

Whistler Transit System

2013 Winter Monitoring Program Report



FINAL – August 2013



Acknowledgements

BC Transit would like to thank the Resort Municipality of Whistler (RMOW) and its area community members who provided input into this review. In particular, the elected officials and staff of the RMOW, the transit staff of Whistler Transit, the Transit Management Advisory Committee and all residents and organizations who provided feedback through online and onboard surveys.

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1. Executive Summary

1.1 Introduction

The Whistler Transit System Winter 2013 Monitoring Program is a comprehensive analysis of the transit system in Whistler. The goal of this detailed report is to accumulate ridership and system information to support the service design decision-making process moving forward, and ultimately increase ridership and provide sustainable satisfaction for our customers. This report is especially timely given the potential for expansion resources for the 2013/14 winter service.

This study has been initiated by BC Transit in collaboration with the system's local transit partners, the Resort Municipality of Whistler (RMOW) and Whistler Transit Ltd. to review the transit system to identify opportunities for improving the system performance. This monitoring report acts as a follow-up to the 2011 Whistler Service Review which included a 19 per cent reduction in annual service hours. The key questions that drove this review are as follows:

1. Is there an opportunity to improve North-South Valley service?
2. Is there a need to adjust the service levels to Alta Vista to streamline service?
3. Is there a need to adjust the service levels in the northern neighborhoods of Whistler?
4. Are the free shuttles (#4 Marketplace and #5 Upper Village/Benchlands) meeting the customer demands?
5. Do the scheduled running times allow for reliable service?
6. Are there any other opportunities to optimize and/or improve the service to best fit the needs of the customers?

1.2 Data Collection

A range of tools were used to collect information with regards to the Whistler transit system performance. The data collection occurred primarily in February 2013 on all day-types in order to provide as much information as possible. The month of February was selected for the monitoring review as it would be the most reflective of regular winter service levels. It should be noted that these results reflect ridership specific to a snapshot period of time. Ridership can vary due to different factors such as time of year, weather and overall economic conditions. As such, the data collected will be used as an indicator of system performance and will be complimented by a variety of other data and engagement input in order to better develop service recommendations.

The table below is a summary of the tools used and the information output. Note that these tools will also be cross-pollinated to create more detailed information. For example, the GPS and GFI will be combined to summarize stop-level boarding information per route, location and time of day.

Collection Tool	Information Output
GPS	<ul style="list-style-type: none"> Actual service running times by neighborhood, day type and time period
GFI Farebox	<ul style="list-style-type: none"> Number of passengers boarding Fare type usage
Pass-Up Reports	<ul style="list-style-type: none"> Driver collected number of pass-ups by route, location and time of day
Manual Ridechecks	<ul style="list-style-type: none"> Identify the number of passengers and the nature of which they're using transit at specific locations

1.3 Public Consultation

A range of tools were used to maximize opportunities for public/stakeholder input within time and resource limitations. Engagement techniques included:

- Online/Print Survey** - local residents, workers and visitors to Whistler were encouraged to complete an online survey including questions related to travel habits and feedback on the existing transit system.
- On-Board Engagement** – transit riders were encouraged to complete one on-board passenger survey in February 2013, including questions related to travel habits and feedback on the existing transit system.
- Stakeholder Engagement** – meetings and discussions were held with large employers, transit card vendors and other business front line staff as well as transit drivers to garner feedback on user groups and issues and opportunities with the existing transit system and in order to raise awareness with their customers, members, staff and clients about the project and ability to provide feedback.
- Operator Feedback** – an Operator Comment Sheet has been created to provide a forum for Operators to provide additional feedback.

The key themes that emerged from the onboard survey, web surveys, and interviews with passengers are summarized in the table below. These themes fall into four categories – scheduling, routing, capital infrastructure, and other issues.

Scheduling Issues <ul style="list-style-type: none"> Improve schedule design (staggering of service frequency etc.) Improve service reliability (buses often run late, particularly during the peak periods) More frequent service (start Winter service earlier and extend later) More service in the northern neighborhoods
Routing Issues <ul style="list-style-type: none"> Improve the balance of service to all neighborhoods (more service to Spring Creek, Emerald and Function Junction) The multiple southern termini are confusing for customers
Capital Infrastructure Issues <ul style="list-style-type: none"> Fix shelters that are damaged Improved snow removal is required at bus stops Improve pedestrian amenities at bus stops along the Highway (lighting, crosswalks etc.) Improve system wayfinding, particularly at Gondola Transit Exchange and Whistler Village

Other Issues

- Improve fare options (e.g. Weekly pass, family pricing etc.)
- Expand bicycle capacity on the buses in the summer
- Improve online access to real-time schedule information
- Improve transit education, information and etiquette of customers

1.4 Service Options

Based on the review of existing Whistler Transit System Service service and findings from analysis and public consultation, a set of service change proposals have been developed and prioritized for the Whistler transit system. The proposals include options to improve service, infrastructure and community transit support initiatives. The subsequent table summarizes the service change options and prioritizes them into short-term (within the next year), medium-term (within the next five years) and other options that require no additional resources and can therefore be pursued at any time. Please note that all costs are initial high level estimates and are subject to change pending more detailed analysis.

Route(s)	Service Proposal	Priority	Annual Service Hours	Advantages	Disadvantages
Various	Improve Service Reliability (Running Times) and address overcrowding (winter only)	Short-term	1,350	Customers benefit from improved service reliability	Increased operating costs
#1 & #3	Improve service to/from Emerald Estates during the midday (winter only)	Short-term	200	Serve existing customer demands and attract additional ridership	Increased operating costs
#1	Introduce northbound trip departing GTEX at 3:00am (Year round)	Short-term	300	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Introduce earlier service from Emerald Estates to improve connections with the Village (winter only)	Short-term	150	Serve existing customer demands and attract additional ridership	Increased operating costs
	TOTAL SHORT-TERM PRIORITY		2,000		
#4	Extend hours of operation on the #4 Marketplace Shuttle to 9:00pm (winter only)	Medium-term	150	Serve existing customer demands and attract additional ridership	Increased operating costs
#7	Introduce earlier #7 Staff Housing service (winter only)	Medium-term	100	Serve existing customer demands and attract additional ridership	Increased operating costs
#1	Introduce earlier #1 Valley Connector service (winter only)	Medium-term	200	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Extend winter service to April and November	Medium-term	2,400	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Introduce weekend service seven days a week (winter only)	Medium-term	1,000	Serve existing customer demands and attract additional ridership	Increased operating costs
	TOTAL MEDIUM-TERM PRIORITY		3,850		
#1 & #2	Reduce the number of termini in South Whistler (year round)	Other	0	Improve service efficiency and legibility.	Potential for increased operating and infrastructure costs
#1	Improve wayfinding clarity on the #1 Valley Connector (year round)	Other	-	Improved wayfinding and service legibility	
#4 & #5	Interline the #4 Marketplace and #5 Upper Village/Benchlands Shuttle together and provide consistent headways (winter only)	Other	0	Improve balanced headways and schedule reliability	Potential for increased operating costs
#1	Break the interline of the #1 Valley Connector during certain time periods (year round)	Other	0	Improve service reliability and legibility.	Potential loss of ridership for customer using the through service
#2	Streamline service by discontinuing Alta Vista routing (year round)	Other	0	Improve service reliability on the #2 Whistler Creek/Cheakamus	Potential loss of ridership in Alta Vista neighborhood
	OTHER COST NEUTRAL PROPOSALS		0		
	TOTAL ALL		5,850		

1.5 Next Steps

The next step in this process is to present the proposed service change recommendations to the RMOW Council.

Date*	Deliverable	Owner/Lead
April 2013	Working information presented to TMAC	BC Transit, RMOW
May 2013	Draft Whistler Transit System 2013 Winter Monitoring Program results presented to TMAC for review	BC Transit & RMOW
July 2013	Final Whistler Transit System 2013 Winter Monitoring Program results presented to TMAC for review and recommendations for Winter 2013-14 service changes	BC Transit & RMOW
August 6, 2013	2013-14 Winter Service Workshop – stakeholders meet to discuss service design for Winter 2013-14	BC Transit, RMOW & Whistler Transit
August 20, 2013	Present Whistler Transit System 2013 Winter Monitoring Program Report recommendations to RMOW Council	BC Transit and RMOW
September 25, 2013	2013-14 Winter schedule completion and possible customer sneak peek	BC Transit, RMOW & Whistler Transit
December 12, 2013	Full Winter service starts	BC Transit, RMOW & Whistler Transit
Winter 2013-14	Monitor service changes	BC Transit, RMOW & Whistler Transit

*Please note that this timeline is subject to change

1.6 Recommendations

It is recommended that the Resort Municipality of Whistler:

- **Receive this report as information, provide comment and direct staff to implement service changes outlined in the report.**

2. Introduction

The Whistler Transit System Winter 2013 Monitoring Program is a comprehensive analysis of the transit system in Whistler. The goal of this detailed report is to accumulate ridership and system information to support the service design decision-making process moving forward, and ultimately increase ridership and provide sustainable satisfaction for our customers. This report is especially timely given the potential for expansion resources for the 2013/14 winter service.

This study has been initiated by BC Transit in collaboration with the system's local transit partners, the Resort Municipality of Whistler (RMOW) and Whistler Transit Ltd. to review the transit system to identify opportunities for improving the system performance. The key questions that drove this review are as follows:

1. Is there an opportunity to improve North-South Valley service?
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6. Are there any other opportunities to optimize and/or improve the service to best fit the needs of the customers?

2.1 Process

The following steps were undertaken as part of the Whistler Transit System Winter Monitoring Program:

- BC Transit staff traveled several times to the RMOW to better understand the local context, met with operations' managers, transit staff and customers and municipal contacts, and conducted a review of the transit systems by riding the routes, examining bus stops, etc.;
- Researched current and future demographic and economic trends, reviewed planning documents to determine current and future land use and growth areas, and examined existing transportation options;
- Conducted a full review of the transit system, including both system and route-by-route overviews, and conducted an analysis of ridership, transit system and operational data, existing system infrastructure, and operational considerations;
- Assessed infrastructure and vehicle assets to determine existing conditions and future needs; and
- Evaluated service and proposed detailed service change options and transit monitoring actions.

2.2 Guiding Principles

There are an infinite number of ways in which a transit system can be improved or enhanced. To keep this review focused on what can be feasibly implemented as well as meet the critical needs of the community, the following guiding principles have been applied:

- Minimize inconveniences imposed on current customers;
- Place more emphasis on immediate needs;
- Place more emphasis on improvements that require minimal increase in operating and capital costs;
- Improve reliability and accessibility of the transit system; and
- Improve lines of communication with stakeholders and customers.

These principles have provided an important foundation in the development and evaluation of the service change options.

3. Community Overview

The Resort Municipality of Whistler (RMOW) is located on Highway 99 (Sea to Sky Highway) 130km north of Vancouver. Whistler is a four-season resort community with a tourism-based economy. Through the 1990's Whistler experienced explosive growth both in development and population. The community's economy was affected by a series of world-wide events including 9-11, SARS, the strengthening of the Canadian dollar, and the 2008 financial crisis. These factors contributed to a leveling off of development activity, population growth and visitation. More recently, the community is focusing on four-season activities and boasts an array of sporting activities, music festivals and special cultural events throughout the year. At the centre of all the activity is Whistler Village which is renowned for its dining and shopping experiences.

3.1 Community Profile

As of April 2011, Whistler's permanent population was estimated to be 10,437. Whistler experienced rapid population growth between 1988 and 1998, with an average annual growth rate of 13% per year, adding 6,255 new residents overall or an average of 625 new residents per year (equivalent to 250 new households). Population growth has slowed significantly since that time to an annual average rate of 1.3% per year with a decrease experienced between 2004 and 2005, 2007 and 2008 and 2010 and 2011. The population did increase by 5% however between 2008 and 2009 recording Whistler's highest annual growth since 1998. 2011 posts Whistler's second largest population estimation. In 2012 and 2013, Whistler's permanent population is still estimated to be approximately 10,000. Whistler had an estimated seasonal resident population of 3,580 averaged throughout the year.

