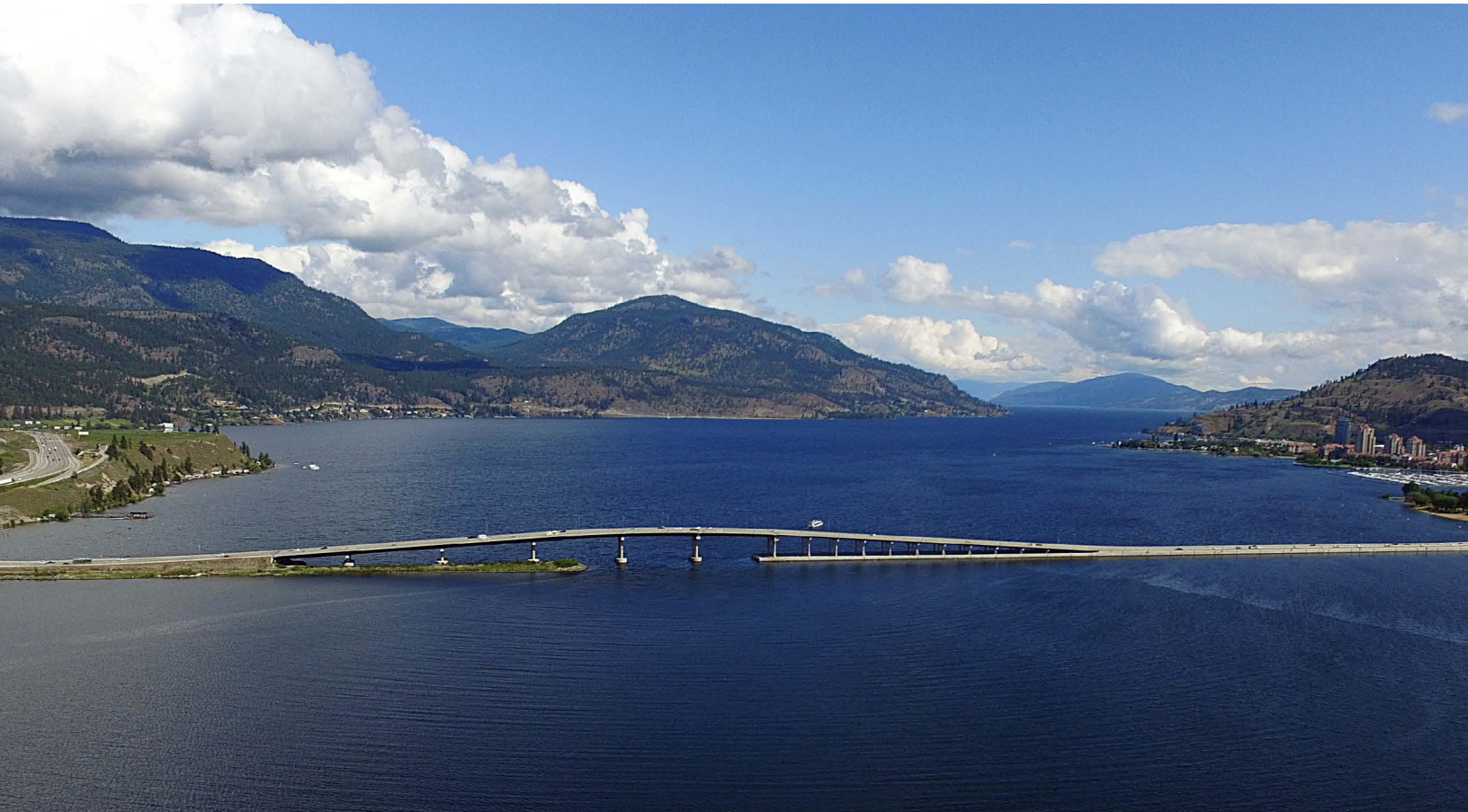


# Okanagan Lake Second Crossing Project

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## Central Okanagan Planning Study Exploring the Options



**Consultation Companion**  
Open House — Spring 2017



Ministry of  
Transportation  
and Infrastructure

## How to Use This Consultation Companion

This booklet is designed to work as a companion to open house information displays and the comment form.

Your responses, combined with those of other participants, will be considered in the identification and development of future transportation improvement options.

## Overview

Thank you for participating in the first part of Phase 2 consultation, exploring the options for the Central Okanagan Planning Study. This Consultation Companion document provides an introduction to the work being done to identify and develop options for meeting the future needs of Highway 97 through the Central Okanagan.

