on a specific trip specific trip and route	12	13

Trends will be monitored over time to determine if the system or routes are becoming more or less efficient.

Significant variance (+/ – 25%) from the target will place a route on an action list for further investigation, and will require more detailed analysis. For example, if efficiencies to the system are required, then routes that fall below the 25 per cent variance will be candidates for corrective action. Further, if expansion resources are available or resource re-allocation is being pursued, then routes that rise above the 25 per cent variance will be candidates for service improvement.

BC Transit will report on these performance measures annually to help guide planning decisions.

Pemberton Transit Service and Infrastructure Recommendations

The recommendations in this section have been created and prioritized based on technical analysis and feedback from stakeholders, the public, and Transit Future Plan partners.

Options do not represent all of the possible changes that could be made to transit in Pemberton between today and 2040, but should serve as a starting point each time the system undergoes analysis or change. Recommendations vary in terms of required timelines, complexity, cost, and process, meaning that initiatives may not be undertaken linearly.

Regional and Interregional transit service options are described in detail in the chapter titles *Transit Future: Focus on the Sea to Sky Region*. Phasing of regional and Interregional transit service options with local options has not been identified in this Plan. Regional and Interregional transit service options may be implemented at different times than the local transit service options that follow in this chapter. While Local, Regional, and Interregional recommendations are not mutually exclusive, resource availability will be a factor in implementation and phasing. Efficiencies may be realized by developing partnerships with organizations providing existing regional and interregional bus service.

The realization of these recommendations and targets is contingent on:

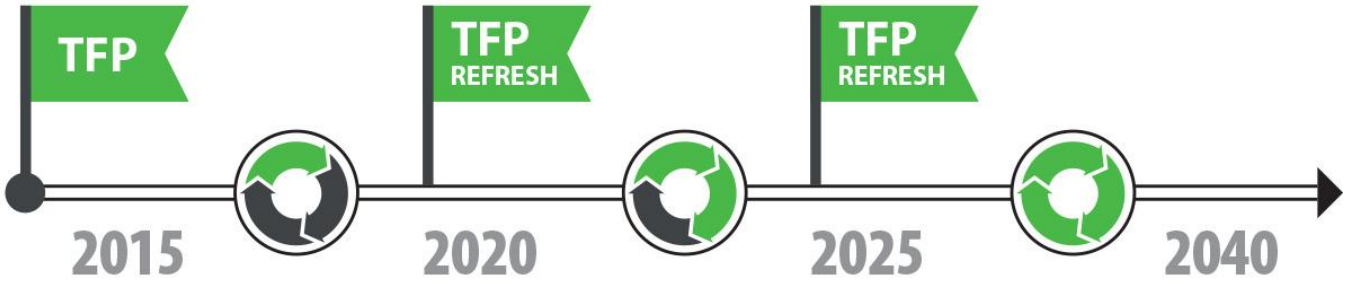
- The availability of local and provincial funding
- Community growth factors
- Phasing of major projects
- Service demand and emerging issues
- Opportunities for value added-partnerships
- Ongoing efforts to optimize service and ensure reliability and on-time performance

Note that any costs shown:

- Are approximate and are subject to change based on final operational and implementation details and timing
- Are based on 2014/15 Operating Costs
- Do not include provincial contribution to lease fees
- Do not include revenue offsets
- Do not include inflation

Transit Future Plan Refresh

Realizing the Sea to Sky Transit Future Plan requires a phased approach. Work undertaken will be evaluated every five years as part of BC Transit's Transit Future Plan Refresh process. Recommendations that have not been implemented will be re-examined, and new changes to the transit system can be explored. This Refresh also provides an opportunity to reflect collaboratively on lessons learned in the previous implementation phase.