As a resort community, the number of people in Whistler on any given day is greater than the population counts provided by Canada Census or BC Statistics estimates. The *total population equivalent* is an estimate of the total number of people in Whistler on average at one time. The indicator is often used in 'per capita' measures to normalize the data and make it comparable to other communities. For 2013, the estimated number of people in Whistler per day (the total population equivalent) averaged 27,075, which is about 2.5 times greater than the permanent population of 10,437 residents. An additional estimated 1,597 employees on average commuted into Whistler on a daily basis, primarily from the neighbouring communities of Pemberton and Squamish increasing the yearly daily average population equivalent to 28,672 (Note: Part-time residents like second homeowners are not included in the estimate).

As of December 2011, the total number of developed, self-contained (dwelling) units zoned for tourist accommodation use was 15,880 resulting in approximately 2.14 million annual visitations. The dwelling units are categorized as follows:

- 8,010 tourist accommodation (e.g., condo hotel units, chalets, villas)
- 254 pension/B&B rooms
- 7,105 hotel rooms
- 283 hostel beds
- 228 campsites

The age distribution of Whistler residents is less balanced than is typical for the province as a whole, with fewer children, youth and seniors, and a larger percentage of young adults. Whistler's age distribution is centered on a median age of 32 years, ten years younger than the

provincial median age of 42 years. Whistler has the second-highest proportion of working-age adults (15-64) in the country, at 82.8% and second only to Banff. Sixteen percent of B.C.'s population is over the age of 65, whereas in Whistler, people aged 65 and over make up less than 5% of the population. That said, Whistler's senior population is still growing on a relative basis. Whistler's dependency rate, which is 0-14 year olds and 65+ divided by the other typically working age categories is 21% vs. 41% for BC as a whole, and is driven primarily by the 0-14 category rather than the 65+ category. At the provincial level, this ratio is equally driven by children and seniors. Whistler's population is 54% female and 46% male. Overall, Whistler's age distribution continues to exhibit an aging population trend between 2006 and 2011.¹

Whistler's family and household characteristics are different from those in the province overall with a large percentage of single individuals, one-person households and households comprised of non-family members and a smaller percentage of family households with children. The average household size is 2.3 person per household. Of the families with children at home, over 85% have either one or two children.

The majority (84.4%) of residents of the RMOW reported English as their mother tongue in 2006; another 14.9% of residents do not speak English at home but are fluent. Less than one percent of permanent resident population report that they do not speak English. However, as noted in the previous sections, Whistler is a popular international tourist resort with visitors from around the world. Because visitors do not necessarily speak English, this can be an issue in communicating transit services.

A much higher proportion (85.6%) of Whistler's population participated in employment in 2006 compared to the Squamish-Lillooet Regional District (SLRD) rate of 77.3%. Whistler's 5.3% unemployment rate was 1.7 percentage points less than the SLRD's unemployment rate of 7%, and lower than Whistler's 2001 rate of 6.3%. The estimated median personal income for permanent residents in Whistler ranges from \$40,000 to less than \$45,000 while the median household family income for permanent residents ranges from \$90,000 to less than \$95,000.²

Eighty-eight percent of the workforce was employed in the service sector in 2006. Other services, comprised of accommodation, food services arts and recreation services and other, represented almost one half of all employment, compared to 33% for the SLRD. The second greatest concentration of labour force activity was in business services (17%) followed by retail trade (10%). Only a small percentage of Whistler's workforce is employed in goods production (12%), with the majority being employed in manufacturing and construction (11%). Whistler has very little employment in resource-based industries (1% of total), compared to 5% for the SLRD.³

¹ Statistics Canada, 2011 Census Population

² RMOW Community Life Tracking Survey 2009

³ Whistler2020.ca website

3.2 Land Use and Future Growth

On September 6, 1975, the Resort Municipality of Whistler (RMOW) was created – the first of its kind – to facilitate the growth of a destination mountain resort community in British Columbia’s Whistler Valley through a series of focused, phased plans and integrated partnerships which included the Province of British Columbia, the municipality, local communities, and mountain owners/operators. The Whistler model has laid the foundation for many other resort communities to be developed in B.C., expanding the provincial tourism capacity and reputation.

Through the hard work and vision of Whistler residents, businesses and resort community stakeholders, Whistler is transitioning from a generation of rapid growth to the next generation where they protect and enhance what is here and all that makes this place special – the Whistler Experience.

The most important imperative in maintaining the Whistler Experience is to identify and maintain what makes Whistler special. Through their collaborative input to the Official Community Plan (OCP), community members expressed the following core components of the Whistler Experience:

- **Community:** in the mountains, respectful of the natural energy, identity and vitality the mountains provide Whistler’s visitors and residents;
- **Conservation:** of a pristine natural environment;
- **Context:** as a village in the mountains composed of authentic, primarily non-urban experiences;
- **Commitment:** to provide an accessible mountain oasis, whether you are a five-minute visitor or fifth-generation resident; and
- **Connection:** to the world where resilient recreation and responsible tourism, in its manifold forms, enables meaningful connections between visitors and residents and perpetuates Whistler’s reputation of sustainability and stewardship.

Through the active application of balanced resort capacity and the OCP, the RMOW is working with resort partners, stakeholders and the local community to effect and create sustained prosperity. That is, the state of being not only economically successful, but being happy and healthy, with the entirety being viable for the long term. To sustain prosperity means essentially maintaining a steady-state condition, where economic well-being is maintained without requiring continued land development and physical growth that would ultimately compromise the unique attributes which make up the social, cultural and natural environments that are the cornerstone of Whistler’s community character and resort success – the Whistler Experience.

Being the first resort municipality in British Columbia has created challenges as well as the obvious opportunities for Whistler. Today, the biggest challenge and opportunity is to accept the responsibility of being B.C.’s first mature resort community. The newly adopted OCP (May 2013) outlines the limits to growth and transition from a growing resort community to a developed, mature resort community seeking sustained prosperity.

The bed unit measurement was introduced in Whistler’s first OCP adopted in 1976 as a means to manage the future growth of Whistler to be consistent with infrastructure capacity, highway capacity and ski lift capacity. Over time, and through OCP updates, bed units have become enshrined as a critical measure and tool for achieving a progression of community development objectives such as major resort amenities, land acquisition and employee housing. Bed units have become a key reference point for the resort community’s understanding of and

expectations for Whistler’s ultimate size and capacity. The newly adopted OCP continues to utilize bed units as a key component of the growth management framework.

As of December 2011, the number of developed units reached 53,098, or about 86% of the total committed. Single family residences represent 29% of developed units. Accommodation units (tourist accommodation, hotel, pension, hostel, campsite) represent 29% of developed units; multi-family homes and duplex accommodation represents 30% of developed units. The remainder is resident restricted housing. The remaining 8,000 undeveloped bed units are to be developed within the current urban boundaries.

3.3 Transportation Options

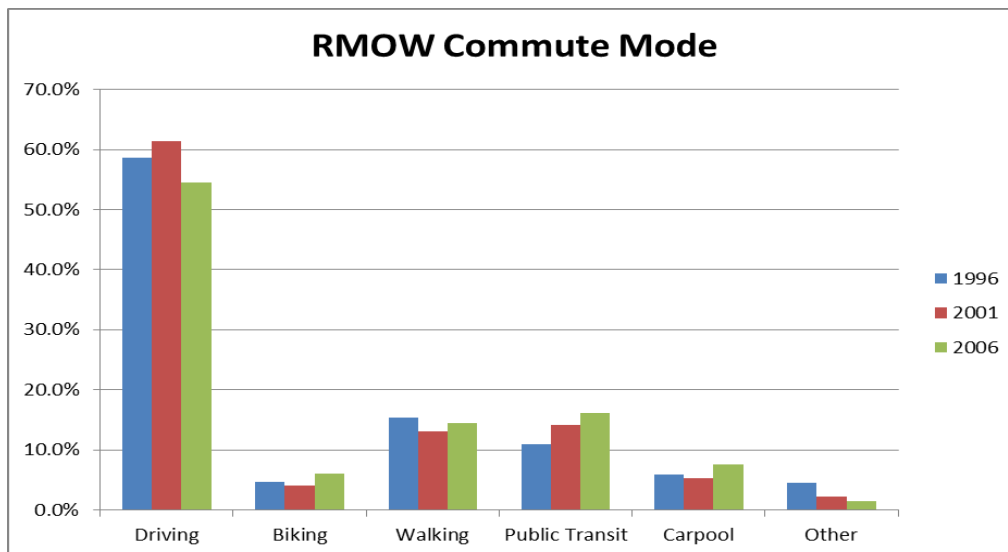
Whistler’s transportation network and municipal infrastructure, through the OCP, continues to support local residents and visitors from around the corner or around the world while maintaining respect for the natural environment and municipal finances.

Whistler’s transportation system is integral to the livability and success of Whistler as a resort community. Whistler residents are encouraged to use walking, cycling and public transit, supported by excellent transportation infrastructure oriented to these modes. As a result, residents and visitors increasingly choose preferred modes over single-occupancy vehicle trips.

Whistler relies on an efficient transportation infrastructure to transport people and goods to, from and within the resort community. Initiatives have been undertaken to promote shifts away from the private automobile to preferred modes of transportation. Recent upgrades have been completed to Highway 99, BC Transit facilities, the Valley Trail system and pedestrian and bicycle networks.

Whistler has relatively high participation in preferred modes of transportation including carpooling, transit, walking and biking. The Whistler Transit System has been a strong success, experiencing the highest ridership per service hour in British Columbia and consistently serving almost 3 million riders per year.

Figure 1: RMOW Commuter Mode Choice, 2006



4. Current Transit System

4.1 Introduction

The Whistler Transit System is a conventional (fixed-route, scheduled stops) system currently operated by Whistler Transit Ltd. This section outlines the history, existing transit system routes, frequency, ridership, fleet, infrastructure, costs and revenues.

4.2 History

The Whistler Transit System (re-branded the Whistler and Valley Express (WAVE) from 1999 through 2009) had a simple vision when it was introduced – to emulate the success of the transit system's in resort communities such as Vail and Aspen, Colorado. The Whistler Transit System had five buses in service in 1991 and carried just under half a million passengers in its first full year of operation. By 2007 the WAVE service had grown to 21 buses in service carrying 2.8 million riders, with total annual expenditures of \$6.1 million.

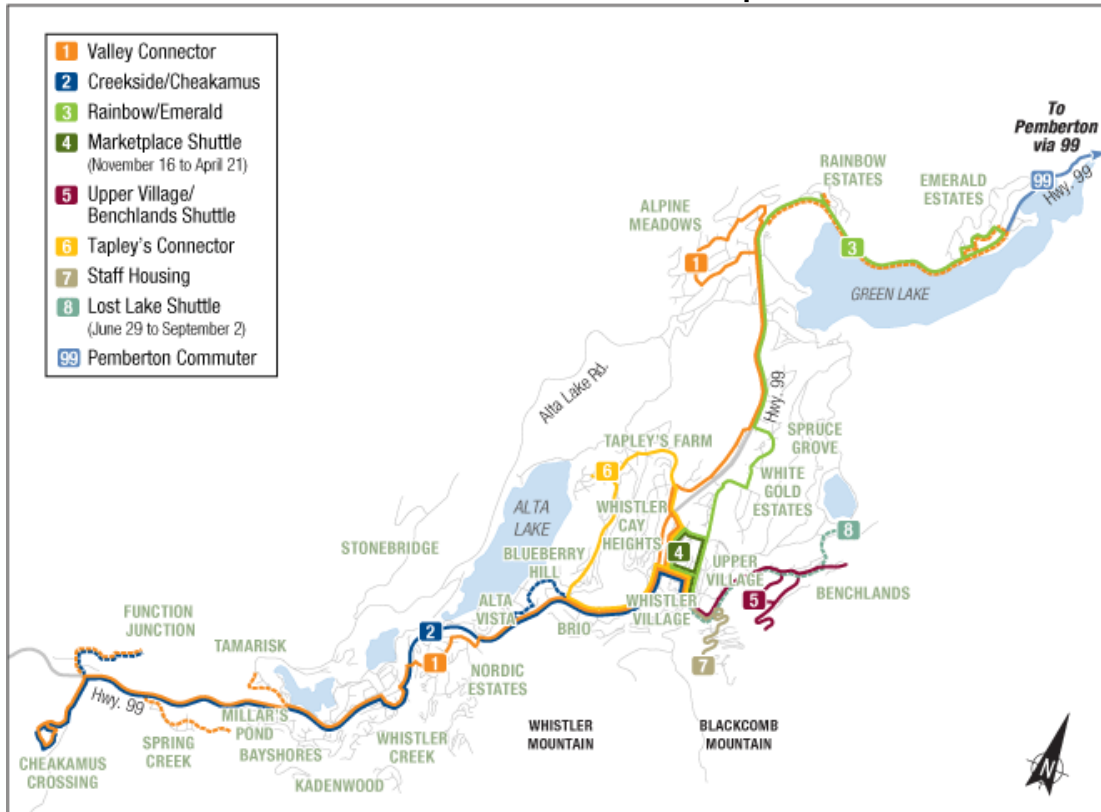
In 2010, Vancouver hosted the 2010 Olympics and Paralympic Winter Games with Whistler as a key venue. To showcase Canada's commitment to reducing Green House Gas emissions, Whistler became home to the largest hydrogen Fuel Cell Electric Bus (FCEB) fleet and fueling station in the world when BC Transit took possession of 20 hydrogen FCEBs to be operated in the RMOW in a five year demonstration project beginning with the Olympics.