### Staying Involved

To stay involved and help plan for the future of Highway 97 through the Central Okanagan, you can:

- Visit <http://engage.gov.bc.ca/okanagansecondcrossing> to find background and technical information, and to participate in the conversation
- Attend an open house event (schedule below)
- Arrange a presentation / dialogue session for your group or organization (details below)
- Read this Consultation Companion and complete a Project Comment Form. Forms are available at open house events
- Sign up to receive ongoing updates by submitting a request to [okanagansecondcrossing@gov.bc.ca](mailto:okanagansecondcrossing@gov.bc.ca) or calling **250-712-3660**

### Public Open House Schedule

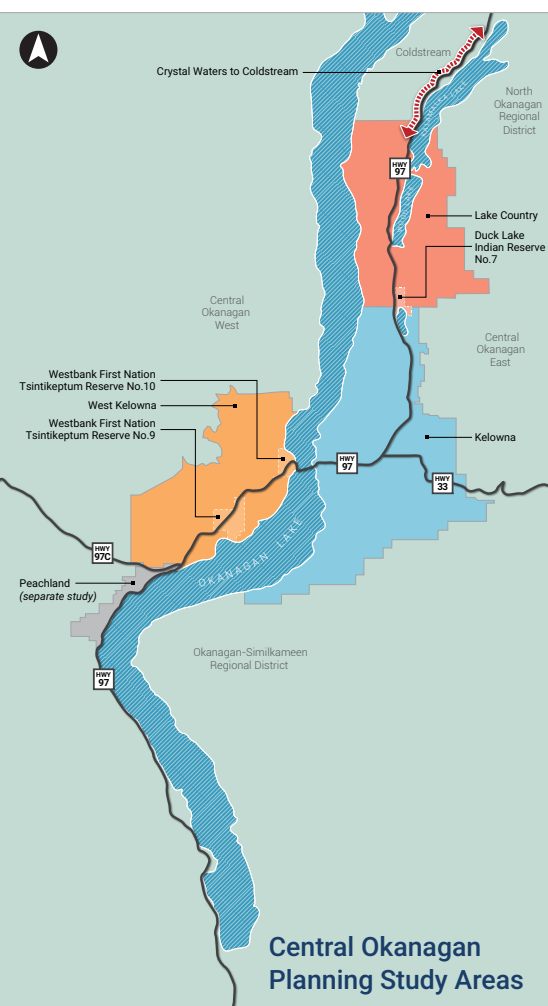
Community	Date	Time	Venue
Lake Country	Monday, March 27, 2017	3:30 pm – 7:00 pm	Winfield Memorial Hall, 10130 Bottom Wood Lake Road, Lake Country
Kelowna	Tuesday, March 28, 2017	3:30 pm – 7:00 pm	Ramada Kelowna Hotel and Conference Centre, 2170 Harvey Avenue, Kelowna
West Kelowna	Thursday, March 30, 2017	3:30 pm – 7:00 pm	Westbank Lions Community Centre, 2466 Main Street, West Kelowna

### Stakeholder Committee Meetings

In addition to open houses and online consultation, the project team has met with a Community Working Group and a Technical Advisory Committee, as well as working groups comprised of staff and elected officials of local municipalities and First Nations to discuss the preliminary options for the Central Okanagan corridor. These groups have helped review the options and identify opportunities, considerations, issues, and concerns.

### Arranging a Presentation or Dialogue Session for Your Group

Presentations and dialogue sessions with local groups and organizations can be arranged by contacting the project team by email at [okanagansecondcrossing@gov.bc.ca](mailto:okanagansecondcrossing@gov.bc.ca) or by phone at **250-712-3660**.



## Project Background

Work on the Central Okanagan Planning Study began in late 2014. The purpose of the study is to help the Ministry of Transportation and Infrastructure understand and explore the transportation needs of the Central Okanagan. The study extends from Greata Ranch in the south near Peachland to Clerke Road near Vernon in the north. The study encompasses the communities of Peachland, Okanagan Indian Band, West Kelowna, the Westbank First Nation, Kelowna, Lake Country, and Okanagan Indian Band Duck Lake Indian Reserve.

In particular, the study is exploring:

- A variety of options for improvements to the existing corridor, as well as alternate routes
- If, where and when a second crossing of Okanagan Lake might be located

Ultimately, the study will make recommendations for the future of the corridor including short, medium, and long-term improvements.

