

TRANSIT *future*

▶ **actionplan**



CENTRAL FRASER VALLEY TRANSIT SYSTEM | December 2018

**City of Abbotsford
District of Mission
Fraser Valley
Regional District**



Acknowledgements

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The City of Abbotsford

The District of Mission

The Fraser Valley Regional District

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Executive Summary

Transit has tremendous potential to contribute to strong, more sustainable communities. The need to realize this potential in the Central Fraser Valley is increasingly important because of factors including climate change, population growth, housing affordability, increasing traffic congestion and an aging demographic.

The 2019 Central Fraser Valley Transit Future Action Plan provides an update to the Central Fraser Valley Transit Future Plan, which was completed in 2013. Since the previous Operations and Maintenance Facility has been at maximum capacity for the last decade, there have been limited changes to the transit system since the completion of the Transit Future Plan, and annual ridership has remained relatively consistent. However, with the ongoing development in Mission and Abbotsford and with the imminent completion of the new Operations and Maintenance Facility, this plan revisited the priorities within the previous Transit Future Plan to reflect recent changes to these communities.

The development of the Central Fraser Valley Transit Future Action Plan was highly collaborative and included BC Transit, the District of Mission, the City of Abbotsford, the Fraser Valley Regional District, transit system staff, the public, and representatives from various stakeholder organizations.

The transit service and infrastructure priorities identified within this Transit Future Action Plan are based on a review of existing transit services, changing land uses and land use plans, and feedback from key stakeholders and the public. These priorities have been separated by local jurisdiction and by timeline, with short (1-3 years), medium (3-5 years), and the longer term (5+ years) options.

The tables below summarize the short term service and infrastructure priorities for consideration over the next five years within the Central Fraser Valley Region. Other ongoing priorities include improvements to service reliability in the Conventional Transit System and continued investment in the Central Fraser Valley Custom Transit System.

Table 1 – Short-Term Service Implementation Priorities

Short-Term Service Implementation Priorities (1–3 years)				
Region	Service Priorities		Estimated Annual Service Hours	Expansion Buses
District of Mission	1	Sunday service introduction	800	0
	2	Statutory holiday service	500	0
	3	Evening service on routes 33 Cedar Valley and 34 East Side	900	0
City of Abbotsford	1	Implement Phase 1 changes	0	0
	2	Implement Phase 2 changes	10,000	4
	3	Begin Implementation of Phase 3	10,000	5
TOTAL			22,200	9

Table 2 – Medium-Term Service Implementation Priorities

Medium-Term Service Implementation Priorities (3–5 years)				
Region	Service Priorities		Estimated Annual Service Hours	Expansion Buses
District of Mission	1	Implement Phase 1 of the Transit Future Plan Network Structure	5,000	2
	2	Extend service to the Silver Creek Industrial Park	600	1
	3	Improved service on the route 35 Hatzic	900	0
	4	Increase service between Mission and Metro Vancouver	TBD	TBD
City of Abbotsford	1	Continue implementation of Phase 3	10,000	5
	2	Continue implementation of Phase 3	10,000	5
	3	Complete implementation of Phase 3*	10,000	5
TOTAL			36,500	18

* This is a recommended expansion, and has not yet been approved by City of Abbotsford Council tentatively through the 3-year Transit Improvement Program.

Table 3 – Infrastructure Service Implementation Priorities

Infrastructure Service Implementation Priorities		
Region	Service Priorities	Expansion Resources
District of Mission	1 Mission Transit Exchange Review	TBD
City of Abbotsford	1 Abbotsford Transit Exchange Design Study	TBD
	2 Abbotsford Rapid Transit Study	TBD
	3 Implement Short-Term Exchange Improvements	TBD
	4 Implement Short-Term Rapid Transit Improvements	TBD

Introduction

Transit has tremendous potential to contribute to strong, more sustainable communities. The need to realize this potential in the Central Fraser Valley is increasingly important because of factors such as climate change, population growth, increasing traffic congestion, housing affordability and an aging demographic.

In 2013, the Abbotsford–Mission Transit Future Plan was developed with the partners in the region to provide a vision of the transit network over the next 25 years. This included establishing the vision and goals of the transit system, identifying the future transit network, and outlining the detailed implementation priorities for service, infrastructure and investments needed to achieve the goals.

Since the adoption of the plan, some of the short-term priorities have now been accomplished:

- Introduction in 2015 of the 66 Fraser Valley Express connecting Chilliwack, Abbotsford and Langley
- Service optimization changes in 2015 to improve on-time performance and schedule reliability
- Addition of Sunday and Holiday service and improvement of Saturday service on the 66 Fraser Valley Express in 2018

Other changes since the adoption of the plan include updates to the Abbotsford and Mission Official Community Plans, and the introduction of TransLink service between Mission, Maple Ridge and Coquitlam.

2013 Abbotsford–Mission Transit Future Plan Vision and Goals:

Vision:

“The Abbotsford–Mission Transit System provides increasingly viable and effective travel options for many who live, work, and play in Abbotsford and Mission. It is enhanced for existing customers and is attractive and convenient for new customers. The system’s resources and network are aligned with the future travel markets that have developed due to population and employment growth. More and more people choose transit to meet their transportation needs.”

Goals:

- Transit supports and enhances economic development by integrating with land use
- Transit is an attractive transportation choice by being reliable, safe, convenient, accessible and integrated with other transportation modes
- Transit is efficient and cost effective
- Excellent customer service and communication improve the image of transit
- Service contributes to environmental sustainability

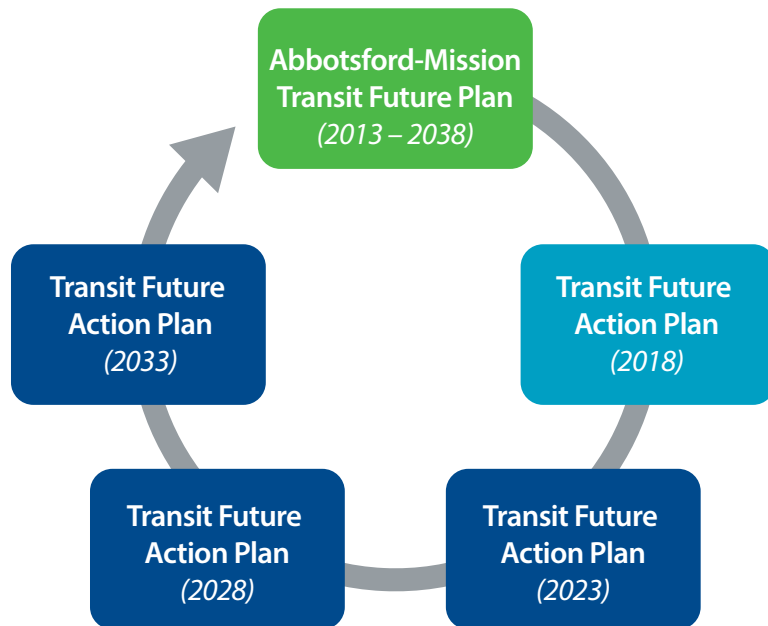


Transit Action Plan Context

What is a Transit Future Action Plan?

Transit Future Plans are long-term planning documents that outline the transit goals and priorities over a 25-year timeline. Transit Future Action Plans are conducted every five years following a Transit Future Plan to refine those transit priorities and to guide transit decision making over the next five years within a community (Figure 1).

Figure 1 – Transit Future Planning Process



Why do we Need a Transit Future Action Plan?

The 2013 Abbotsford–Mission Transit Future Plan envisioned the Abbotsford–Mission’s transit network 25 years into the future and described what services, infrastructure, and investments were needed to get there.

With some of the projects identified in the 2013 Transit Future Plan now complete, it is important that the project priorities be updated to continue guiding decision-making over the next five years and beyond.

The purpose of this Action Plan is to update investment targets and transit service and infrastructure recommendations for the Central Fraser Valley Transit System.

What are the Key Transit Future Action Plan Objectives?

The primary objectives of this Action Plan are:

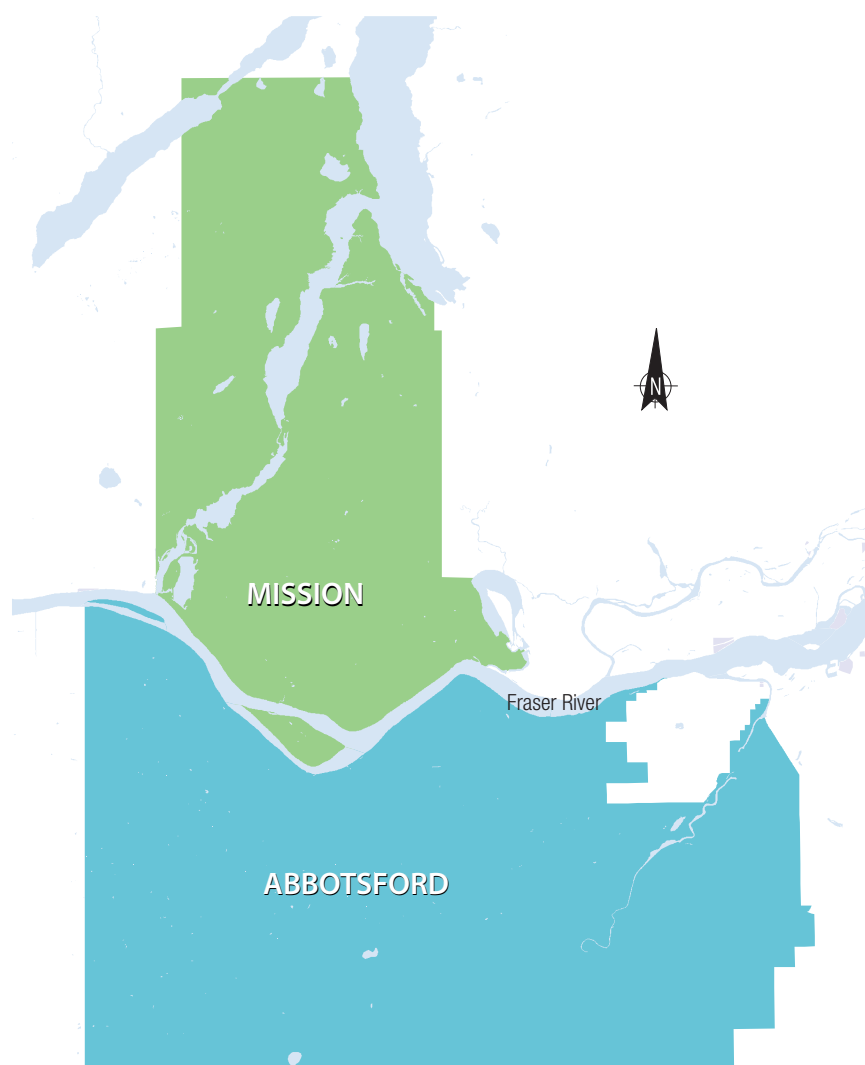
- Outline short and longer-term priorities for transit in the Fraser Valley that support the Abbotsford and Mission Official Community Plans, Abbotsford’s Transportation Master Plan, Neighbourhood Plans, and other local planning initiatives. This Plan will focus on the short term (the next 1-5 years) to assist in the development of local capital and operating budgets.
- Identify opportunities to continue to support key initiatives in the BC Transit Strategic Plan by:
 - » Increasing integration with other types of sustainable travel;
 - » Influencing land use and development patterns; and
 - » Identifying and establishing priority corridors for transit;
- Update the transit service, fleet and facility changes required to transition existing transit systems to the proposed priorities and vision, including identifying improvements that provide an immediate, positive impact, and providing recommendations on priorities and phasing for both service and infrastructure.
- Empower local government partners, stakeholders, transit system front-line staff and customers with information to continue to support and promote public transit as a viable transportation choice in the Central Fraser Valley region.