= Ongoing service and infrastructure analysis and implementation

Immediate Term – Explore Between 2015-2016

TRANSIT SERVICE

P1. Initiate a more detailed review of the financial and operational sustainability of the Pemberton Valley Transit System

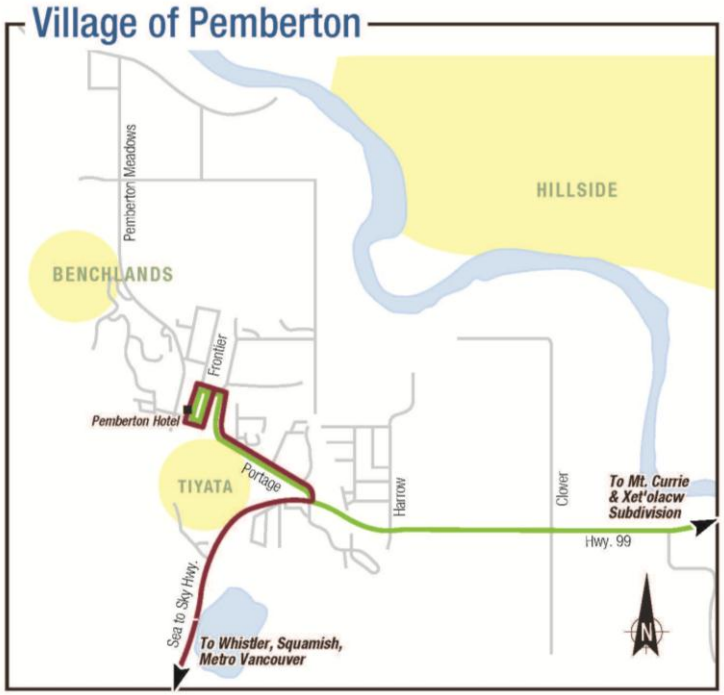
Prior to the initiation of any new projects or changes to the Pemberton Valley Transit System, it is recommended that the Local system undergo a more detailed review that focuses on its financial and operational sustainability for the short, medium and long terms. Recommendations from the previous The Pemberton Valley Service Review will be considered. This review will identify efficiencies in potential partnerships, and will examine existing fleet, facilities, and operations.

Short Term – Explore Between 2015-2020

TRANSIT SERVICE

P2. Introduce midday service on weekdays on the Local Transit Network

Throughout the Participation process, improved transit service in and around Pemberton was requested. Increasing the span and frequency of transit service to areas like Xet'olacw, Owl Ridge, and Reid Road will benefit local residents by providing increased access to recreation, employment, and commercial amenities.



Approximate resources required to improve transit service:

Initial High Level Estimate – Additional Annual Impacts				
P2: Introduce midday service on weekdays on the Local Transit Network				
Service Hours:	750		Passenger Revenue:	$5,600
Annual Ridership:	3,750		Total Cost*:	$55,000
Vehicles Required**:	TBD		Net Local Share of Costs:	$25,000
			Provincial Share of Costs*:	$30,000

* Costs shown do not include Provincial contribution to Lease fees. Based on 2014/15 AOA Operating Cost. 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.

TRANSIT INFRASTRUCTURE

P3. Continue to improve transit customer facilities

Continued improvement and maintenance of transit facilities and on-street customer amenities throughout the Pemberton Valley is important for the successful operation and future growth of the transit system. Some improvements that have been identified include:

- Invest in on-street customer amenities such as transit shelters, customer information and benches. Implement bike parking at key stops and pedestrian-oriented lighting at transit stops.
- Improve transit wayfinding and customer connectivity on the street and online
- Improve universal accessibility of transit stops
- Improve ongoing maintenance of the existing shelters

Foundational concepts that can be applied to improving passenger experience are discussed in more detail in the Transit Future Foundations section of the Transit Future Plan.

Medium Term – Explore Between 2020-2025

TRANSIT SERVICE

The Pemberton Valley is poised to grow over the medium- and long terms of the life of the Transit Future Plan. Serving new areas with transit is important to achieving Pemberton's Transit Mode Share Target of 6 per cent by 2025. Possible candidates for Local Transit service expansion include:

- Benchlands
- Tiyata
- Hillside

Service to these areas will initially be limited to introductory service levels, including weekday peak service operating approximately every hour.

Funding and implementation options, as well as route planning for these areas will be completed in the long term.