A separate, more detailed study, on transportation issues relating to Peachland was initiated in late 2015. The information from this study will be integrated into the overall Central Okanagan Planning Study.

## Project Status

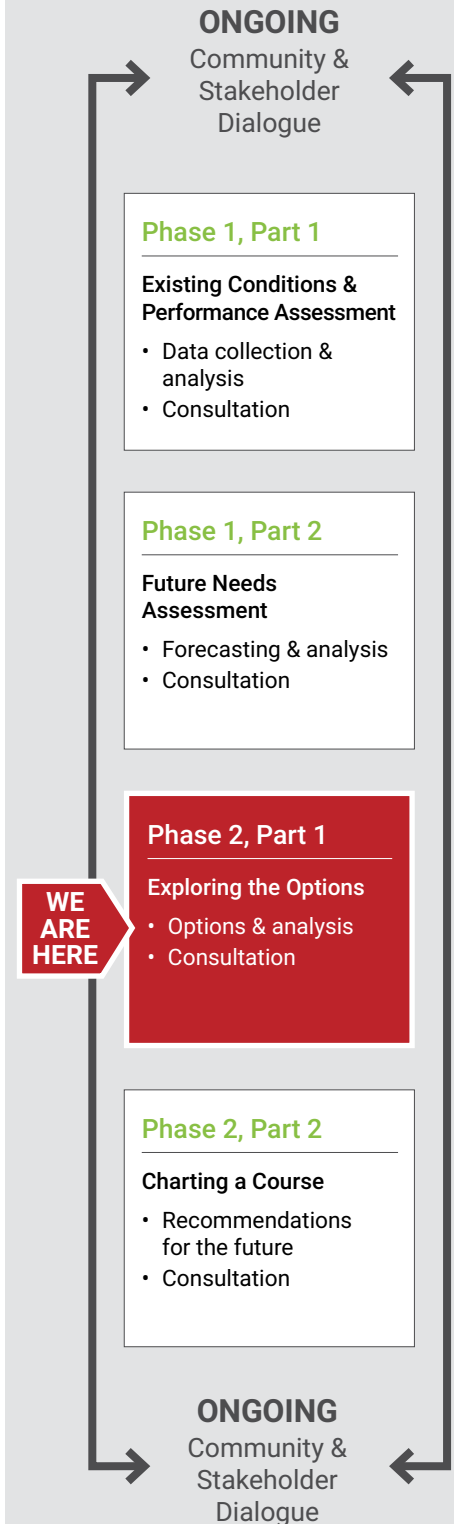
The first phase of the study included an analysis of existing conditions and performance of the corridor as well as a forecast of future conditions. This information was presented for public feedback at open house events in May and November 2015. Input was also gathered during idea generation workshops held with the Community Liaison Committee and the Technical Advisory Committee in September 2015. During these events the project team presented existing conditions assessments to confirm that the data matched local user experience of the area and to identify items that may have been overlooked during the technical review. Community feedback was gathered via the workshop exercise, written and online feedback forms, and emails to the project team.

The project team has continued to meet with the Community Liaison Committee and the Technical Advisory Committee while developing potential options for the Central Okanagan Corridor. These options offer potential ways of improving safety and traffic flow along the corridor. They also explore the possibility of realigning the highway through or around communities and the potential for a second crossing of Okanagan Lake.

## Purpose of This Consultation

Our purpose in consulting you is to present preliminary options for the corridor and to capture your comments, additional issues, concerns, and ideas. Your input will help the project team evaluate and identify short, medium and long-term improvements for Highway 97 through the Central Okanagan.