Land Use and Road Network Update

Community Development

The Transit Future Action Plan was created for the Central Fraser Valley region which includes the District of Mission and the City of Abbotsford.

Figure 2 – Central Fraser Valley Community Context



Along with existing land uses and transit system performance considerations, the Transit Future Action Plan process examined the short and medium-range community development directions in the Central Fraser Valley. This plan also reviewed existing Official Community Plans and Transportation Plans to incorporate any upcoming road network or transportation changes.

This local development information was used to develop the service proposals summarized in this plan to meet current and future customer demand. It was also used to improve the likelihood that service proposals evolve as the community evolves. Having the full picture of the proposed growth patterns is important to reduce the chance that service will need to be restructured in the future.

Mission

The District of Mission population grew by 6.6 per cent between the 2011 and 2016 Censuses, which is higher than the provincial average of 5.6 per cent.

Further, the District of Mission adopted a revised Official Community Plan (OCP) in 2017, which specifies nine sustainable land use policies including:

3.2.2 Support higher densities in the downtown, waterfront, and within established neighbourhoods to support walkability and make the expansion of transit economically feasible;

3.2.8 Work on improving the transit system, and encourage more dense, transit-oriented development near transit stops.

The main areas for future development include new urban neighbourhoods in the waterfront and commuter rail areas, and Cedar Valley, Hatzic, and the Silverdale Comprehensive Planning Area to the west of the city. BC Transit is available to provide feedback to the District of Mission from a transit perspective as these planning processes unfold.

Abbotsford

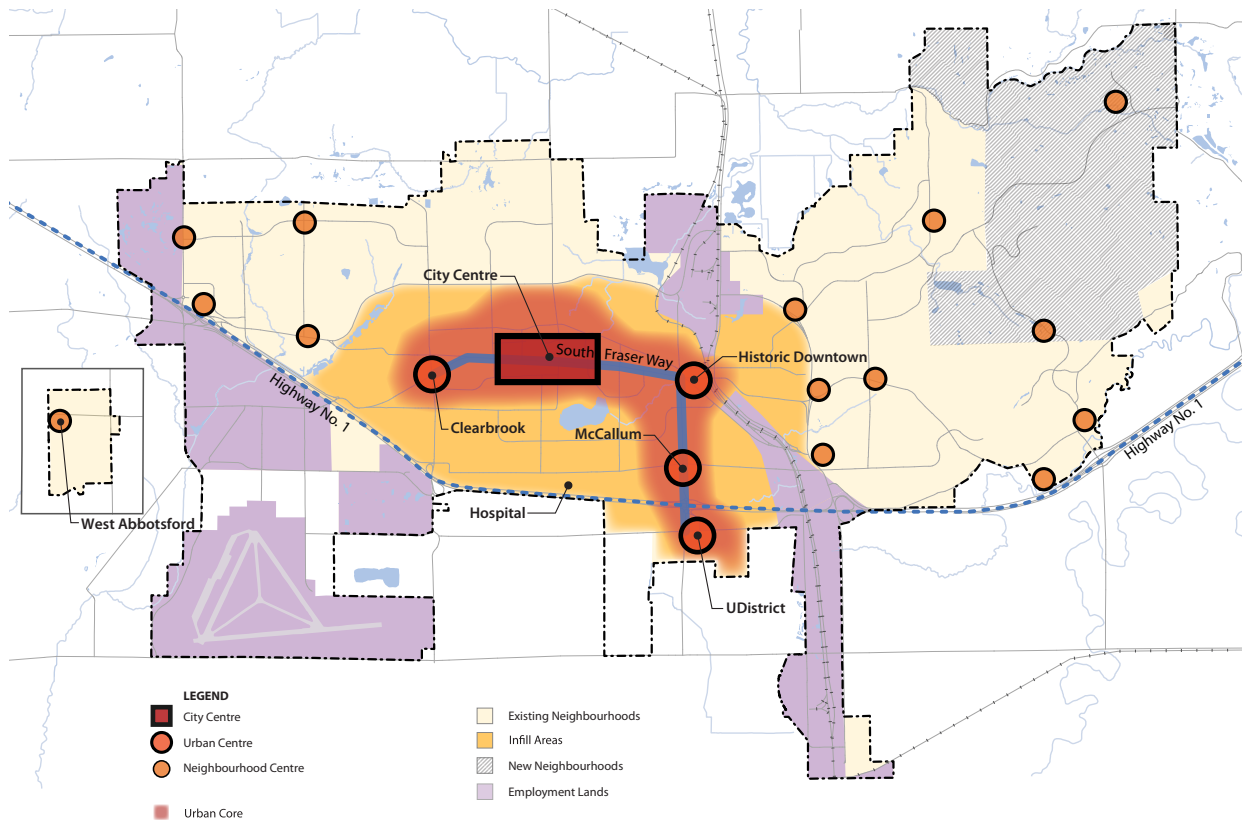
The City of Abbotsford population grew by 5.9 per cent between the 2011 and 2016 Censuses, which is marginally higher than the provincial average of 5.6 per cent.

Further, Abbotsford adopted a revised Official Community Plan (OCP) in 2016, which identified updated land use and growth management policies to achieve Abbotsford's vision and goals. The OCP identifies the Urban Core, the City Centre, and four key mixed-use Urban Centres within Abbotsford. These areas have been identified as focal points for transit service improvements to help achieve Abbotsford's vision and goals for future development. Further, the revised OCP set a combined sustainable mode share target⁵ of 25%, which has significant implications for the future of transit within the Abbotsford area.

Additionally, Abbotsford completed a revised Transportation and Transit Master Plan in 2018. This plan was a collaborative process with BC Transit, and includes all of the transit service and infrastructure priorities also summarized in this Transit Future Action Plan for Abbotsford.

¹ This includes transit, walking, and cycling.

Figure 3 – Urban Structure Map (2016 Abbotsford Official Community Plan)



Transit Today

The Central Fraser Valley Transit Future Plan identified five layers of service that are designed to efficiently and effectively move people. These layers include the Rapid Transit Network (RTN), the Frequent Transit Network (FTN), the Local Transit Network (LTN), Targeted Services, and Interregional and Regional Transit.

Rapid Transit Network (RTN)

RTN service is designed to move high volumes of passengers between major regional destinations along key transportation corridors. The level of investment in RTN infrastructure, technology, vehicles and service levels combine to significantly increase system performance. To improve travel time and reliability, RTN services utilize an exclusive or semi-exclusive right-of-way with limited stop service.

Frequent Transit Network (FTN)

The FTN provides key corridors with a convenient, reliable and frequent transit service. The FTN will carry a large share of the transit system's total ridership and for this reason justifies capital investments in transit priority, a high level of transit stop amenities and corridor branding.

Local Transit Network (LTN)

The LTN is designed to connect neighborhoods within Transit Coverage Areas to local destinations and to the RTN and FTN.

Targeted Services

Targeted Services are a collection of transit services which include handyDART, express service, and Dial-a-Ride or para-transit services.

Inter-Regional and Regional Transit

Inter-Regional services are designed to connect communities across Regional District boundaries. Regional services are designed to connect communities beyond a designated Transit Service Area, but within a Regional District.

Conventional Transit

The Central Fraser Valley Conventional Transit System is served by 24 different transit routes within the Mission and Abbotsford areas.