A number of service adjustments have been made over time to match changing and evolving economic conditions, passenger demands and funding issues. This includes the 2011 service changes which saw a 19 per cent reduction in annual service hours.

4.3 Transit System Service Description

The Whistler Transit system is comprised of five year-round conventional routes and three seasonal routes. BC Transit partners with the Squamish-Lillooet Regional District (SLRD) to provide a commuter route linking Whistler and Pemberton. All routes serve the Gondola Transit Exchange in the heart of Whistler Village with trip frequency varying from 10 - 30 minute intervals. Routes 3 and 4 operate only during the peak ski season and Route 8 operates only during the summer months.

Whistler Current Transit Map



Route 1 Valley Connector – connects most of the residential areas both south and north with key destinations: serving Cheakamus Crossing, Function Junction, Tamarisk Turnaround, Whistler Creek, Nordic, Gondola Transit Exchange, Nesters, Meadow Park Sports Centre, Alpine Meadows, Rainbow Estates, Emerald Estates

2 Whistler Creek/Cheakamus – provides additional service to key areas south of Whistler Village.

3 Rainbow/Emerald – provides addition service to key areas north of Whistler Village. Service operates from November to April.

4 Marketplace Shuttle – loops the core of Whistler Village, shuttle operates only November to April when both mountains are open for winter skiing and is free to the passenger.

5 Upper Village/Benchlands Shuttle – provides service between the Gondola Transit Exchange and accommodations located in the Upper Village, shuttle is free to the passenger.

6 Tapley's Connector – provides service to Myrtle Philip Community School and residential areas to the west of Whistler Village.

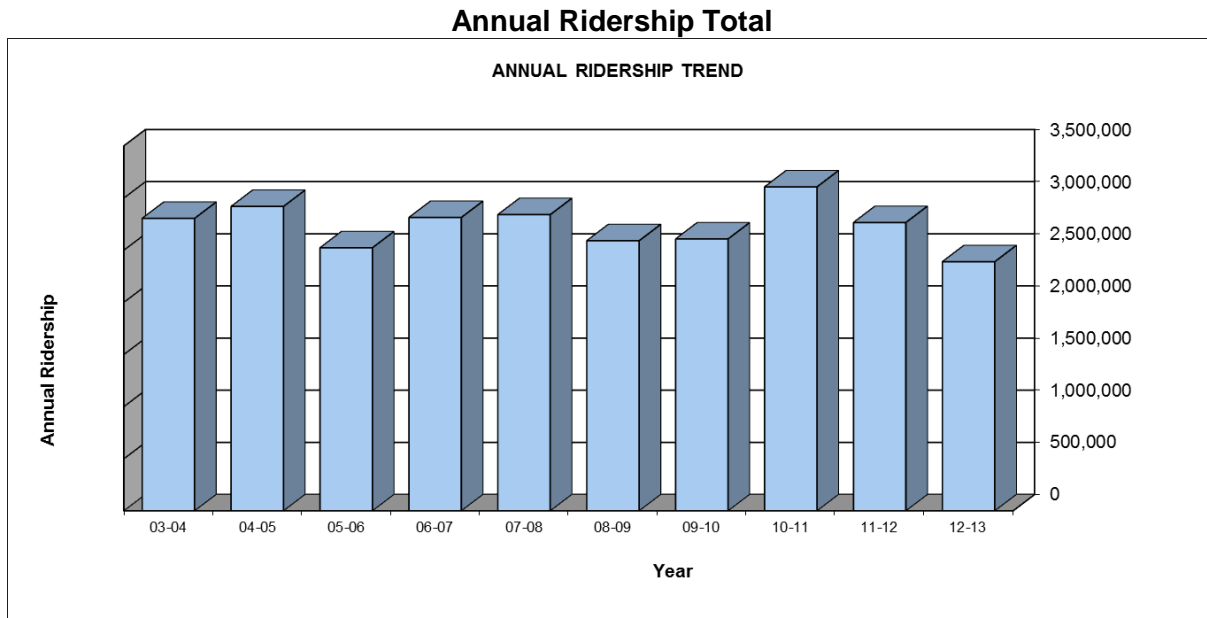
7 Staff Housing – connects staff housing area with Gondola Transit Exchange.

8 Lost Lake Shuttle – Loops between Gondola Transit Exchange and the Lost Lake parking lot. Operates from the Canada Day long weekend to Labour Day and is free to passengers.

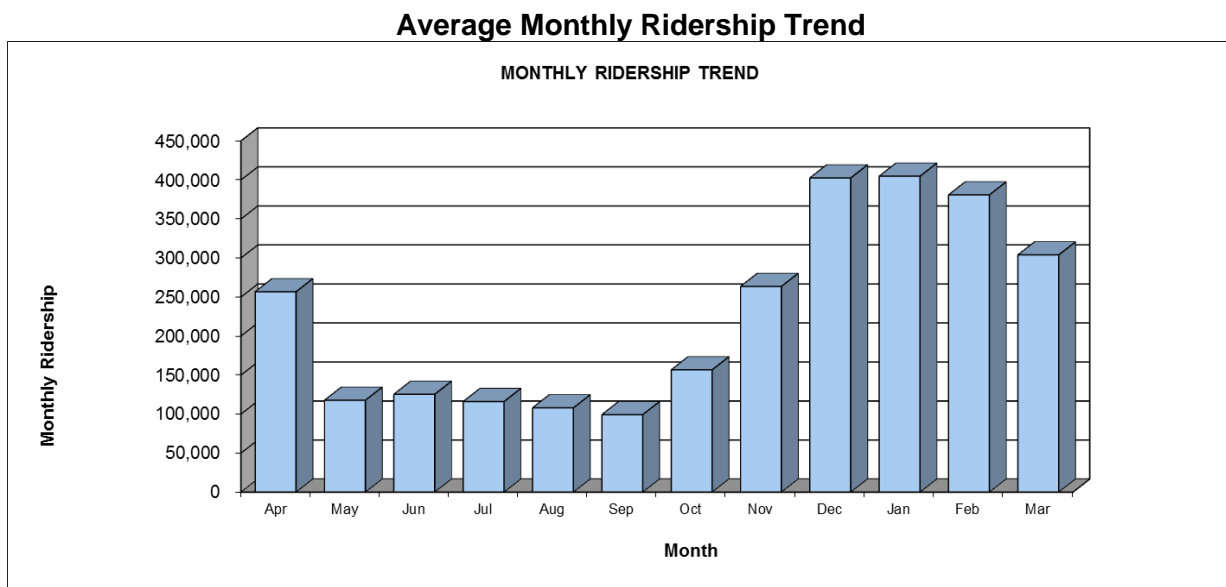
Service levels vary seasonally with the system delivering up to 227 service hours daily during the peak ski season and 120 service hours daily during the off season.

4.3.1 Conventional Transit System Ridership

Annual ridership performance on the Whistler Transit system is outlined below highlighting a fairly steady ridership from 2003-2009 with a sharp rise in ridership in 2010 due to the Winter Olympic events held in Whistler. Ridership has since dropped off as a result of the service decreases that took place in 2011. 2012/13 is the first full year of reduced service levels and also the return of free parking to the Village Day Skier Lots.



The figure below demonstrates the fluctuations in average monthly ridership, with the expected increase during the ski season and decrease during the summer months.



4.3.2 Conventional Transit System Fares

Whistler Transit Fares – Effective as of 02/01/2011

One-way Trip	Cash	10 Tickets	Monthly Pass*	6 Month Pass*	12 Month Pass*
Adult	\$2.50	\$20.00	\$65.00	\$330.00	\$585.00
Senior	\$2.00	\$18.00	\$52.00	\$260.00	\$470.00
Student to Gr. 12	\$2.00	\$18.00	\$52.00	\$260.00	\$470.00
Child 4 years & under	No charge	-	-	-	-

*These extended period passes are eligible for the 15% Federal Public Transit Tax Credit

BC Transit is currently undergoing a Fare Review of the Whistler Transit System to examine the effectiveness of the transit system's current fare structure.

4.3.3 RMOW Transit Market (Who Rides the Bus?)

Analysis of the RMOW transit market is based on onboard and online surveys carried out in winter 2013.

Highlights include:

- The majority of passengers completing the surveys were between the ages of 15-34.
- The most popular destination was Whistler Village followed by Function Junction and Whistler Creekside
- Most passengers use the bus primarily for work followed by social/recreation and shopping/errands
- These riders are generally frequent transit riders with 81% using the bus 2-4 times per week or more
- Ratings for different aspects of transit service were good, with the highest ratings for comfort and cleanliness of buses (87% satisfied), personal security (85% satisfied) and closeness of stops to home (81% satisfied) (Figure 2)
- Customers were least satisfied with the frequency of service and value for money (Figure 2)

Figure 2



4.6 Transit Infrastructure

4.6.1 Fleet

There are currently 23 vehicles that form the Whistler fleet. These consist of 20 Fuel Cell buses and 3 Novas. During the winter peak season there are contingency buses added to the fleet to accommodate the increased service levels. The fleet is 100% wheelchair accessible.

BC Transit took possession of the Fuel Cell buses in 2009. The buses and supporting fueling station represent both the largest hydrogen Fuel Cell fleet and fueling station in the world. The \$89 million five year demonstration project is funded by the Province of British Columbia, the Federal Government and the Canadian Hydrogen and Fuel Cell Association through March 31st 2014. The review and potential extension of this program will be decided through another process.

4.6.3 Bus Stops

There are just over 200 bus stops in the RMOW, with approximately 50 of them having bus shelters. The primary transit exchange is in the Village at Gondola Transit Exchange. All services are designed to meet at this location to provide safe and convenient transfers.

5. Proposed Service Options

Based on the review of existing service in Whistler and findings from analysis and public consultation, a set of service change proposals have been developed for the Whistler transit system. The proposals include options to improve service, infrastructure and community transit support initiatives. The tables on the following pages summarize the options, as well as the advantages and disadvantages of each option.

The service options presented here are also subject to:

1. The scope of work as defined by the Memorandum of Understanding (MOU). Any changes to the scope would result in the need to re-initiate a new Memorandum of Understanding;
2. The prioritization of expansion funding requests and the subsequent confirmation of provincial funding;
3. Fleet availability where additional fleet are determined to be required. All new vehicle requests could potentially trigger a new bus order necessitating an 18-24 month lead time before expected delivery and introduction into revenue service;
4. Hours are only an estimate prior to actual scheduling being completed;
5. Any costs included are based on an estimated hourly cost and are intended to provide an understanding of the potential financial impacts of each option. The costs do not yet consider more accurately the impact on service hours and fleet requirements; and
6. All options are subject to additional operational feasibility testing.