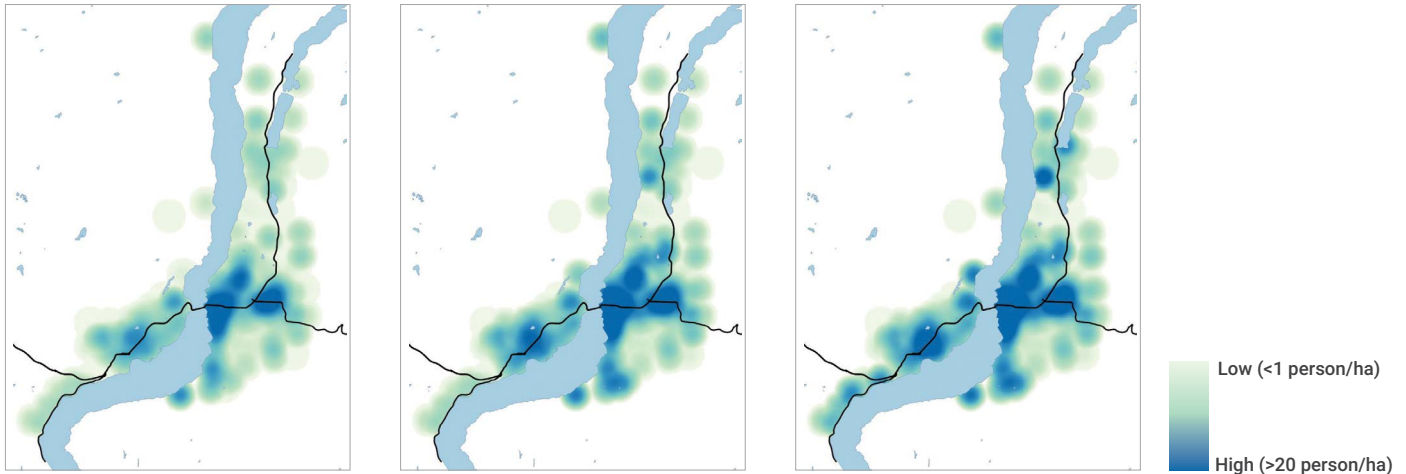
## Stages of Planning and Consultation



# Recap of Existing and Future Conditions Assessment

## Growth Projections (Presented at Public Open House, May 2015)

To help identify future problems and issues along Highway 97, the study team used a baseline trend scenario. This 25-year growth projection relies on community plans, provincial growth statistics, and current growth trends in the region to project future conditions such as population and employment growth and land use density. These projections have been used to assess the future transportation needs of the region and the most effective solutions to address these needs. The baseline trend for this study assumes a population of 275,000 people by 2040.



### Existing (2014)

Today's conditions

Regional population: 192,000

450 jobs/1,000 people

### Baseline Trend

25 years out

Regional population: 275,000

482 jobs/1,000 people

### Long Range Growth

40-50 years out

Regional population: 325,000

474 jobs/1,000 people

## Future Congestion Along Highway 97

Using baseline trend projections, the congestion experienced along Highway 97 by 2040 will be significantly greater than it is today. This will include:

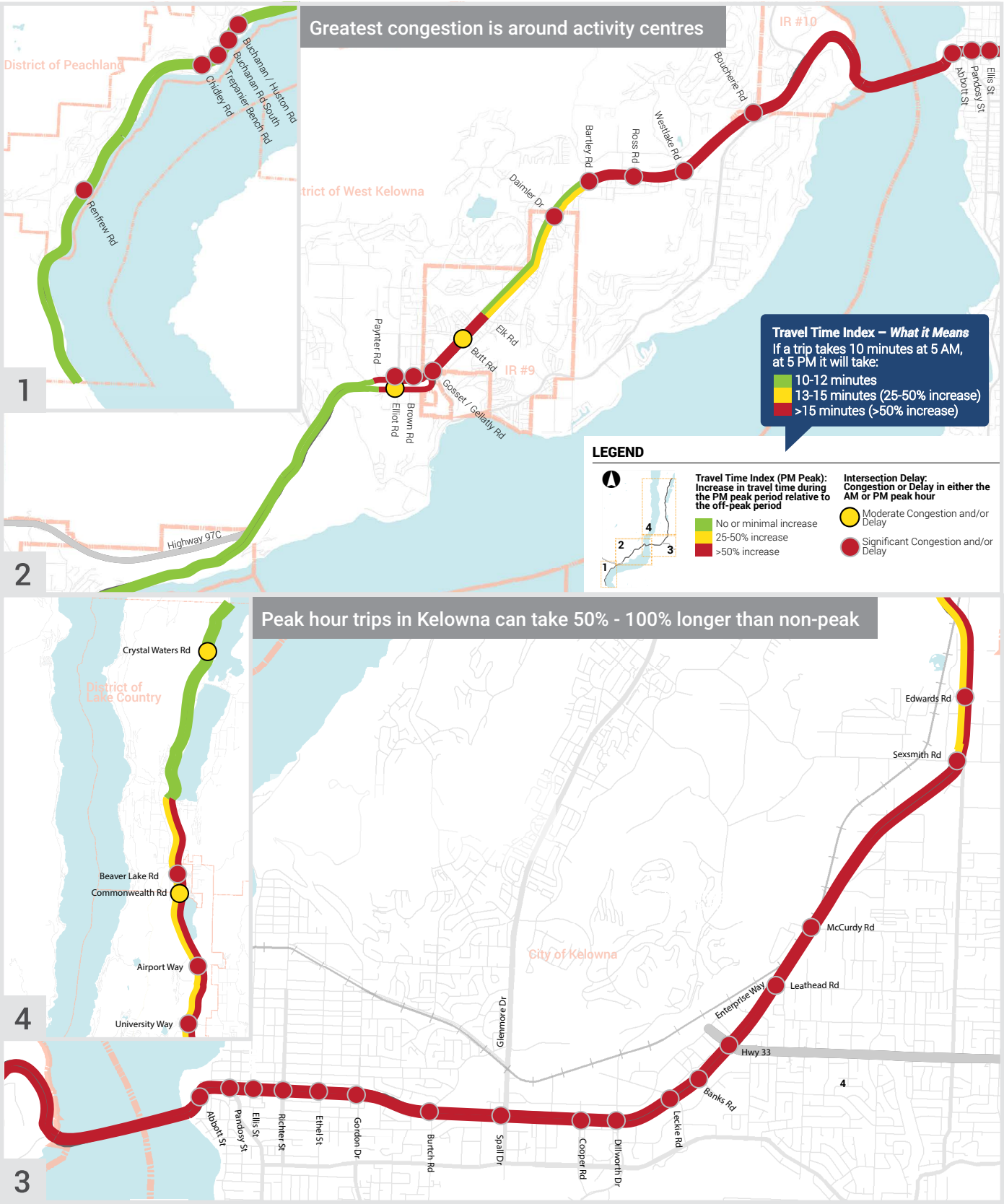
- More people travelling along the highway
- More congestion and delays along the highway
- W.R Bennett Bridge at or near capacity
- Areas leading onto the bridge beyond capacity
- Major delays at intersections in urban areas
- Significant increase in travel time through the area