Figure 4 – District of Mission Conventional Transit System

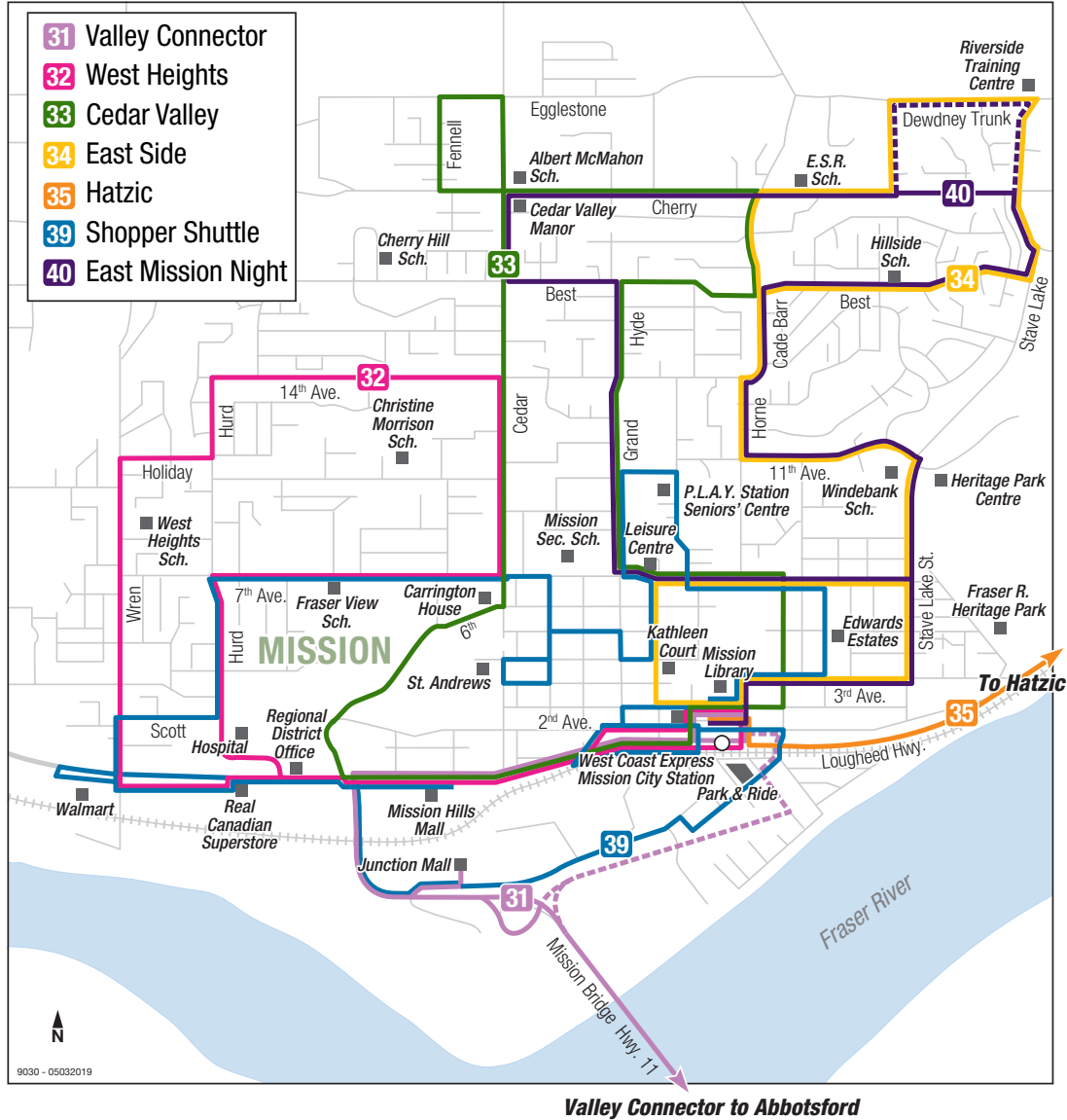
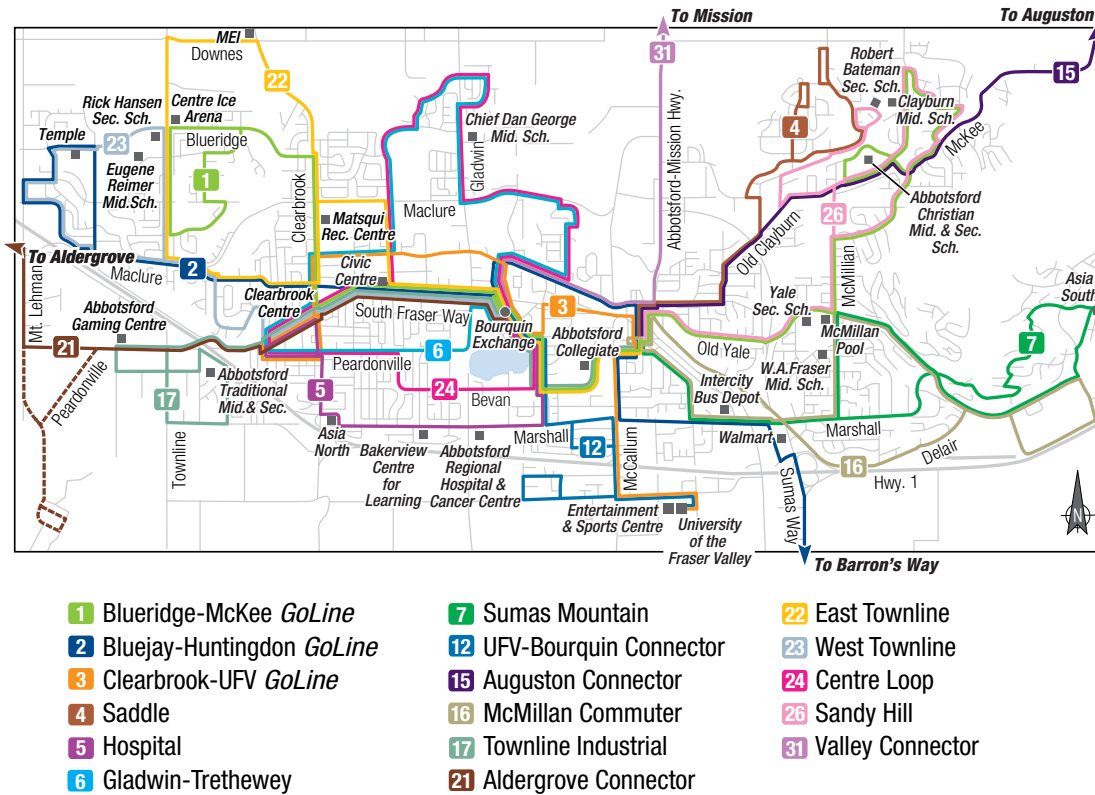


Figure 5 – City of Abbotsford Conventional Transit System



Conventional System Performance

The Central Fraser Valley Conventional Transit System operated over 109,000 annual service hours and carried 2,547,000 riders in 2017-18 (Figure 6).

Figure 7 shows the daily weekday ridership and the rides per revenue hour for each route within the transit system. The majority of total daily weekday ridership occurs on Routes 1, 2, and 3, which tend to operate within the higher density areas within Abbotsford. The highest performing routes in terms of rides per revenue hour are Routes 3, 12, and 24.

Figure 6 – Central Fraser Valley Conventional Transit Ridership and Service Hours

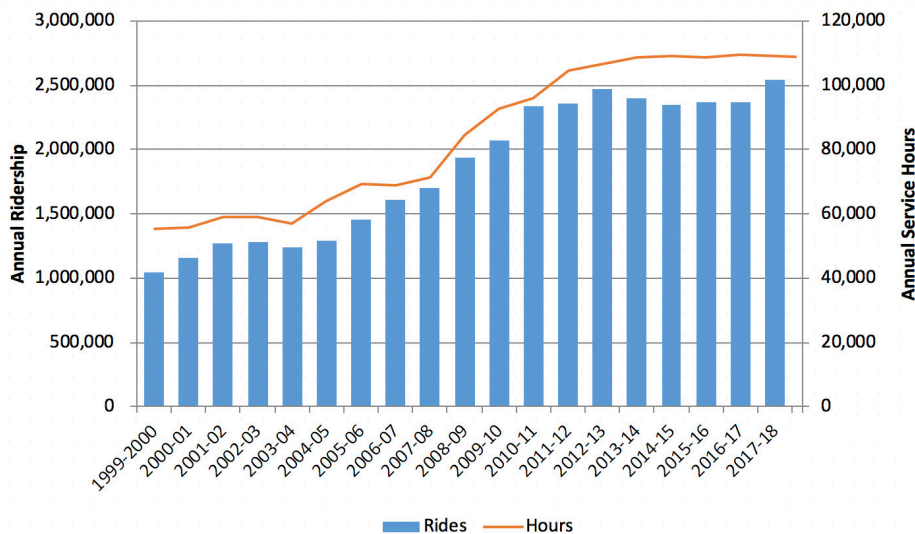
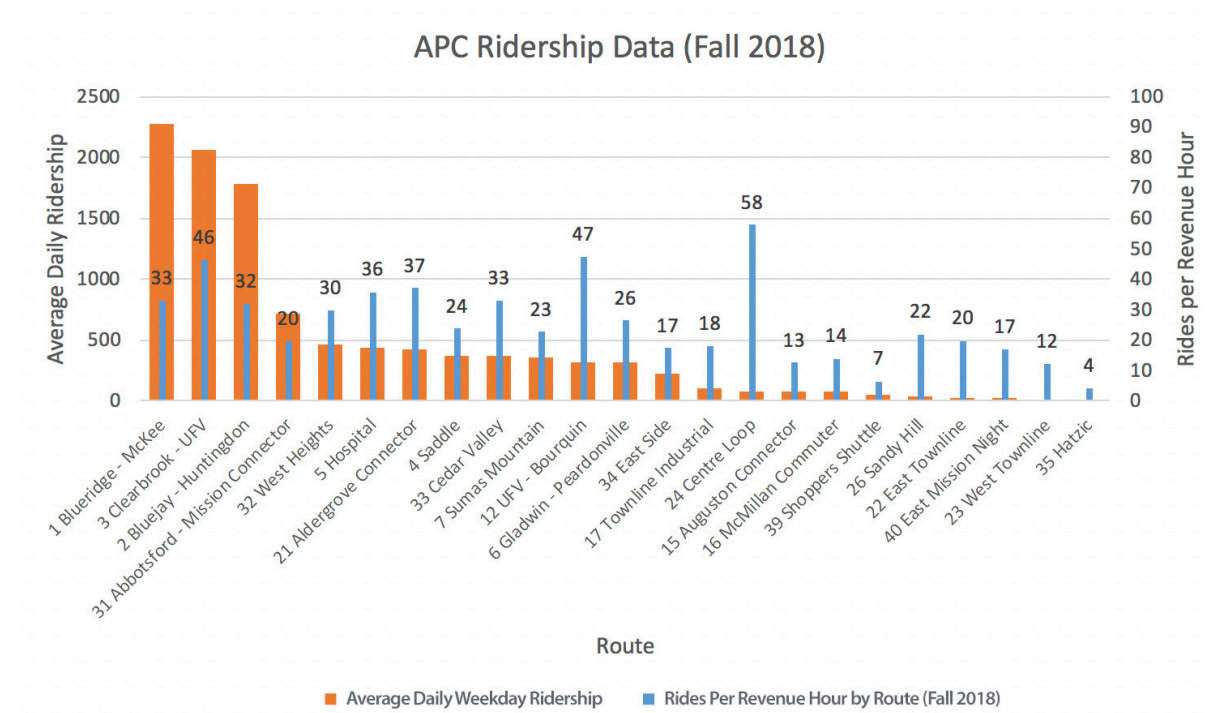


Figure 7 – Average daily weekday ridership and rides per revenue hour by route (Fall 2018)



Custom Transit

Custom Transit is a door-to-door, demand responsive or specialized service for customers with physical or cognitive impairments who cannot independently use the Conventional Transit system some or all of the time. There are three different types of custom transit services available to registered Custom Transit clients:

- **HandyDART:** Providing the majority of Custom Transit service, handyDART is a door-to-door, shared ride service that uses smaller vehicles. A client can arrange a time for pick-up and the Operator will arrive at their home, help them board the vehicle, and safely get them to the door of the final destination. There are two types of handyDART service including subscription trips and one-time reservation trips:
 - » Subscription trips are scheduled once a week or more at the same location and time for an extended period.
 - » Reservation trips are one-time or occasional trips, and are scheduled on a first-to-call basis.
- **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 operator 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.
- **Taxi Saver:** For times when the handyDART system is unavailable, Taxi Saver vouchers provide registered handyDART clients with subsidized taxi service, giving them the flexibility to coordinate their own trips on their own time.