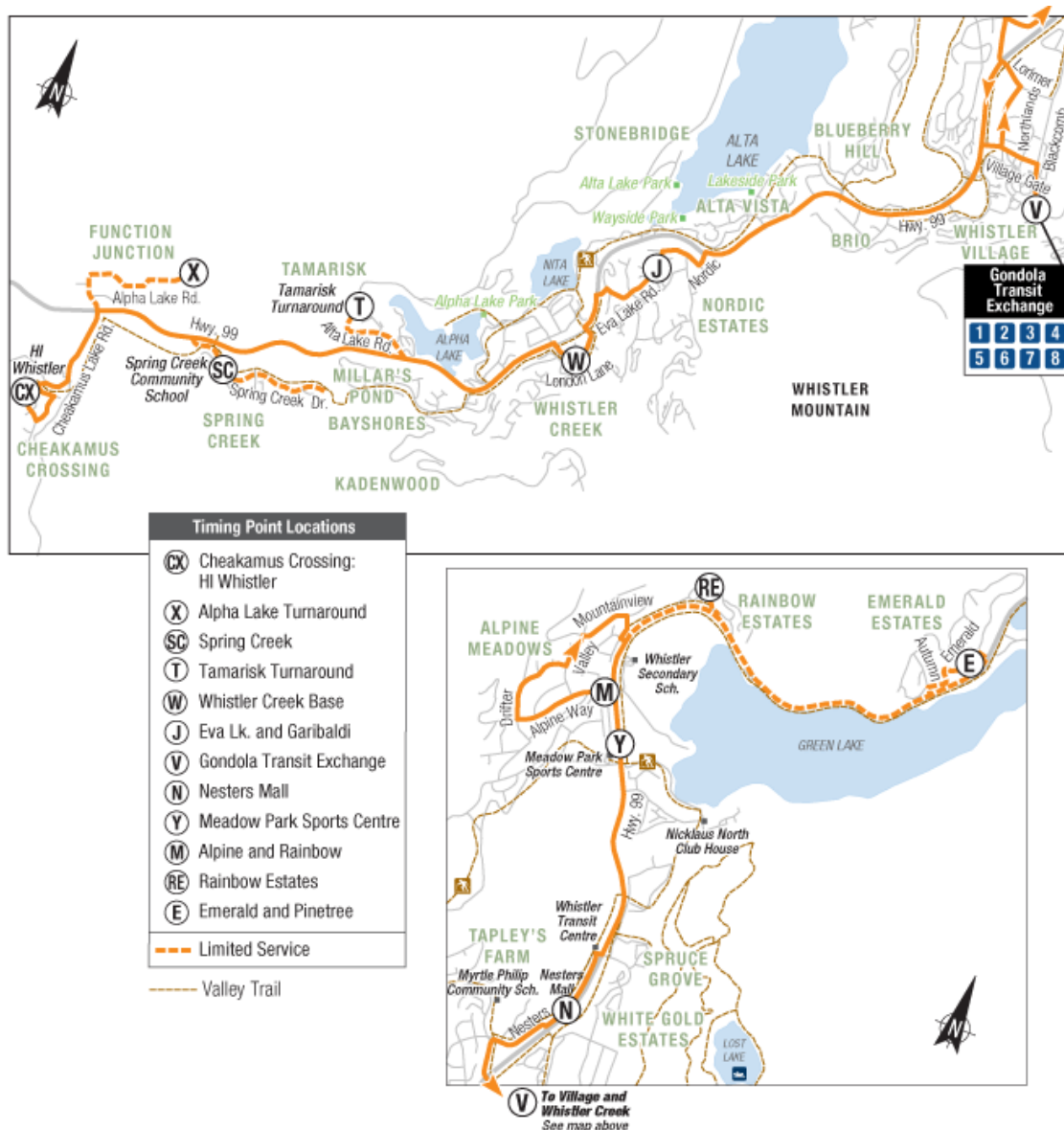
The subsequent table summarizes the service change options and prioritizes them into short-term (within the next year), medium-term (within the next five years) and other options that require no additional resources and can therefore be pursued at any time. Please note that all costs are initial high level estimates and are subject to change pending more detailed analysis. Note that some of the service issues experienced in Winter 2013 were addressed for the Spring/Summer/Fall schedule. This includes peak period service to Emerald Estates and service to Function Junction.

Route(s)	Service Proposal	Priority	Annual Service Hours	Advantages	Disadvantages
Various	Improve Service Reliability (Running Times) and address overcrowding (winter only)	Short-term	1,350	Customers benefit from improved service reliability	Increased operating costs
#1 & #3	Improve service to/from Emerald Estates during the midday (winter only)	Short-term	200	Serve existing customer demands and attract additional ridership	Increased operating costs
#1	Introduce northbound trip departing GTEX at 3:00am (Year round)	Short-term	300	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Introduce earlier service from Emerald Estates to improve connections with the Village (winter only)	Short-term	150	Serve existing customer demands and attract additional ridership	Increased operating costs
	TOTAL SHORT-TERM PRIORITY		2,000		
#4	Extend hours of operation on the #4 Marketplace Shuttle to 9:00pm (winter only)	Medium-term	150	Serve existing customer demands and attract additional ridership	Increased operating costs
#7	Introduce earlier #7 Staff Housing service (winter only)	Medium-term	100	Serve existing customer demands and attract additional ridership	Increased operating costs
#1	Introduce earlier #1 Valley Connector service (winter only)	Medium-term	200	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Extend winter service to April and November	Medium-term	2,400	Serve existing customer demands and attract additional ridership	Increased operating costs
Various	Introduce weekend service seven days a week (winter only)	Medium-term	1,000	Serve existing customer demands and attract additional ridership	Increased operating costs
	TOTAL MEDIUM-TERM PRIORITY		3,850		
#1 & #2	Reduce the number of termini in South Whistler (year round)	Other	0	Improve service efficiency and legibility.	Potential for increased operating and infrastructure costs
#1	Improve wayfinding clarity on the #1 Valley Connector (year round)	Other	-	Improved wayfinding and service legibility	
#4 & #5	Interline the #4 Marketplace and #5 Upper Village/Benchlands Shuttle together and provide consistent headways (winter only)	Other	0	Improve balanced headways and schedule reliability	Potential for increased operating costs
#1	Break the interline of the #1 Valley Connector during certain time periods (year round)	Other	0	Improve service reliability and legibility.	Potential loss of ridership for customer using the through service
#2	Streamline service by discontinuing Alta Vista routing (year round)	Other	0	Improve service reliability on the #2 Whistler Creek/Cheakamus	Potential loss of ridership in Alta Vista neighborhood
	OTHER COST NEUTRAL PROPOSALS		0		
	TOTAL ALL		5,850		

5.1 Valley Connector Service

In 2011, a complete review of the Whistler Transit System was completed resulting in a new system route structure and modified service profile that aligned with both the needs of the customers as well as the financial constraints of the municipality. This included a 19 per cent reduction in annual service hours and a corresponding reduction in fleet size. The review process was extensive and included a review of seasonal service levels, routes, service span, frequency of service, fleet, transit facilities and other aspects of the transit system.

One of the changes in 2011 included the introduction of the #1 Valley Connector that acts as the spine of the system connecting the southern neighborhoods with the northern neighborhoods (Function Junction, Cheakamus Crossing, Spring Creek, Tamarisk, Whistler Creek, Nordic Estates, Whistler Village, Alpine Meadows, Rainbow Estates and Emerald Estates).



The route was originally designed to operate through the Village along Northlands Boulevard, bypassing Gondola Transit Exchange. This would allow transfer opportunities to other services along Northland Boulevard in addition to providing walkable access to the much of the Village. However, as a result of detailed service analysis and customer response, in February 2012 the #1 Valley Connector was routed directly into Gondola Transit Exchange.

The advantages of the existing route design are that the Valley Connector provides one ride service for many customers travelling the north-south corridor. For example, a customer who lives in Rainbow and works in Function Junction is able to commute without a transfer via the #1 Valley Connector. The other primary benefit of the current route design is that it maximizes resource efficiency by interlining the north service with the south service.

The disadvantages of the existing route design are the ongoing service reliability issues. Since it is a long route covering several different neighborhoods, it is often vulnerable to service disruptions caused by weather or traffic conditions. As a result, if there is a service disruption in one area it will cause a ripple effect throughout the entire system and the service will be delayed. Another disadvantage of the current route design is that the signage is confusing for customers, particularly for visitors to Whistler. Since both the north and south #1 Valley Connectors route through Gondola Transit Exchange, it can be difficult for customers unfamiliar with the system to distinguish between which trips are going which way (north or south).

5.1.1 Route Design

Based on feedback and comments from stakeholders, there is some interest in redesigning the #1 Valley Connector. One of the questions that was raised is how many people ride the #1 Valley Connector from north to south (and vice versa), and does this north to south service provide value to the system. BC Transit with the help of the RMOW and Whistler Transit Ltd. staff undertook onsite ridechecks from January 29th, 2013 to February 11th, 2013 to investigate how many customers are actually utilizing the #1 Valley Connector as a through-route (from north to south and vice versa).

On the following are graphs summarizing the data collected demonstrating how many customers are riding the service through Gondola Transit Exchange based on time period. Please note that the time period definitions are⁴:

- Early AM: 5:00am – 6:00am
- AM Peak: 6:00am – 9:00am
- Midday: 9:00am – 2:00pm
- PM Peak: 2:00pm – 6:00pm
- Evening: 6:00pm – 10:00pm
- Late Night: 10:00pm – 3:00am

⁴ Note that these time period definitions were used specifically for this monitoring program and may not match the time period definitions previously established.

Figure 3: Northbound - Customers on the #1 Riding Through GTEX

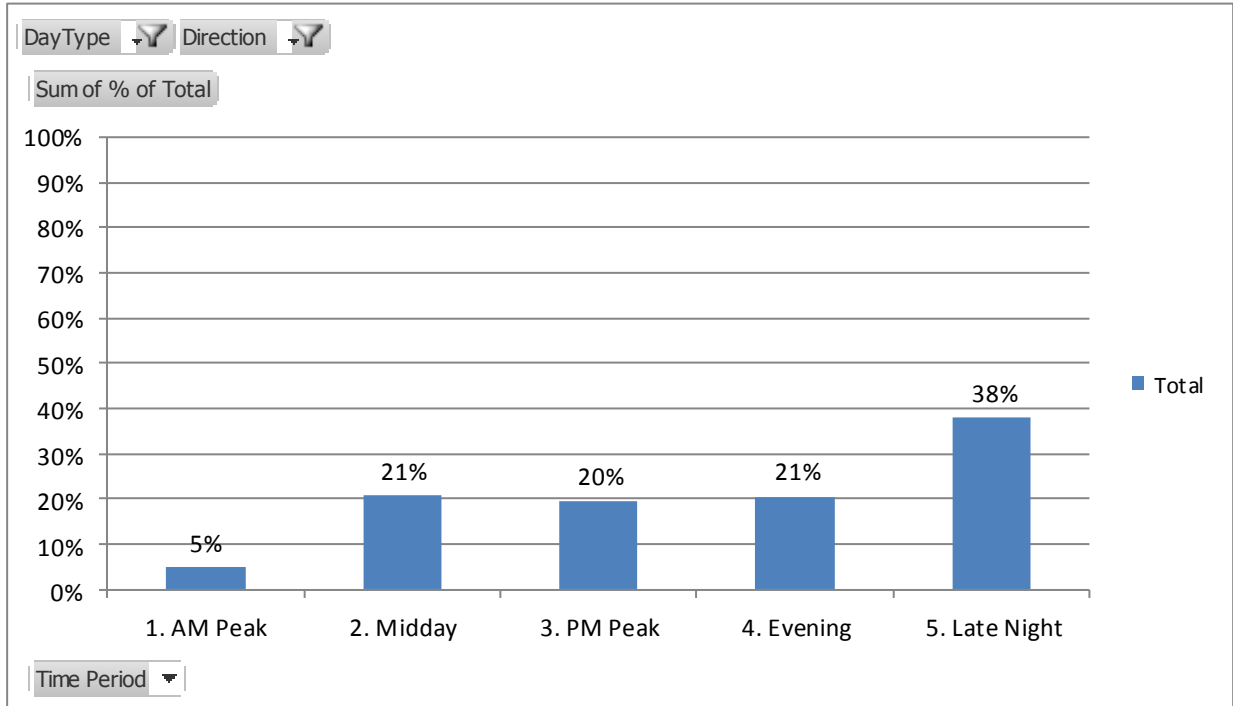
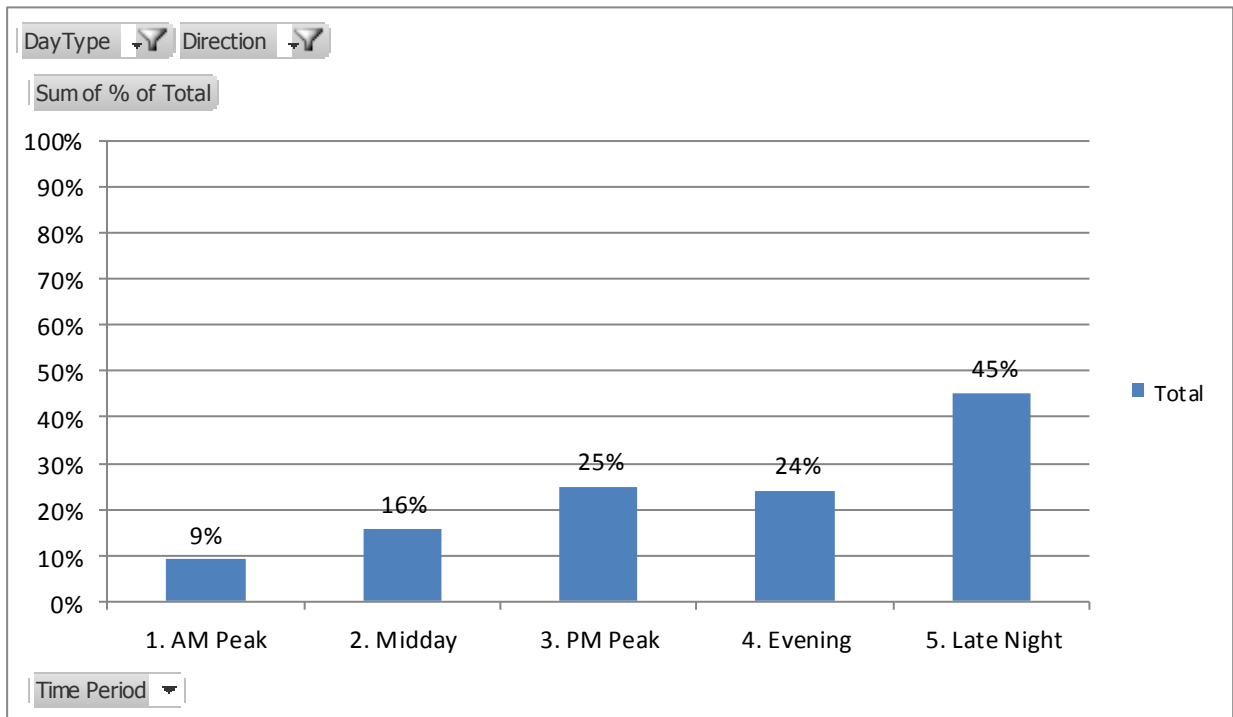