TRANSIT INFRASTRUCTURE

Introduce new bus stops for any expansion areas

Transit service expansion to new areas must be preceded by the implementation of bus stops and customer infrastructure such as seating, bike parking, and schedule information. Developing areas are subject to a review that considers these elements as part of BC Transit's Development Referral Program. It is recommended that communities in The Pemberton Valley participate in this Program.

Long Term – Explore Between 2025-2040

TRANSIT SERVICE

- Improve / introduce Local Transit service to Mt. Currie, D'Arcy/N'Quatqua, Sunstone, and WedgeWoods with introductory levels of service
- If already in place, expand Local Transit service to service Benchlands, Tiyata and Hillside residential areas
- Continue to improve service frequency and extend service span on regional and interregional connections as demand on the corridor grows
- Continue to improve local system service to provide efficient, reliable and safe connectivity

Funding and implementation options, as well as route planning for these areas will be completed in the long term.

Summary of Resource Requirements: Short-Term

Table 35 summarizes the immediate- and short-term recommendations made in this chapter, and the estimated resources required to implement them.

Sea to Sky Transit Future Plan - Pemberton Preliminary Estimated Additional Annual Impacts*								
Recommendation	Buses**	Additional total kms	Service Hours	Rides	Total Revenue	Total Costs	Net Local Share of Costs	BC Transit Share of Costs
Transit Service								
P1. Initiate a more detailed review of the financial and operational sustainability of the Pemberton								
P2. Introduce midday service on weekdays on the Local Transit Network	TBD	TBD	750	3,750	$5,625	$60,000	$25,161	$29,214
Transit Infrastructure								
P3. Continue to improve transit customer facilities								

*Based on 2014/15 AOA Operating Costs. Final costs may change based on final budgets and confirmation of final operational details.

**The vehicle requirements shown here appear feasible but will require confirmation by BC Transit Fleet department closer to implementation.

These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated revenue is approximate and is based on high-level ridership estimates.

Toward the Sea to Sky Transit Future

Resource Requirements

Achieving the vision, goals, and targets captured in the Sea to Sky Transit Future will require capital and operating investments over the next 25 years.

Estimated resource requirements for the immediate- and short-term are detailed below. These costs have been rounded, and are expressed in 2014 annual dollars. Final costs, fleet requirements, and estimates are subject to change and will be refined prior to implementation. Estimated costs are based on 2014/15 AOA Budget. Final costs may change based on final budgets and confirmation of final operational details.

Resource Requirements for regional transit in the Sea to Sky area

At the regional level, an estimated **5,200 additional annual Conventional transit service hours and two additional buses** will be required to achieve the goals outlined to 2020. Implementing these options is estimated to require a total of **$800,000**. Cost sharing between Sea to Sky communities can be determined through the regional governance development recommended earlier in the Transit Future Plan.

Capital investments for regional transit infrastructure include:

- Potential new or expanded transit exchanges
- New Park & Ride facility in downtown Squamish
- Potential new or expanded Transit Operations and Maintenance Facilities in Squamish and/or Pemberton
- Improvements to customer amenities at bus stops and the existing or new Squamish Transit Exchange
- New Sea to Sky Highway transit priority measures

Resource Requirements for local transit in Squamish

In Squamish, an estimated **5,350 additional annual Conventional and Custom transit service hours and one additional bus** will be required to achieve the goals outlined to 2020. Implementing these options is estimated to require a total of **$700,000**.

Capital investments for transit infrastructure include:

- New or expanded transit exchange
- Potential new or expanded Transit Operations and Maintenance Facility
- Improvements to customer amenities at bus stops and at the Squamish Transit Exchange

Resource Requirements for local transit in Whistler

In Whistler, an estimated **750 additional annual Conventional transit service hours** will be required to achieve the goals outlined to 2020. This service hour increase is estimated to require a total of **$90,000**.

No additional buses are required to implement the immediate- and short-term recommendations described in the Transit Future Plan for Whistler.

Capital investments for transit infrastructure include:

- Improvements to customer amenities at bus stops and at Gondola Transit Exchange

Resource Requirements for transit in the Pemberton Valley

In The Pemberton Valley, an estimated **750 additional annual Conventional and Custom transit service hours** will be required to achieve the goals outlined to 2020. This service hour increase is estimated to require a total of **$55,000**.