Custom System Performance

The Central Fraser Valley Custom Transit System operated 27,000 annual service hours and provided a total of 100,000 rides in 2017/18 through the handyDART, taxi supplement, and taxi saver services.

Future Transit

Mode Share and Annual Service Hour Expansion Targets

One goal of the Transit Future Action Plan was to revisit the annual investment targets originally established within the 2013 Central Fraser Valley Transit Future Plan.

The District of Mission approved an annual investment target of 2,100 service hours, and the City of Abbotsford approved 10,000 hours of expansion each year for the next three years.

If this level of investment were continued every year, the District of Mission and the City of Abbotsford would be on track for a transit mode share of 4% and 7% respectively by 2038 (Table 4).

Table 4 – Central Fraser Valley Targets (by 2038)

Community	Mode Share Target *	Annual Service Hour Expansion **
Mission	4%	2,100
Abbotsford	7%	10,000

* The mode share target refers to the percentage of all trips taken via transit in the year 2038.

** The annual service hour expansion is the estimated number of service hours that must be added each year to achieve the targeted transit mode share.

Public Engagement

Public Engagement was conducted separately for Abbotsford and Mission. The engagement for Abbotsford tied in to the City of Abbotsford's planned Transportation and Transit Master Plan engagement, while the engagement for Mission was conducted later as a stand-alone event.

Abbotsford Public Engagement (February 2018)

Two evening open house events were held in Abbotsford, one at Abbotsford Centre on February 6, and the second in the Matsqui Centennial Auditorium at City Hall. While most attendees were focused on other aspects of the Transportation Master Plan (walking, cycling, and street network), those who reviewed the proposed future transit plans expressed the following priorities for transit in Abbotsford over the next five years:

- Improved reliability of service
- Increased frequency of service
- Increased speed and directness of trips
- Improved connections with other routes
- Mitigating over-capacity issues at the Bourquin Exchange

Additional information on this public engagement process can be found within the Abbotsford Transportation and Transit Master Plan.

Mission Public Engagement (March 2018)

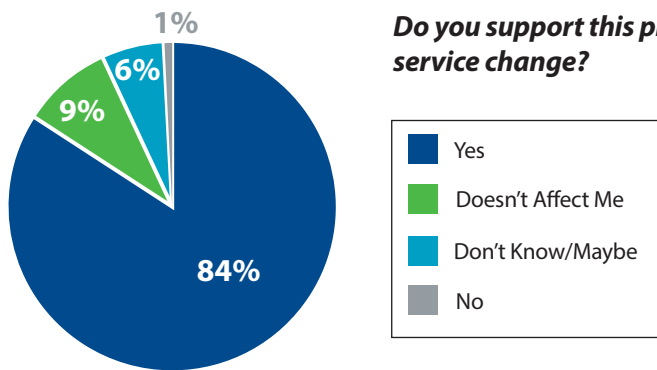
Proposed Short-Term Service Changes

Three short-term service change proposals previously identified in BC Transit’s 2015 Service Improvement Review were presented to the public for feedback to confirm local support for them. Engagement methods comprised an online survey, open from February 20 to March 13, and two public Open Houses, held on March 6 at the Mission Library and March 7 at the West Coast Express Station.

There were 162 respondents to the online survey, and 95 attendees in total at the two Open Houses. Feedback results to the three proposed short-term service changes are shown below.

Proposed Change #1:

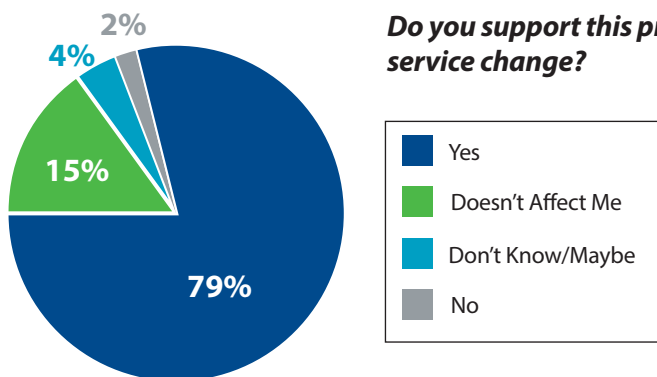
Introduce Sunday Service on those routes that currently don’t have this service



Additional comments about this service change included comments of support for this service, as well as a need for service that is early enough.

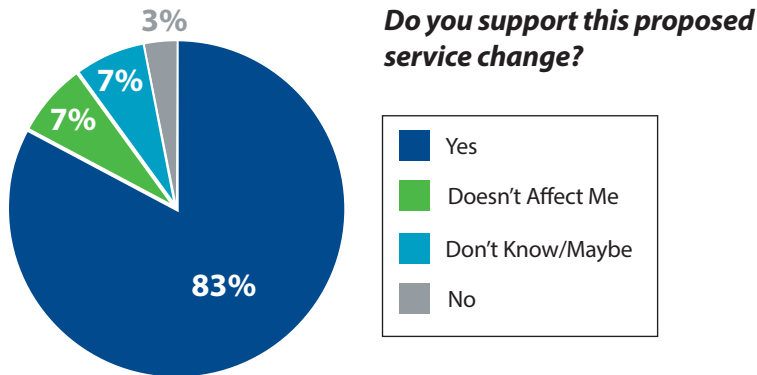
Proposed Change #2:

Introduce evening service on 33 Cedar Valley and 34 East Side



Additional comments about this service change included comments of support for this service, as well as a need for service that is early enough.

Proposed Change #3:
Introduce statutory holiday service on all routes



Additional comments were supportive of the introduction of holiday service, many respondents identified the desire for this service.

Further engagement with the Mission Transit Sub Committee was conducted on February 25, 2019. The priorities identified through the March 2018 engagement were shared with the group, and additional concerns and considerations were gathered through discussion.

Future Transit Service Expansion

The open houses and the online survey provided respondents the opportunity to identify priorities for transit improvements in Mission over the next five years. Completion of a new Operations and Maintenance Facility in 2020 will create capacity for more buses and additional service.

Open-ended Comments and Feedback

The list below identifies the key future transit service expansion priorities for Mission in order of descending priority:

- More frequent service
- Holiday service
- Extended evening service
- Sunday service on all routes
- Improved connections between Mission and Maple Ridge (TransLink)
- Improved service reliability
- Better connections to the West Coast Express
- Increased service on the 35 Hatzic
- Better connections between East and West Mission
- Improved interregional service with the loss of Greyhound service

Service Change Proposals

The following sections outline proposed service improvements to the Central Fraser Valley Transit System. This section discusses the general approach to transit service improvements and priorities and identifies improvements relevant for the entire system (E.g. Service reliability and Custom Transit). Regionally specific proposals have been separated into the following sections:

- City of Abbotsford Priorities
- District of Mission Priorities

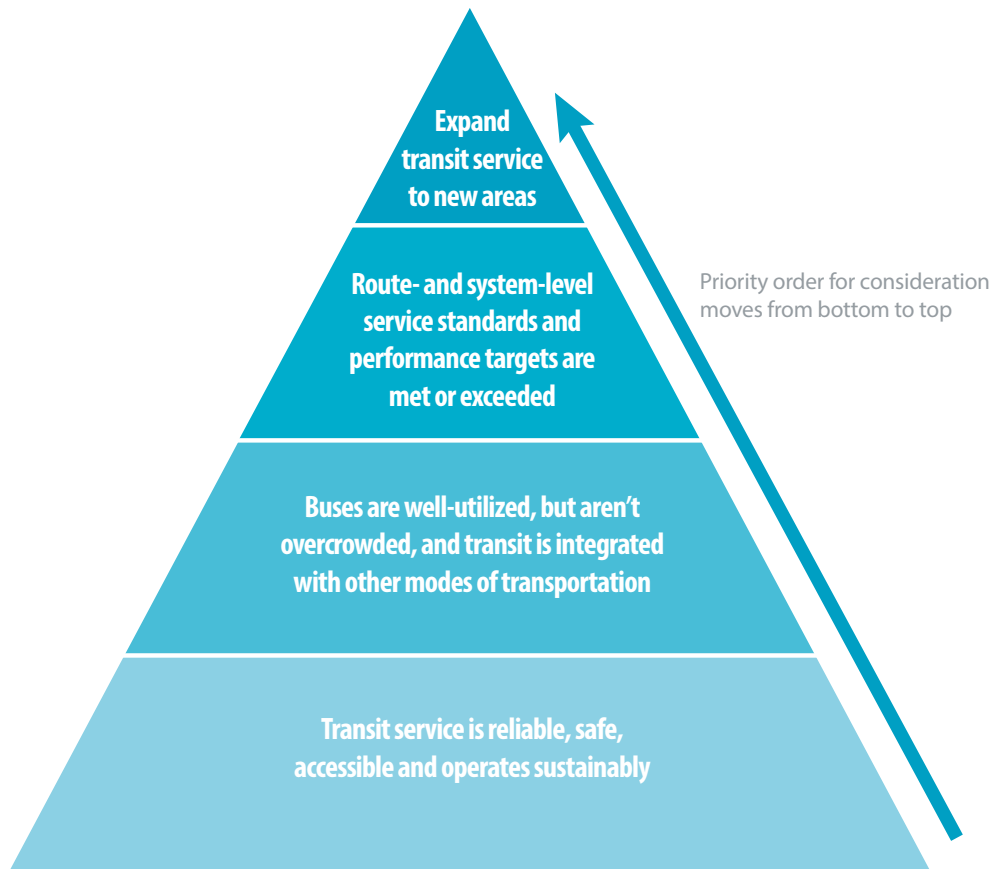
Approach to Transit Service Priorities

Annual Performance Summary Process

Every year, BC Transit conducts an Annual Performance Summary (APS) in each of its communities. The Annual Performance Summary provides a snapshot of transit investment and performance in comparison to previous years, to budget and to peer communities. This information can be compared to the performance guidelines included within the Central Fraser Valley Transit Future Plan to support local decisions on service priorities and potential future investments into service and capital initiatives.