Figure 4: Southbound - Customers on the #1 Riding Through GTEX



As can be seen by the above graphs, with the exception of late night service, the majority of customers are not using the service as a north-south connector. This information is also supported by several Transit Operators who confirmed that based on their observations, the only time of day that people ride through from north-south (and vice versa) is at night. Based on this information, there may be opportunities to break the interline during certain time periods to improve service reliability.

5.1.2 Schedule Design

Another significant challenge for the #1 Valley Connector is the multiple terminus points in the southern part of Whistler. Based on the current schedule design, the #1 Valley Connector has five different terminus points: Whistler Creek, Tamarisk, Spring Creek, Function Junction and Cheakamus Crossing. Designing a service with five different terminus points can be problematic, particularly when trying to provide even headways.

Reducing the amount of terminus locations in the southern end will simplify the schedule design, and therefore result in more consistent headways. The other benefit of reducing the amount of termini is providing an easier system for customers to understand. This can be achieved by either schedule adjustments or infrastructure improvements.

The potential scheduling options is as follows:

- In the AM, the bus goes to Spring Creek then on the way into the Village goes into Tamarisk then continues north
- In the PM, the bus drops off in Tamarisk then goes into Spring Creek, then goes north to Village bypassing Tamarisk northbound.

This would simplify the #1 Valley Connector as there would only be three terminus options:

- Short-turn at Whistler Creek
- Terminates at Tamarisk/Spring Creek
- Terminates at Cheakamus/Function Junction

The above change could also potentially improve service reliability through the removal of duplicate service operating to Tamarisk.

The other infrastructure option would be to introduce a safe left-turn opportunity for transit vehicles from Spring Creek Drive to Highway 99. It is also important to note that the RMOW staff are currently working with the Ministry of Transportation staff to study the suitability of a traffic signal at Hwy 99 and Alta Lake Road. If this does go in, transit service to Tamarisk will be re-examined.

5.1.3 Customer Information

A common issue that we've heard from Operators and customers is that the signage is confusing for customers. Since both the north and south #1 Valley Connectors route through Gondola Transit Exchange and the Village Gate Boulevard bus shelter, it can be difficult for customers unfamiliar with the system to distinguish between which trips are going which way (north or south).

The current destination signs for the #1 Valley Connector are as follows:

Primary Destination (Line 1)	Secondary destination (Line 2)
1 Connector South	to Cheakamus
1 Connector South	to Tamarisk
1 Connector South	to Spring Creek
1 Connector South	to Whistler Creek
1 Connector South	to Function Junction
1 Connector North	to Alpine
1 Connector North	to Rainbow
1 Connector North	to Emerald
1 Connector North	to Village
1 Connector South	to Village

A potential option to alleviate the confusion is to create different route numbers for the northbound and southbound service. The disadvantage of this option is that it may result in further confusion as customers may get confused with the inbound and outbound service having different numbers.

A more conservative improvement would be to eliminate the word 'Connector' from the primary destination sign. Given that most people don't use the service as a connector, it is unnecessary to include the word in the destination sign. Instead, the route would only display '1 South' or '1 North' followed by the destination. This would be more intuitive for customers, particularly for those unfamiliar with the system.

Based on the above information, the following service changes are recommended for the #1 Valley Connector in Winter 2013-14:

- **Explore opportunities to break the #1 Valley Connector during certain time periods to improve service reliability;**
- **Explore opportunities to reduce the number of termini in the south through potential routing, scheduling and infrastructure improvements;**
- **Explore opportunities to improve destination sign and wayfinding clarity.**

5.2 Alta Vista Service

There are currently seven northbound AM peak trips that operate via the Alta Vista Neighborhood. These trips are serviced by the #2 Whistler Creek/Cheakamus. Based on feedback from Operations and stakeholders, the ridership on these trips is extremely low, and therefore the value of this service is being questioned.

The advantage of routing service to the Alta Vista neighborhood is that it provides northbound transit access for the approximately 1,350 residents (or 327 dwelling units) and visitors to the area. If this service did not exist then the customers living at the south end of this neighborhood would need to cross Highway 99 to access northbound service. The disadvantage of routing service to Alta Vista is that it increases the running time of these trips, consequently making it less attractive for the riders commuting from other parts of southern Whistler. The Alta Vista road network can also be subject to difficult road conditions during the winter, therefore it is common for these trips to have schedule reliability issues.

The ridership levels in the neighborhood were reviewed using both manual ridechecks and GFI/GPS data. The results are on the following pages.

Figure 5: Average Boardings in Alta Vista (Manual Ridecheck)

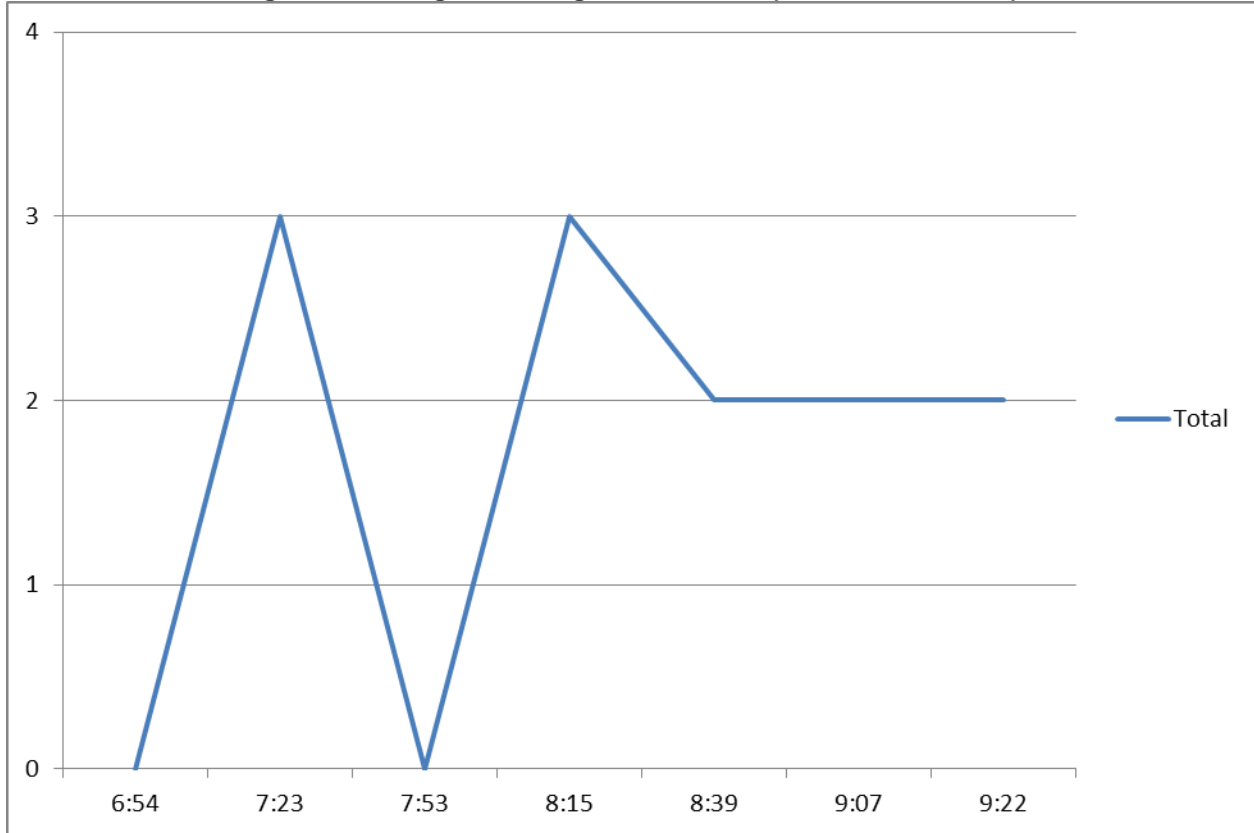
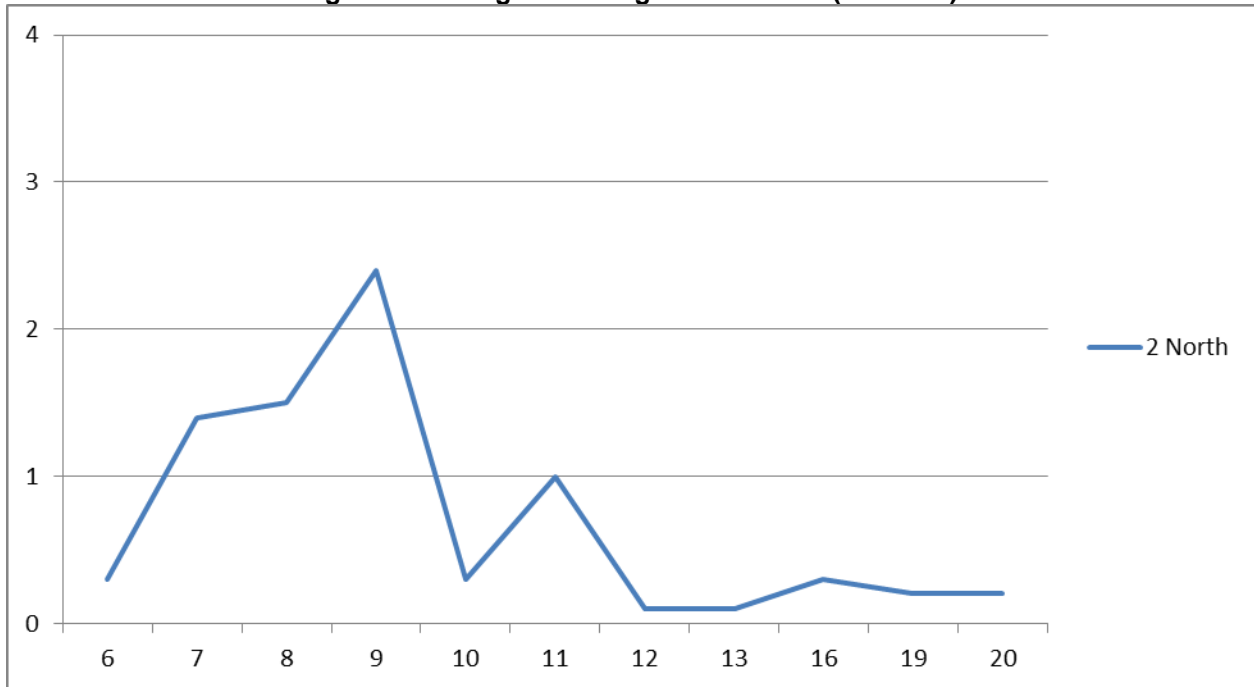