## Summary of Key Findings

- By 2040, the W.R. Bennett Bridge will reach capacity in its current configuration; the approaches on the Kelowna side will reach capacity before then.
- By 2040, a trip along the full length of the corridor (between Peachland and Lake Country) will take almost 15 minutes longer in the AM peak hour and up to 24 minutes longer in the PM peak hour.
- By 2040, almost all signalized intersections within developed areas will have significant congestion and delay.



# Future (2040 Base Trend) Travel Time and Intersection Delays (Presented at Public Open House, November 2015)



# Key Public Input to Date

Public input on the Central Okanagan Planning Study has been gathered from meetings and public input sessions including public open houses and workshops, and meetings with the Community Working Group, a Technical Advisory Committee, staff and elected officials of local municipalities and First Nations.

The public has identified several considerations for the study team to keep in mind when designing and evaluating possible options for the highway. These include:

## Addressing Future Congestion

Respondents tended to favour an alternate route to Highway 97 and another bridge to address future traffic congestion. However, there was also significant support for grade separations (overpasses) to replace signals. West Kelowna respondents appeared to place a higher priority on a second crossing than did Kelowna respondents.

## Preferred Second Crossing Location

Among those who favour a second crossing of Okanagan Lake, the majority appear to favour a location north of the current facility. Responses opposing an additional bridge again suggest that an additional bridge is a higher priority for residents of West Kelowna.

## Measures to Reduce Travel Demand

Among alternatives to reduce travel demand, improved transit was the most popular choice. More mixed-use development was supported by a significant percentage of Kelowna respondents. More cycling facilities tended to be favoured over more high-occupancy vehicle lanes.

## Role of Highway 97

There appears to be significant public support for the concept of the highway (whether on its existing or an alternative alignment) as more of an expressway facility through urban areas, with fewer direct accesses that contribute to congestion.



# How Improvement Options Were Developed

## Identify Problems in Focus Areas

- West Kelowna and Westbank First Nation
- Kelowna
- Lake Country and Duck Lake I.R.
- Crystal Waters to Coldstream

Previous phases of the Central Okanagan Planning Study assessed existing and future conditions along the corridor. These condition assessments identified the location and types of problems that need to be addressed. This analysis helped to determine the root cause of problems so that future improvements address the causes, and not just symptoms.