However, before increasing transit service or coverage, and in advance of implementing the larger transit service and infrastructure recommendations within the Transit Future Action Plan, it is important to ensure that the existing transit system is performing effectively. Only when the bottom level is operating at a satisfactory rate should the next level be considered as an area for resource investment.

Figure 8 – Approach to Transit Service Improvement Priorities



Continuous Service Optimization

Service optimization includes assessing the existing system and funding 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.

System-Wide Priorities

Service Reliability

As with most transit systems of the Central Fraser Valley's size, there are ongoing on-time performance (service reliability) issues in the transit system that have impacts on both existing and potential customers as well as the transit system's front line staff (transit operators):

- To customers, unreliable service affects their perception of service quality the attractiveness of transit compared to other mode choices, the perception of value for money and their willingness to use the service or recommend it to others.
- To the system's transit operators, the impact of poor on-time performance usually manifests itself in increased customer confrontation, lack of time to provide good customer service, greater risk of speeding and higher staff turnover due to poor morale.
- To local transit agencies this translates to loss of ridership and revenues resulting in higher costs to provide additional service to compensate for unreliable service operations.

In the Central Fraser Valley Transit System, the most common causes for service unreliability relate to:

- Growth in traffic volumes and resultant congestion – As the communities in the Central Fraser Valley continue to grow, the scheduled times allotted to each trip have not kept pace with actual running times and this lack of adequate time is further exacerbated by maintenance activities and road construction.
- Passenger loads – the heavily used core transit services are regularly delayed to accommodate the high number of boardings and alightings. This can also include routes that serve a notable proportion of riders who are seniors with mobility issues that often require more time to board.

Due to the size of the Central Fraser Valley Transit System and the area that it serves, it relies on transfers for many riders to complete their trips. Therefore, different trips converge on transit exchanges at approximately the same time in order to facilitate transfers before dispersing. Therefore, when a specific trip on a specific route runs behind schedule and misses a connection at the exchange, or causes other routes to delay their trips in order to meet it, it potentially has a domino effect on the rest of the service.

The best strategy to deal with on-time performance issues is to ensure that trip running times reflect actual operating conditions (schedule times reflect expected delays) and that sufficient recovery time is provided as a contingency buffer at the end of trips to correct to the scheduled next departure in the event of an unforeseen delay.

Additional strategies include:

- Regular system monitoring to enforce balanced and consistent intervals between trips to avoid poor spacing of departing buses; this in turn ensures that ridership is more evenly spaced between trips which reduces overcrowding and ensures a more positive customer experience.
- Using control strategies such as traffic signal priority, transit-only lanes or queue

jump lanes at congested intersections to assist in reducing the variability in running times and manage the spacing of service.

To address service reliability there are three options:

1. Regularly invest additional resources into the transit system to ensure that the schedule reliability is maintained
2. Reduce the total number of trips on certain routes in order to invest the time saved into additional running time resources for each trip
3. Reduce the routing distance of certain routes to reduce the total running time.

If and when a community is interested in transit expansion, it is important to first confirm that the service is operating reliably. If it is not, then given the importance of on-time performance for the customers, transit operators and the overall system, then some type of corrective action should take place on the on-time performance before any other additional expansion or service changes take place

It is recommended that up to one per cent of additional resources be invested annually, so any service reliability issues can be addressed as they come up. If analysis through the Annual Performance Summary process identify that service reliability is not an issue, those resources can then be reallocated to other expansion priorities. This approach allows us to be responsive in a timely fashion to operational and service reliability issues that emerge over time due to ongoing development and congestion growth etc.

Custom Transit

Custom Transit within the Central Fraser Valley Transit System includes handyDART, Taxi Saver, and Taxi Supplement. BC Transit recently conducted a review of the Central Fraser Valley Custom Transit System and identified a number of recommendations including the following:

- Expand custom service to address unmet demand through additional Taxi Supplement funding
- Expand custom service span to better align with conventional service span through additional Taxi Supplement funding
- Implement a travel training program

Further details can be found within the 2017/18 Central Fraser Valley Custom Transit Services Review.

Interregional Transit

With the exception of the routes 21 Aldergrove/Abbotsford and 31 Abbotsford/Mission, interregional service in the Central Fraser Valley is provided either by the Fraser Valley Regional District (FVRD)⁵ or TransLink⁶.

Since the Fraser Valley Regional District's services were incorporated into the Chilliwack Transit Future Plan, interregional service improvement priorities associated with the route 66 FVX can be found in the Chilliwack Transit Future Action Plan.

⁵ The FVRD is responsible for providing the route 66 FVX service connecting Chilliwack, Abbotsford, and Langley, and is also conducting feasibility study for service connecting Agassiz to Mission along Highway 7

⁶ TransLink currently provides the West Coast Express and route 701, connecting Mission to Metro Vancouver

District of Mission

The following section outlines proposals and costs for the consideration of the District of Mission. All cost and revenue impacts presented are based on annual figures.

Ongoing Service Proposals

Proposal 1: Continue to Maintain Service Reliability

Resources are required regularly to address the service reliability challenges caused by increasing traffic congestion and ridership growth. An expansion of up to one per cent of existing service hours is recommended to address these issues on an annual basis.

The District of Mission currently provides approximately 22,000 annual service hours for conventional transit, which works out to an expansion of 220 annual service hours each year. Service reliability improvement priorities will be identified regularly through the Annual Performance Summary process.

By setting aside expansion resources every year to address service reliability issues, it allows the flexibility to respond quickly to emerging operational and service reliability issues due to ongoing development and growing congestion. In any given year, if analysis through the Annual Performance Summary process identifies that there are no pressing service reliability issues, these resources can be reallocated to other expansion priorities.

Estimated Resources: 220 annual service hours, ongoing.

This is an ongoing, annual expansion recommendation.

Proposal 2: Consider Opportunities for Service Optimization

The Annual Performance Review process provides the opportunity to assess transit service performance against the performance guidelines within the Central Fraser Valley Transit Future Plan. This process will provide options to address underperforming routes through service redesign or resource reallocation.

This is an ongoing, annual recommendation.

Short-Term Service Proposals (2019-20)

These District of Mission proposals address top priority operational, reliability, and customer concerns, and as such are presented for consideration in the short-term over the next one to three years.

Proposal 1: Sunday Service Introduction

This proposal involves replacing Sunday service on Route 40 East Mission Night with service on routes 33 Cedar Valley, 34 East Side, 35 Hatzic, and 39 Shopper Shuttle.

Resources: 800 Service Hours

Proposal 2: Statutory Holiday Service

This proposal provides Sunday-level service on all statutory holidays for Mission routes including the 31 Abbotsford-Mission Connector, 32 West Heights, 33 Cedar Valley, 34 East Side, 25 Hatzic, and 39 Shopper Shuttle.

Resources: 500 Service Hours

Abbotsford would have to approve expansion for the 31 Abbotsford-Mission Connector portion of this expansion as well.

Proposal 3: Evening Service on Routes 33 Cedar Valley and 34 East Side

The last weekday and Saturday trips on routes 33 Cedar Valley and 34 East Side currently leave around 6:00pm. This proposal would replace the existing evening service on route 40 East Mission Night with hourly weekday and Saturday service on routes 33 Cedar Valley and 34 East Side until 10:00pm.

Resources: 900 Service Hours

Medium-Term Service Proposals (2021-2024 years)

The following section outlines proposals and costs for the consideration of the City of Abbotsford in the medium-term over the next three to five years.

Proposal 1: Implement Phase 1 of the Transit Future Plan Network Structure

Phase 1 of implementing the Transit Future Plan Network structure involves streamlining service in Mission to replace one-way loops with bi-directional service that follows the same path in each direction. This change will make the system more dependable and easier to understand. The first step of this transition involves the implementation of the new route 36 Grand.

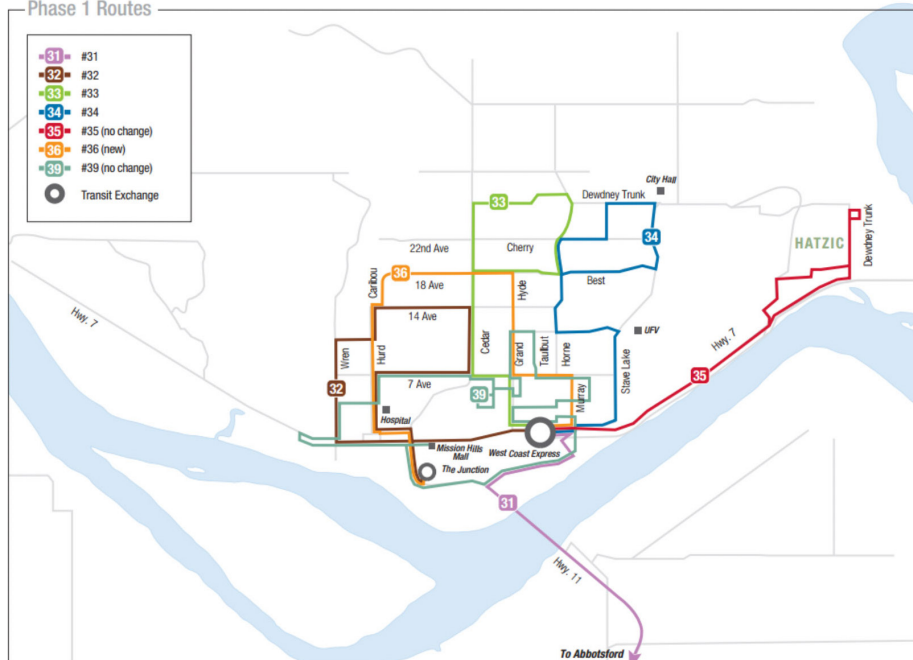
This proposal provides introductory hourly service on the new route 36 Grand along with some minor route restructuring on routes 33 Cedar Valley and 34 East Side.

Resources: 5,000 Service Hours, 2 buses

Additional analysis and public engagement should be conducted as part of the implementation planning process to confirm the routings and service levels.