Figure 6: Average Boardings in Alta Vista (GFI/GPS)



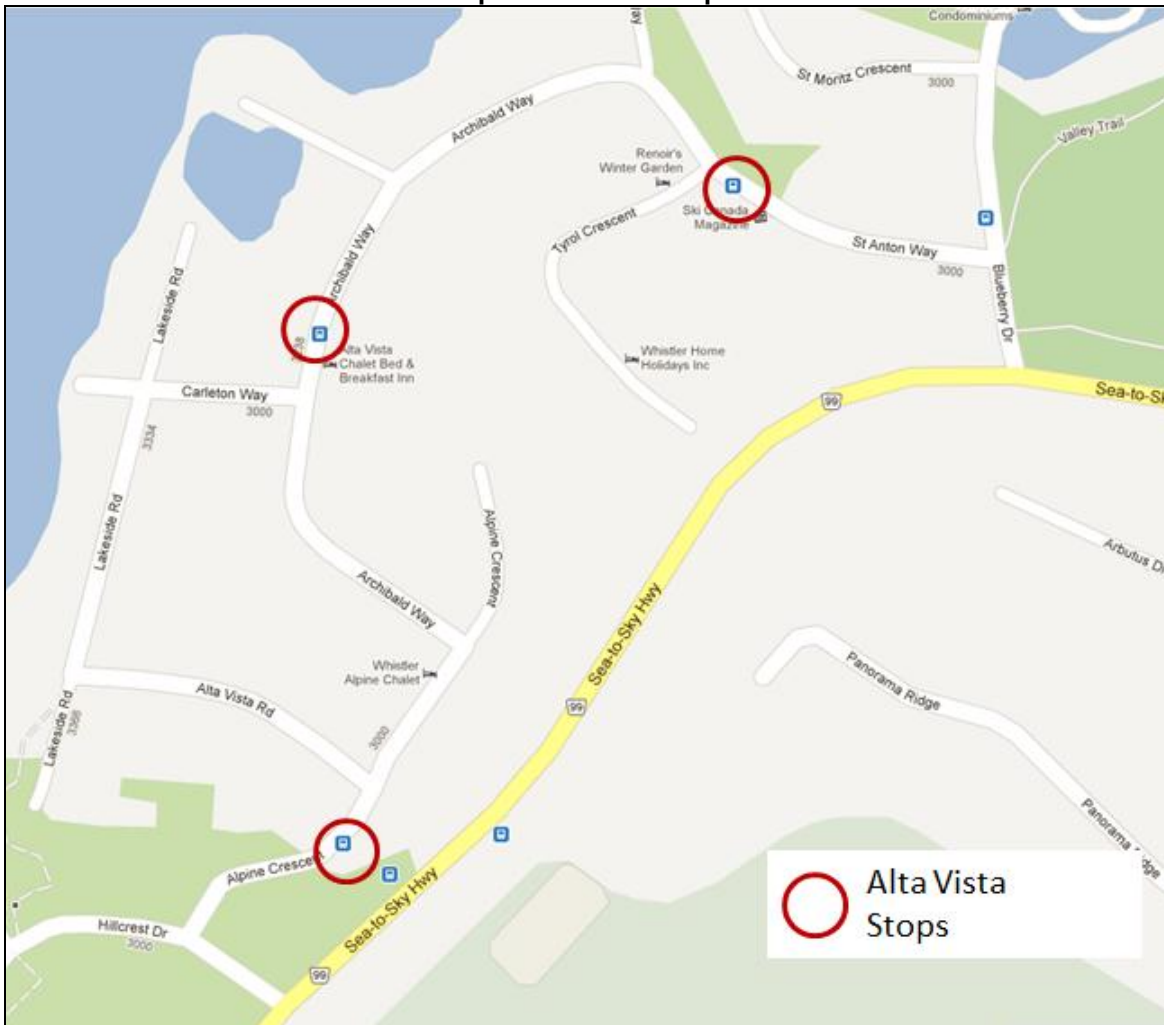
Based on the information collected, it is clear that ridership in this neighborhood is exceptionally low. Furthermore, over the course of the winter 2012-13 it was consistently observed that many

Alta Vista transit riders catch the bus southbound to Whistler Creek to access Whistler Mountain for skiing and snowboarding.

Therefore, the risks associated with reducing or eliminating transit service in this neighborhood are low. Customers using transit in this neighborhood will still have access to northbound service on Highway 99 (Routes #1 and #2) and on Blueberry Drive (Route #6). The greatest impact would be to customers who currently board the bus at the stop on Archibald Way at Carleton Way as the next closest stop is on Blueberry Drive which is approximately a 500 meters away.

The map below summarizes the stops that would be impacted if the service was reduced or eliminated.

Map 1: Alta Vista Stops



Based on the above information, the following service changes are recommended for Alta Vista:

- **Explore opportunities to reduce or eliminate service to Alta Vista for Winter 2013-14**

5.3 Northern Service Balance

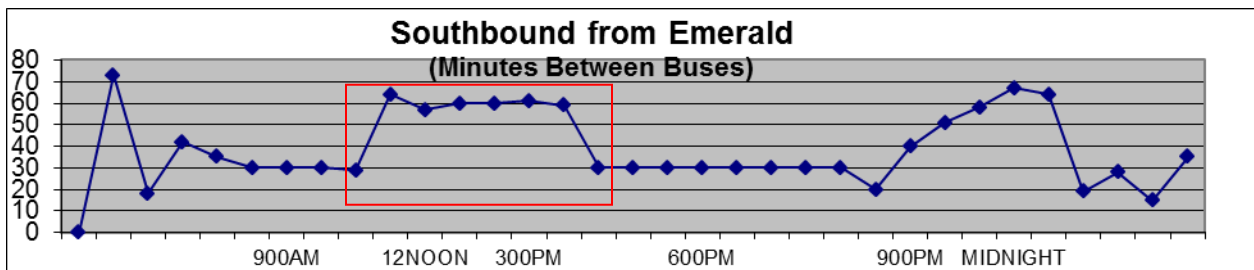
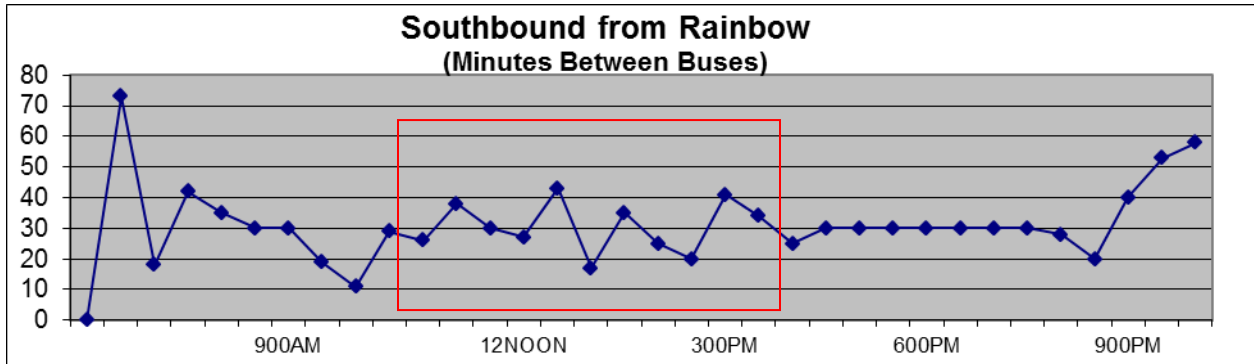
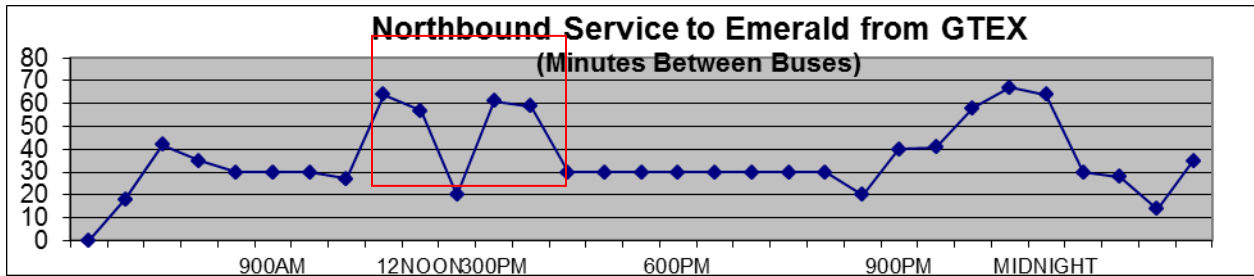
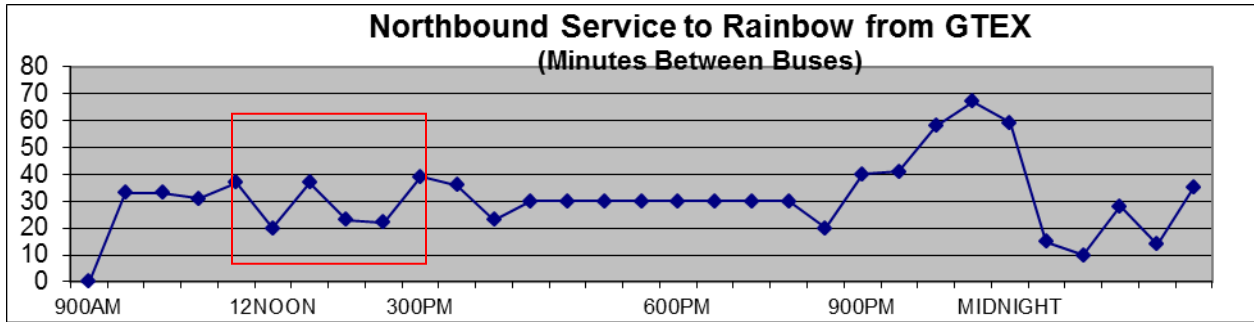
Part of the 2011 service reductions included a reduction of service to Emerald Estates. Since those changes there has been ongoing feedback from customers, Operators and stakeholders that current service to Emerald Estates is insufficient and that there is an imbalance in service levels between Rainbow compared to Emerald Estates. This perceived imbalance is compounded by the observations that Emerald Estates generates more ridership than Rainbow does.