The types of problems identified include:

- Congestion
- Intersection delays
- Safety
- Reliability
- Pedestrian and cyclist accommodations

## Generate Preliminary Concepts

Preliminary concepts were developed using information from the following resources:

- Problems identified in future conditions assessment
- Options previously considered
- Local transportation master plans, future transit plans, active transportation plans and other relevant planning documents
- Discussions with regional districts, First Nations and municipal staff and councils

A long list of preliminary concepts includes a range of potential solutions to problems and improvements to Highway 97. These concepts will address long-term needs (40 years +). Potential concepts include upgrades to the existing corridor and new, alternate corridors:

### Existing Corridors

- Remove traffic signals
- Reduce conflicts at high collision locations
- Maintain local connections for all modes across the highway as much as possible
- Accommodate uncongested, reliable transit on the highway

### Alternate Corridors

- Divert traffic away from the existing corridor to provide relief
- Create connections to the existing corridor
- Meet high-speed design criteria

## Focus Area Concept Screening

**WE ARE HERE**

The number of concepts being considered are narrowed down. Those that do not address the problems or are not feasible are not carried forward.

The options are screened out through a preliminary evaluation of impacts and benefits based on:

- Community impacts
- Environmental impacts
- Traffic diversion and travel time
- Engineering feasibility

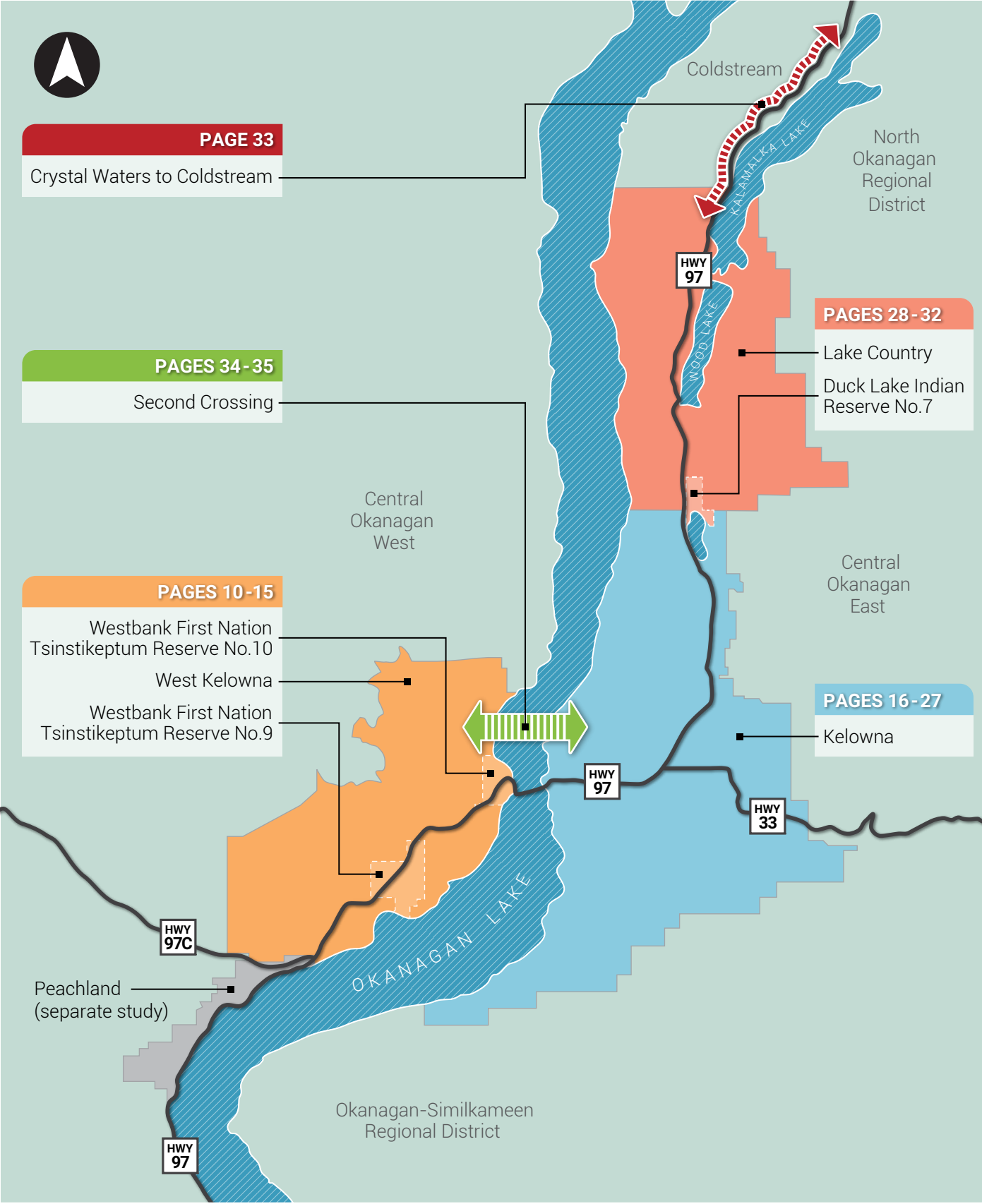
## Consolidation of Concepts to Corridor-wide Options