No additional buses are required to implement the immediate-term recommendations described in the Transit Future Plan for The Pemberton Valley, though additional vehicles may be required to introduce midday service on weekdays on the Local Transit Network.

Capital investments for transit infrastructure include:

- Improvements to customer amenities at bus stops

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.

Existing Funding Sources

Under the BC Transit Act, local governments are responsible for determining the extent of transit service provided in their communities, and then funding their legislated share of the cost of this service.

Funding for transit services is generated from three main sources:

- **B.C. Provincial Government contributions** – an average of 50 per cent.
- **Local partners' contributions** (local governments and First Nations) – an average of 30 per cent. This can include partnerships with other local governments, area First Nations or third parties such as hotel associations or health authorities.
- **Operations revenue** (customer fares, advertising, investments, rental of excess owned transit fleet and facility space to third parties) – an average of 20 per cent. An example of a third party operator currently renting transit infrastructure (office space, parking, and services) can be found at the Whistler Transit Centre. Revenues from this agreement are used to offset transit operating costs.

Locally-generated funding sources are described in more detail in the following section.

PROPERTY TAX

Property taxes are a common source of transit funding across Canada and offer a stable and predictable source of revenue.

The SLRD does not collect property taxes directly. Rather, taxes are collected by the member municipalities of Squamish, Whistler, Pemberton, and unincorporated areas based on property assessment values. Locally, transit costs are funded through a general fund. Regional District operations, which may include transit in the future, are funded through requisitions from member municipalities and unincorporated areas.

PASSENGER FARES

As discussed in the *Transit In* chapters of the Sea to Sky Transit Future Plan, passenger fare rates and products vary across Sea to Sky transit systems. Fares are set by local governments based on recommendations from BC Transit, as well as fare guidelines that consider comparable fare structures of peer transit systems and other local revenue sources.

The value of transit service must be priced appropriately compared with the costs of transportation alternatives, and fare discounts should not erode fare revenues or service levels.[2]

ADVERTISING

Advertising is a small but stable source of funding on Sea to Sky transit systems, generating less than one per cent of total annual revenue.

Advertising on BC Transit buses across the province is currently managed by a third-party contractor, with an emphasis on conventional bus advertising. Today, only Squamish Transit engages in exterior fleet advertising. The RMOW manages interior bus advertising on the Whistler Transit System fleet.

[2] http://www.cutaactu.ca/en/public-transit/publicaffairs/resources/CUTA_Alternative_Funding_Report_May_2015.pdf

COMMERCIAL REVENUE SOURCES

The BC Transit Act identifies commercial ventures as one of the elements that form the core of BC Transit's business. As such, BC Transit regularly examines new ways to generate revenue that will support improved transit services without increasing demands on local taxpayers.

The Whistler Transit Centre (the Operations and Maintenance Facility in Whistler) currently generates additional revenue by reallocating some of its excess space to a third-party coach line company requiring office space, secure parking, and other services.

MUNICIPAL AND REGIONAL DISTRICT TAX (MRDT)

The Municipal and Regional District Tax (MRDT) is administered under the Provincial Sales Tax Act. The MRDT is an additional 2 per cent tax added to the Provincial Sales Tax portion of an accommodations invoice. The 2 per cent is returned to the host municipality monthly based on the monthly remittances from the accommodations sector to the Province. Increasing this tax to three per cent has been discussed in recent years, and would require provincial legislation. Although this tax is also collected in all communities around the Province, the Resort Municipality of Whistler is currently the only community in BC that allocates a portion of this funding for transit services. This allocation has been in place since 1991 when the Whistler Transit System first offered the Free Village Shuttle services modeled on free transit services offered in ski resorts in the US.

Potential Future Supplementary Funding Sources

EXPANSION OF EXISTING FUNDING SOURCES

Continued Participation in various Funding Programs

Sea to Sky communities may benefit from participating in regional, provincial, federal and community-level grants and funding programs (such as the MRDT) to secure capital and/or operating funds.

Property Tax

Some jurisdictions in British Columbia, such as Victoria and Vancouver, have a dedicated transit levy within the property tax fund.