Mission Implementation Strategy:

Phase 1 Routes



Proposal 2: Extend Service to the Silver Creek Industrial Park

Silver Creek Industrial Park is a rapidly developing industrial area within the Mission area, and development over the next three to four years is anticipated to lead to a potential total of 440 to 552 employees.

This service option involves extending some existing peak trips on the 39 Shopper Shuttle into the Silver Creek Industrial Park, and the addition of an additional AM peak trip.

Resources: 600 Service Hours, 1 Bus

Service to the Silver Creek Industrial Park could be provided more directly and at a lower cost with the completion of Gill Avenue and its subsequent connection to Duncan Avenue behind the Walmart.

Proposal 3: Improved Service on Route 35 Hatzic

Additional weekday and Saturday service on the Route 35 Hatzic.

Resources: 500 Service Hours, 1 Bus

An additional bus may not be required if this expansion is combined with or preceded by the Silver Creek service expansion.

Proposal 4: Increase Service between Mission and Metro Vancouver

Consider options for increasing service between Mission and Metro Vancouver, with a focus on providing bi-directional service.

Resources: To be determined.

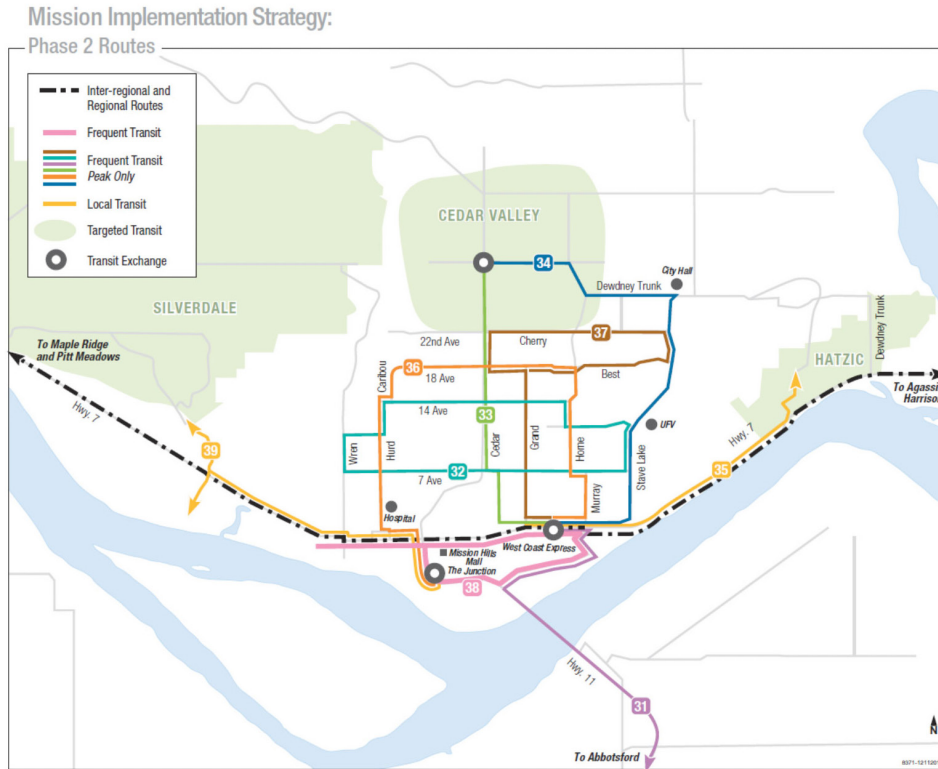
Existing transit service connecting Mission directly to Metro Vancouver is currently provided by TransLink. Any future service improvements should be explored in collaboration with TransLink.

Longer-Term Service Proposals (2025+)

Proposal 1: Implement Phase 2 of the Transit Future Network Structure

As demand warrants, increase service to every 15 minutes in the peak periods and 30 minutes in the off peak periods. This will allow the routes to be realigned to form the Transit Future Network, which features spontaneous travel in the peak periods and a timed-transfer.

Resources: To be determined.



Proposal 2: Targeted Transit for Growth Areas

Based on the development of three key areas of growth (Hatzic, Cedar Valley and Silverdale) determine the most appropriate type of service to effectively and efficiently serve these neighbourhoods. This might include zone dial-a-ride, taxi-cab, ride sharing, community shuttle or fixed-route service.

Resources: To be determined

Proposal 3: Increase Service Levels

Increase service as demand warrants on the primary routes within Mission.

Resources: To be determined

City of Abbotsford

The City of Abbotsford incorporated their transit service and infrastructure priorities as part of their Transportation and Transit Master Plan. Consequently, the priorities here are a synopsis of the information included within that plan.

Ongoing Service Proposals

Beyond the specific priorities identified within the Abbotsford Transportation and Transit Master Plan, BC Transit recommends a number of ongoing service proposals for consideration on an annual basis.

Proposal 1: Continue to Maintain Service Reliability

Resources are required regularly to address the service reliability challenges caused by increasing traffic congestion and ridership growth. An expansion of up to one per cent of existing service hours is recommended to address these issues on an annual basis.

The City of Abbotsford currently provides approximately 82,000 annual service hours for conventional transit, which works out to an expansion of 820 annual service hours each year. Service reliability improvement priorities will be identified regularly through the Annual Performance Summary process.

By setting aside expansion resources every year to address service reliability issues, it allows the flexibility to respond quickly to emerging operational and service reliability issues due to ongoing development and growing congestion. In any given year, if analysis through the Annual Performance Summary process identifies that there are no pressing service reliability issues, these resources can be reallocated to other expansion priorities.

Estimated Resources: 820 annual service hours, ongoing.

This is an ongoing, annual expansion recommendation.

Proposal 2: Consider Opportunities for Service Optimization

The Annual Performance Review process provides the opportunity to assess transit service performance against the performance guidelines within the Central Fraser Valley Transit Future Plan. This process will provide options to address underperforming routes through service redesign or resource reallocation.

This is an ongoing, annual recommendation.

Short and Medium-Term Priorities (2019-2024)

The Abbotsford Transportation and Transit Master Plan was completed in 2018, and outlined the following phases for prioritizing improvements over the following five years.

25 Year Vision Update		
Phase One 2019	Phase Two 2020	Phase Three 2021-2024
ADDRESS CORE ISSUES	INCREASE SERVICE LEVELS	INCREASE SERVICE LEVELS
<ul style="list-style-type: none"> • Direct service in core area of City • Improve reliability • Initiate foundation for rapid transit (South Fraser Way) • No additional resources 	<ul style="list-style-type: none"> • Expand service hours by 10,000 hours, or approximately 10% • Invest in areas of high ridership 'potential' • Improve service reliability • Further development 	<ul style="list-style-type: none"> • Level of service expansion • Priority areas of investment • Improved customer amenities

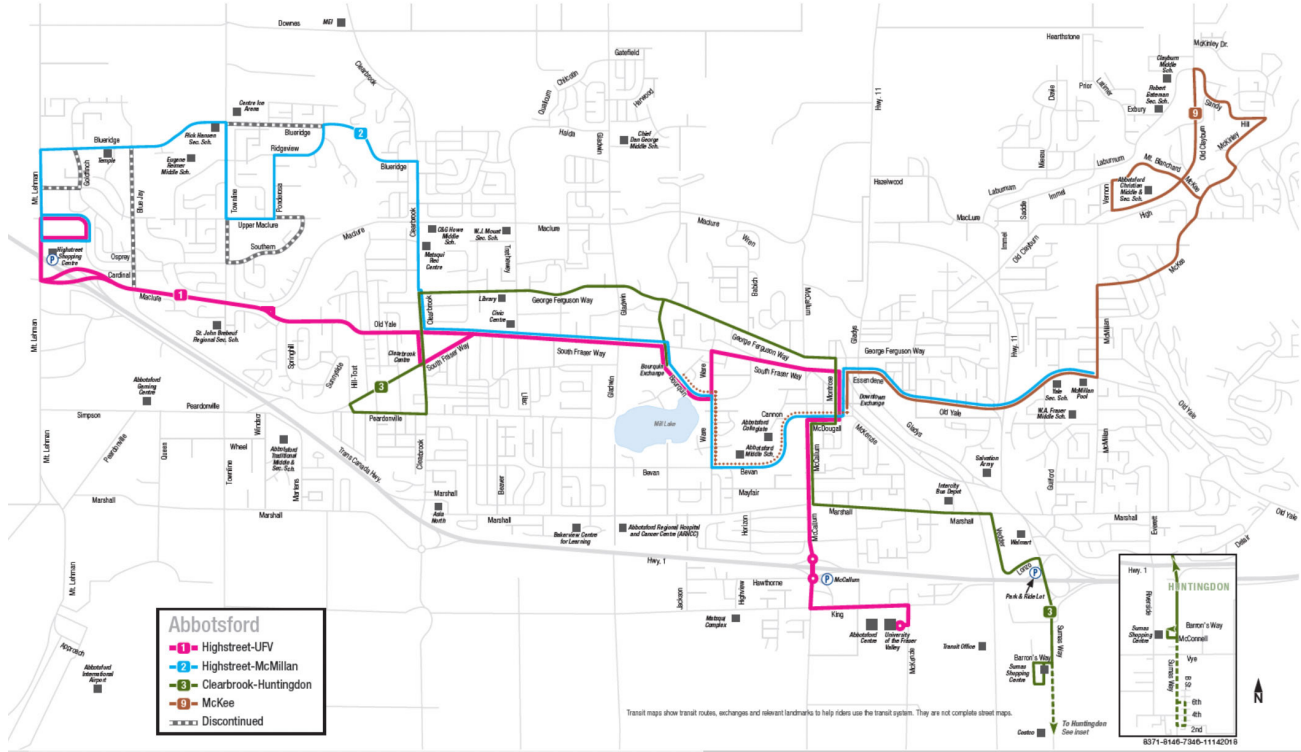
Phase 1: Address Core Issues (2019)

The City of Abbotsford has been constrained with limited ability to expand transit services since the existing Transit Operations and Maintenance Facility was at capacity. As a result, the City currently has relatively low service levels compared to many other similar-sized communities throughout British Columbia and elsewhere in Canada.

