

# TRANSIT *future*

▶ **actionplan**



## CENTRAL OKANAGAN REGION | March 2018

City of Kelowna  
City of West Kelowna  
District of Lake Country

Westbank First Nation  
District of Peachland  
Regional District of  
Central Okanagan



## Acknowledgements

This plan was made possible by participation from provincial and local governments, key stakeholders and the public. BC Transit would like to thank staff from:

The City of Kelowna

City of West Kelowna

The District of Lake Country

Westbank First Nation

The District of Peachland

The Regional District of the Central Okanagan

The Ministry of Transportation and Infrastructure

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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 Okanagan is increasingly important because of factors including climate change, population growth, increasing traffic congestion and an aging demographic.

The 2018 Central Okanagan Transit Future Action Plan provides an update to the Central Okanagan Transit Future Plan, which was completed in 2012. The changes that have occurred since 2012 enabled the Central Okanagan Regional Conventional Transit System to increase ridership by 9 per cent to 5,240,000 annual rides and over 193,000 annual service hours. The development of the Central Okanagan Transit Future Action Plan was highly collaborative and included BC Transit, the Central Okanagan Regional District, the local governments of the City of Kelowna, District of Lake Country, City of West Kelowna, Westbank First Nation and the District of Peachland, transit system staff, the public, and representatives from a wide array of stakeholder organizations. Its creation included two phases of public engagement.

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 and medium term service and infrastructure priorities for consideration over the next five years within the Central Okanagan Region. Other ongoing priorities include improvements to service reliability in the Conventional Transit System and continued investment in the Kelowna Custom Transit System. All costs are estimates based on 2018 values, and are subject to change based on inflation and ridership.

Table 1 – Short-Term Service Implementation Priorities

Short-Term Service Implementation Priorities (1–3 years)				
Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses	Estimated Net Local Annual Cost*
City of Kelowna	1 Invest in Frequent and Rapid Routes	5,000	2	\$206,190
	2 John Hindle Drive Connection	2,500	1	\$130,655
	3 Introduce Service to Academy Way	450	0	\$19,188
	4 Rutland Exchange Realignment	750	0	\$43,598
	5 Upper and Lower Mission Service Restructure	1,100 to 1,650	1	\$104,363
	6 Invest in Local Routes	500	0	\$23,568
Lake Country	1 Improvements to the Route 23 Lake Country	2,500	1	\$146,308
	2 Service Optimization on Route 32 the Lakes	-500	0	-\$18,073
	3 Oyama Service	700	1	\$73,725
Westside	1 Invest in Rapid Routes	1,000	0	\$27,093
	2 Expand Service Beyond Shannon Lake	2,000	2	\$169,396
	3 Summer Seasonal Service to Gellatly	250	0	\$12,514
	4 Service Optimization on Route 27 Horizon and Route 29 Bear Creek	-750	0	-\$23,701
Peachland	1 Service Optimization on the Route 22 Peachland	-400	0	-\$12,577
	2 Expanded Service to Walmart	400	0	\$20,039
	3 Integration with Future Penticton Connector	TBD	TBD	TBD
RDCO	1 Improve Service to Ellison	250	0	\$13,158
Interregional	1 Route 90 North Okanagan Connector Expansion	1,100	0	\$50,132
	2 Penticton Connector	1,800	2	TBD
<b>TOTAL</b>		<b>18,650 - 19,200</b>	<b>10</b>	<b>\$985,000</b>

\*These net local costs include the local share of lease fees and an estimate for revenue

Table 2 - Medium-Term Service Implementation Priorities

Medium-Term Service Implementation Priorities (3–5 years)					
Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses	Estimated Net Local Annual Cost*	
City of Kelowna	1	Rutland Network Restructure	5,000	2	\$274,590
	2	Invest in Frequent and Rapid Routes	2,500	2	\$138,461
	3	Invest in Existing Local Routes	1,000	0	\$47,135
	4	Consider Opportunities to Expand Transit to New Coverage Areas	1,500	1	\$106,067
Lake Country	1	Expanding Service to New Areas	2,000	1	\$140,528
Westside	1	Invest in Rapid Routes	2,000	1	\$89,551
	2	Expand Service to Gellatly Lakeside Year Round	650	1	\$70,985
Interregional	1	Route 90 North Okanagan Connector Expansion	1,700	1	\$112,839
<b>TOTAL</b>			<b>16,350</b>	<b>9</b>	<b>\$980,000</b>

\*These net local costs include the local share of lease fees and an estimate for revenue

Table 3 – Short-Term Infrastructure Implementation Priorities

Short-Term Infrastructure Implementation Priorities (1–3 years)			
Region	Infrastructure Priorities	Estimated Resources	
City of Kelowna	1	Rutland Exchange	\$2 million
Regional	2	Future Operations and Maintenance Facility	TBD

Table 4 – Medium-Term Infrastructure Implementation Priorities

Medium-Term Infrastructure Implementation Priorities (3–5 years)			
Region	Infrastructure Priorities	Estimated Resources	
City of Kelowna	1	Midtown Exchange Project	\$5.9 – \$6.5 million
Lake Country	2	Oceola Transportation Hub	TBD
Westside	1	RapidBus Stop Locations	TBD
	2	Park & Rides	TBD
Peachland	1	Park & Ride / Transit Hub	TBD

BC Transit is moving forward with the installation and development of fleet technology initiatives to improve efficiency, increase security and put passengers in control of their BC Transit experience. The first phase of the SmartBus program at BC Transit introduces real-time bus location information, automated stop announcements, and closed circuit TV Cameras onboard each bus. The implementation of these improvements within the Kelowna Regional Transit System are planned for late 2018.

# Introduction

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

In 2012, the Central Okanagan 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, many of the short-term priorities have now been accomplished:

- Completion of the 97 Okanagan RapidBus and subsequent local service integration
- Introduction of new frequent and local routes throughout the region
- Improvement to the service frequencies on local and frequent routes
- Introduction of significant infrastructure improvements throughout the region

## 2012 Central Okanagan Transit Future Plan Vision and Goals:

### Vision:

“Transit influences urban form by providing a high-quality, affordable service that puts the customer first”

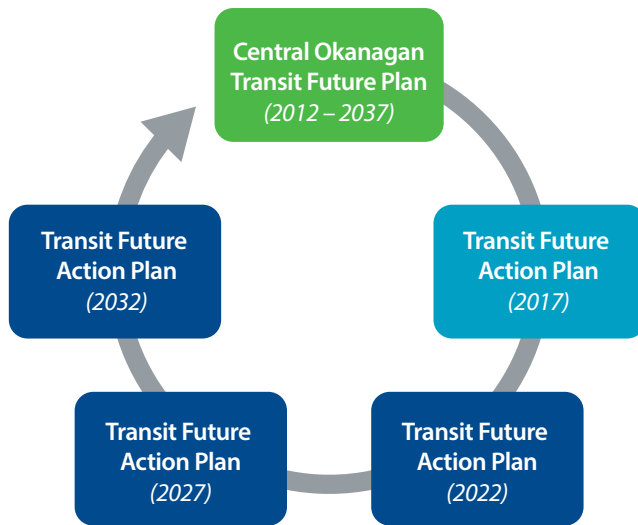
### Goals:

1. Attract new riders
2. Deliver operational excellence
3. Improve transit sustainability
4. Improve custom transit utilization

## 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 5 years for the transit system (Figure 1).

Figure 1 – Transit Future Planning Process



## Why do we Need a Transit Future Action Plan?

The 2012 Central Okanagan Transit Future Plan envisioned the Central Okanagan's transit network 25 years into the future and described what services, infrastructure, and investments were needed to get there. The Plan identified a mode share target of 7 per cent by 2035, which meant an increase from 4.3 million annual rides in 2012 to nearly 16 million rides in 2035. Last year, Kelowna had an annual ridership of 5.2 million annual rides. The 2012 plan also created a stronger link between transit plans and local land use and transportation plans and supported the key initiatives of BC Transit's Strategic Plan. As part of this plan, some of these goals are revisited with more updated information.

Since many of the projects identified in the 2012 Transit Future Plan are now complete, it is important that the project priorities be updated to continue guiding decision-making over the next five years and beyond.

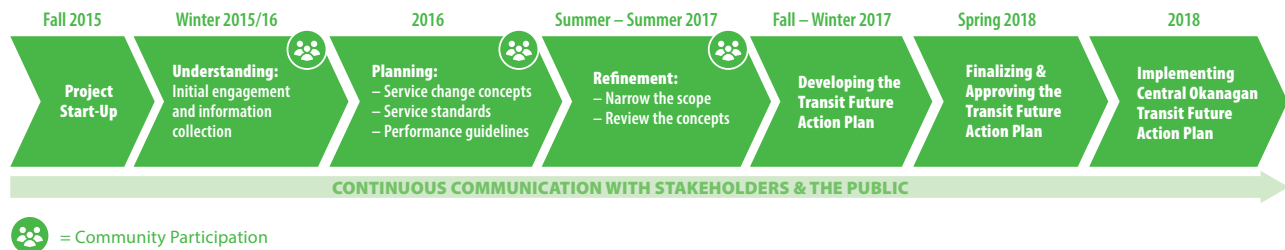
The purpose of this Action Plan is to update transit service and infrastructure recommendations for the entire region. These updated recommendations and networks, along with the previously identified vision, goals and targets, will continue to shape how transit works in the region for the next 25 years. This information generated in this report will also be included in any further local or regional transportation plans. This updated plan will continue to support local community goals and objectives, such as strengthening the link between transportation and land-use in order to support sustainable growth. The updated plan will also focus more attention on service optimization-related projects (whereby existing service is analyzed and reallocated as necessary), to ensure that the existing resources are being used as efficiently as possible.



## What is the Transit Future Action Plan Process?

The 2017 Central Okanagan Transit Future Action Plan was initiated in Fall 2015 and was completed in Spring 2018. Figure 2 below provides a summary of the Transit Future Action Plan project process.

Figure 2 - Transit Future Action Plan project progress



The 2012 plan included a tremendous amount of public engagement, which resulted in the creation of a unified vision for transit and the development of a transit network designed to meet the needs of the Central Okanagan for years to come. Dovetailing on the engagement success, this new Action Plan also depended heavily on the involvement of the key stakeholders, elected officials and the public.

## What are the Key Transit Future Action Plan Objectives?

The primary objectives of this Action Plan are:

- Update the short, medium and long-range priorities for transit in the Central Okanagan that supports the Central Okanagan Regional Growth Strategy (RGS) and the Official Community Plans (OCPs), Transportation Plans and other local planning initiatives of local partners. The focus of the plan will be placed on the short-term (1-5 years) to assist in the development of local capital and operating budgets.
- Support the development of the Central Okanagan Regional Transportation Strategic Plan;
- Identify opportunities to continue to support key initiatives in the BC Transit Strategic Plan by:
  - » Increasing ridership;
  - » Increasing integration with other types of sustainable travel;
  - » Influencing land-use and development patterns;
  - » Identifying and establishing priority corridors for transit;
  - » Enhancing existing partnerships and developing new ones; and
  - » Increasing our environmental, social and economic accountability.
- 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.

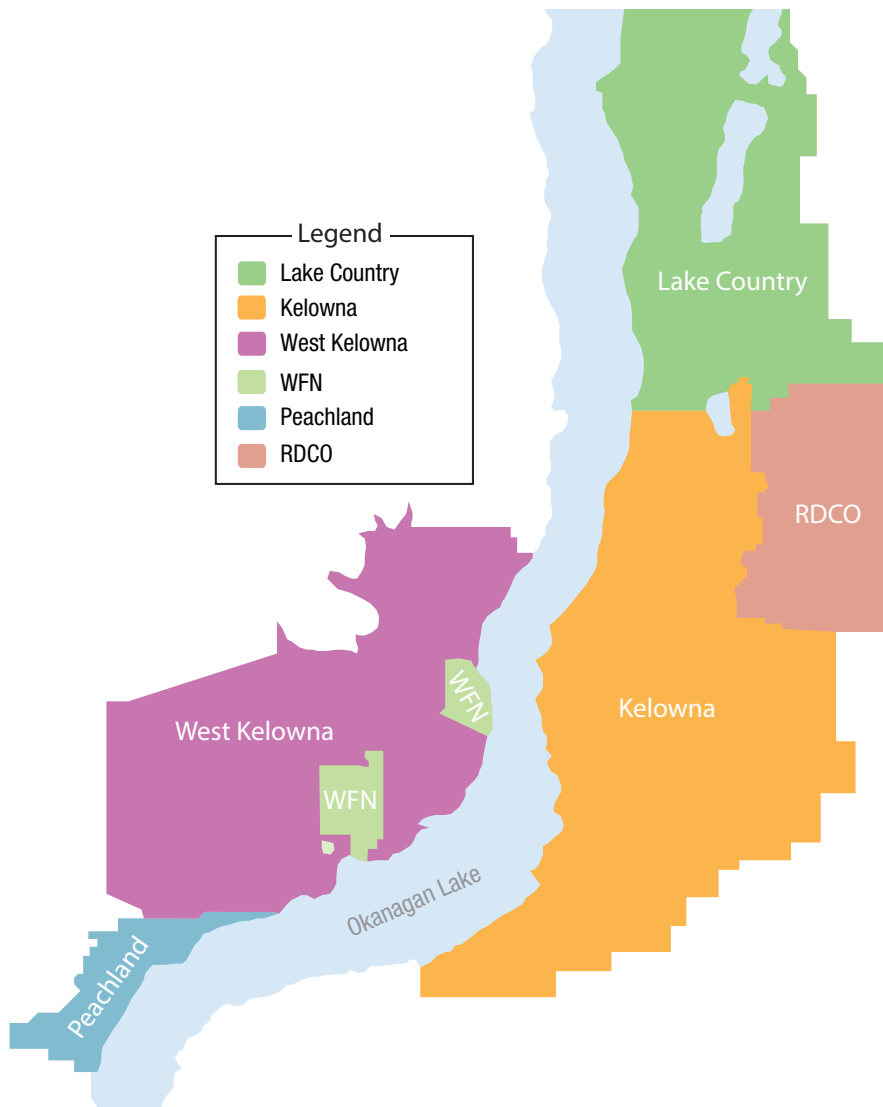
- Develop detailed Service Standards and Performance Guidelines to assist in evidence-based decision-making processes and to measure system performance. The Transit Service Guidelines were introduced and explored through the Transit Future Action Plan process, but will be finalized through an alternative project process.
- Continue to build community understanding of the value of transit and support for increased transit investment.
- Continue to explore opportunities to market and promote the transit system to attract new ridership.
- Continue to improve monitoring systems, processes and protocols to assist in the evidence-based decision-making process.
- Undertake scenario planning to provide flexibility and resilience in the plan to adapt to changing aspects that may impact the Kelowna Regional Transit system in the future.
- Provide information on the potential integration of public transit with new transit technologies and alternatives.
- 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 Okanagan region.
- This report will inform Transportation Master Plans (TMPs) within the region, with the City of Kelowna TMP review process starting in 2018.

# Land Use and Road Network Update

## Community Development

The Transit Future Action Plan was created for the Central Okanagan region which extends from the District of Lake Country in the north to the District of Peachland in the south, and includes the City of Kelowna, the District of West Kelowna and Westbank First Nation.

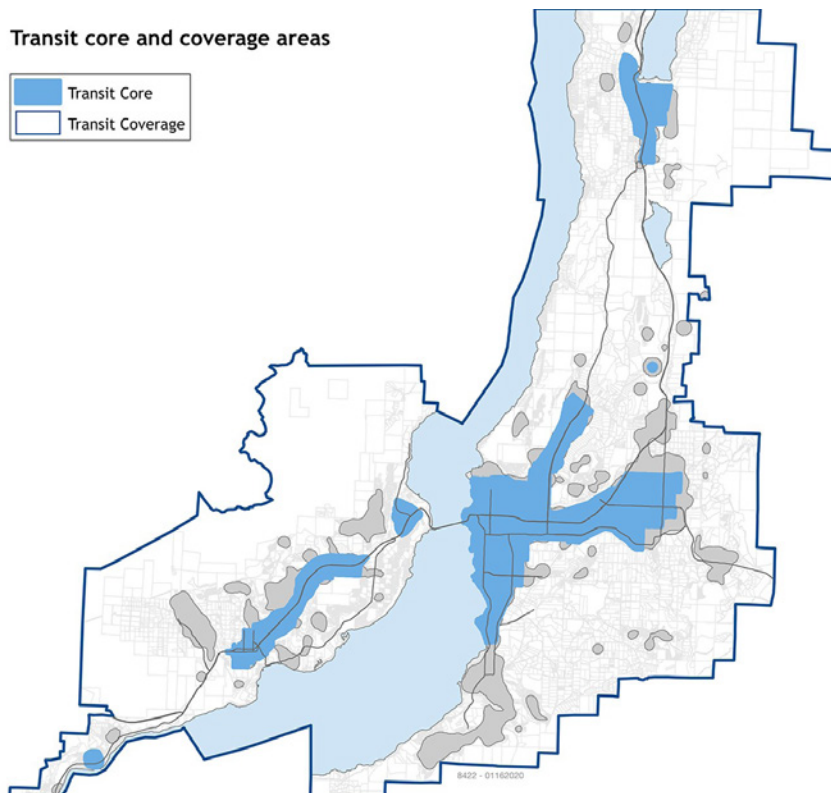
Figure 3 - Central Okanagan region



Since effective transit service depends largely on the land uses and density of the communities it serves, the Kelowna Region was separated into Transit Core and Coverage areas as part of the Transit Future Action Plan process. The Transit Core and Coverage areas are subject to change over time as development continues within the Central Okanagan Region.