Below is a summary of the Winter 2013 scheduled trips to each neighborhood in the northern section of Whistler. Based on trip counts alone, there is almost no difference

All Days		
	Southbound trips	Northbound Trips
Total	86	85
Spruce Grove/White Gold Estates	24	24
Meadow Park Sports Centre	86	85
Alpine Meadows	50	56
Rainbow	34	32
Emerald Estates	33	32

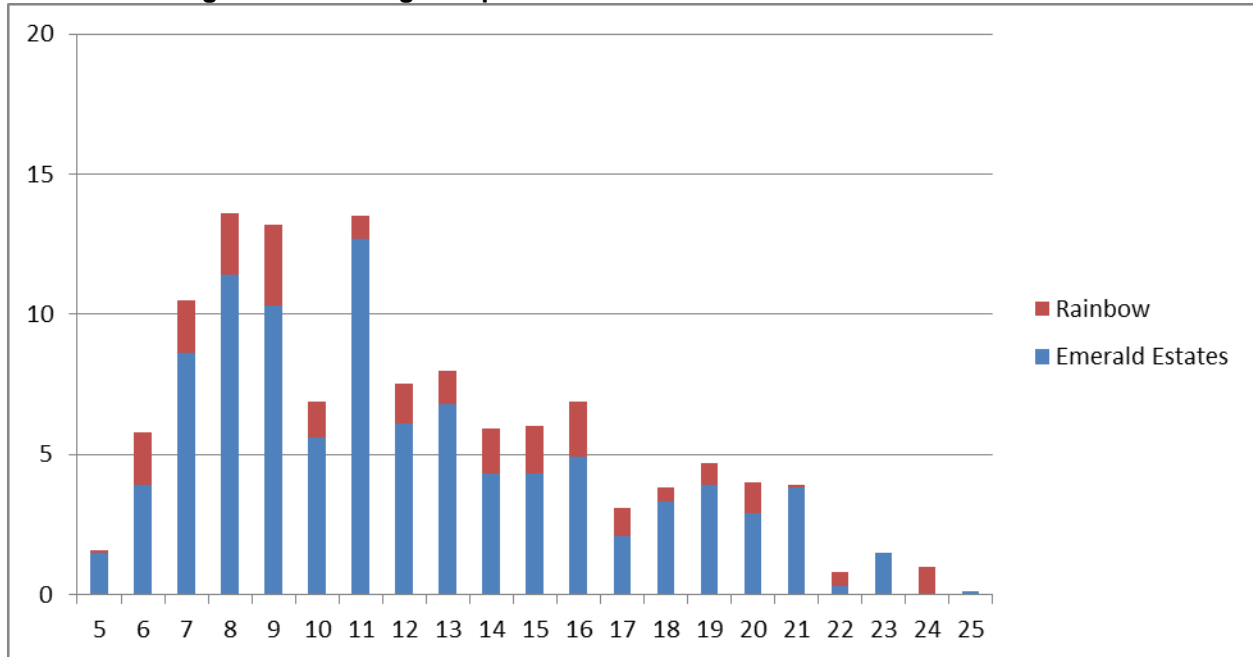
While the total trip counts are almost identical, there is a significant difference in time of day that those trips are scheduled. In the late night there is significantly more service to/from Emerald. However, customers who are destined for Rainbow could still potentially use this service as the neighborhood is on route to Emerald Estates. During the midday (particularly between Noon and 16:00) the frequency of service to Rainbow is approximately every 30 minutes whereas the service to Emerald is approximately every 60 minutes.

The graphs on the subsequent page summarize the frequencies for service to Rainbow and Emerald Estates. The red boxes indicate the midday time period where service Rainbow is far better than service to Emerald Estates.



Based on the GFI/GPS ridership analysis, when comparing ridership between Emerald Estates and Rainbow, Emerald Estates is clearly the higher trip generating neighborhood.

Figure 7: Boarding Comparison Between Emerald Estates and Rainbow



Introduce northbound trip departing Gondola Transit Exchange at 3:00am

Based on last winter’s schedule, in the southbound direction there is currently a trip that departs at 3:05am. In the northbound direction the final trip departs at 2:17am. Introducing a 3:05am trip in the northbound direction would balance the late night service to all parts of Whistler. This service improvement is recommended as a year-round adjustment.

Introduce earlier trip connecting Emerald to Function Junction

Based on last winter’s schedule, the earliest that someone could arrive at Function Junction from the north was 6:28am. Introducing a trip that departs Emerald Estates and arrives at Function Junction for 6:00am would be beneficial for employees in the Function Junction area and residents in the north. Please note that this change was already made for the Spring/Summer/Fall schedule.

Based on the above information, the following service changes are recommended for service north of Whistler Village:

- **Improve service levels to Emerald from approximately 10:00am – 4:00pm for Winter 2013-14**
- **Introduce northbound trip departing Gondola Transit Exchange at 3:05am**
- **Introduce earlier trip connecting Emerald to Function Junction**

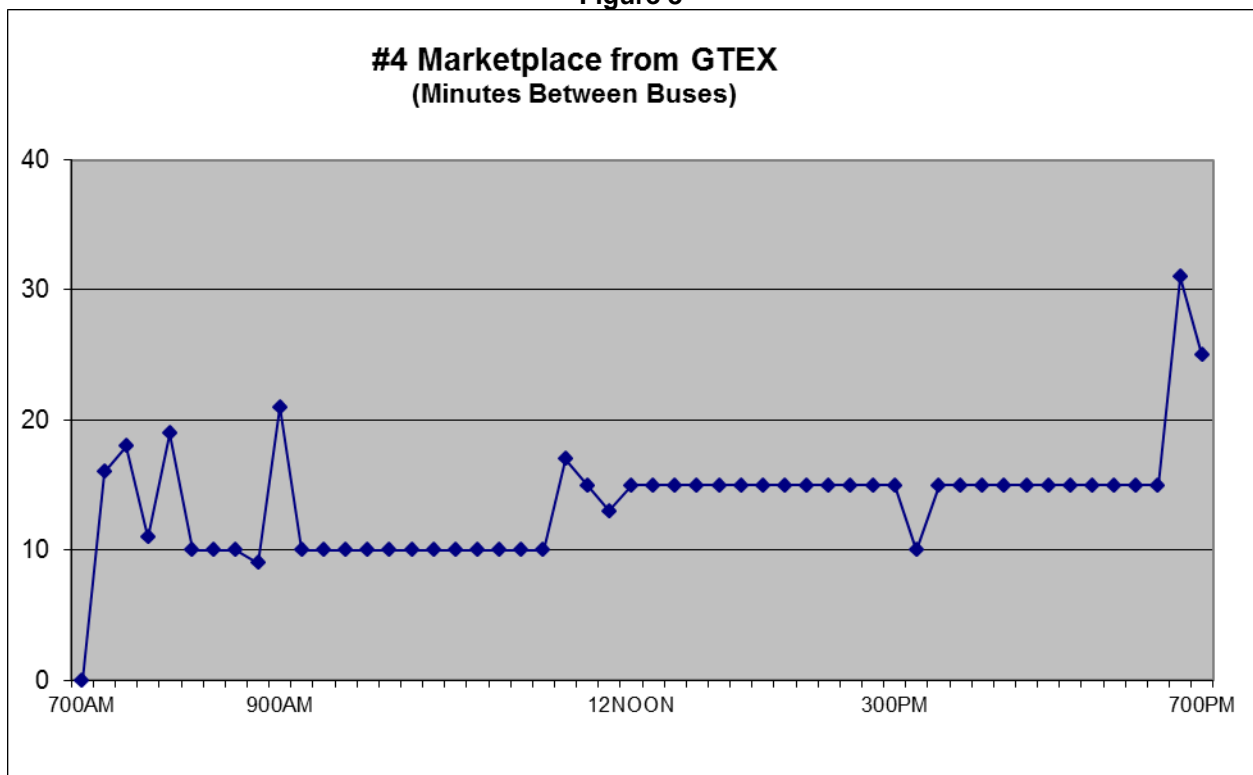
5.4 Free Shuttles

The #4 Marketplace Shuttle and #5 Upper Village/Benchlands Shuttles are supplemented by the hotel tax and provide free service to passengers. The intent of the shuttles is to provide a free transportation option to/from the Village for visitors to the RMOW.

The #4 Marketplace Shuttle operates approximately every 10 minutes between 7:30am and 11:15am and then every 15 to 20 minutes from 11:15am to 6:00pm. Below is a frequency summary of the #4. However, based on the frequency analysis on the following page, the frequencies are often varied.

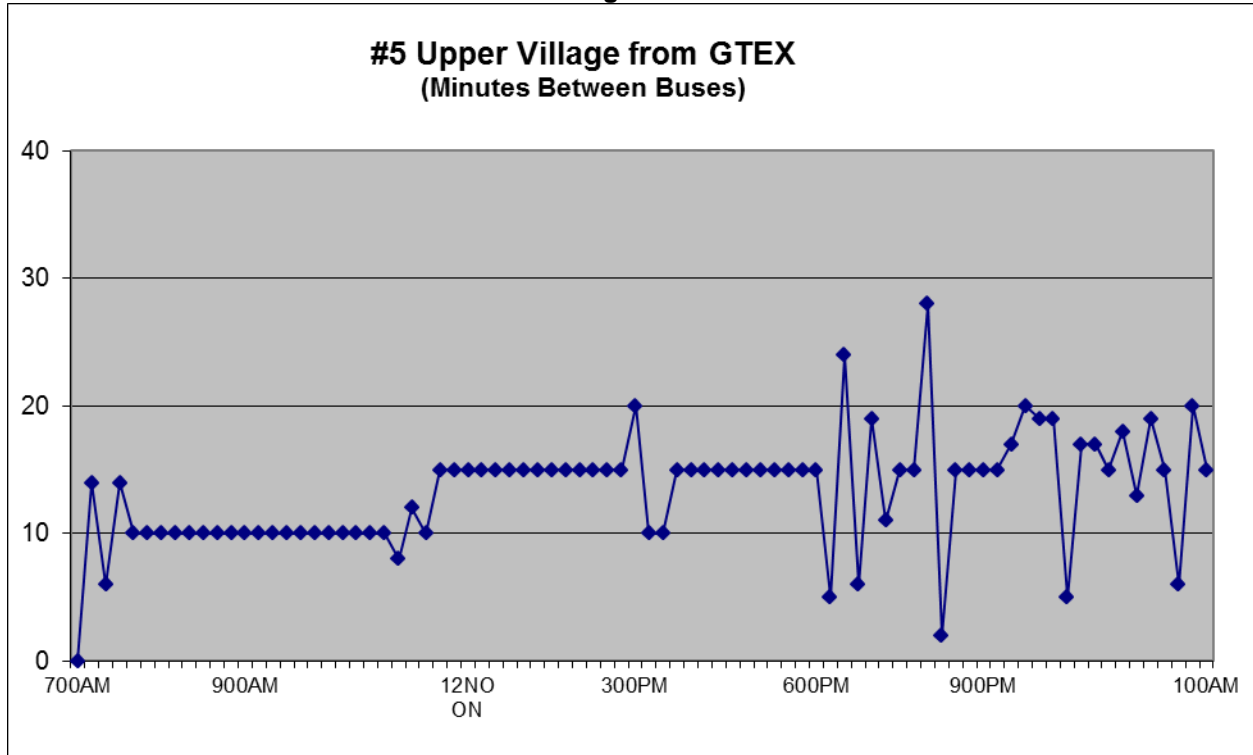
Another common request by customers is to extend the operating hours of the #4 beyond 7:00pm. Given there is still a substantial amount of activity taking place in the village beyond 7:00pm, extending the free shuttle until 9:00pm is justified.

Figure 8



The #5 Upper Village/Benchlands Shuttle is intended to operate every 10 minutes from 7:30am to 11:15am and every 15 minutes from 11:15am to 12:30am. However, based on the frequency analysis below, the frequencies after 6:00pm become extremely varied.

Figure 9



Based on the above information, the following service changes are recommended for the Free Shuttles

- Block and interline the #4 Marketplace and #5 Upper Village/Benchlands together to ensure clock-face headways are implemented, and reduce reliability issues. The recommended service frequencies are:
 - 7:00am-10:00am: every 10 minutes
 - 10:00am-2:00pm: every 15 minutes
 - 2:00pm-4:30pm: every 10 minutes
 - 4:30pm until 7:00pm for the #4 and until 1:00am for the #5: every 15 minutes
- Extend hours of operation on the #4 Marketplace Shuttle to 9:00pm

5.5 Service Reliability

Service reliability on a transit system can have significant impacts on its provider and both existing and potential customers. To customers, unreliable service affects their perception of service quality, transit utility compared to the other mode choices and value for money, while to transit agencies, this translates to loss of ridership and revenues and higher costs to provide additional service to compensate for unreliable service operations. For Whistler, the most common causes of service reliability are passenger loads, environmental factors (weather related) and variable running times.

Based on the existing winter schedule, the running time for service is static throughout the day. Therefore, the same amount of running time is allocated during the peaks, off-peaks and late nights. Given that operational conditions vary throughout the day, the static running time often results in service reliability issues. For example, northbound travel time during the AM peak is typically longer than in the afternoon because of the regular traffic commuting pattern towards Whistler Village. As a result of this variability, it is common during the peak periods to see 'bus-bunching' and gaps in service.