With the opening of a new Transit Operations and Maintenance Facility in 2020, the City will be able to begin to address these service levels. Phase 1 involves the establishment of a core network of higher-frequency transit routes to introduce the ultimate Rapid Transit alignment. This will include re-aligning the existing Routes 1, 2 and 3 to improve connectivity and begin to build the Rapid Transit alignment between the University of the Fraser Valley and Highstreet. This will allow the City to focus its existing resources towards serving areas with the highest densities of population and employment, which aligns with the OCP vision, as well as towards areas with the highest existing ridership.

This re-alignment of Routes 1, 2 and 3 would not require any additional expansion resources, and would have limited impacts to existing customers. This phase will set the foundation of the Rapid Transit corridor to allow for additional investment, optimization and restructuring. Infrastructure requirements for this phase would include a new Highstreet Exchange adjacent to the mall to accommodate increased services to the area.

Resources: None required



Phase 2: Increase Service Levels (2020)

Phase 2 would introduce an additional 10,000 services hours to the system. This would result in 4 new buses. Resources would be reinvested as follows:

- Improve schedule reliability to ensure buses stay on schedule and adapt to growing congestion and demand
- Improve transit frequencies on the Rapid Transit corridor and on high-performing east-west frequent transit network routes

Resources: 10,000 Service Hours, 4 Buses

Phase 3: Increase Service Levels (2021-2024)

As identified in the Abbotsford Transportation and Transit Master Plan, Phase 3 involves continuing to increase service levels between 2021 and 2024. The following section outlines a list of key priorities for consideration over this period:

- Improving frequencies on Rapid Transit to achieve a minimum 15-minute service, 15 hours a day, seven days per week
- Realign core routes along South Fraser Way in conjunction with enhancement of the Downtown Hub and the phase out of Bourquin Exchange
- Improving frequencies to achieve minimum 15-minute service during peak periods and 30-minute service during off-peak periods
- Expanding transit service to the Airport-Industrial area and connectivity with Highstreet Exchange
- Consider introducing new local transit network service to growing areas

- Improving connectivity with Regional and Interregional transit connectors such as the Fraser Valley Express, Aldergrove service and Mission Connector
- Improving Custom Transit (handyDART) availability and hours of operation
- Undertake a detailed East Abbotsford Study to accommodate growth in the area and optimize existing resources

Longer-Term Proposals (2025+)

The Abbotsford Transportation and Transit Master Plan also identifies service priorities for 2025 and beyond including the following key priorities:

- Improve service reliability and continue to invest in the Frequent Transit Network
- Identify and develop a more comprehensive plan for the Rapid Transit Corridor and the associated service integration.
- Work towards dedicated rapid transit along South Fraser Way, including consideration for opportunities to transition to higher capacity vehicles over the long-term.

Major Infrastructure Planning

Regional Infrastructure

Operations & Maintenance Facility

A transit operations and maintenance (O&M) facility is an integral part of the transit system where buses are stored, maintained and dispatched to their assigned service. The existing transit operations and maintenance facility is currently at capacity and cannot meet the growing needs of the community.

Consequently, BC Transit has been working with its partners, the City of Abbotsford and District of Mission, on a proposal to develop a new transit operations and maintenance facility on Gladys Avenue just south of Pratt Road in Abbotsford, BC. This new facility has been designed for the storage and maintenance of approximately 100 buses (with the capacity to expand to 150 to meet future growth).

There are many factors that affect the location and sizing of O&M Facilities. The major factors include:

- Road network configuration and bus route structure
- Location of deadheads of each bus route
- Dispatching, interlining policies and rostering
- Land availability and cost
- Operating costs of buses
- Construction, maintenance and operating costs of O&M Facilities
- Environmental impacts

A key consideration for locating new O&M facilities include the non-productive costs within a transit system. For example, before entering service, a bus must travel from the O&M facility to the starting point of its assigned route. Similarly, at the end of its last trip, a bus must travel back to the O&M facility. These trips entering or leaving service are classified as deadheading, and can add substantial costs to the operation of the transit system. Deadhead costs associated with the location of a new O&M facility should be balanced off against the capital costs of the facility. The important distinguishing factor of this relationship is that capital costs are typically one time, whereas the deadhead costs would be in perpetuity. Therefore, when determining the final location, the forecasted costs should be measured over the lifespan of the garage itself.

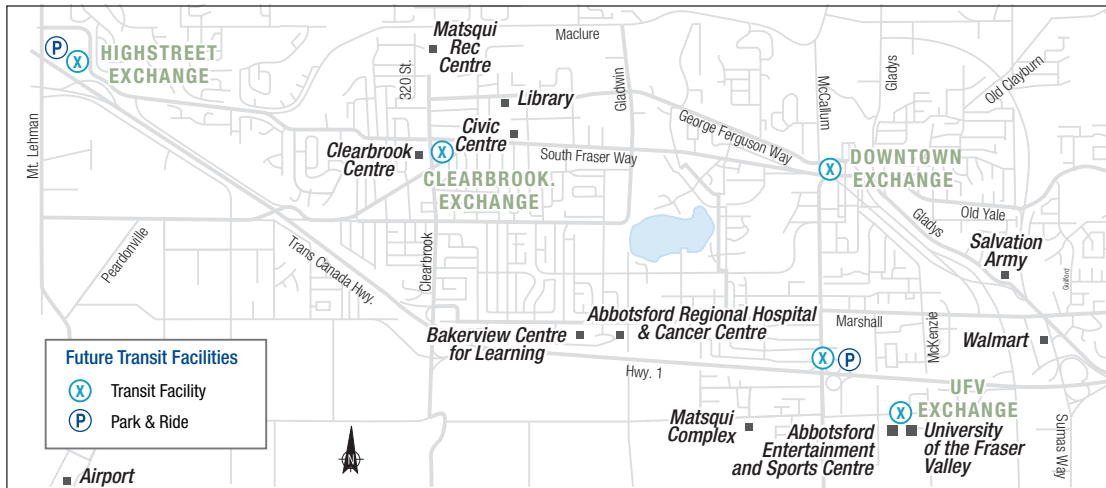
In the new Gladys Avenue location, BC Transit will be better able to improve transit service for Central Fraser Valley transit users by locating closer to local routes and reducing operating costs. With CNG fueling, the new facility will also accommodate CNG buses which are quieter, cleaner burning and more cost efficient than diesel buses.

Customer Facilities

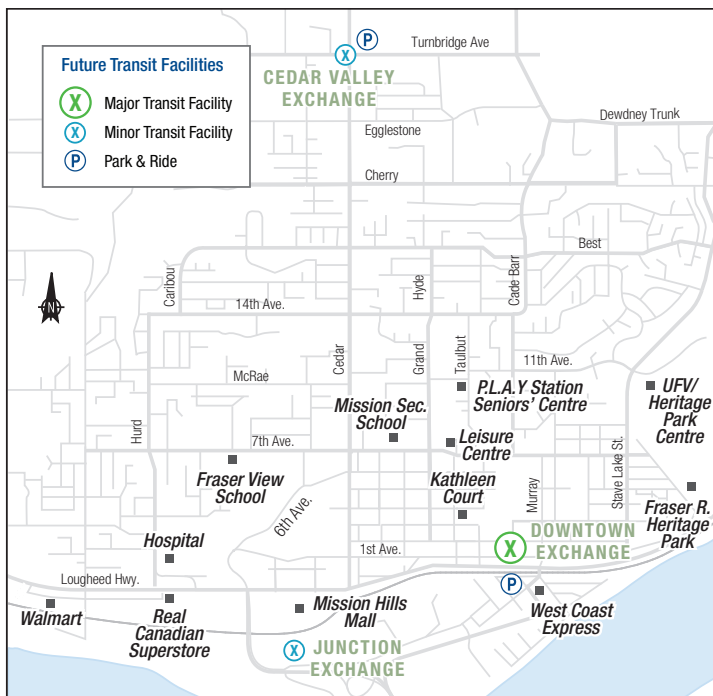
The Central Fraser Valley Transit Future Plan identified a number of transit facilities including major transit exchanges, minor transit exchanges, and Park & Rides. These customer facilities are still priorities moving forward.

Although not included in the map below, a transit facility will also eventually be required in the Whatcom Road area.

Abbotsford Future Transit Facilities



Mission Future Transit Facilities



Exchanges

Exchanges are required when multiple buses converge on one location and passengers need to transfer between buses in a safe and efficient manner. They also provide opportunity for vehicles to layover, and for operators to take a break. They can be as simple as several bus stops on the side of the road, and as complex as dedicated property with an island of bus shelters housing many vehicles at once. The only existing transit exchange in Mission is the Downtown Exchange. Abbotsford currently has the Bourquin and Downtown Exchanges.

Transit Priority

Transit priority is a term used to refer to a variety of physical and operational improvements designed to give transit vehicles and their passengers priority over general vehicle traffic. Transit priority elements can be regulatory (such as the successful “Yield to the Bus” regulations and signage), operational (such as retiming traffic signals to respect the large number of passengers on transit vehicles compared to private vehicles), or physical (such as exclusive transit ways, queue jumper lanes and signal priority).

Although no transit priority measures have been implemented since the completion of the Central Fraser Valley Transit Future Plan, consideration for transit priority measures should be included in the Rapid Transit project process.

Park & Rides

Park & Rides provide low-density and semi-rural areas with a method to access the transit system in lieu of, or in complement to, neighbourhood transit service. Creating formal Park & Rides, whether private or shared-use lots, will help attract new customers and will help decrease the problems associated with Hide & Riding.

For the next 5 years, specific Park & Ride options have been identified within the infrastructure sections separated by local partner.

Bus Stops

The Central Fraser Valley Transit Future Plan identified required investments in stations on the Rapid Transit corridor and at major stops on the Frequent Transit Network. Investments in customer amenities should be directed to the bus stops with the most activity. Transit stops with lower levels of passenger activities should at minimum meet accessibility guidelines with a bench available for customer seating.

Fleet

Right Sizing Study

Current ridership levels within the Central Fraser Valley System present a potential opportunity to use smaller vehicles on lower ridership trips, which can increase operational efficiency and allow for savings to be reinvested back into the system. To explore this opportunity, BC Transit recommends reviewing data in closer detail in collaboration with District of Mission and City of Abbotsford staff to evaluate the potential benefits and impacts of right sizing the existing fleet developing an implementation plan. Evaluation of alternative fuel technologies can also be explored.