- **Transit Core Area:** These are areas of the region where transit is most efficient, competitive, and sustainable. The Transit Core is defined as contiguous areas with concentrations of activity above 30 residents and jobs per hectare, which is high enough to support frequent service throughout the day. The Transit Core areas are primarily served by the Rapid Transit and Frequent Transit Networks. That being said, for accessibility reasons, local nodes or lower density corridors within the Core Area could still be served by the Local Transit Network.
- **Transit Coverage Area:** These are areas outside the Transit Core which are unlikely to generate high ridership, but where some level of service is warranted to connect riders to the core or provide access for residents who depend on transit. For planning purposes, potential coverage areas are defined as contiguous areas outside of the Transit Core with concentrations of activity above 10 residents and jobs per hectare, which is BC Transit's minimum threshold to support transit service. The Transit Coverage area is primarily served by the Local Transit Network and Targeted Services.

Figure 4 - Transit core and coverage areas



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 Okanagan. Specifically, staff

from the local government partners provided information on likely residential, commercial and road network developments over the next 10 years. 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.

Specific community development details were used to refine the proposals. However, the following provides a summary of general findings by area:

- The City of Kelowna is in the process of focusing denser development in Town Centres. Efficient, direct transit connections to and between these centres are a high priority for improvement.
- The Regional District of Central Okanagan has a number of residential areas not adequately served by transit, including Ellison.
- In the District of Lake Country, most of the new dense residential and commercial growth is proposed in areas already served by transit. There are also some areas with less-density that could also be served by transit at some point in the future.
- A number of significant projects are currently proposed for the District of Peachland. Most of these project locations are already served by public transit.
- The Westside (City of West Kelowna and Westbank First Nation) continues to grow at a rapid pace. The main commercial areas are focused primarily along Highway 97 which is already served by frequent transit. The area is primarily made up of lower density housing, therefore efficiently serving some of these areas can be challenging. Areas of interest for future expansion include Shannon Lake Road and the Gellatly Area.
- There is an increasing demand for regional and interregional transit services.

In addition to the community development analysis, the future highway transportation network has also been included in this plan. The Ministry of Transportation and Infrastructure is currently undertaking the Central Okanagan Planning Study. The purpose of the study is to develop potential route proposals to address future mobility in the Central Okanagan Area. This includes looking at the needs of the travelling public, community land use plans, provincial transportation priorities and a possible future second crossing of Okanagan Lake. Related to this work is also the Peachland Transportation Study which is identifying and assessing possible short, medium, and long-term solutions to address future transportation needs through and or around Peachland.

Depending on the outcomes of these studies, there may be a direct impact to the way that transit is operated in the Central Okanagan as well as how interregional transit may connect with the Central Okanagan. As the studies are still in development, the specific details have not been included. However, if and when the studies are complete and recommendations are made, an addendum to this plan may be made to update any of the material.

# Transit Today

The Kelowna Regional Transit System is composed of four 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), and targeted services.

## Primary Network

The Primary Transit Network is composed of both the Rapid and Frequent Transit Networks, which are primarily designed to serve and connect Transit Core Areas within the Central Okanagan Region.

### 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. 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.

## Secondary Network

The Secondary Transit Network is composed of both the Local Transit Network and Targeted Transit Services.

### 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

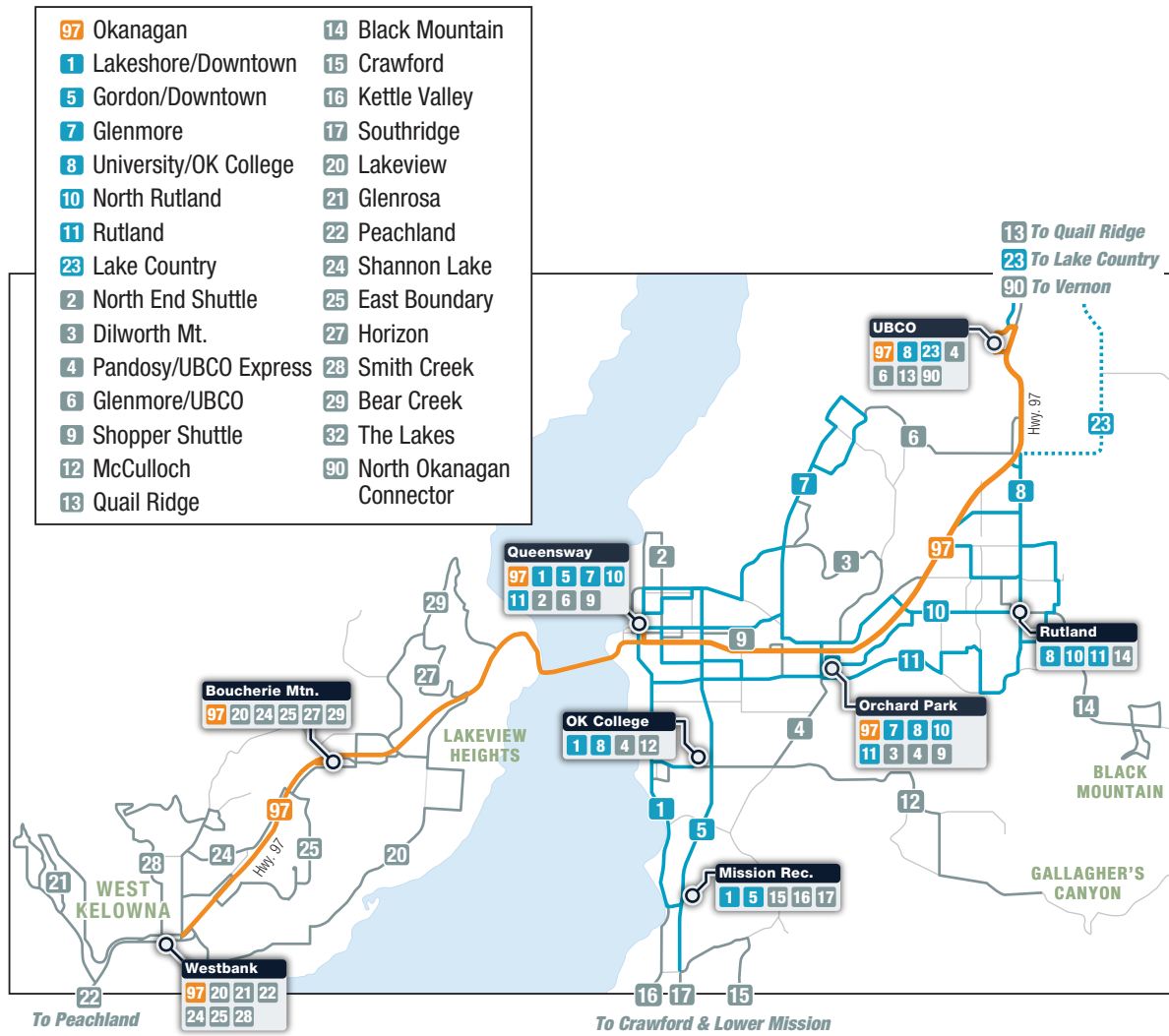
Targeted Services are a collection of transit services which include handyDART, regional, express and rural transit services.

The majority of these transit services are provided by the fixed-route, conventional transit system. Services such as handyDART, taxi supplement, and taxi saver are provided by the custom transit system.

### Conventional Transit

The Kelowna Regional Conventional Transit System consists of twenty-nine routes as shown in Figure 5. The Rapid Transit Routes are denoted in orange, the Frequent Transit Routes in blue, and the Local Transit Routes in grey.

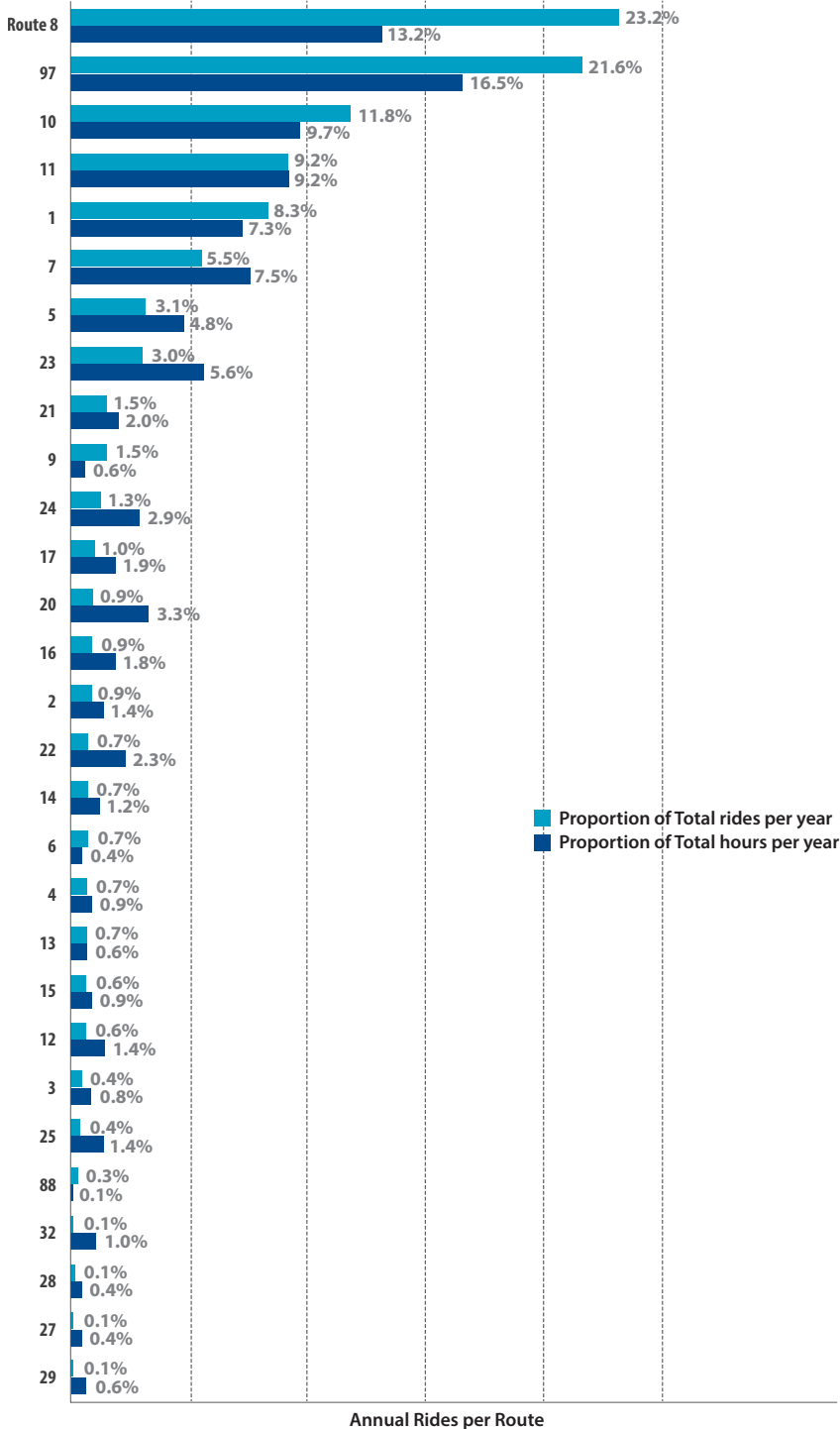
Figure 5 - Kelowna Regional Conventional Transit System



### Conventional System Performance

The Kelowna Regional Conventional Transit System operated over 160,000 annual service hours and carried 5,240,000 riders in 2017/18. Figure 6 shows how the total ridership and service hours are distributed throughout the routes within the system. The majority of ridership occurs on the Frequent and Rapid Transit Routes within the system, which tend to operate within the higher density areas in the Central Okanagan Region.

Figure 6 - Percent of Total Ridership by Route (2017)





## Changes Since 2012 Transit Future Plan

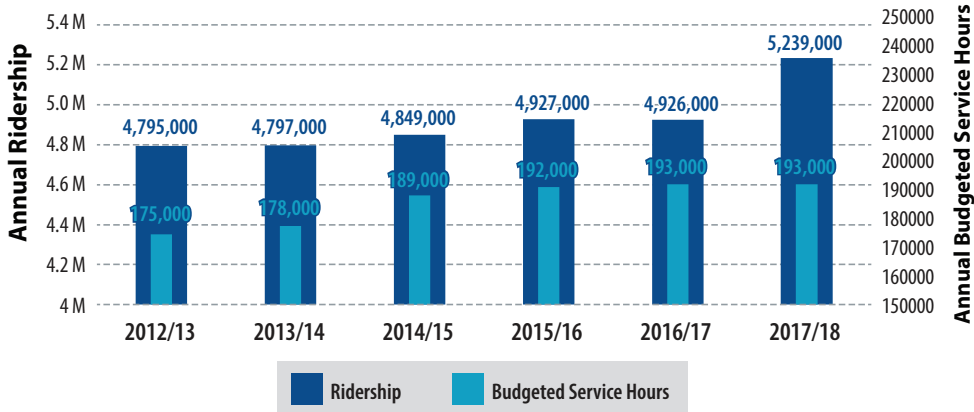
A number of changes to the Kelowna Regional Conventional Transit System have happened since the Transit Future Plan was completed in May of 2012.

Table 5 - Service changes since Transit Future Plan

Year	Sub-Region	Service Change
2012	City of Kelowna	<ul style="list-style-type: none"> <li>Route 1 Lakeshore restructured to terminate at Mission Recreation Exchange/H2O Centre</li> <li>Route 15 Crawford and Route 16 Kettle Valley restructured to connect with Route 1 Lakeshore at Mission Recreation Exchange</li> <li>Route 17 Southridge introduced to provide more direct service in Mission.</li> <li>Service improvements on the Route 1 Lakeshore</li> <li>Introduction of late night service on Friday and Saturday night on the 97 RapidBus</li> <li>Route 9 Shopper Shuttle service reduced due to low ridership and service duplication</li> <li>Route 13 Quail Ridge service introduced.</li> </ul>
	Lake Country	<ul style="list-style-type: none"> <li>97 RapidBus service extended to Westbank Town Centre</li> <li>As a result of 97 RapidBus extensions, many of the routes on the Westside were optimized to better match service to ridership levels and reduce duplication, including the truncation of the Route 21 Glenrosa at Westbank Town Centre</li> </ul>
	Westside	<ul style="list-style-type: none"> <li>Route 23 Lake Country improvements during the weekday, midday and afternoon peak period</li> </ul>
2013	City of Kelowna	<ul style="list-style-type: none"> <li>Route 14 Black Mountain service optimized and rerouted to Rutland Exchange</li> <li>Route 17 Southridge service optimized and rerouted to serve new development</li> </ul>
	Lake County	<ul style="list-style-type: none"> <li>Route 23 Lake Country rerouted to serve Innovation Drive</li> </ul>
2014	City of Kelowna	<ul style="list-style-type: none"> <li>Introduction of the frequent route 5 Gordon</li> <li>Route 8 University rerouted to improve access and connections to Kelowna General Hospital</li> <li>Midday service on the 97 Okanagan improved to every 15 minutes between UBCO and Queensway Exchange</li> <li>On-time performance improvements</li> </ul>
	Westside	<ul style="list-style-type: none"> <li>All service on the Westside integrated with new RapidBus Stops and Exchanges at Boucherie. RapidBus service integrated with new stations in Kelowna at Richter Street and Gordon Drive in Kelowna.</li> <li>97 Okanagan rerouted to operate only via Highway 97</li> <li>Express trips on Route 20 Lakeview and 24 Shannon Lake with direct service to downtown Kelowna discontinued and re-invested into local service</li> <li>Service on Route 28 Smith Creek rerouted to serve new Ironridge development</li> <li>On-time performance improvements</li> </ul>
	Lake County	<ul style="list-style-type: none"> <li>New local route 32 The Lakes introduced</li> </ul>
	Peachland	<ul style="list-style-type: none"> <li>Sunday/holiday service improved to match Saturday service</li> </ul>
2015	Lake County	<ul style="list-style-type: none"> <li>Route 32 The Lakes changed to serve Bottom Wood Lake and Beaver Lake Roads</li> </ul>
2016	Lake County	<ul style="list-style-type: none"> <li>Service reliability improvements for Route 32 The Lakes</li> </ul>
2017	Kelowna	<ul style="list-style-type: none"> <li>17 Southridge routing changed to remain on Gordon between McClure and Raymer</li> </ul>
	City of Kelowna	<ul style="list-style-type: none"> <li>Routing changes associated with new UBCO exchange</li> <li>Saturday service improvements on Routes 1 Lakeshore and 8 University</li> <li>Route 8 routing change via Acland and Edwards in both directions</li> <li>13 Quail Ridge increased service frequency, and discontinuation of service to Quail Run and Brindisi due to low ridership</li> </ul>

Figure 7 summarizes the key changes in Conventional service and ridership levels since the implementation of the Central Okanagan Transit Future Plan in 2012. Overall, annual conventional service hours have increased by approximately 18,000, and annual conventional ridership has grown by almost 440,000.

Figure 7 – Changes in Service and Ridership Levels Since the 2012 Central Okanagan Transit Future Plan



## 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 Kelowna Regional Custom Transit System operated 34,000 annual service hours and provided a total of 134,000 rides in 2017/18 through the handyDART, taxi supplement, and taxi saver services.