### Next Steps

The next step will be to combine the remaining concepts to create corridor-wide options covering the full Central Okanagan, including specified bridge crossing locations. These corridor-wide options will undergo a detailed comparative evaluation, including cost estimates, to identify a preferred series of integrated improvements for the Central Okanagan.



# Improvement Options

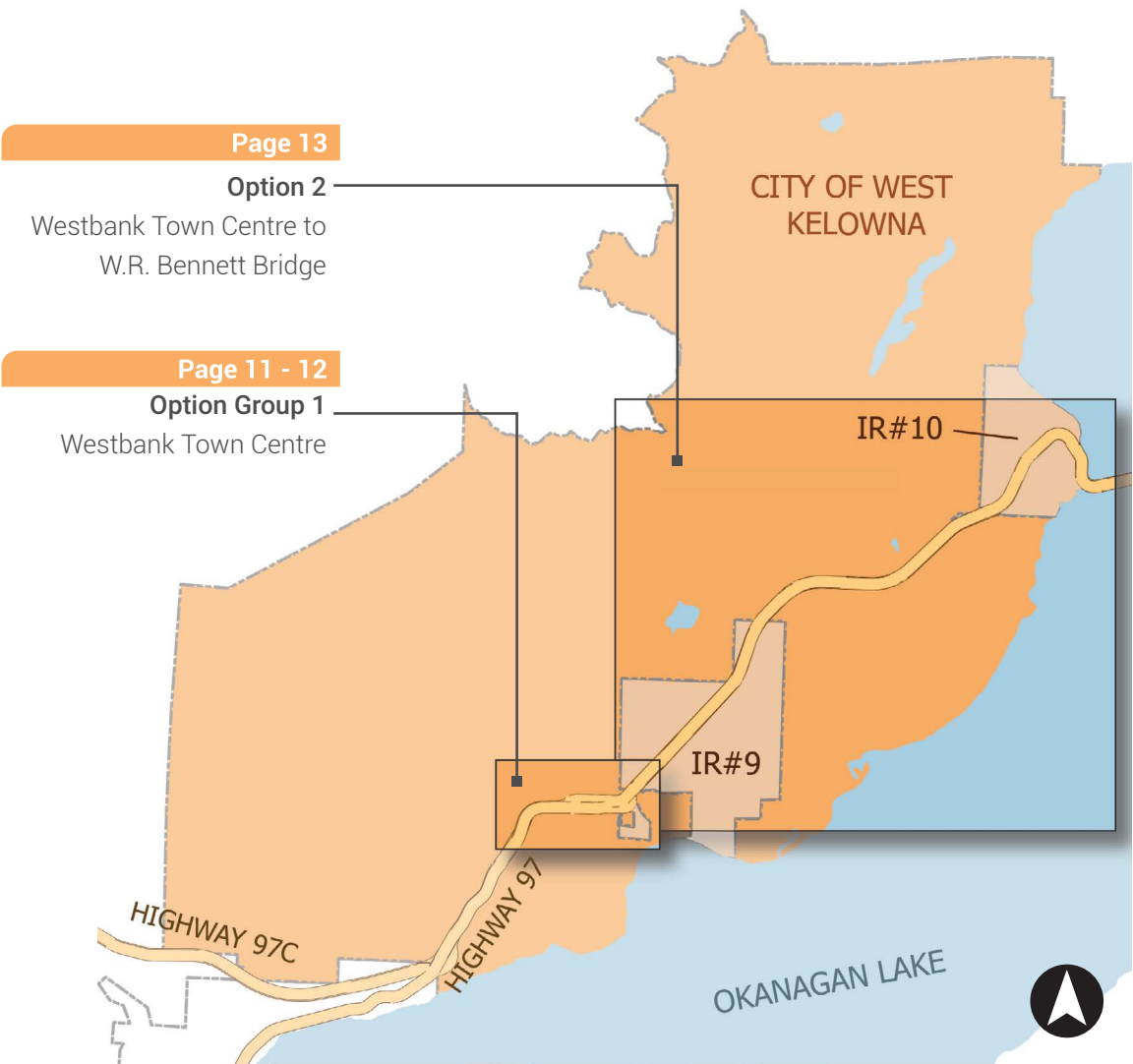




<b>West Kelowna and Westbank First Nation</b>	<b>Existing Corridor Options</b> Option Group 1 – Westbank Town Centre Option 1a – Dobbin Road – Grade-separated crossings ..... 11 Option 1b – Dobbin Road – Trench ..... 12 Option 2 – Westbank Town Centre to W.R. Bennett Bridge – Grade separation ..... 13  <b>Alternate Route Options</b> Option 1a – Trepanier Road to Smith Creek Road ..... 15 Option 1b – Highway 97/97C Junction to Smith Creek Road ..... 15 Connector: Smith Creek to Bartley Road ..... 15 Option 2a – Bartley Road Extension ..... 15 Option 2b – Bartley Road to Bear Creek/Westside Road ..... 15
<b>Kelowna</b>	<b>Existing Corridor Options</b> Option Group 1 – W.R. Bennett Bridge to Spall Road Option 1a – Six lanes with grade-separated interchanges ..... 17 Option 1b – Median express lanes ..... 18 Option 1c – Elevated express lanes ..... 19 Option Group 2 – Spall Road to Highway 33 Option 2a – Six lanes with grade-separated interchanges ..... 20 Option 2b – Median express lanes ..... 21 Option 3 – Highway 33 to UBCO – Six lanes with grade-separated interchanges ..... 22 Option 4 – UBCO to Ellison Lake – Six lanes with grade-separated interchanges ..... 23  <b>Alternate Corridor Options – Downtown North End (DNE)</b> Option 1 – DNE – Connection near Poplar Point ..... 25 Option 2a – DNE – Connection near Manhattan Point Through Mill ..... 25 Option 2b – DNE – Connection near Manhattan Point to Bay Avenue ..... 25 Option 2c – DNE – Connection near Manhattan Point to Manhattan Drive ..... 25  <b>Alternate Corridor Options – Central Okanagan Multi-Modal Corridor (COMMC)</b> Option 1 COMMC – Spall Road to Highway 33 ..... 27 Option 2 COMMC – Spall Road to McCurdy Road ..... 27 Option 3 COMMC – Spall Road to UBCO ..... 27