District of Mission

Short-Term Infrastructure Proposals

Mission Transit Exchange Review

The Mission Network Vision identifies the continued need for an exchange in the downtown/West Coast Express station vicinity. However, a more thorough review is required to refine the location and requirements for the immediate, medium and long-term time horizons. Ensuring that it provides connections both regionally and locally and is located in an area that is a destination in and of itself will ensure a successful, safe exchange over the life of this plan.

Estimated Resources: TBD

Long-Term Infrastructure Proposals

Implement Long-Term Exchange Improvements

Based on the findings from the Mission Transit Exchange Review, improvements to existing transit exchange infrastructure should be implemented in order to accommodate the longer-term transit service expansions and network changes.

Estimated Resources: TBD

City of Abbotsford

These infrastructure proposals build upon and action the infrastructure concepts identified within the Abbotsford Transportation and Transit Master Plan.

Short-Term Infrastructure Proposals

Abbotsford Transit Exchange Design Study

An Abbotsford Transit Exchange Design Study should be conducted in 2019 to ensure that Abbotsford's transit exchanges have capacity to accommodate planned future transit improvements in the short, medium, and long term. This study would seek to develop and evaluate transit exchange conceptual design options for the Highstreet Mall, Clearbrook, Historic Downtown, University of the Fraser Valley, and Whatcom areas to accommodate for future transit expansion in Abbotsford. This study would also confirm operational requirements and assist in prioritizing and phasing any required transit exchange improvements.

Additional considerations include incorporating amenities at the downtown exchange to develop it into a Smart Hub, as per the City of Abbotsford's goals.

Estimated Resources: TBD

Abbotsford Rapid Transit Study

In order to continue developing the Transit Future Network and in order to meet Abbotsford's sustainable transportation goals, a study must be conducted to confirm aspects of the future Rapid Transit Line in Abbotsford.

This study, which is recommended for initiation in 2020, would seek to confirm existing and projected future transit operating conditions on the proposed Rapid Transit line(s) connecting UFV, Historic Downtown, Clearbrook, and Highstreet Mall. Additionally, the study would look at vehicle considerations, transit priority measures, bus stop branding and amenity standards, and infrastructure improvement prioritization.

Estimated Resources: TBD

Implement Short-Term Exchange Improvements

Based on the findings from the Abbotsford Transit Exchange Design Study, improvements to existing transit exchange infrastructure should be implemented in order to accommodate the short-term transit service expansions and network changes.

Estimated Resources: TBD

Implement Short-Term Rapid Transit Improvements

Based on the findings from the Abbotsford Rapid Transit Study, the short-term should be implemented in order to continue working towards meeting Abbotsford's sustainable transportation goals.

Estimated Resources: TBD

Long-Term Infrastructure Proposals

Implement Long-Term Exchange Improvements

Based on the findings from the Abbotsford Transit Exchange Design Study, improvements to existing transit exchange infrastructure should be implemented in order to accommodate the longer-term transit service expansions and network changes.

These changes will likely include phasing out the Bourquin Exchange and transit exchange improvements at Highstreet Mall, Clearbrook, Historic Downtown, UFV, and Whatcom.

Estimated Resources: TBD

Emerging Technology

New emerging technologies will have a direct impact on future mobility within the Central Fraser Valley Region. Mobility as a service, autonomous and electric vehicles, and other emerging bus technologies have the potential to reshape how people choose to move throughout their communities.

The following section outlines some of these future technologies and how they could potentially impact the transit system in the Central Fraser Valley Region.

Fleet-Related Technology

BC Transit is committed to continuously enhancing the rider experience. As part of this endeavour, BC Transit is moving forward with the installation and development of technology initiatives to improve efficiency, increase security and put passengers in control of their BC Transit experience. SmartBus is a major BC Transit project with the goal of improving fleet technology.

SmartBus

Phase 1

The first phase of the SmartBus program at BC Transit introduces real-time bus information, automated stop announcements, and closed circuit TV Cameras onboard each bus. The implementation of these bus technology improvements within the Central Fraser Valley Transit System are anticipated sometime before the end of 2020.

Phase 2

BC Transit is beginning a review of fare technology and fare payment systems with the intent to move to an advanced fare collection system.

The review process includes an assessment of BC Transit fare collection systems and industry wide trends in fare collection systems for transit. Recommendations from the review suggest BC Transit move towards an advance system where the customer brings their own ticket (i.e. mobile app, bank card) and includes the required onboard electronic readers and software systems to allow onboard validation/payment, and back office accounting and data management.

Electric Buses

BC Transit began trialing an electric bus within the Victoria Regional Transit System in January 2018. The trial will give BC Transit a better understanding of the capabilities, range, and operational processes and requirements of modern electric bus technology. Based on the results from this trial there may be opportunities to consider electric bus technology in other parts of the Province in the future.



Mobility as a Service

Mobility as a Service (MaaS) is the transition away from personally-owned forms of transportation to mobility options that are purchased as a service. Recent technology improvements have provided consumers options to plan, reserve, and pay for travel using an application on their smartphone. Mobility as a Service applications are capable of combining multiple travel modes into one trip, allowing multi-modal travel options for customers including walking, public transit, car share, bike share, or ride hailing.

Car and Bike Sharing

Car and bike sharing leverages the sharing economy to extend the benefits of car or bicycle ownership to individuals without the upfront costs, maintenance, and storage required for ownership. Touted benefits of car and bicycle sharing include decreasing the incidence of car ownership and promoting multimodal travel within communities, which could help build transit ridership within a community. Car and bike sharing programs can help address the first and last mile issue with transit; in other words, car and bike sharing services can extend the reach of transit by connecting transit riders between a bus stop and their trip origin or destination.

There are several different car sharing models including station based, A to B, and free-floating models. Further, there are several different car sharing business models including business to consumer, business to business, peer to peer, and not for profit.

Similar to car sharing, there are several different bicycle sharing models include docked, dockless, workplace pool bikes, bike loans, and peer to peer sharing. Another distinguishing factor within these models is whether the bikes are geofenced or not.

Many transportation sharing services are currently seeing significant investment as technology improvements and profitable business models emerge for these services.

Ride Hailing

Ride-hailing offers all the elements of a traditional taxi service, where a vehicle and driver is hired for a fee to transport a passenger or a small group of passengers between locations of their choice, with an added digital opportunity. Users can 'hail' the vehicle from anywhere using a smartphone app and pay for their journeys in the same manner. The app presents an estimated fare upfront so the passenger is aware of how much the journey will cost before the start of their journey. Some operators also allow users to 'pool' their journey with other users going in the same direction, in exchange for a cheaper individual fare. Ride-hailing services may be provided by Transportation Network Companies (TNCs) or taxi operators, although the licensing requirements for both are slightly different.

Following an amendment to Provincial legislation, ride-hailing operations have been permitted to operate in British Columbia since fall 2019.

As seen in many other jurisdictions, the widespread adoption of ride-hailing services can either supplement or substitute for existing transit services depending on various contextual factors. The Passenger Transportation Board is monitoring the evolution of the market in British Columbia to ensure any negative externalities can be addressed promptly, and BC Transit is continuing to explore future collaboration opportunities to improve transportation options for our customers.

Autonomous Vehicles

Autonomous vehicle technology is rapidly emerging, and has the potential to drastically alter the way people move throughout their communities. The widespread implementation of autonomous vehicles would change the variety and cost of mobility options available to the public, and consequently would have implications for how public transit is planned and delivered within the Central Fraser Valley Region. By changing how people get around, the emergence of autonomous vehicle technology also has implications for future land use and transportation related policy and infrastructure. While the technology is still likely many years away, BC Transit continues to monitor industry trends and innovations.

Implementation Strategies

Once this document has been approved, it becomes a guiding document for making future transit decisions within the Central Fraser Valley. The specific service proposals outlined in this report should be reviewed on an annual basis through the Three Year Expansion Initiatives and Annual Performance Summary processes.

Service changes identified for the upcoming year will be further refined through additional detailed planning and scheduling work. If necessary, service change details such as routing and service levels can be further refined through a future public engagement process.

The Central Fraser Valley Transit System and the communities it serves are not static entities. Development patterns, demographic shifts, increasing ridership and traffic congestion all impact the efficiency and effectiveness of the system. Therefore, planning and budgeting processes need to address the shifting nature of this operating environment in order to maintain and build transit ridership and achieve community environmental, social and economic goals.

For the Central Fraser Valley Transit System, it is recommended that an assessment take place at least annually to monitor service issues, transit performance levels, markets and demand, and to plan and budget for corresponding expansions and service optimizations for the following year. Adjustments for future service expansions may be made each year to reflect these changes in market demand and to reflect changes in local priorities.

The tables below summarize the short-term transit service and infrastructure priorities that emerged for the Central Fraser Valley Transit System through the Transit Future Action Plan process.

Table 5 – Short-Term Service Implementation Priorities

Short-Term Service Implementation Priorities (1–3 years)			
Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses
District of Mission	1 Sunday service introduction	800	0
	2 Statutory holiday service	500	0
	3 Evening service on routes 33 Cedar Valley and 34 East Side	900	0
City of Abbotsford	1 Implement Phase 1 changes	0	0
	2 Implement Phase 2 changes	10,000	4
	3 Begin Implementation of Phase 3	10,000	5
TOTAL		22,200	9

Table 6 - Medium-Term Service Implementation Priorities

Medium-Term Service Implementation Priorities (3–5 years)				
Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses	
District of Mission	1	Implement Phase 1 of the Transit Future Plan Network Structure	5,000	2
	2	Extend service to the Silver Creek Industrial Park	600	1
	3	Improved service on the route 35 Hatzic	900	0
	4	Increase service between Mission and Metro Vancouver	TBD	TBD
City of Abbotsford	1	Continue implementation of Phase 3	10,000	5
	2	Continue implementation of Phase 3	10,000	5
	3	Complete implementation of Phase 3*	10,000	5
TOTAL		36,500	18	

* This is a recommended expansion, and has not yet been approved by City of Abbotsford Council tentatively through the 3-year Transit Improvement Program.

Table 7 - Short-Term Service Implementation Priorities

Medium-Term Service Implementation Priorities (3–5 years)			
Region	Service Priorities	Estimated Resources	
District of Mission	1	Mission Transit Exchange Review	TBD
City of Abbotsford	1	Abbotsford Transit Exchange Design Study	TBD
	2	Abbotsford Rapid Transit Study	TBD
	3	Implement Short-Term Exchange Improvements	TBD
	4	Implement Short-Term Rapid Transit Improvements	TBD

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







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