### Changes Since 2012 Transit Future Plan

A number of Custom Transit initiatives and service changes have been implemented since the completion of the Transit Future Plan in May of 2012:

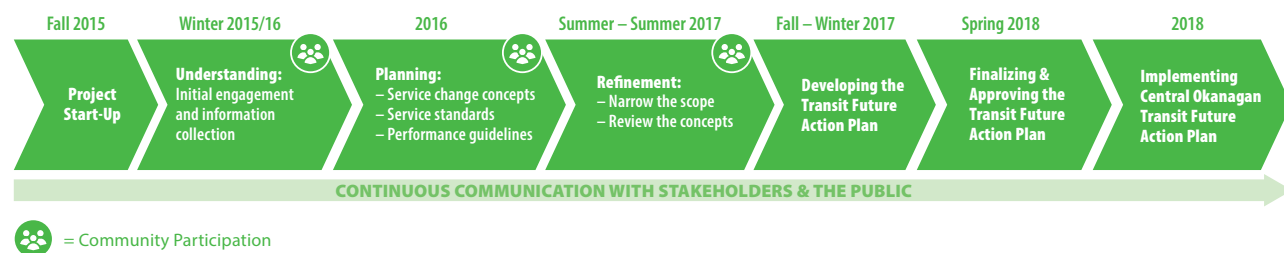
- Saturday handyDART service expansion
- Improved handyDART subscription software
- Custom Registration Program
  - » The new custom registration process now includes an in-person assessment with an occupational therapist to match the applicant's needs with the most appropriate type of transit services available
- Travel Training Program

# Public Engagement

The development of the Central Okanagan Transit Future Action Plan was highly collaborative and included BC Transit, the Central Okanagan District, the local governments of the City of Kelowna, District of Lake Country, City of West Kelowna, Westbank First Nation and the District of Peachland, transit system staff, the public, and representatives from a wide array of stakeholder organizations.

The participation process was designed to be inclusive, reaching riders and non-riders alike. Members of the public were engaged over several phases in the process to ensure that the final plan reflects the needs and priorities of the community.

Figure 8 - Public engagement schedule



The participation process for the Action Plan included a variety of methods, including a stakeholder advisory group, a project website, and advertising and media as described below.

## Stakeholder Advisory Groups

Stakeholder advisory group meetings were held at an ongoing basis through the development of the plan. The workshops primarily included representatives from the local government partners and the employees of the transit operating company. Members of the public who expressed interest were also invited to participate when feasible. The purpose of these advisory group meetings was to collect more specific information from the key stakeholder groups and assist in the development of the proposed transit system changes.

## Project Website

Dedicated web pages were established for the duration of the plan development on the BC Transit website. These pages provided information and materials for the Action Plan process, as well as updates on opportunities for involvement.

## Advertising and Media

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

## Communication

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

## Phase 1

### 2016 Customer Satisfaction Survey

As part of the Central Okanagan Transit Future Action Plan process, BC Transit, in collaboration with the local partners and Operating Company, conducted an extensive customer satisfaction survey on the Kelowna Regional Transit system. The survey took place in April 2016, where over 1,700 onboard and online surveys were completed.

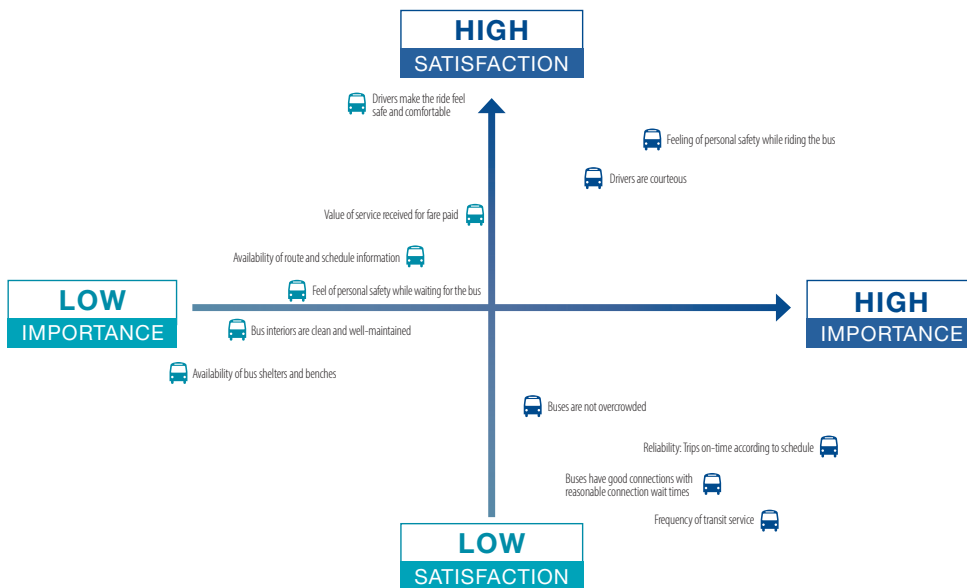
The primary objectives of this comprehensive bi-annual survey was to identify customer satisfaction trends for the Kelowna Regional Transit system. In addition to identifying satisfaction levels, customers were also asked to share what factors are most important to them, and the results helped support proposed service changes included in the Phase 2 Transit Future Action Plan Engagement.

Based on this information, the table on the following page was created to show the relationship between customer satisfaction and the importance of some of the key factors within a transit system.

Figure 9 – UBCO Exchange Engagement



Figure 10 – Customer Satisfaction Survey Results (2016)



Below is a summary of the key conclusions based on the customer survey:

- Customers are currently dissatisfied with reliability, connections and frequency of the transit service. They also rank these factors as being very important to their experience on transit. Therefore, the service recommendations in the Transit Future Action Plan should focus on improvements in these areas.
- Customers are currently satisfied with driver courtesy, safety and comfort and also rank these factors as being highly important to them. This is a positive sign for the transit system as it demonstrates that the vast majority of transit customers are very satisfied with the existing service delivery. It is important that the transit system to continue to invest in these measures to maintain customer satisfaction.
- Most customers were generally satisfied with the value of service received for the fare paid. This is a positive sign for the transit system, especially since there was fare increase that took place in September 2015.

This customer survey will be completed again in spring 2018 to continue to measure and identify trends in the transit system.

## Phase 2

Phase 2 public engagement occurred in spring and summer of 2017 and included two stages of open house events and accompanying online surveys. The first stage focused on developing service standards and performance guidelines for the Kelowna Regional Transit System and identifying transit service priorities for the City of Kelowna, Lake Country, Ellison, and Peachland areas. The second stage focused on identifying transit service priorities for the Westside including the City of West Kelowna and Westbank First Nation.

### 2017 Public Open Houses

In spring and summer 2017 many of the proposed service changes were presented to the public for their review and public feedback. The public was also asked to provide input on the development of the Service Standards and Performance Guidelines. This phase of the engagement was held in March 2017 and August 2017 and included 9 public open house events, as well as online and onsite surveys. The table below summarizes the events and the amount of participation at each.

Table 6 – 2017 Open House Participation

Date	Community	Location	Participants
March 14, 2017	City of Kelowna	Queensway Exchange	93
March 15, 2017	Lake Country	Municipal Hall	8
March 15, 2017	Peachland	Community Centre	1
March 16, 2017	City of Kelowna	Parkinson Recreation Centre	37
March 16, 2017	City of Kelowna	Rutland Activity Centre	11
March 22, 2017	City of Kelowna	UBCO	56
March 22, 2017	City of Kelowna	Ellison Community Centre	32
August 30, 2017	City of West Kelowna	Westbank Lions Community Centre	10
August 30, 2017	City of West Kelowna	Memorial Park	63
<b>Total</b>			<b>311</b>

Date	Stage	Survey Participants
March 2017	Stage 1 – City of Kelowna, Lake Country, Peachland	630
August 2017	Stage 2 – City of West Kelowna, Westbank First Nations	346
<b>Total</b>		<b>976</b>

Figure 11 – Queensway Exchange Open House



Respondents generally supported the proposed changes in the City of Kelowna, particularly the proposed introduction of service to Academy Way. Those who were affected by proposed changes in Peachland, Ellison and Lake Country were in favour of any improvements that could be made in those areas, particularly increased frequency of service. The proposed changes for West Kelowna included service cuts to allow increased service elsewhere in the area. Respondents were supportive of those proposals, though additional comments showed concern for the areas that would lose service.

General comments raised concerns about the state of the transit system in the Central Okanagan, particularly relating to reliability, lack of service to key areas such as the airport and rapidly developing neighbourhoods, and the overall customer experience. However, a majority of respondents were likely to continue using transit and expressed a willingness to recommend the service to others. For additional details on the results of this engagement, see the [Phase 2 Engagement Summary Report](#).



# Service Change Proposals

The following sections outline proposed service improvements to the Kelowna Regional 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 Kelowna
- District of Lake Country
- Westside (City of West Kelowna and Westbank First Nation)
- District of Peachland
- Regional District of Central Okanagan areas
- Interregional Services Connecting with the North and South Okanagan

These regionally specific proposals have also been organized into three time periods:

- Short-Term: Next 1-3 years
- Medium-Term: Next 3-5 years
- Longer-Term: Next 5-10 years

All cost and revenue impacts for short-range and medium-range proposals presented are based on annual figures. The costs are estimates of the number of annual service hours and expansion buses required to implement the service proposals, and the exact costs will be clarified through the Annual, Three Year Transit Expansion Planning Process. Longer-range options are outlined as concepts since estimates for these items may change substantially with community growth patterns and changing priorities.

## Approach to Transit Service Priorities

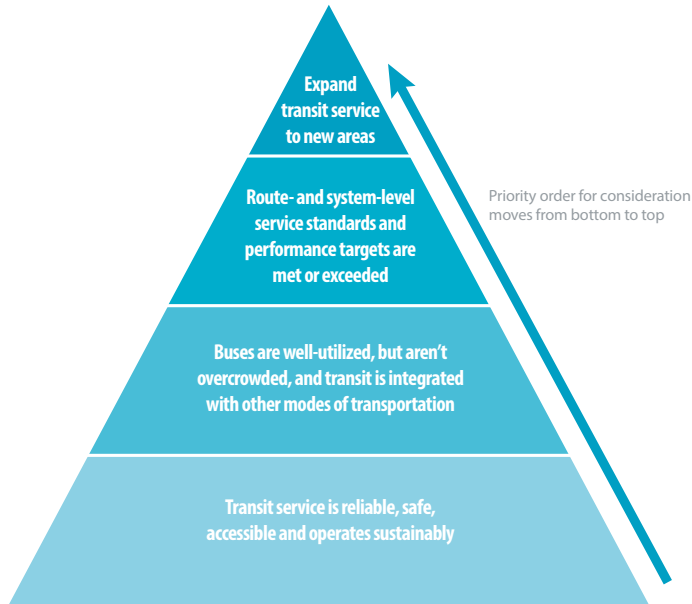
### Annual Performance Summary Process

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 Okanagan Transit Service Guidelines<sup>5</sup> to support local decisions on service priorities and potential future investments into service and capital initiatives.

<sup>5</sup> The Central Okanagan Transit Service Guidelines are currently under development.

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 12 – Approach to Transit Service Improvement Priorities



### Continuous Service Optimization

Implementing the Central Okanagan Transit Future Action Plan will be an incremental, and at times non-linear, process. Part of achieving the Transit Future Plan's vision, goals and targets is dependent on continuous optimization of the transit system. Service optimization includes assessing the existing system and identifying 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 Kelowna Regional'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 Kelowna Regional Transit System, the most common causes for service unreliability relate to:

- Growth in traffic volumes and resultant congestion – As the communities in the Central Okanagan 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. For example, the Route 97 Okanagan is regularly affected by the heavy traffic volumes along the William R. Bennett Bridge which in turn significantly affects the on-time performance of the service.
- Seasonal traffic volumes – during the summer months, vehicle congestion substantially increases as a result of an increase in visitors to the Central Okanagan. During the winter months, inclement weather can also contribute to service reliability issues.
- 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 Kelowna Regional Transit System and the area that it serves, it relies on transfers for riders to complete their trips. Therefore, different trips converge on the 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 reliability. 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 Kelowna Regional Transit System includes handyDART, Taxi Saver, and Taxi Supplement. A number of key Custom Transit goals were identified through the 2016 Kelowna Regional Custom Transit System Service Review. Some of these key goals included the following:

- Continued investment in Custom Transit System
- Balance subscription versus non-subscription service
- Review policies around access and usage of Taxi Saver program
- Opportunities for cost-sharing custom transit with key subscription user groups
- Expanding custom transit to new areas
- Ongoing monitoring of registration process
- Establish a Travel Training Program
- Explore opportunities provided by emerging technologies including ride-sharing services

## City of Kelowna

The following section outlines proposals and costs for the consideration of the City of Kelowna. All cost and revenue impacts presented are based on annual figures. All costs are estimated based on today's value and can change based on changes in ridership, inflation, fleet changes, and a variety of other factors.

### Ongoing Service Proposals

#### Proposal 1: Continue To Maintain Service Reliability

Service reliability was identified as the most important characteristic for achieving customer satisfaction in the Kelowna Regional Transit System based on results from the first phase of public engagement. 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 Kelowna currently provides approximately 133,000 annual service hours for transit, which works out to an expansion of 1,300 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: 1,300 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 Okanagan Transit Service Guidelines. 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 (1-3 years)

These 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: Invest In Frequent And Rapid Routes

Service improvements to the rapid and frequent routes within the Transit Core are likely to generate the largest benefits in terms of ridership growth. This proposal includes resources to fund priorities identified through the Annual Performance Summary process.

Preliminary short-term options for consideration include the following:

- Improve peak and midday service on Route 8
- Improve midday service on Route 97 in the Spring and Summer
- Improve service on other high-performing frequent routes

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
5,000	2	\$254,559	\$206,190

As per the Transit Service Guidelines, these resources would seek to move the system towards meeting minimum service standards, alleviating passenger load issues, and expanding service frequency and span on higher performing routes.

#### Proposal 2: John Hindle Drive Connection

The completion of John Hindle Drive in the summer of 2018 will connect Highway 97 to Glenmore Road at the UBC Okanagan Campus, providing alternate routing options for transit services. This new road connection also provides the opportunity to improve transit service within the Glenmore area.

The Glenmore area is currently served by the Route 6 Glenmore/UBCO Express and the Route 7 Glenmore. The Route 7 is classified as a frequent route, and is currently underperforming in terms of ridership<sup>6</sup>. The current Route 7 service design seeks to accomplish multiple objectives including connecting Downtown to Orchard Park Mall, and connecting Glenmore to both of these destinations.

This proposal involves rerouting the existing Route 6 to the new John Hindle Drive, and separating the existing Route 7 into two separate local routes including the 18 Glenmore/Downtown and 19 Glenmore/Orchard Park to clarify the service design.

With changing land uses, future considerations for these routes include moving the Routes 6 and 18 to operate along Clement Avenue to Richter Street rather than along Cawston Avenue, and Route 19 to operate along Spall and Springfield Roads to Orchard Park instead of Enterprise Way.

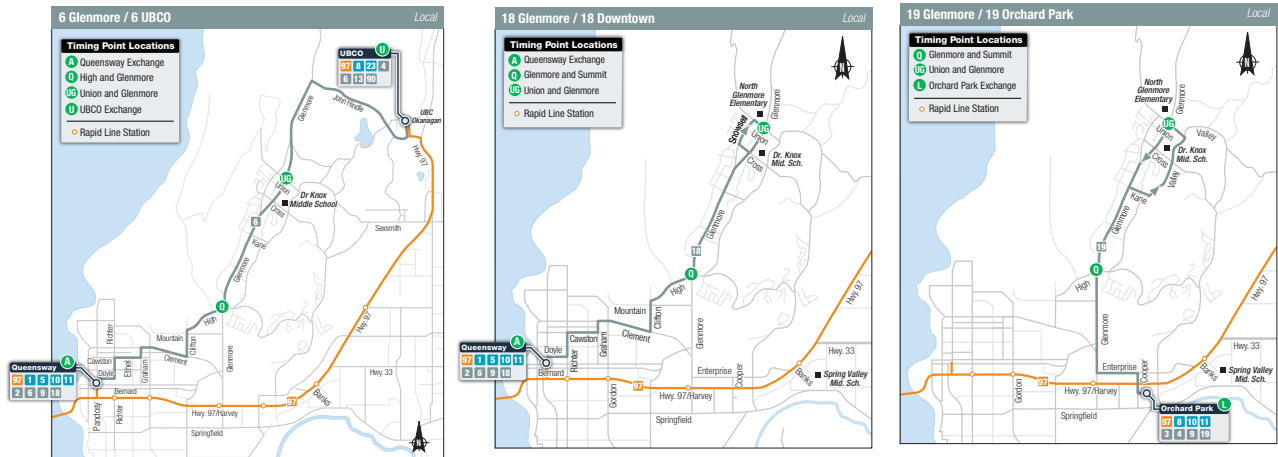
#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,500	1	\$127,279	\$130,655

These resources will be used to improve the service levels on Route 6, and to restructure the existing Route 7 within the Glenmore area.

<sup>6</sup> The 7 Glenmore is currently the lowest performing of the frequent routes at an average of 23 passengers per revenue hour on fall weekdays. This is significantly below the target of 35 passengers per hour identified within the Central Okanagan Transit Future Plan.

Figure 13 – Proposed Glenmore Routing Changes



**Proposal 3: Introduce Service To Academy Way**

Academy Way is one of the fastest growing areas within Kelowna, and it is currently not served by transit. As of May 2018, 1, 303 building permits and 657 occupancy permits had been issued for apartment units along Academy way. This proposal provides an introductory level of service to Academy Way by altering the routing of the existing Route 4 Pandosy Express / UBCO Express.