Exploring future funding options through property tax funds in the Sea to Sky area could contribute to future expansion of transit overall. This could even include a Community Pass system where every household in a neighbourhood contributed more in their property taxes for unlimited access to transit.

Passenger Fares

Before considering supplementary funding mechanisms, it is important that transit systems optimize fare revenue. An effective fare strategy should meet the needs of the community while remaining affordable to the user and to the community as a whole. In addition, it should also support the ridership targets set out in the Transit Future Plan. The strategy could also include a vendor and product review, exploring options for online fare sales as well as new fare media.

Table 36: Fare structure review and revision dates in Sea to Sky Transit Systems.

Transit System	Last Fare Review & Recommendations Prepared	Last Fare Change
Squamish	April 2012	September 2008
Whistler	May 2013	December 2013
The Pemberton Valley	December 2010	December 2010

Fare revisions in Sea to Sky transit systems could contribute to future expansion of transit in the Sea to Sky region through potential increased revenue.

Commercial Revenue Sources

Depending on local market demand and the capacity of local facilities, additional opportunities to support third-party commercial initiatives may be possible over the life of the Transit Future Plan.

BC Transit continues to work with its local government partners to identify opportunities to leverage existing assets and products to generate incremental revenue.

EXPLORATION OF ALTERNATIVE FUNDING SOURCES

Alternative funding mechanisms have been identified in other jurisdictions across Canada as a means to supplement local contributions to fund transit.

The following table outlines a range of options that are applicable on a regional scale in British Columbia, not focusing on applicability at the local level. This regional outlook aligns with potential

efficiencies that could be realized by changes in governance where regional and interregional transit is concerned. It is important to note that several of these options are not feasible under current regulations, thereby requiring legislative changes and/or Provincial government approval. These funds may be used to offset capital and/or operating costs. For objectivity, table entries are organized alphabetically.

Table 37: Potential Alternative Funding / Revenue Sources for Transit in British Columbia.

Alternative Funding Source	Description	Key Observations
Auto Insurance Tax	Fee paid by vehicle owners through auto insurance payments	Requires Provincial legislation, as it represents additional taxes. Public acceptance is generally mixed. Additional revenue raised is likely to be limited.
Carbon Tax	Tax levied on carbon dioxide emissions from fuel consumption for transportation and other purposes	A carbon tax is currently implemented in British Columbia as a revenue-neutral mechanism, where funds generated are used to reduce other taxes (e.g. income tax).[3] Under this model, this tax would be unlikely to be used to directly support transit funding in the region.
Crowdfunding	Funds raised through the collection of contributions from the general public	Best suited for funding discrete projects, trials, or ideas; can be geographically sourced e.g.: local community association crowdfunds bus shelter and bench installation.
Development Cost Charges	A special charge on new development within the transit service area	Most effective in cities that are experiencing a great deal of concentrated growth. May generate additional revenue, but the amount is likely to be limited and unpredictable given development patterns in the Sea to Sky corridor. If only applied near transit exchanges, high development fees could discourage Transit Oriented Development.
Driver's Licence Tax	Tax levied on drivers upon the issuing or renewal of their driver's license	Requires Provincial legislation, as it represents additional taxes. Revenue generation is likely low given the residential population of the region, though additional data on the number of driver's license holders in the region is needed to substantiate this observation.