The best strategy to deal with service reliability issues is to schedule running times that are reflective of actual operating conditions. Additional strategies include assigning Supervisors at key locations to enforce balanced headways, apply control strategies and coordinate passenger loads to avoid poor departure headways and overcrowding of buses. The implementation of traffic signal priority and transit-only lanes can also help to reduce the variability in running times and balance headways to reduce the occurrence of bunches and gaps in service.

Based on the above information, the following service changes are recommended:

- **Explore opportunities to improve service reliability through running time changes and infrastructure improvements.**

5.6 Additional Opportunities for Improvement

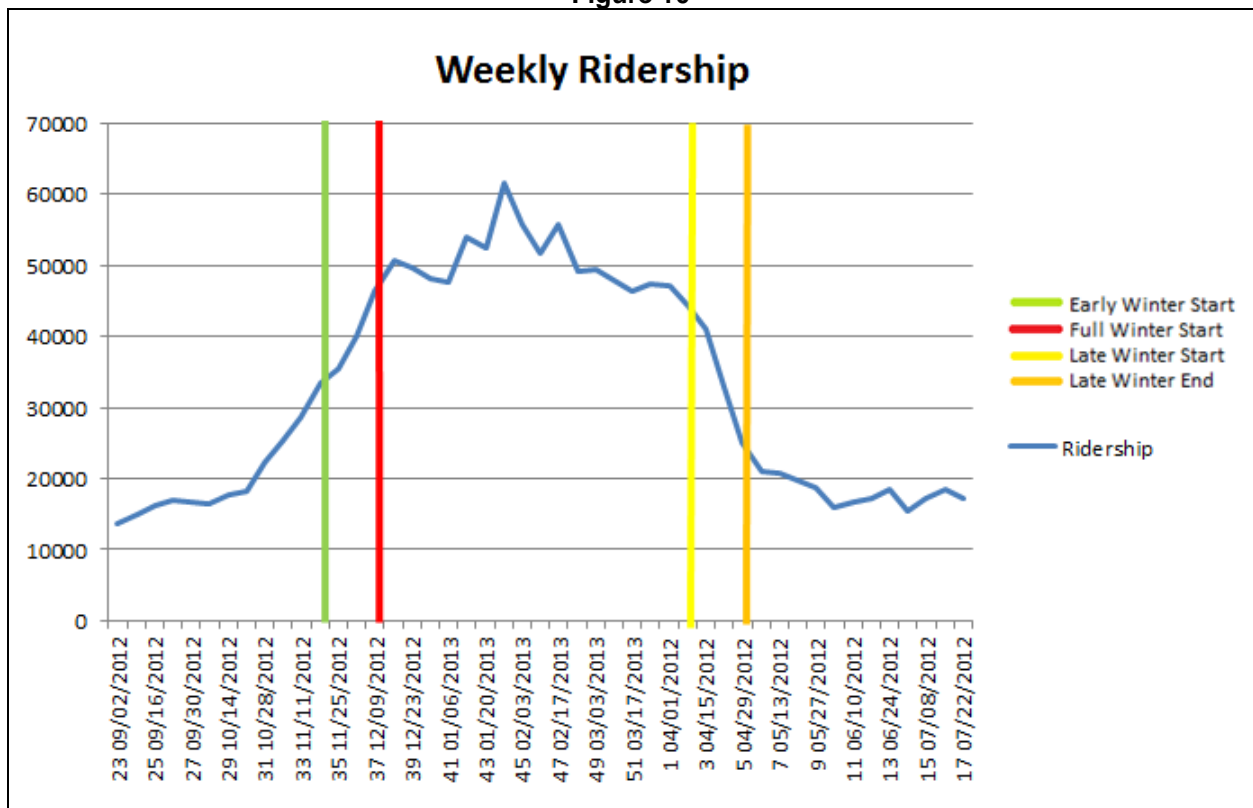
Extend Winter Service to April and November

The current winter schedule ends after Easter. Then for the next few weeks of April there is a reduced schedule until the Spring base schedule is introduced. Based on ridership analysis, Operational feedback and customer comments, the service demand in April still warrants the higher levels of service. A contributing factor to this high demand is the World Ski and Snowboard Festival which is held annually in mid to late April.

The graph below summarizes the weekly ridership in Whistler in 2012-13. The summary of the service changes dates are as follows:

- The green line represents the start of the Early Winter service
- The red line represents the start of full Winter service
- The yellow line represents the end of full Winter service and the start of Late Winter service
- The orange line represents the end of Late Winter service and the start of Spring service

Figure 10



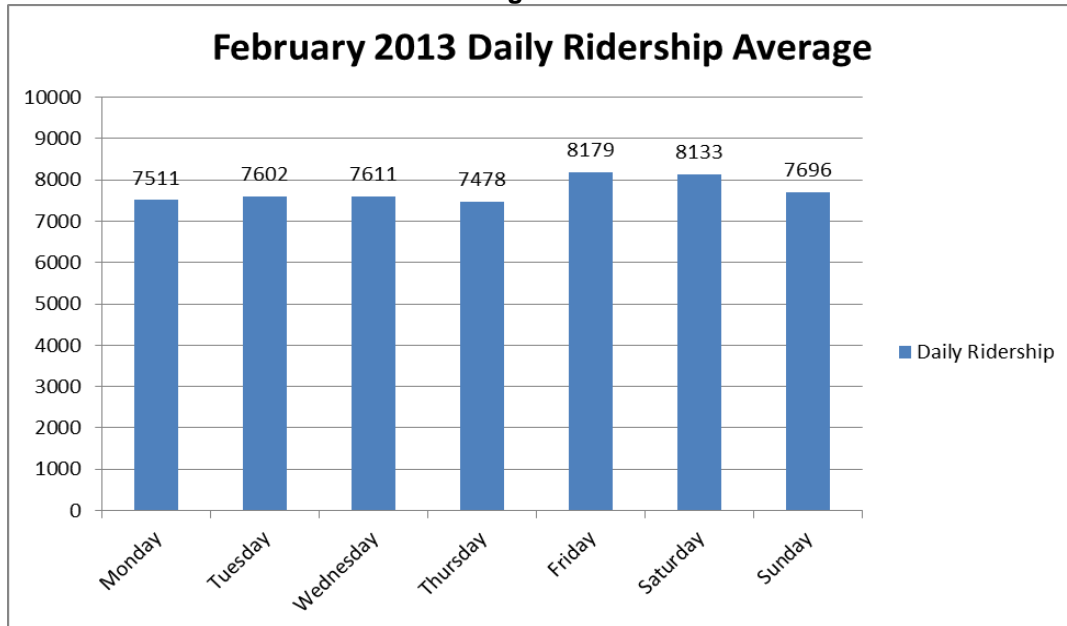
As can be seen in the above graph, there may be opportunities to extend the winter service levels into April and November.

Introduce weekend service seven days a week

The current winter schedule design has improved service on Friday, Saturday and Sundays to accommodate the spike in demand from visitors to the resort. The additional service on weekends significantly reduces ridership demand issues, as a result, most of the ridership issues occur on weekdays. Extending the weekend service seven days a week would alleviate the weekday service issues in addition to improving the schedule legibility.

Based on the following graph, it is apparent that ridership levels on Monday-Thursday are very close to those on Friday-Sunday. An alternative solution would be to schedule auxiliary resources during the PM peak service that could be deployed based on Operator analysis.

Figure 11



*Does not include free Village Shuttles

Introduce earlier #7 Staff Housing service

Based on last winter's schedule, the #7 Staff Housing did not operate early enough to meet the needs of all the Whistler/Blackcomb Mountain staff start times. For winter 2013/14, it is recommend that BC Transit and the RMOW attempt to accommodate the Whistler/Blackcomb staff start times with the transit schedule

Introduce earlier #1 Valley Connector Service

In coordination with the earlier #7 Staff Housing service, introduce earlier #1 Valley Connector service to provide transfer opportunities.

5.7 Accessibility, Infrastructure and Wayfinding Improvements

Install More Bus Shelters

One of the most common requests from existing customers was to install more bus shelters. Bus shelters encourage transit ridership by providing protection from the weather and improving safety. Installation of additional bus shelters could be accomplished with funding support from the Ministry of Transportation and BC Transit. Priority candidate bus stops for glass-enclosed shelters include (based on ridership):

- Cheakamus Lake Road at Highway 99 northbound
- Legacy Way at Mt Fee Road (in front of the HI Whistler)

Improve Accessibility and Wayfinding at Gondola Transit Exchange

One of the disadvantages of the current transit exchange location is that it is on the edge of the Village, and can therefore be difficult to find for new customers. Additionally, once a customer (both able bodied and passengers with mobility issues) exits a bus at Gondola Transit Exchange, it is not always intuitive as to where they need to go access the Village.

Since the transit exchange is built next to a dyke that protects the Village from debris flow, it is not possible to increase the visible access between the Exchange and the Village. Therefore, as an alternative, improved signage and wayfinding is recommended to assist new customers to quickly find their destination. Another option would be to install an arch over the sidewalk that from the Exchange perspective says “Whistler Village” and from the Village perspective says “Transit Exchange”. See below for amateur rendering of a possible arch.

Photo 1: Whistler Transit Exchange



The curbside could also be upgraded to improve pedestrian activities and help delineate where the bus stops are located.

5.8 Community Transit Supportive Initiatives

Given the projected visitor growth in Whistler that is expected over the next several years, the RMOW should continue to invest in programs to encourage the use of preferred transportation choices like transit, walking and biking. In a future with rising oil prices and increasing environmental concerns, it is vital that investments be made to attract residents and guests to these alternatives. Some strategies include:

- Introduce employee transit incentive programs
- Introduce a “Transit Day” where city and elected officials ride the buses and greet the customers
- Consider different fare options to encourage ridership such as the Family Pass Program

Additionally, understanding the interdependencies between land use patterns and transit productivity is critically important to a successful transit system. The combined location decisions and land use planning choices made by individuals, institutions, developers and municipalities directly influence the level of transit mobility they can expect. Therefore, it is vital that all land-use decisions made in the RMOW continue to consider the impacts it will have to the transit system in the short and long term. BC Transit is committed to working with the RMOW, as well as developers and the general public to continue to support the preferred transportation options.

BC Transit currently has a development referral program with other municipalities that encourages discussion regarding the impact any proposed development might have on transit. Even though Whistler is transitioning from a growing resort community to a developed, mature resort community, it is recommended that the RMOW participate more in this process to ensure that future developments are aligned with the transit goals. Appendix A is an example of a Development Referral Response in Squamish. Referrals can be sent to developmentreferrals@bctransit.com.

6. Conclusions

6.1 Timeline

The next step in this process is to present the proposed service change recommendations to the public for their comment.

Date*	Deliverable	Owner/Lead
April 2013	Working information presented to TMAC	BC Transit, RMOW
May 2013	Draft Whistler Transit System 2013 Winter Monitoring Program results presented to TMAC for review	BC Transit & RMOW
July 2013	Final Whistler Transit System 2013 Winter Monitoring Program results presented to TMAC for review and recommendations for Winter 2013-14 service changes	BC Transit & RMOW
August 6, 2013	2013-14 Winter Service Workshop – stakeholders meet to discuss service design for Winter 2013-14	BC Transit, RMOW & Whistler Transit
August 20, 2013	Present Whistler Transit System 2013 Winter Monitoring Program Report recommendations to RMOW Council	BC Transit and RMOW
September 25, 2013	2013-14 Winter schedule completion and possible customer sneak peek	BC Transit, RMOW & Whistler Transit
December 12, 2013	Full Winter service starts	BC Transit, RMOW & Whistler Transit
Winter 2013-14	Monitor service changes	BC Transit, RMOW & Whistler Transit

*Please note that this timeline is subject to change

6.2 Monitoring Plan

BC Transit and the Operating Company will continue to collect ridership and other data that requires on-going collection, and BC Transit will perform analysis of key performance indicators such as ridership, on-time performance, vehicle maintenance quality, safety and customer satisfaction.

6.3 Non-Winter Service Recommendations

The focus of this report has been on improving and optimizing the winter service. It is recommended that a similar study be undertaken for the Spring/Summer/Fall service to explore opportunities to improve and optimize the service with the similar goal of increasing ridership and maintaining customer satisfaction sustainability.

6.4 Recommendations

It is recommended that the Resort Municipality of Whistler:

- **Receive this report as information, provide comment and direct staff to implement service changes outlined in the report.**