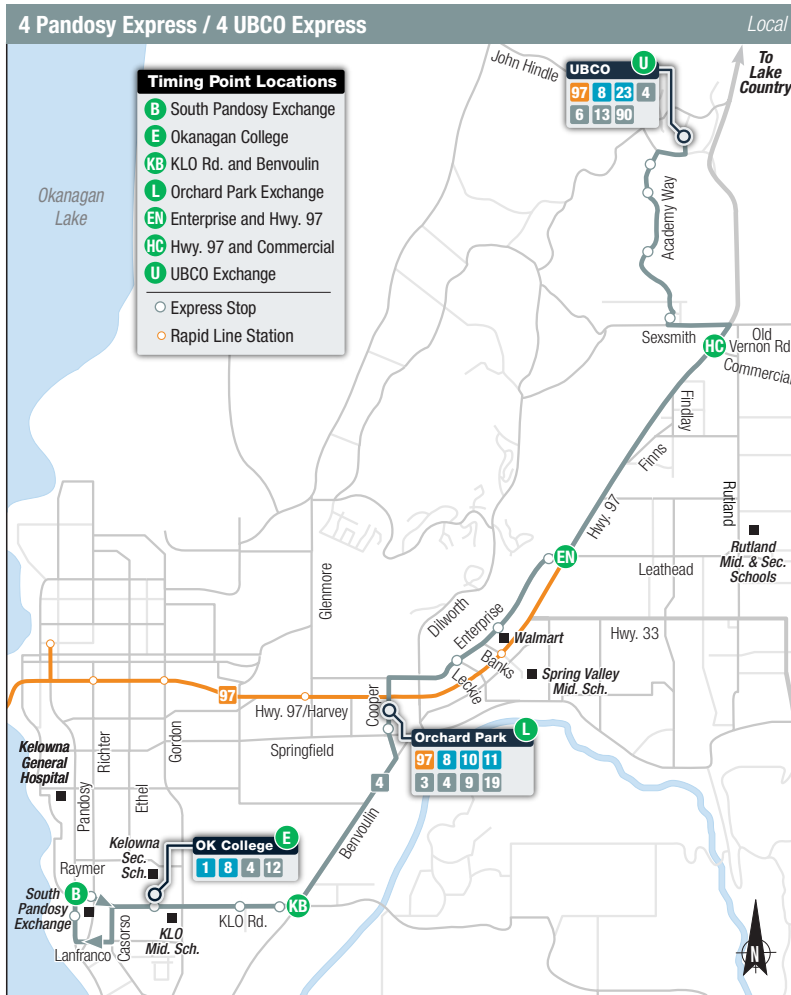
Service on the Route 4 currently operates on weekday peaks from September to April, with a very limited service in the spring, and no service in the summer. As development continues along Academy Way, it is likely that additional service expansion will be required on Route 4 or a more robust, long-term service option may be required.

**Estimated Resources: 450 annual service hours**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
450	0	\$22,910	\$19,188

This resource requirement accounts for the additional running time associated with the proposed routing.

Figure 14 – Proposed 4 Pandosy/UBCO Express Routing Changes



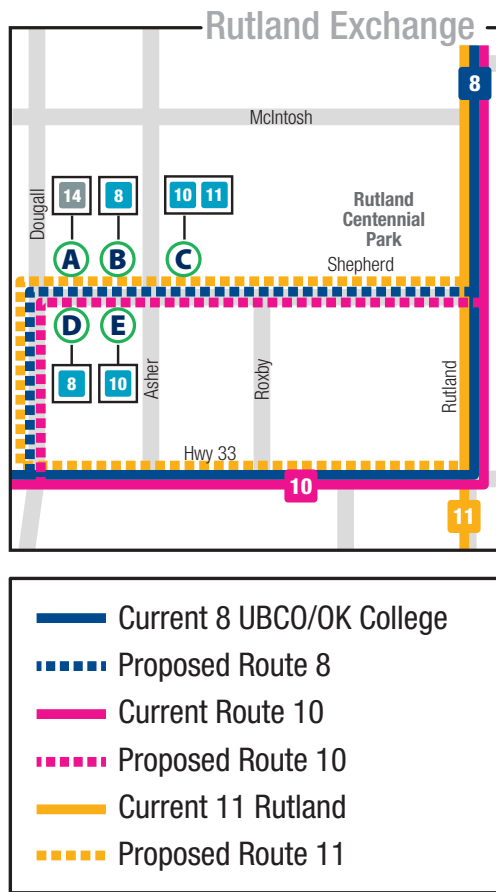
**Proposal 4: Rutland Exchange Realignment**

Rutland Town Centre has been recognized as one of Kelowna’s five urban centers in the City of Kelowna’s Official Community Plan since 1996, and a vision for an urban center and transportation hub has been created for the area. The vision is to create a comprehensive land use, urban design and transportation plan that focuses on pedestrian and public transit infrastructure and revitalization of Rutland Town Centre. Phase 1 of the Rutland Transit Exchange on Shepherd Road was completed in 2013. In the years following, various commercial and multi-family housing developments have proceeded in the immediate area.

In 2018, there are plans to extend Shepherd Road to connect the Rutland Transit Exchange to Rutland Road, allowing existing transit services to be effectively integrated into the new exchange. The proposed realignment includes Routes 8 University/OK College, 10 North Rutland/Downtown, and 11 Rutland/Downtown.



Figure 15 – Proposed Rutland Exchange Bay Assignment



**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
750	0	\$38,184	\$43,598

These resources are required to accommodate the running time increases associated with routing Routes 8, 10, and 11 into the Rutland Exchange.

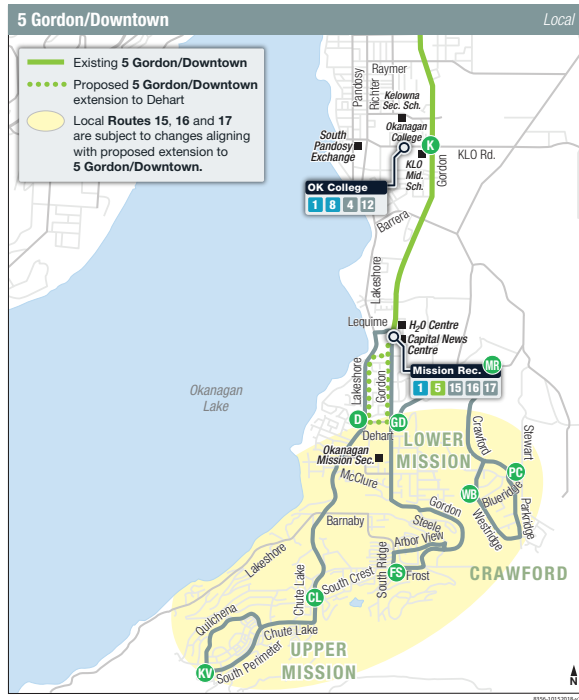
**Proposal 5: Upper and Lower Mission Service Restructure**

This service option involves extending the 5 Gordon route south to Dehart Road or McClure Road in Lower Mission to reduce travel times for residents of this established neighbourhood to destinations throughout the City of Kelowna’s urban core. This service option also provides a more direct connection for other Kelowna residents to Okanagan Mission Secondary School in Lower Mission.

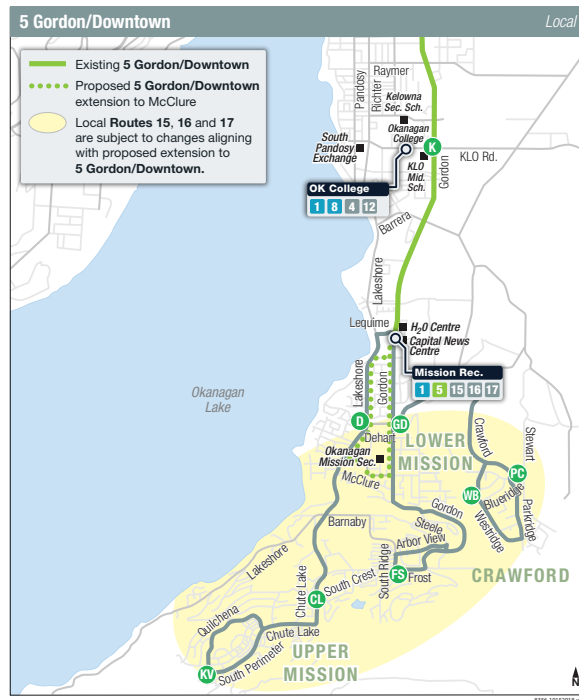
This change also allows the opportunity to review the local network in Upper Mission (currently served by Routes 15 Crawford, 16 Kettle Valley, and 17 Southridge) to better integrate with this service change. In addition, this may consider more effective transit service connecting the new Canyon Falls Middle School, which is scheduled to open in the Southridge neighbourhood in September of 2019.

Figure 16 – Proposed Lower Mission and South Pandosy restructure. Subject to change

**Option 1 – to Dehart**



**Option 2 – to McClure**



**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,650	1	\$84,004	\$104,308

There may be capacity to reallocate resources from a restructure of local Routes 15, 16, and 17 to reduce the resource requirement for extending the Route 5 into Lower Mission.

**Proposal 6: Invest In Existing Local Routes**

Further investment in local transit routes was identified as a key community priority through the public engagement process. Although expanding local service often generates a lower return on investment in terms of ridership, supplementing service on higher performing local routes can better serve those who depend on transit within coverage areas.

Potential options include:

- Earlier or later service to align with service standards
- Improved service frequency in higher ridership periods
- Limited midday service on routes currently offering peak only service

**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
500	0	\$25,456	\$23,568

### Medium-Term Service Proposals (3-5 years)

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

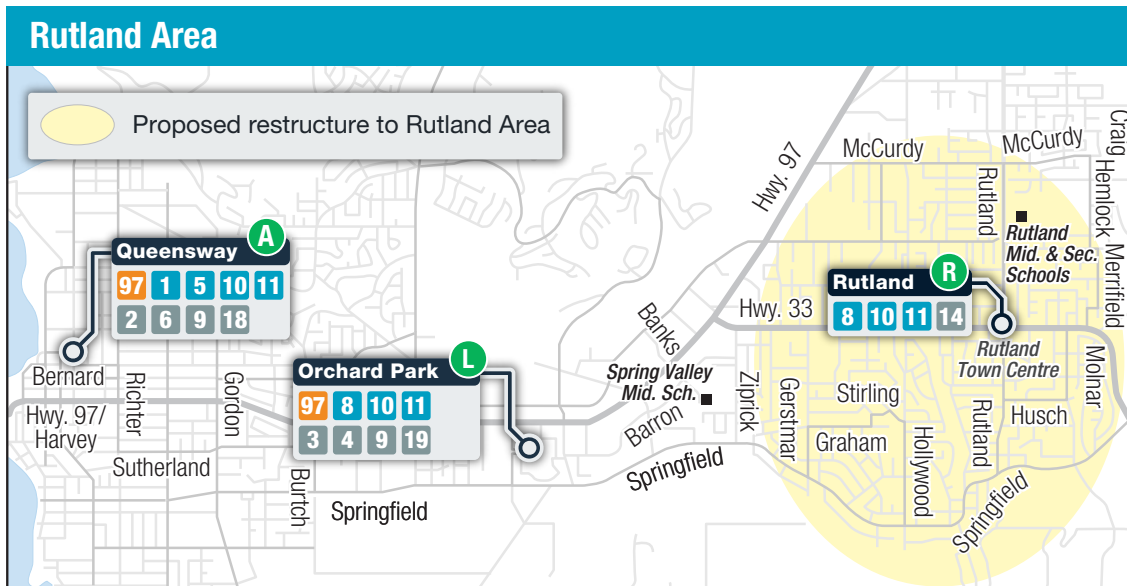
#### Proposal 1: Rutland Network Restructure

After the completion of the second phase of the Rutland Transit Exchange in 2018, the focus will shift to planning the future of the transit network throughout the broader Rutland community.

The Transit Future Plan proposes that transit routes in Rutland ultimately be restructured to streamline services, and to better align service levels according to density and ridership potential. Establishing a Frequent Transit Network that provides direct, two-way services on major corridors supported by Local Transit Network feeder routes are envisioned to compliment the new Rutland Transit Exchange.

Depending on the timing of future road infrastructure changes within the Rutland area, a portion of this proposed network restructure project could take place in the longer-term.

Figure 17 - Rutland network restructure area



#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
5,000	2	\$254,559	\$274,590

### Proposal 2: Invest In Frequent And Rapid Routes

Service improvements to the rapid and frequent routes within the core are likely to generate the largest benefits in terms of ridership growth. This proposal includes resources to fund priorities identified through the Annual Performance Summary process.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,500	2	\$127,279	\$138,461

As per the Transit Service Guidelines, these resources would seek to move the system towards meeting minimum service standards, alleviating passenger load issues, and expanding service frequency and span on higher performing routes.

### Proposal 3: Invest In Existing Local Routes

Further investment in local transit routes was identified as a key community priority through the public engagement process. Although expanding local service often generates a lower return on investment in terms of ridership, supplementing service on higher performing local routes can better serve those who depend on transit within coverage areas.

Potential options include:

- Earlier or later service to align with service standards
- Improved service frequency in higher ridership periods
- Limited midday service on routes currently offering peak only service

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,000	0	\$50,912	\$47,135

### Proposal 4: Consider Opportunities To Expand Transit To New Coverage Areas

The Central Okanagan Transit Service Guidelines identify minimum density targets for transit expansion to new areas. As the City of Kelowna continues to grow, developing neighbourhoods should be reviewed against the Transit Service Guidelines to identify when extending local coverage service is feasible.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,500	1	\$76,368	\$106,067

### Longer-Term Service Proposals (5-10 years)

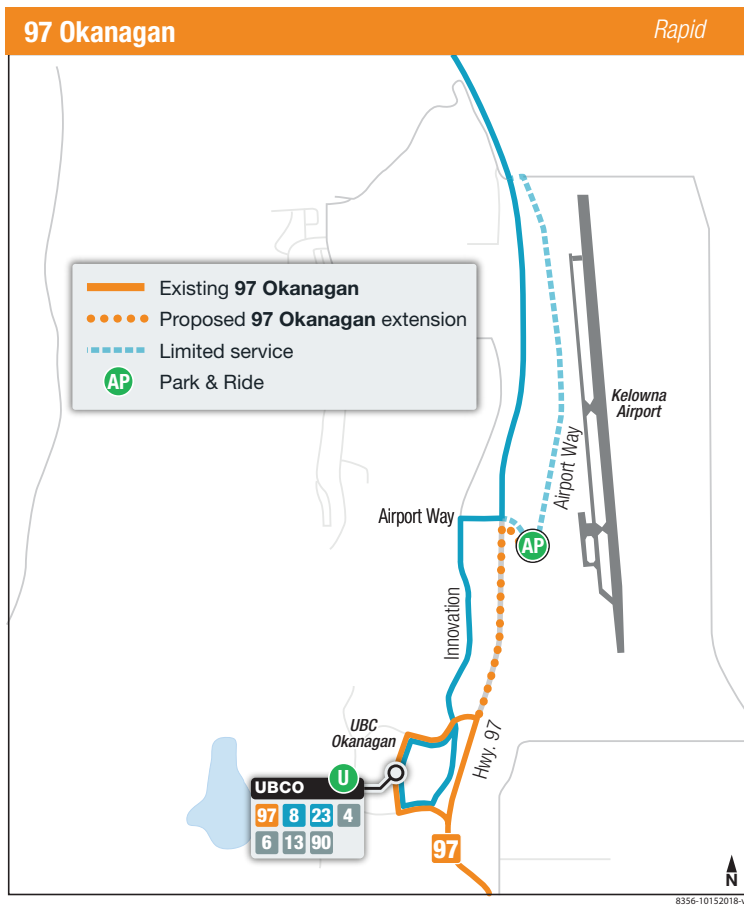
The following section outlines service concepts for the consideration of the City of Kelowna in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

#### Proposal 1: Expanded Service To The Airport

Usage of the Kelowna Regional Airport is growing rapidly, and improving transit service to the airport was identified as a key community priority through the public engagement process. Currently, passengers from Kelowna and the Westside must transfer at UBCO to the 23 Lake Country to reach the airport. Through engagement, the community identified connections and service reliability as challenges for relying on transit for airport access.

Extending hourly service to the airport on the RapidBus would provide a one-seat travel option for many transit riders from Kelowna and the Westside. By reducing the number of required connections, this service design would provide a more reliable transit option for customers. This service option could also be integrated with the long-term option to extend the RapidBus to Lake Country, which could create optimization opportunities with the existing Route 23 Lake Country.