[3] http://www.fin.gov.bc.ca/tbs/tp/climate/tax_cuts.htm

Alternative Funding Source	Description	Key Observations
Fuel Tax	Tax levied on fuel sales within the region to be used for transit	Requires Provincial legislation, as it represents additional taxes. Offers a potentially stable and strong revenue source, and can contribute to behaviour change and modal shifts. At the time of implementation, Provincial fiscal contributions to transit were also decreased in Victoria and Vancouver, so a gross gain in total revenue is not necessarily guaranteed.
Highway Toll / Cordon Charge	Toll on drivers entering or exiting a zone or region	Requires Provincial legislation. While revenue-generating potential is high, the costs of implementing tolling infrastructure and technology are generally high. May also be sensitive due to the perceived *shadow toll* on the Sea to Sky Highway[4] and the unavailability of an alternative direct road route into the Sea to Sky region. Likely to face political opposition due to the importance of tourism to the region.
Hotel and Accommodation Levy	Hotel tax charged along with accommodation fees	The Municipal and Regional District Tax (MRDT) is administered under the Sales Tax Act. The MRDT is an additional two per cent tax added to the Provincial Sales Tax portion of an accommodations invoice. The two per cent is returned to the host municipality monthly based on the monthly remittances from the accommodations sector to the Province. Increasing this tax to three per cent has been discussed in recent years, and would require provincial legislation. Although this tax is also collected in all communities around the Province, the Resort Municipality of Whistler is currently the only community in BC that allocates a portion of this funding for transit services. This allocation has been in place since 1991 when the Whistler Transit System first offered the Free Village Shuttle services modeled on free transit services offered in ski resorts in the US.

[4] http://www.theglobeandmail.com/news/british-columbia/government-accused-of-shadow-toll-on-sea-to-sky-highway/article4348915/

Alternative Funding Source	Description	Key Observations
Parking Sales Levy	A tax levied on paid parking transactions as additional sales tax	Generally easy to implement, however these levies often face public opposition. In the Sea to Sky region this tax is likely to generate modest revenue as there is very user pay parking. May require Provincial Legislation.
Sales Tax	A special sales tax within the transit service area	Despite the potential to generate significant and stable revenues, public acceptance is low and this funding source is not widely used in Canada due to generally already-high sales taxes. May require Provincial Legislation.
Third Party Revenue Contributions/Partnerships	Funds raised through the collection of contributions from private industry	Funding directed towards a particular transit service. Examples are: a free event shuttle, making an existing service fare free for a particular time of day or on an event day or a season. This could offset farebox revenue and make a designated route free for customers (currently a pilot project is underway in Whistler where funding has been raised to make Route 7 free from 8pm to 8am during the winter season). Could be explored on a regional scale for Sea to Sky communities for a particular transit service.
Utility Levy	A special transit levy to all utility accounts in the region	Potential revenues are moderate and stable. Currently used in Metro Vancouver. Public acceptance is generally mixed. May require Provincial Legislation.
Vehicle Registration Levy	An additional levy on top of existing registration fees for vehicles registered in the region.	Requires Provincial legislation. Public perception is generally mixed. More data on the number of registered vehicles in the Sea to Sky region would improve the understanding of this option.

BC Transit will support local governments, where possible, in pursuing funding sources deemed to be their priority both at a local and regional level.

As noted earlier in the Transit Future Plan, Sea to Sky communities should explore the possibility of developing a regional governance structure to streamline the funding and implementation of Regional and Interregional transit. This could enable more comprehensive system management and performance monitoring, and could involve establishing some form of a Regional Transit Advisory Committee with an agreed-upon Terms of Reference and decision-making process. Formalizing these efforts is a necessary first step to funding and implementing the Transit Future Plan.

Keys to Success

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

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

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.

Service Planning, Implementation and Evaluation Cycle

BC Transit will continue to work with the Sea to Sky regional partners to begin to take the steps the transform the Transit Future Plan from a vision to a reality. These efforts will only be successful if done in partnership with continuous dialogue between all partners and maintain strong links between:

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

How will BC Transit and the Sea to Sky regional partners use this plan?

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

What actions does BC Transit need from our local government partners for success?

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

Glossary

Accessible, Universal Accessibility	Transit vehicle or infrastructure that can be accessed by anyone, regardless of their physical, sensory, or cognitive abilities.
Conventional Transit	A transit service using regularly scheduled, “fixed route” vehicles (operating according to published route maps and timetables).
Cost Recovery	A measure of the financial performance of the transit system usually expressed in terms of total operating revenue/total operating expense.
Custom Transit	Door-to-door transit service for those persons whose physical disability prevents them from using conventional transit service.
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.
Mode Share	Mode share describes the percentage of travelers using a particular transportation mode.
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	A multimodal transportation and parking facility where travelers can transfer from walking, cycling, or driving to transit.
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.
Single Occupant Vehicle (SOV)	A privately operated vehicle whose only occupant is the driver.