Figure 18 - Expanded service to airport



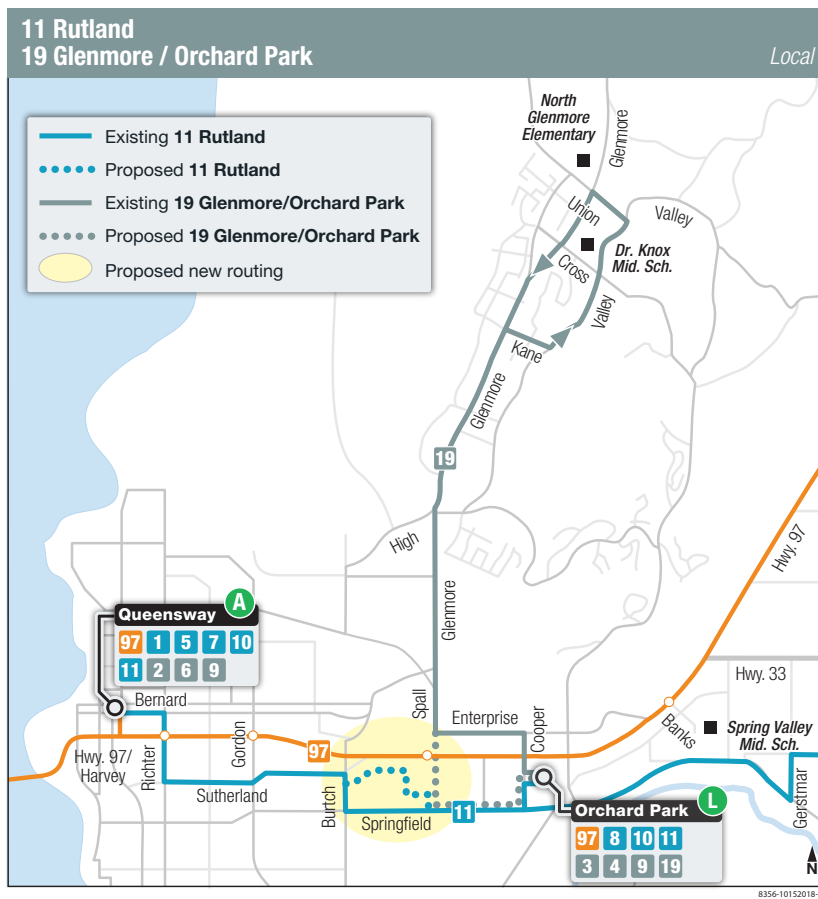
Extending RapidBus to the Airport would also require infrastructure improvements to meet the RapidBus design standards and to improve transit accessibility. Preliminary design work must be done to identify estimated infrastructure costs associated with this option.

**Proposal 2: Introduce Service To The Landmark District**

The Landmark District is a rapidly developing mixed use area within Kelowna that currently has no direct service. This area has been identified within the City of Kelowna’s Capri-Landmark Urban Centre Plan as an area for future growth and intensified urbanization. Currently, the road infrastructure through this area was not designed to support effective transit operations. In the future, direct transit service to this area should be considered to coincide with road network improvements capable of supporting effective transit operations.

**Estimated Resources: As required**

Figure 19 - Landmark district region proposed service area



### Proposal 3: Continued Investment In Frequent And Rapid Routes

Service improvements to the rapid and frequent routes within the core are likely to generate the largest benefits in terms of ridership growth.

#### Estimated Resources: As required

As per the Transit Service Guidelines, these resources would seek to move the system towards meeting minimum service standards, alleviating passenger load issues, and expanding service frequency and span on higher performing routes.

### Proposal 4: Extend Service To Growing Coverage Areas

The Central Okanagan Transit Service Guidelines identify minimum density targets for transit expansion to new areas. As the City of Kelowna continues to grow, developing neighbourhoods should be reviewed against the Transit Service Guidelines to identify when extending local coverage service is feasible.

#### Estimated Resources: As required

## District of Lake Country

The following section outlines proposals and costs for the consideration of the District of Lake Country. All cost and revenue impacts presented are based on annual figures. All costs are estimated based on today's value and can change based on changes in ridership, inflation, fleet changes, and a variety of other factors.

### Ongoing Service Proposals

#### Proposal 1: Continue To Maintain Service Reliability

Service reliability was identified as the most important characteristic for achieving customer satisfaction in the Kelowna Regional Transit System based on results from the first phase of public engagement. 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 Lake Country currently provides approximately 7,800 annual service hours for transit, which works out to an expansion of 80 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: 80 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 Okanagan Transit Service Guidelines. 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 (1-3 years)

The following section outlines service proposals and costs for the consideration of the District of Lake Country. These proposals address top priority operational, reliability, and customer concerns and as such are presented for consideration (over the next one to three years).

#### Proposal 1: Improvements To The 23 Lake Country

The Route 23 Lake Country is the highest performing route in the Lake Country area, and currently operates seven days a week.

On weekdays, the Route 23 currently operates with 15-minute service frequency in the PM peak, but only 30-minute service frequency in the AM peak. This option seeks to increase service on the Route 23 to provide 15-minute weekday service frequency in both the AM and PM peak periods, with additional improvements to Saturday service.

##### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,500	1	\$127,279	\$146,308

#### Proposal 2: Service Optimization On 32 The Lakes

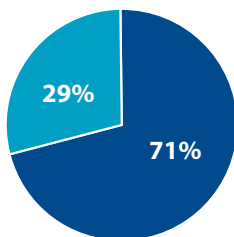
Route 32 The Lakes is currently underperforming in terms of ridership with an average of two rides per trip and four rides per service hour. The service currently operates approximately every 30 minutes in the morning, afternoon, and early evening on weekdays. This service option would reduce service on this route to hourly service frequency, and reallocate that service to other coverage services.

##### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
-500	0	-\$17,287	-\$18,073

These resources could be reallocated to provide transit service to other areas within Lake Country.

Reduce service on **32 The Lakes** to provide new coverage transit service to other communities, such as Lakestone and Oyama



Reduce service on **32 The Lakes** to provide new coverage transit service to other communities, such as Lakestone and Oyama, and expand service to middays, evenings and weekends

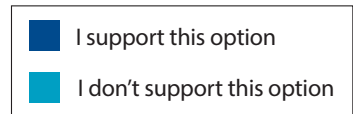
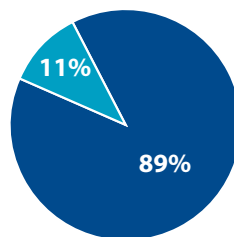


Figure 20 - Proposed service optimization for 32 The Lakes

32 The Lakes					
Monday to Friday					
	MG	LM	SS	LM	MG
	Main and Grant	Lakewood Park Mall	Shoreline and Stillwater	Lakewood Park Mall	Main and Grant
B	—	—	6:40	6:45	6:57
B	7:05	7:10	7:13	7:20	7:32
B	7:40	7:45	7:48	7:55	8:07
B	8:15	8:20	8:23	8:30	8:42
B	8:50	8:55	8:58	9:05	9:17
B	9:25	9:30	9:33	9:40	9:52
B	<b>2:25</b>	<b>2:30</b>	<b>2:33</b>	<b>2:40</b>	<b>2:52</b>
B	<b>3:00</b>	<b>3:05</b>	<b>3:08</b>	<b>3:15</b>	<b>3:27</b>
B	<b>3:35</b>	<b>3:40</b>	<b>3:43</b>	<b>3:50</b>	<b>4:02</b>
B	<b>4:10</b>	<b>4:15</b>	<b>4:18</b>	<b>4:25</b>	<b>4:37</b>
B	<b>4:45</b>	<b>4:50</b>	<b>4:53</b>	<b>5:00</b>	<b>5:12</b>
B	<b>5:20</b>	<b>5:25</b>	<b>5:28</b>	<b>5:35</b>	<b>5:47</b>
B	<b>5:55</b>	<b>6:00</b>	<b>6:03</b>	<b>6:10</b>	<b>6:22</b>
B	<b>6:30</b>	<b>6:35</b>	<b>6:38</b>	<b>6:45</b>	<b>6:57</b>



### Proposal 3: Oyama Service

The Route 90 North Okanagan Connector currently exits the highway to serve Oyama, providing a connection for Oyama residents both north and south. However, the ridership data shows that most of the ridership occurs between Vernon, Lake Country and Kelowna, and the deviation to Oyama provides an inconvenience to the majority of riders. If the Route 90 no longer served Oyama, a new, peak-only weekday local coverage service could be established maintaining the connection between Oyama and Lake Country.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
700	1	\$35,638	\$73,725

This service could be provided for fewer expansion resources if combined with the Service Optimization on the 32 The Lakes option.

### Medium-Term Service Proposals (3-5 years)

The following section outlines service proposals and costs for the consideration of the District of Lake Country in the medium-term (over the next three to five years).

#### Proposal 1: Expanding Service To New Areas

Expanding service to new transit supportive neighbourhoods and continuing to build the local transit network in Lake Country will become a priority as Lake Country continues to grow. Developing neighbourhoods should be reviewed against the Transit Service Guidelines to identify when extending local coverage service is feasible.

Preliminary options include:

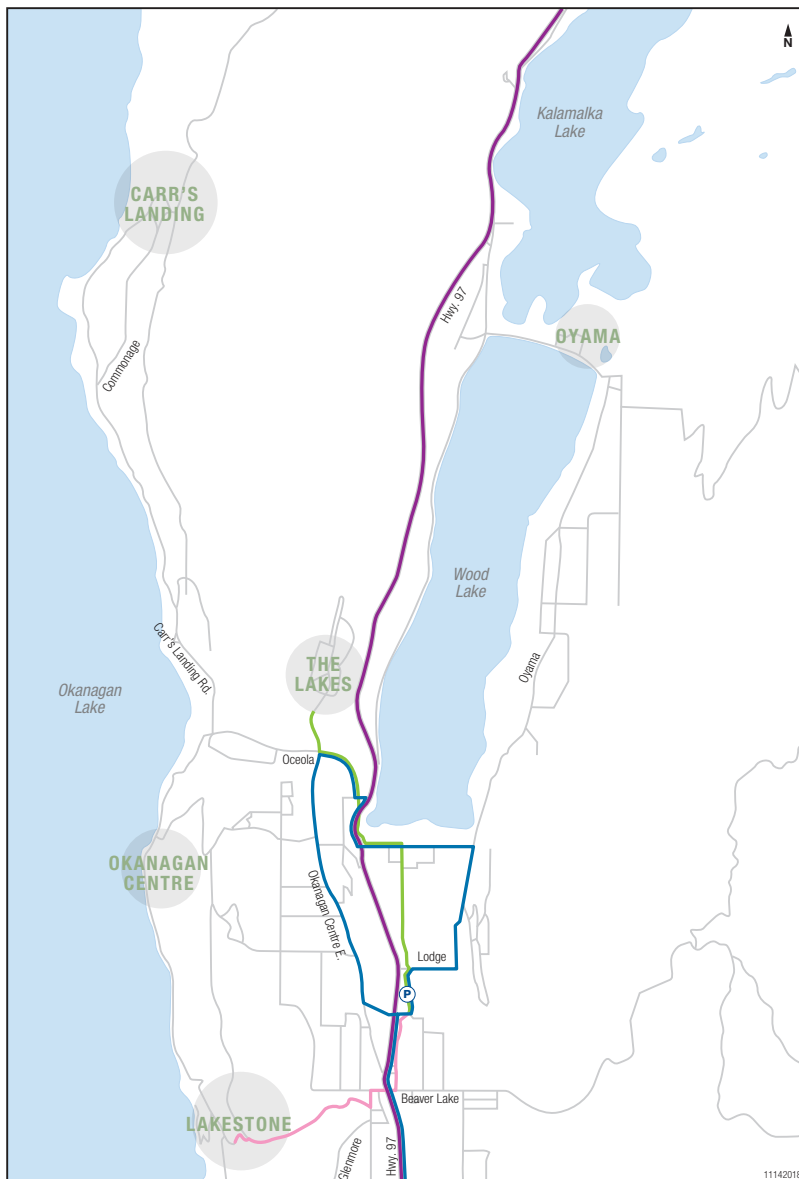
- Lakestone
- Okanagan Centre
- Carr’s Landing

Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,000	1	\$101,824	\$89,551

Prior to any service planning, communities should be evaluated against factors such as development structure, population density, road network feasibility, and walkability to ensure that any new proposed service will be successful.

Figure 21 - Lake Country new service areas



## **Longer-Term Service Proposals (5-10 years)**

The following section outlines service concepts for the consideration of the District of Lake Country in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

### **Proposal 1: Rapidbus Connection To Lake Country**

If transit supportive development continues within Lake Country in the longer-term, there may be an opportunity to extend RapidBus service. Preliminary options include extending RapidBus to Winfield Central (with a turnaround at Winfield and Beaver Lake Roads) or farther north with a turnaround at Lodge and Berry. These options could be aligned with any future RapidBus extension to Kelowna Regional Airport and would require the restructure of existing local routes within Lake Country.

#### **Estimated Resources: To be determined.**

The Winfield Central area should be reviewed against the Transit Service Guidelines to identify when extending RapidBus could be feasible. There may be potential to integrate this option with the City of Kelowna long-term option for extending the RapidBus to the Airport.

## Westside

The following section outlines proposals and costs for the consideration of the City of West Kelowna and the Westbank First Nation. All cost and revenue impacts presented are based on annual figures. All costs are estimated based on today's value and can change based on changes in ridership, inflation, fleet changes, and a variety of other factors.

### Ongoing Service Proposals

#### Proposal 1: Continue To Maintain Service Reliability

Service reliability was identified as the most important characteristic for achieving customer satisfaction in the Kelowna Regional Transit System based on results from the first phase of public engagement. 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 West Kelowna currently provides approximately 18,200 annual service hours for transit, which works out to an expansion of 180 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: 180 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 Okanagan Transit Service Guidelines. 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 (1-3 years)

The following section outlines proposals and costs for the consideration of the City of West Kelowna and the Westbank First Nation. These proposals address top priority operational, reliability, and customer concerns and as such are presented for consideration over the next 1-3 years. All cost and revenue impacts presented are based on annual figures.

### Proposal 1: Invest In Rapid Routes (Route 97)

On the Westside, service improvements to the 97 Okanagan are likely to generate the largest benefits in terms of ridership growth. These resources would seek to improve off-peak service during evenings, midday, or weekends.

#### Estimated Resources:

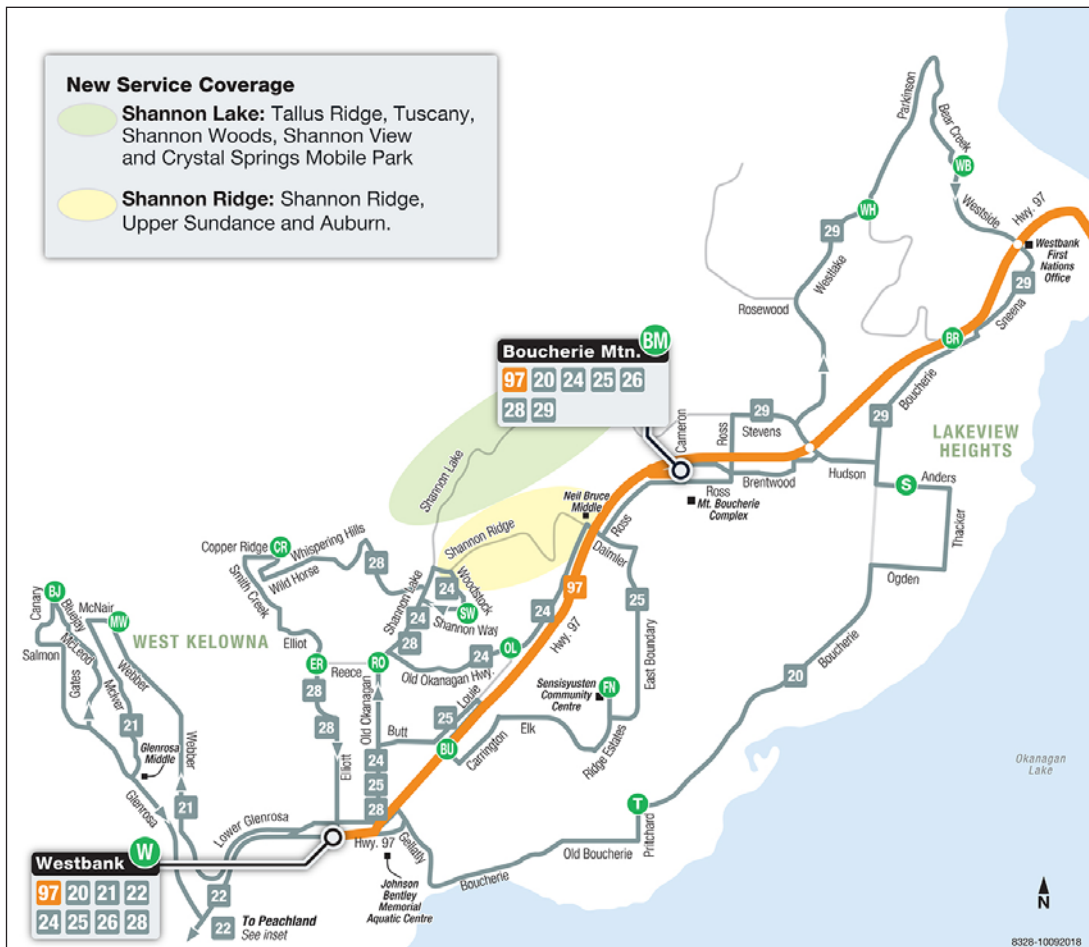
Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,000	0	\$50,912	\$27,039

Additional analysis will be conducted through the Annual Performance Summary process to identify where the additional trips would provide the greatest benefit.

### Proposal 2: Expand Service Beyond Shannon Lake

One of the key transit priorities identified by West Kelowna residents is extending transit coverage to the rapidly developing area along Shannon Lake Road between Shannon Ridge Drive and Bartley Road. This option provides resources for an introductory, peak-only weekday service along this segment of Shannon Lake Road.

Figure 22 - Proposed expanded service beyond Shannon Lake



**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,000	2	\$101,824	\$169,396

Additional analysis and public engagement is recommended to confirm any required changes to other nearby local routes to coincide with the implementation of this new service.

**Proposal 3: Summer Seasonal Service To Gellatly**

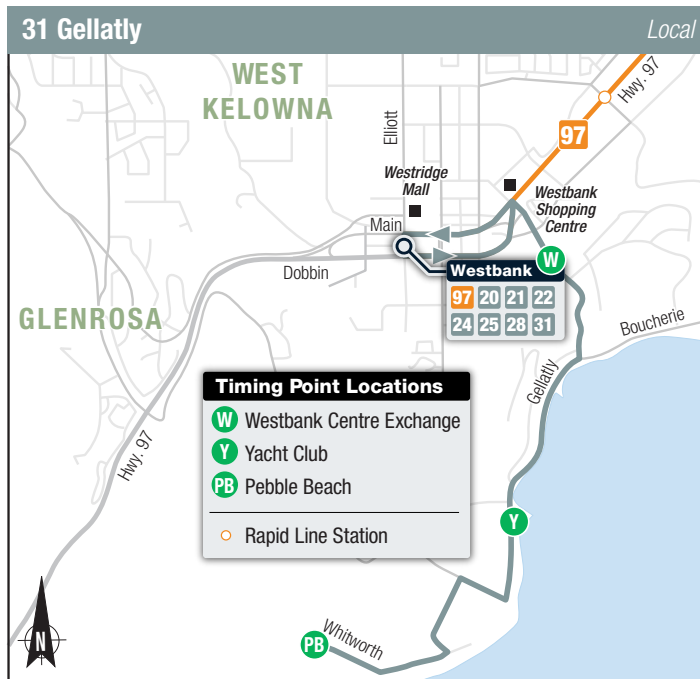
Service to the Gellatly waterfront has been identified previously as a community priority, and parking has been identified as an ongoing challenge on weekends and holidays, particularly around the West Kelowna Yacht Club boat launch.

This proposal provides an option for weekend and holiday service from the Westbank Exchange to Gellatly Bay Park, the West Kelowna Yacht Club, the Cove Lakeside Resort, the Gellatly Nut Farm Regional Park, and Pebble Beach.

**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
250	0	\$12,728	\$12,514

Figure 23 - Proposed service to Gellatly



### Proposal 4: Service Optimization On 27 Horizon And 29 Bear Creek

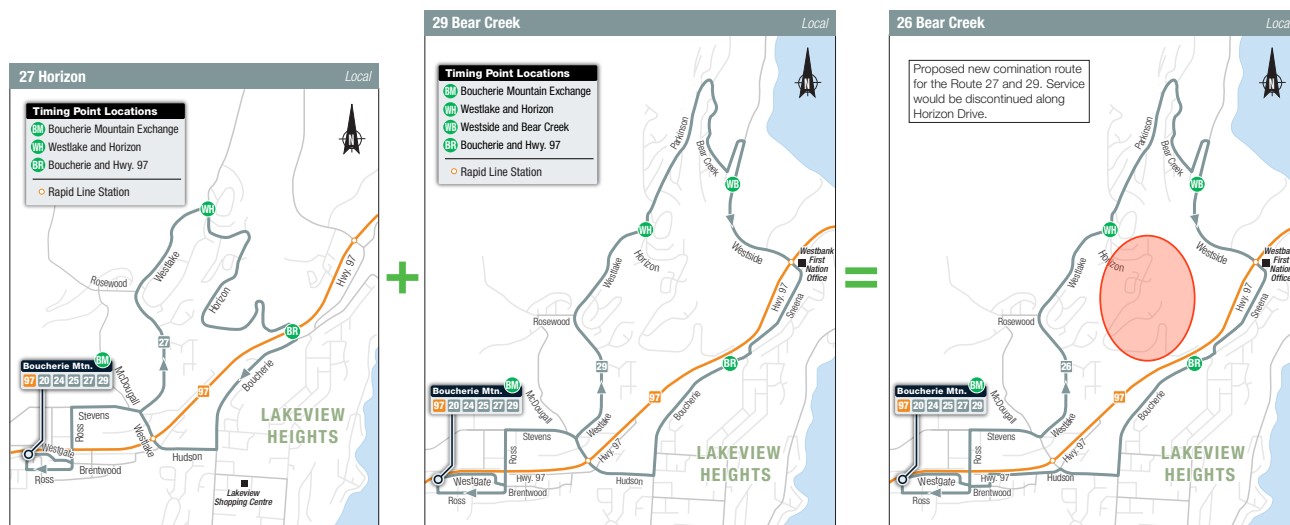
The Route 27 Horizon and Route 29 Bear Creek are the lowest performing routes on the Westside. Three optimization options were explored including maintaining the status quo, discontinuing both routes, or combining the Route 27 Horizon and Route 29 Bear Creek routes into one route. Combining the two routes was identified as the preferred option through the Transit Future Action Plan process.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
-750	0	-\$25,930	-\$23,701

These resources could be reallocated to provide transit service to other areas within the Westside.

Figure 24 - Route 27 and 29 Bear Creek optimization





## Medium-Term Service Proposals (3-5 years)

The following section outlines service proposals and costs for the consideration of the City of West Kelowna and the Westbank First Nation in the medium-term (over the next three to five years).

### Proposal 1: Invest In Rapid Routes (Route 97)

In order to supplement the short-term service improvement to off-peak service on the 97 Okanagan in the Westside, this service option allows for peak service improvements to address peak load challenges. This expansion proposal seeks to move the system towards meeting minimum service standards and alleviating passenger load challenges on the 97 Okanagan.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
2,000	1	\$101,824	\$89,551

These resources would allow for up to eight additional daily weekday round trips between Westbank Exchange and Queensway Exchange.

A portion of these resources could fund any run time increases associated with the proposed addition of new RapidBus stops on Highway 97 at Old Okanagan Highway (Johnson Bentley Memorial Aquatic Centre) and Daimler Drive; see the Westside infrastructure options section for details.

### Proposal 2: Expand Service To Gellatly Lakeside Year Round

There are several developments planned for the Gellatly Lakeside area. One of the short-term service proposals is for a summer weekend and holiday service to the Gellatly Lakeside area. Depending on the performance of that service, as development continues within the Gellatly Lakeside area, weekday service could be extended to the area year round. The proposed routing for the Gellatly seasonal service should be revisited to consider transit access to upcoming developments along Gellatly Road South.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
650	1	\$33,093	\$70,985

These resources would be capable of providing a peak-only weekday service with three morning and three afternoon trips.

## Longer-Term Service Proposals (5-10 years)

The following section outlines service concepts for the consideration of the City of West Kelowna and the Westbank First Nation in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

### Proposal 1: Increase Service Frequency On Core Area Transit (Route 97)

Service improvements to the Route 97 Okanagan is likely to generate the largest benefits in terms of ridership growth on the Westside.

#### Estimated Resources: As required

This expansion proposal seeks to move the system towards meeting minimum service standards and alleviating passenger load challenges on the Route 97.

### Proposal 2: Invest In Higher-Performing Local Routes

Further investment in local transit routes was identified as a key community priority through the public engagement process. Although expanding local service often generates a lower return on investment in terms of ridership, supplementing service on higher performing local routes can better serve those who depend on transit within coverage areas.

Potential options include:

- Earlier or later service to align with service standards
- Improved service frequency in higher ridership periods
- Limited midday service on routes currently offering peak only service

#### Estimated Resources: As required

In addition to local service improvements, the City of West Kelowna may wish to prioritize improvements to bus stop and pedestrian infrastructure in coordination with arterial road improvement projects (E.g. bus shelters, pullouts, sidewalks, and crosswalks).

### Proposal 3: Extend Service To Growing Coverage Areas

The Central Okanagan Transit Service Guidelines identify minimum density targets for transit expansion to new areas. As the City of West Kelowna and Westbank First Nation continues to develop, growing neighbourhoods should be reviewed against the guidelines to identify when extending local coverage service is feasible.

#### Estimated Resources: As required

## District of Peachland

The following section outlines proposals and costs for the consideration of the District of Peachland. All cost and revenue impacts presented are based on annual figures. All costs are estimated based on today's value and can change based on changes in ridership, inflation, fleet changes, and a variety of other factors.

### Short-Term Service Proposals (1-3 years)

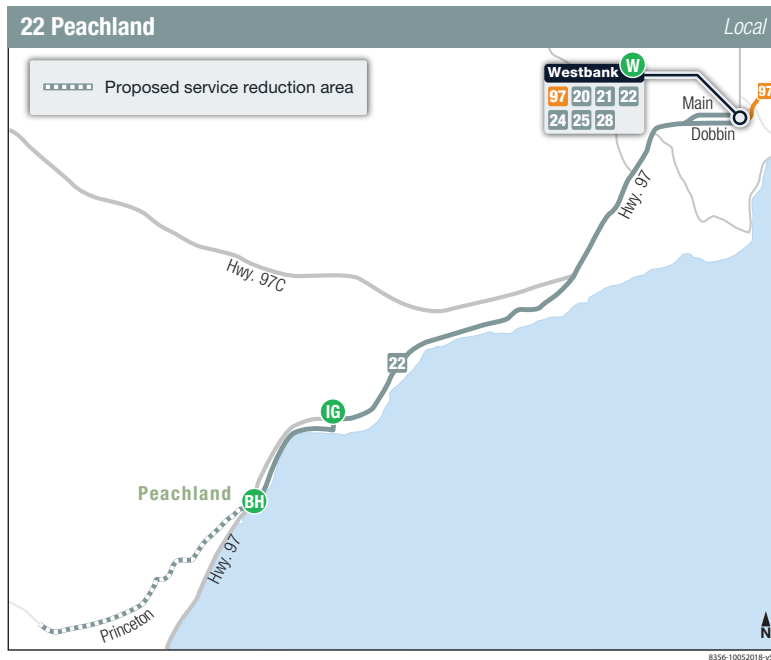
The following section outlines proposals and costs for the consideration of the District of Peachland. These proposals address top priority operational, reliability, and customer concerns and as such are presented for consideration over the next 1-3 years. All cost and revenue impacts presented are based on annual figures.

#### Proposal 1: Service Optimization On The Route 22 Peachland

Currently, every trip on the 22 Peachland provides service to Pine Hills Mobile Home Park. Based on previous data collection, ridership on this segment of the route is lower than other segments of the route.

One option is to reduce the number of trips that extend to the Pine Hills Mobile Home Park.

Figure 25 - Route 22 Peachland optimization



#### Estimated Resources:

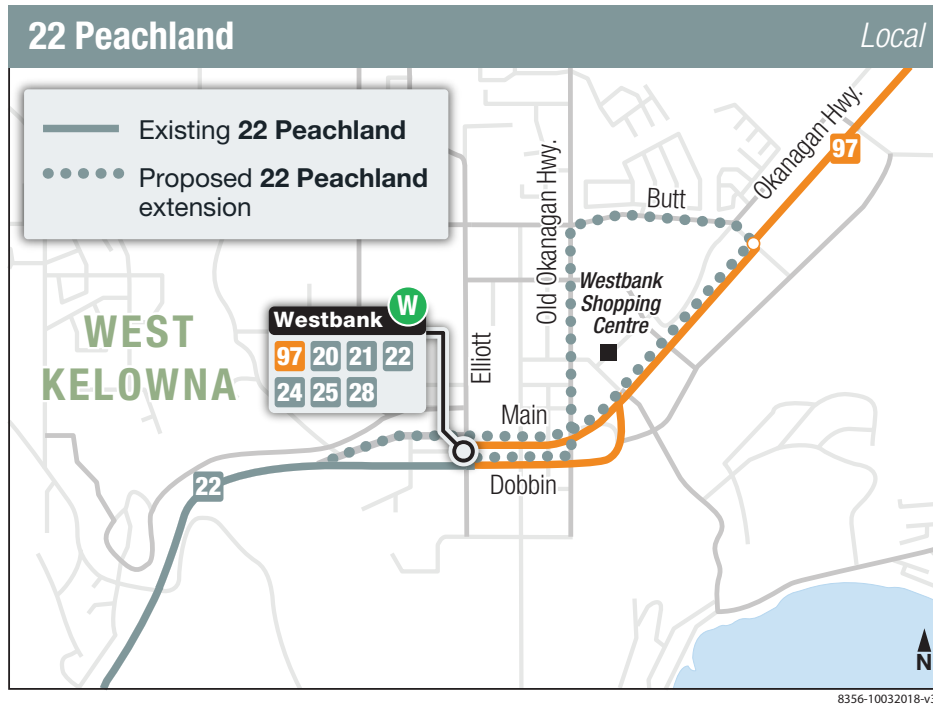
Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
-400	0	-\$13,829	-\$12,577

These resources could be reinvested to extend several trips on the Route 22 Peachland to the Westbank Supercentre WalMart or to increase the service frequency on the Route 22 Peachland.

### Proposal 2: Expanded Service To Walmart

A key community priority identified through engagement was providing a one-seat trip from Peachland to the Butt Road Station Walmart in West Kelowna. This option involves extending four trips per day to the Walmart.

Figure 26 - Expanded service to WalMart



**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
400	0	\$20,365	\$20,039

This service could be provided for fewer expansion resources if combined with the Service Optimization on the Route 22 Peachland option.

### Proposal 3: Integration Of Route With Future Penticton Connector

Improvements to regional service between Penticton and Kelowna was identified as a key priority emerging from the Okanagan-Similkameen Transit Future Plan. If this service moves forward, possible integration opportunities could be explored through the implementation planning process.

Depending on the final proposed service design, there may be opportunities to expand, enhance, or optimize existing transit service in Peachland. District of Peachland stakeholders would be involved in exploring these options through the implementation planning process.

**Estimated Resources: TBD**

## Longer-Term Service Proposals (5-10 years)

The following section outlines service concepts for the consideration of the District of Peachland in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

### Proposal 1: Service Expansion On The Route 22 Peachland

As Peachland continues to develop and ridership increases on the 22 Peachland, there may be benefit to expanding service frequency.

**Estimated Resources: As required**

### Proposal 2: Expanding Service To New Areas

Expanding coverage to transit supportive neighbourhoods and continuing to build the local transit network in Peachland is a potential priority after existing local services are strengthened and prospering. Priority should be given to growing neighbourhoods with the most density.

**Estimated Resources: As required**

### Proposal 3: Possible Peachland Bypass

There is currently a Ministry of Transportation study underway that is reviewing options for a potential Peachland highway bypass.

The study seeks to accomplish the following objectives:

- Examine current transportation needs for the Highway 97 corridor through Peachland;
- Identify future transportation needs through Peachland; and
- Identify and assess possible short, medium, and long-term solutions to address future needs through or around Peachland.

Ultimately, the study will identify two preferred solutions, with one using the existing corridor and another using an alternate route. Depending on the infrastructure changes resulting from this study, transit within the Peachland area may need to be reviewed.

**Estimated Resources: As required**

## Regional District of Central Okanagan

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

### Short-Term Service Proposals (1-3 years)

The following section outlines proposals and costs for the consideration of the Regional District of Central Okanagan. These proposals address top priority operational, reliability, and customer concerns and as such are presented for consideration over the next 1-3 years. All cost and revenue impacts presented are based on annual figures.

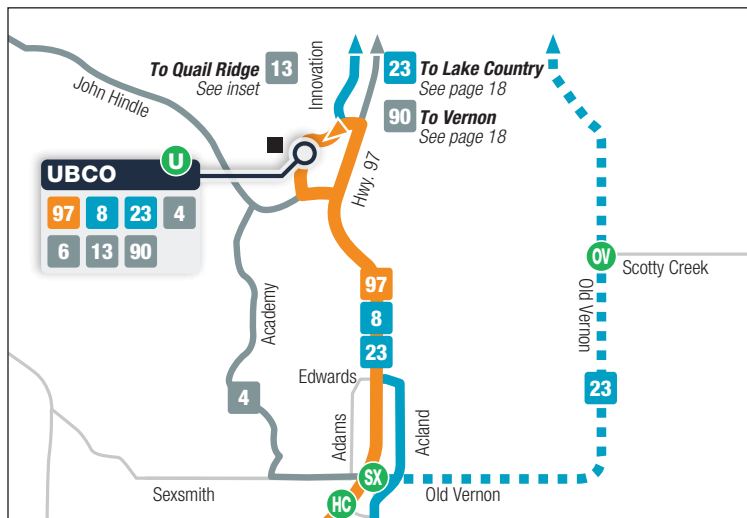
#### Proposal 1: Improve Service To Ellison

Service to the Ellison area is currently provided with a deviation on the Route 23 Lake Country route along Old Vernon Road. This proposal provides two additional weekday trip deviations to the Ellison Area which coincides with the AM and PM peaks.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
250	0	\$12,728	\$13,158

Figure 27 - Improved service to Ellison



## Longer-Term Service Proposals (5-10 years)

The following section outlines service concepts for the consideration of the Regional District of Central Okanagan in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

### Proposal 1: Introduce Handydart Service

Although a lower priority than increasing conventional service frequency, the Ellison community strongly supported reinstating handyDART service to the Ellison area through the public engagement process. Reinstating handyDART service to the Ellison area could be considered in the future if expansion resources become available.

**Estimated Resources: TBD**

### Proposal 2: Continue To Improve Service To Ellison

As ridership grows on the Route 23 Lake Country route trips that deviate to Ellison, additional service expansion could be considered moving forward.

**Estimated Resources: TBD**

## Interregional Services

The following section outlines proposals and costs for interregional service improvements. All cost and revenue impacts presented are based on annual figures.

### Short-Term Service Proposals (1-3 years)

The following section outlines proposals and costs for interregional service improvements. These proposals address top priority operational, reliability, and customer concerns and as such are presented for consideration over the next 1-3 years. All cost and revenue impacts presented are based on annual figures.

#### Proposal 1: 90 North Okanagan Connector Expansion

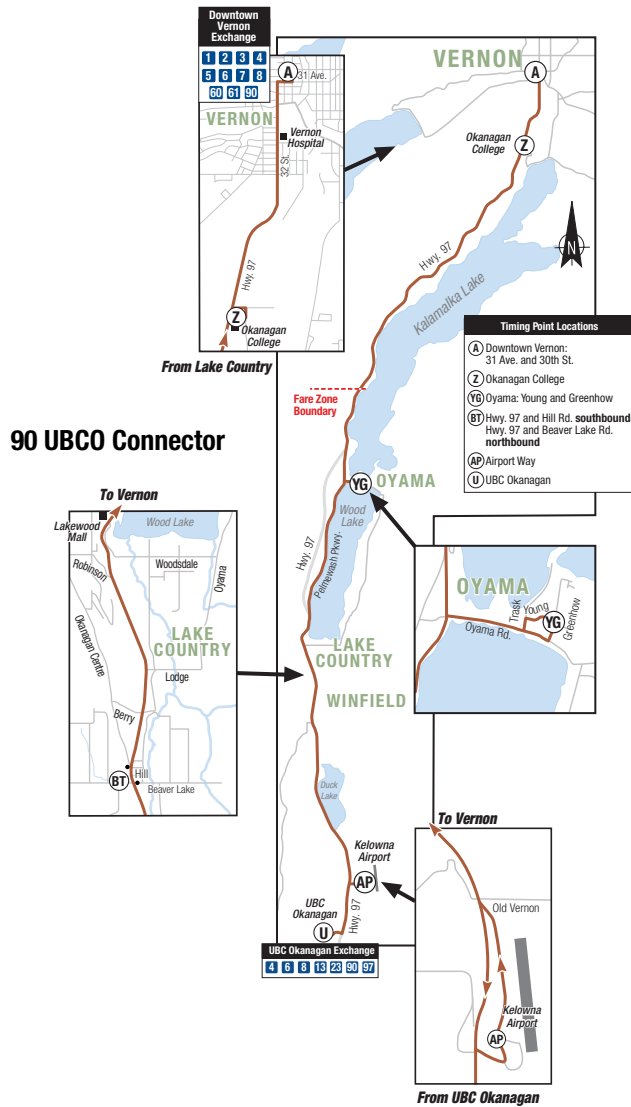
This service option includes a limited Saturday service as well as reducing the seasonal service reduction in the summer schedule.

**Estimated Resources:**

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,100	0	\$56,003	\$50,132

The local cost for this expansion would be shared between the participating local partners.

Figure 28 - Route 90 North Okanagan Connector service expansion



### Proposal 2: Penticton Connector

A service connecting Penticton and Kelowna was identified as a top priority within the 2015 Regional District of the Okanagan Similkameen Transit Future Plan. This service option includes two round trips each weekday, connecting Penticton, Summerland, Peachland, and West Kelowna.

**Estimated Resources: 1,800 annual service hours, 2 buses, cost TBD based on ridership**

The local cost for this expansion would be shared between the participating local partners. This process is currently being led by the Regional District of Okanagan Similkameen.



## Medium-Term Service Proposals (3-5 years)

The following section outlines proposals and costs for interregional service improvements in the medium-term (over the next three to five years).

### Proposal 1: 90 North Okanagan Connector Expansion

The North Okanagan Transit Future Plan identifies further service expansion to achieve hourly weekday service frequency from 7am to 7pm. This requires the expansion of another three round trips each weekday.

#### Estimated Resources:

Annual Service Hours	Buses	Cost Provincial Share	Net Cost Local Share
1,700	1	\$86,550	\$112,839

The local cost for any future expansion would be shared between the participating local partners.

## Longer-Term Service Proposals (5-10 years)

The following section outlines proposals and costs for interregional service improvements in the longer-term over the next five to ten years. These proposals are described as concepts rather than detailed service options since the service details and costs may change substantially due to community growth patterns and changing transit priorities over time.

### Proposal 1: Penticton Connector Expansion

If a preliminary Penticton connector service is implemented, depending on ridership performance in the Kelowna to Penticton direction, there may be value for the Central Okanagan partners to consider adding additional service frequency.

#### Estimated Resources: As required

The local cost for any future expansion would be shared between the participating local partners. This process is currently being led by the Regional District of Okanagan Similkameen.

### Proposal 2: Kelowna To Kamloops Connector

There is currently a Health Connections transit service connecting Kamloops and Kelowna. As the region continues to grow, there may be benefit to considering improvements to regional transit service between these two cities.

#### Estimated Resources: As required

The local cost for any future expansion would be shared between the participating local partners.

# Major Infrastructure Planning

## Regional Infrastructure

### Updating Service Hour and Fleet Projections

The Central Okanagan Transit Future Plan (2012) identified ambitious service expansion targets based on meeting local and Provincial Transit Plan modal share targets of 7 per cent transit ridership by 2035. However, actual rates of service expansion within the Central Okanagan Region since 2012 have been lower than the Transit Future Plan targets, which has implications for future infrastructure planning.

In order to meet these ridership targets, the Transit Future Plan identified a projected requirement of 600,000 annual service hours and 184 buses for the conventional transit system and 62,000 annual service hours and 51 buses for the custom transit system by 2035. In order to meet this target, roughly 18,000 annual service hours and 6 buses needed to be added each year starting in 2012.

Actual expansion has been lower than the goals set within the Transit Future Plan, with closer to 2,500 annual service hours and one bus being added each year on average to the conventional transit system, and approximately 500 annual service hours being added to the custom transit system. Given that actual expansion has been less than the expansion target, 25,000 annual service hours and 10 buses of expansion would be required each year moving forward to meet the targets identified within the 2012 Transit Future Plan.

Projected service expansion has huge implications for future infrastructure planning including the Maintenance and Operations Facility and the capacity of exchanges within the system. Consequently, based on actual patterns since 2012, a more balanced service hour and vehicle expansion target for 2035 may be 235,000 annual service hours and 103 buses for conventional transit and 48,000 annual service hours and 26 buses for custom transit. Therefore, when planning capacity for any future Maintenance and Operations Facility, a range between the originally forecasted growth and the actual historical growth should be considered.

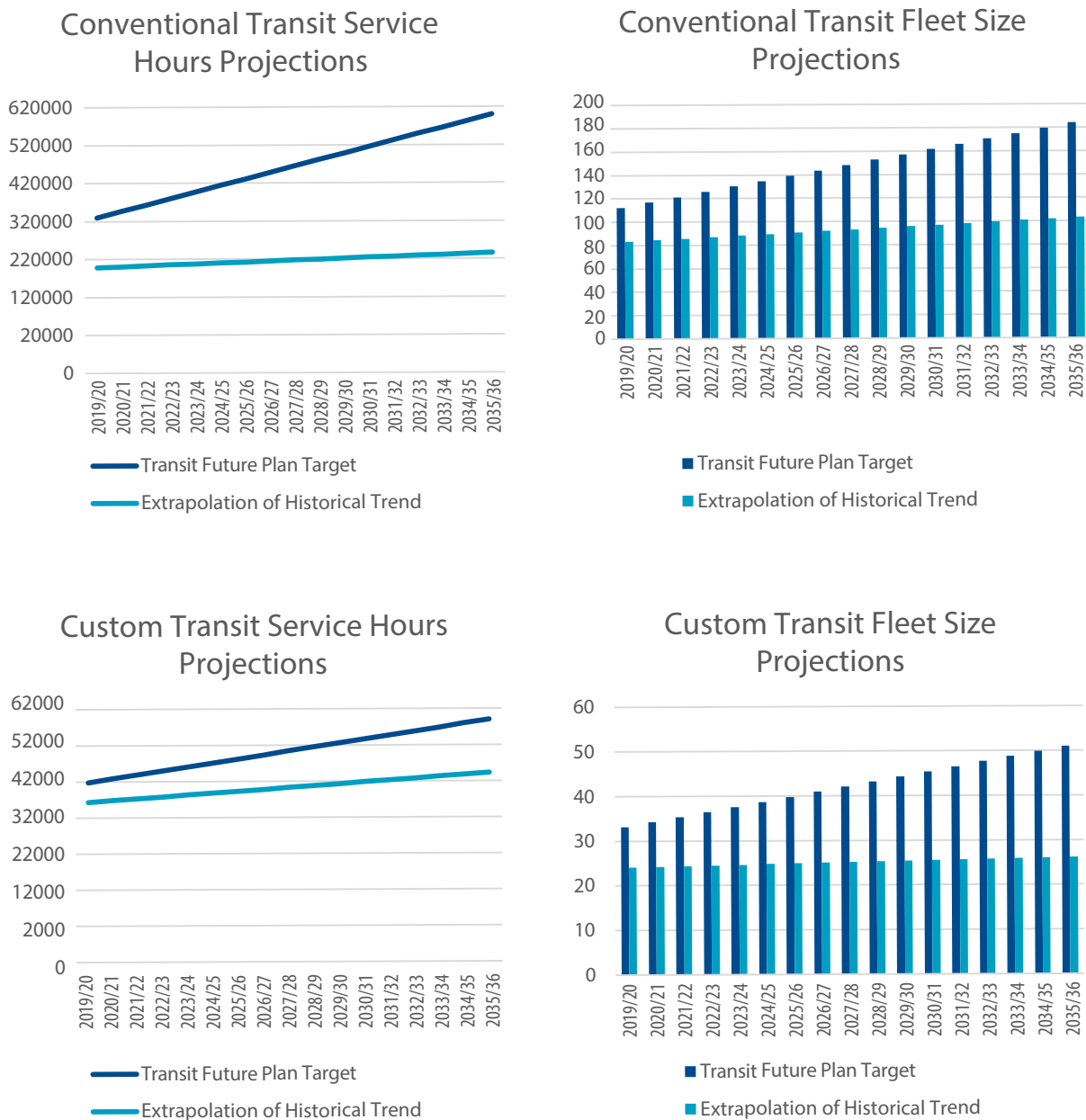
Conventional Transit Expansion Targets versus Actual

	TFP Targets	Actual
Service Hours Expansion per Year	18,000	2,350
Vehicle Expansion per Year	4.5	1

Custom Transit Expansion Targets versus Actual

	TFP Targets	Actual
Service Hours Expansion per Year	1,080	500
Vehicle Expansion per Year	1.1	0.1

Figure 29 - Service Hour and Fleet Size Growth Projection Scenarios



## 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 Kelowna Regional Transit Operations and Maintenance (O&M) Centre was built in 1998 and was designed to hold 70 conventional vehicles. It was originally built to solely serve conventional vehicles, and now includes custom and community vehicles.

Today, the O&M facility has a capacity of 116 buses (85 heavy/medium duty and 31 light duty). As of September 2018, there will be 72 heavy and medium duty buses and 36 light duty buses. There are currently 6 maintenance bays which equates to 18 buses per maintenance bay, which indicates that the maintenance function is at or near maximum capacity.

Consequently, the facility is quickly approaching both vehicle storage and maintenance capacity constraints, and a new facility will soon be needed to accommodate the travel needs of a growing population in the region. Since transit O&M facilities are long-term investments, they should cater to both current and future transit needs.

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.

Annual conventional transit ridership has grown in the last five years from 4,795,000 to 5,240,000 and it is expected that service demands will continue to grow and there will be a need to increase the bus fleet which requires additional capacity. Figure 29 shows a range of potential conventional and custom transit fleet growth scenarios to the year 2035/36.

## 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 exchanges in the Central Okanagan Region include Westbank, Boucherie Mountain, Queensway, OK College, Pandosy Town Centre, Mission Recreation Centre, Orchard Park, Rutland, and UBCO. Since the Transit Future Plan, there have been a number of exchange-related projects that have been completed within the Central Okanagan region.

In 2014, there were several exchange improvements completed as part of RapidBus Phase 2:

- Westbank Exchange
- Boucherie Exchange
- Okanagan College
- Pandosy Town Centre
- Queensway Exchange Upgrade

Additional Transit Exchange work was completed in 2017:

- UBCO Exchange

For the next 5 years, specific transit exchange options have been identified within the infrastructure sections separated by local partner, including initiatives like the Rutland and Midtown Exchange projects in the City of Kelowna.

## 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).

Since the Transit Future Plan, the Central Okanagan region implemented its first transit priority measures as part of the RapidBus project. The priority measures are in place in both Kelowna and West Kelowna and include signal priority along Highway 97 between Elliott Road and Edwards Road, and a 2+ High Occupancy Vehicle lane along Highway 97 initially between Hwy 33 and Pandosy and extending to Sexmith Road in 2018. Given the anticipated increase in traffic volumes and congestion, additional transit priority measures will be needed to maintain or improve operating speeds, which will keep cost down and help to improve ridership. The type of priority measure implemented should match the particular needs of the intersection or corridor.

Since the Transit Future Plan, the following transit priority measures have been established within the Kelowna Regional Transit System:

- Throughout the City of Kelowna, transit signal priority equipment is in place at many signalized intersections, and this equipment is controlled through a Central Management System used by both emergency services and transit vehicles.
- Today, a total of 30 vehicles in the conventional fleet are outfitted with TSP equipment.

For the next 5 years, specific transit priority options have been identified within the infrastructure sections separated by local partner, including initiatives like the Midtown Corridor Transit Priority Project for the City of Kelowna.

### **Park & Rides**

Park & Rides provide low density and semi-rural areas with a method to access the transit system in lieu of, or in compliment to, neighbourhood transit service. Since the 2012 Transit Future Plan, the first formal Park & Ride was established at Beasley Park in Lake Country. However, there is latent demand proven by the increasing instances of Hide & Rides throughout the Central Okanagan region. Orchard Park, Mission Centre and numerous on-street parking locations are known examples where customers drive, park and hop on the bus, which can create conflicts with private property owners. 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.

Since the Transit Future Plan, the following Park & Rides have been established within the Kelowna Regional Transit System:

- Beasley Park in Lake Country

For the next 5 years, specific Park & Ride options have been identified within the infrastructure sections separated by local partner, including the Oceoloa Transportation Hub in Lake Country.

### **Bus Stops**

The Central Okanagan Transit Future Plan identified required investments in stations on the RapidBus 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. Road resurfacing projects can often present opportunities to also upgrade transit infrastructure along a particular corridor.

## City of Kelowna

### Short-Term Infrastructure Proposals

#### Rutland Exchange (Phase 3)

Rutland Town Centre has been recognized as one of Kelowna's five urban centers in the City of Kelowna's Official Community Plan since 1996, and a vision for an urban center and transportation hub has been created for the area. The vision is to create a comprehensive land use, urban design and transportation plan that focuses on pedestrian and public transit infrastructure and revitalization of Rutland Town Centre.

The Rutland Exchange has been a multi-phase project:

- Phase 1 included transit infrastructure and streetscape improvements on highway 33.
- Phase 2 included developing the initial transit exchange infrastructure on Shepherd Road between Dougall and Asher Roads in 2013.
- Phase 3 is planned for 2018 and involves the development of additional transit exchange infrastructure and extending Shepherd Road to connect the Rutland Transit Exchange to Rutland Road; this road extension will allow existing transit services to be effectively integrated into the new exchange.

#### Estimated Resources: \$2,000,000

Some additional funding may be required to complete final exchange details such as shelters.

### Medium-Term Infrastructure Proposals

#### Midtown Exchange Project

The Midtown Transit Exchange (Orchard Park Exchange) is the primary node supporting the Midtown Corridor routes and is in close proximity to the Highway 97 RapidBus Stops at Cooper Road. Improvements to the Corridors and the Midtown Transit Exchange are needed for the following reasons:

- Midtown is the second most active transit exchange in the Kelowna Regional Transit System
- The existing Midtown Transit Exchange is at capacity (8 buses at peak) and is located on private property. A stable, long-term solution is required to facilitate expansion of the service.
- Approximately one-third of transit trips in the region pass through this location.
- Cooper Road has the second highest number of buses per day on the network.
- Due to constraints in the system, buses leaving the exchange are forced to route through Highway 97 at Cooper Road and Dilworth Drive adding unnecessary delay.

While exchange concepts have been developed for a new, 12 bay on-street exchanges on Cooper Road adjacent to Orchard Park Mall, further analysis will explore a variety of possible exchange locations and designs.

#### Estimated Resources: \$5.9 to \$6.5 million

## Park & Rides

There is latent demand for Park & Rides within the City of Kelowna area proven by the increasing instances of Hide & Rides throughout the Central Okanagan region. Orchard Park, Mission Centre and numerous on-street parking locations are known examples where customers drive, park and hop on the bus, which can create conflicts with private property owners.

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. Rutland and Mission Recreation Park have previously been identified as candidate Park & Ride sites.

**Estimated Resources: TBD**

## Longer-Term Infrastructure Proposals

### Midtown Corridor Improvements

Approximately one-third of transit trips in the Kelowna Regional Transit System pass through the midtown corridors along Enterprise Way and Springfield Road. Growing traffic congestion at major intersections along these corridors is eroding the reliability of these routes and increasing the costs of service operation. Previous planning work estimated that congestion-related transit delays on Springfield Road and Enterprise Way cost roughly \$300,000 annually.

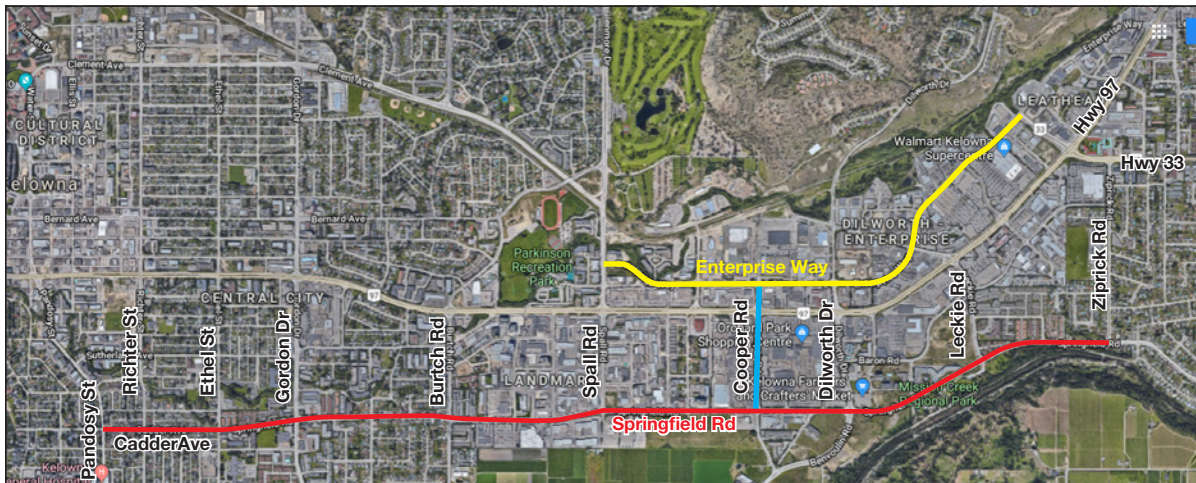
To address these growing reliability and cost challenges, transit priority improvements have been identified for Enterprise Way and Springfield Road. Proposed improvements include transit signal priority, queue jumper lanes, and improved bus stop infrastructure.

**Estimated Resources: \$6.2 million**

Enterprise Transit Priority Corridor – \$2.2 million

Springfield Transit Priority Corridor - \$4.0 million

**Figure 30: Midtown corridor infrastructure improvements**





### Airport Rapidbus Infrastructure Improvements

The YLW Airport Master Plan 2045 includes recommendations for extending RapidBus to the Airport, and identifies that improved transit infrastructure should be a central and integrated component of the Airport Terminal frontage area. The Master Plan identifies an implementation timeline of sometime before 2025.

Extending RapidBus service to the Airport will require infrastructure improvements to meet the RapidBus design standards and to improve transit accessibility. Preliminary design work must be done to identify estimated infrastructure costs associated with this option.

**Estimated Resources: To be determined**

## District of Lake Country

### Proposal 1: Oceola Transportation Hub (Medium-Term Option)

The intersection of Oceola Road and Highway 97 is currently a location where several local routes intersect with a regional route. The creation of a transit hub with improved transit infrastructure could improve transit operational flexibility while also allowing customers to easily connect between different routes:

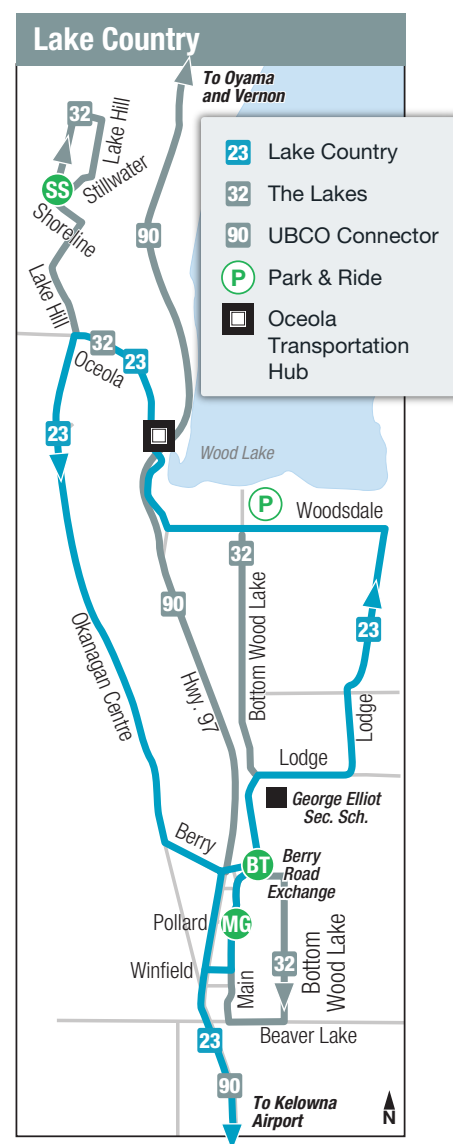
Amenities for consideration within the design could include:

- Highway stops to allow access to and from the 90 North Okanagan Connector
- Improvements to existing transit facilities including shelters, benches, and transit information
- A traffic circle at the intersection of Oceola Road and Pretty Road to allow buses to turn around
  - » This improvement would allow increased flexibility for future transit network design

**Estimated Resources: To be determined.**

Preliminary design work is required to identify high-level cost implications for this infrastructure improvement project.

Figure 31 - Oceola transportation hub



# Westside

## Proposal 1: Rapidbus Stop Locations (Medium-Term Option)

Through the public engagement process, several infrastructure-related priorities were identified by the public on the Westside including requests for additional RapidBus stop locations. The most commonly requested additional RapidBus stop locations included the following:

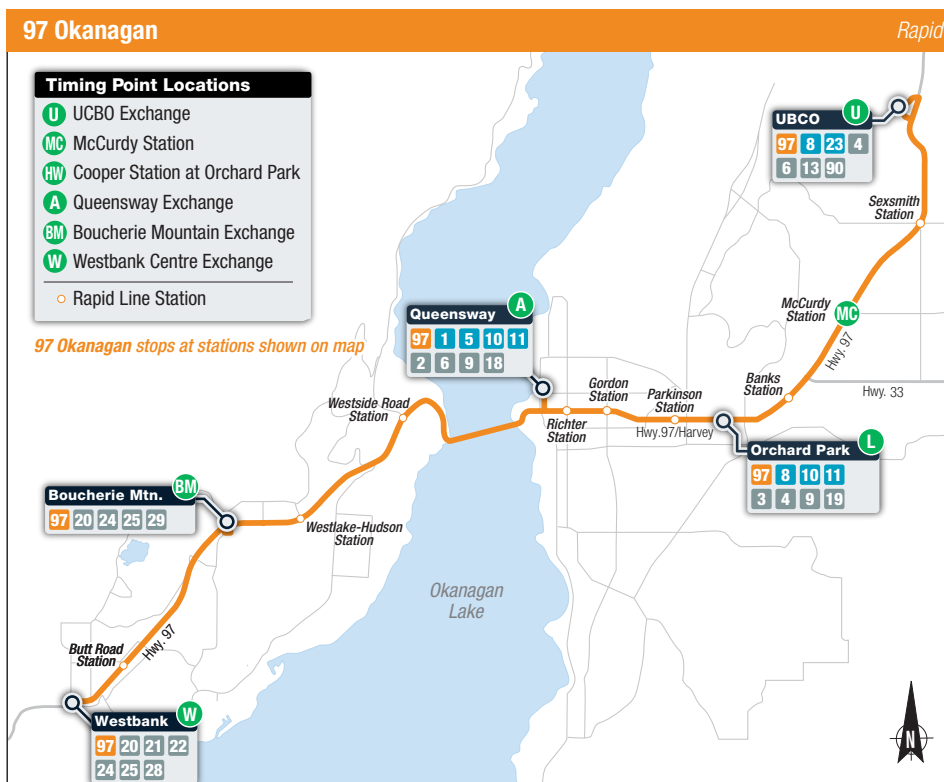
- Main at Old Okanagan Highway
- Dobbin at Old Okanagan Highway
- Highway 97 at Daimler

### Main and Dobbin at Old Okanagan Highway

The bus stops on Main and Dobbin at the Old Okanagan Highway provide easy walking access to important amenities within West Kelowna including the Johnson Bentley Memorial Aquatic Center and key shopping destinations along Old Okanagan Highway.

The Central Okanagan Transit Service Guidelines identify minimum density targets for expanding RapidBus service and bus stops to new areas. As development continues on the Westside, these proposed RapidBus stop locations should be assessed against the Transit Service Guidelines to identify when installation makes sense. Although adding additional stops to the RapidBus may add additional running time, it will improve access to parts of the community that are currently inaccessible by RapidBus, potentially increasing ridership opportunities.

Figure 32 – Future RapidBus stop locations



**Estimated Resources: To be determined.**

If directed, preliminary design work could be conducted to determine high-level costs for these projects.

**Proposal 2: Park & Rides (Medium-Term Option)**

Through the public engagement process, several infrastructure-related priorities were identified by the public on the Westside including requests for Park & Rides. This will become even more important with any introduction of interregional services connecting Penticton and Kelowna.

**Estimated Resources: To be determined.**

## District of Peachland

**Proposal 1: Park & Ride / Transit Hub (Medium-Term Option)**

Previous planning and public engagement work has identified a Park and Ride and Transit Hub within the Peachland area as a priority.

**Estimated Resources: To be determined.**

If directed, preliminary design work could be conducted to determine high-level costs for these projects.

# Emerging Technology

New emerging technologies will have a direct impact on future mobility within the Central Okanagan 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 Kelowna 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 Kelowna Regional Transit System are anticipated sometime before the end of 2018.

#### 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.

In 2018, a request for information (RFI) to industry suppliers and subject matter experts is anticipated in order to validate the recommendations identified by the review and to collect the required information needed to write a business case for the project. Afterwards, a business case will be completed and an RFP for evaluation and response by industry suppliers will be posted."

To validate the recommendations presented in the report and collect the required information necessary to write a business case for the project a request for information (RFI) to industry suppliers and subject matter experts was posted.

The next step is to complete the business case and post an RFP for evaluation and response by industry suppliers. The intent of the RFP is to select a contractor to help BC Transit make an advanced fare collection system a reality.

## 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 electronic device. 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. The Central Okanagan Region currently has multiple business to consumer car sharing options including OGO Car Share and Zipcar.

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 geo-fenced or not. The City of Kelowna is currently working on a proposal to allow for a dockless bikeshare system to be established within the region.

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

### **Ride Hailing**

Ride hailing is the provision of immediate or on-demand service whereby a vehicle and driver are hired for a fee to transport a passenger, or a small group of passengers, between locations of their choice. This service may be provided by Transportation Network Companies (TNCs) or traditional taxi operators.

Although ride hailing from TNCs such as Uber or Lyft is not currently permitted in British Columbia, Provincial Legislation is currently being considered to permit and regulate the operation of TNCs within BC. As seen in many other cities that currently permit TNCs, the widespread adoption of ride hailing services can either supplement or substitute for existing fixed-route transit services depending on various contextual factors <sup>5</sup>.

## **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 Okanagan 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.

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<sup>5</sup> *From Transportation Network Companies in British Columbia*  
[https://www.leg.bc.ca/content/CommitteeDocuments/41st-parliament/2nd-session/CrownCorporations/Report/SSC-CC\\_41-2\\_Report-2018-02-15\\_Web.pdf](https://www.leg.bc.ca/content/CommitteeDocuments/41st-parliament/2nd-session/CrownCorporations/Report/SSC-CC_41-2_Report-2018-02-15_Web.pdf)

# Implementation Strategies

Once this document has been approved, it becomes a guiding document for making future transit decisions in the Kelowna Region. 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. It is recommended that any service change details, such as proposed changes to routes, be reviewed in a public engagement process conducted through online surveys and public open houses.

The Kelowna Regional 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 a transit system the size of the Kelowna Regional, 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 adjustments/enhancements for the next 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 and medium-term transit service and infrastructure priorities that emerged for the Kelowna Regional Transit System through the Transit Future Action Plan process.

Table 7 – Short-Term Service Implementation Priorities

Short-Term Service Implementation Priorities (1–3 years)					
Region	Service Priorities		Estimated Annual Service Hours	Expansion Buses	Estimated Net Local Annual Cost*
City of Kelowna	1	Invest in Frequent and Rapid Routes	5,000	2	\$206,190
	2	John Hindle Drive Connection	2,500	1	\$130,655
	3	Introduce Service to Academy Way	450	0	\$19,188
	4	Rutland Exchange Realignment	750	0	\$43,598
	5	Upper and Lower Mission Service Restructure	1,100 to 1,650	1	\$104,363
	6	Invest in Local Routes	500	0	\$23,568

Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses	Estimated Net Local Annual Cost*
Lake Country	1 Improvements to the Route 23 Lake Country	2,500	1	\$146,308
	2 Service Optimization on Route 32 the Lakes	-500	0	-\$18,073
	3 Oyama Service	700	1	\$73,725
Westside	1 Invest in Rapid Routes	1,000	0	\$27,093
	2 Expand Service Beyond Shannon Lake	2,000	2	\$169,396
	3 Summer Seasonal Service to Gellatly	250	0	\$12,514
	4 Service Optimization on Route 27 Horizon and Route 29 Bear Creek	-750	0	-\$23,701
Peachland	1 Service Optimization on the Route 22 Peachland	-400	0	-\$12,577
	2 Expanded Service to Walmart	400	0	\$20,039
	3 Integration with Future Penticton Connector	TBD	TBD	TBD
RDCO	1 Improve Service to Ellison	250	0	\$13,158
Interregional	1 Route 90 North Okanagan Connector Expansion	1,100	0	\$50,132
	2 Penticton Connector	1,800	2	TBD
<b>TOTAL</b>		<b>18,650 – 19,200</b>	<b>10</b>	<b>~\$985,000</b>

\*These net local costs include the local share of lease fees and an estimate for revenue

Table 8 - Medium-Term Service Implementation Priorities

Medium-Term Service Implementation Priorities (3–5 years)				
Region	Service Priorities	Estimated Annual Service Hours	Expansion Buses	Estimated Net Local Annual Cost*
City of Kelowna	1 Rutland Network Restructure	5,000	2	\$274,590
	2 Invest in Frequent and Rapid Routes	2,500	2	\$138,461
	2 Invest in Existing Local Routes	1,000	0	\$47,135
	4 Consider Opportunities to Expand Transit to New Coverage Areas	1,500	1	\$106,067
Lake Country	1 Expanding Service to New Areas	2,000	1	\$140,528
Westside	1 Invest in Rapid Routes	2,000	1	\$89,551
	2 Expand Service to Gellatly Lakeside Year Round	650	1	\$70,985
RDCO	1 Route 90 North Okanagan Connector Expansion	1,700	1	\$112,839
<b>TOTAL</b>		<b>16,350</b>	<b>9</b>	<b>~\$980,000</b>

\*These net local costs include the local share of lease fees and an estimate for revenue



Table 9 – Short-Term Infrastructure Implementation Priorities

Short-Term Infrastructure Implementation Priorities (1-3 years)		
Region	Infrastructure Priorities	Estimated Resources
City of Kelowna	1 Rutland Exchange	\$2 million
Regional	2 Future Operations and Maintenance Facility	TBD

Table 10 – Medium-Term Infrastructure Implementation Priorities

Medium-Term Infrastructure Implementation Priorities (3-5 years)		
Region	Infrastructure Priorities	Estimated Resources
City of Kelowna	1 Midtown Exchange Project	\$5.9–\$6.5 million
Lake Country	2 Oceola Transportation Hub	TBD
Westside	1 RapidBus Stop Locations	TBD
	2 Park & Rides	TBD
Peachland	1 Park & Ride / Transit Hub	TBD

# Funding and Governance

## Funding

The most significant challenge facing the local governments and BC Transit will be finding the funding resources to implement the transit service improvement proposal outlined in this document. As identified within the BC Transit Act, local partners are responsible for determining the extent of transit service provided in their communities and then funding their legislated share of the cost of this service.

Existing local funding sources include property taxes, passenger fares, advertising revenue, and other commercial revenue sources. Pursuing alternative funding sources outside the existing BC Transit model are up to the local partners to research.

There may be opportunities to leverage funding from the Investing in Canada Infrastructure Program (ICIP) (formerly Public Transit Infrastructure Fund or PTIF) to develop infrastructure associated with projects identified within this plan. The first phase of PTIF provided investments of \$160 million in federal and provincial funding to improve public transit systems in BC Transit-served communities outside Metro Vancouver. The next phase of ICIP will involve additional federal and provincial funding for BC Transit projects over the next 11 years.

## Governance

The Kelowna Regional Transit System is composed of multiple local government jurisdictions that have separate agreements with BC Transit including the City of Kelowna, the City of West Kelowna, Westbank First Nation, the District of Peachland, the District of Lake Country, and areas governed by the Central Okanagan Regional District.

Although the Kelowna Regional Transit System provides seamless transit services across the boundaries of these jurisdictions, any changes to routes, service levels, and transit infrastructure must be approved by each local government directly impacted by the changes.

Since the 2012 Central Okanagan Transit Future Plan, there have been some transit governance changes within the Central Okanagan Region to provide local oversight from a regional perspective. In 2013, the Sustainable Transportation Partnership of the Central Okanagan (STPCO) was formed, and is a partnership formed by the local and regional governments of the Central Okanagan to coordinate the regional delivery of sustainable transportation programs and projects in support of common regional policy, plans and interests.

For transit, on behalf of all local partners, the STPCO has taken on the role of coordinating and managing transit administration, fare reviews and implementation, advertising contracts, and providing supplemental transit planning information and oversight from a regional perspective.



- Executive Summary
- Introduction
- Land Use and Road Network Update
- Transit Today
- Public Engagement
- Service Change Proposals
- Major Infrastructure Planning
- Emerging Technology
- Implementation Strategies
- Funding and Governance





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