<b>Lake Country/Duck Lake Indian Reserve No. 7</b>	Option Group 1 – Ellison Lake to Lodge Road Option 1a – Interchanges at Commonwealth Road and Janet Road ..... 29 Option 1b – Interchanges at Commonwealth Road and Okanagan Centre Road East ..... 30 Option 1c – Interchanges north of Commonwealth Road and Half Interchanges at Janet Road and Pollard Road ..... 31 Option 2 – Lodge Road to Oceola Road ..... 32
<b>Crystal Waters to Coldstream</b>	Crystal Waters to Coldstream ..... 33
<b>Exploring Second Crossing Options</b>	Second Crossing Study Area ..... 35

## West Kelowna and Westbank First Nation Existing Corridor Options

Highway 97 varies through West Kelowna and Westbank First Nation I.R. #9 and 10, with several changes between high-speed suburban conditions, and lower-speed urban sections. Delays during peak traffic hours are high, mainly because signalized intersections have reached their capacity. Collision rates are above the provincial average in the Westbank Town Centre and collision severity tends to be high at the signalized intersections between the Westbank Town Centre and the bridge. The couplet through the Westbank Town Centre is also a source of concern for those who live in West Kelowna. The following options show possible upgrades and minor realignments to the existing Highway 97 to help address these concerns.



### Existing Corridor Characteristics

	Highway 97/97C Junction to W.R. Bennett Bridge
Length	21.8 km
Number of Traffic Signals	11
Number of Overpasses	4
Average Space Between Highway Crossings	1,600m
Posted Speed Limit	50 - 90km/h

## Option Group 1 Westbank Town Centre

Residents of West Kelowna noted that a comfortable Main Street is important, especially having retail businesses accessible by foot in Westbank Town Centre. Analysis of future traffic has determined that the existing couplet is not the most efficient highway solution in the long term. Therefore, existing corridor options through the Westbank Town Centre involve shifting the highway to Dobbin Road as a two-way, four-lane roadway, which allows Main Street to become a local street.

The options include the removal of all traffic signals on Dobbin Road, and replacing them with overpasses. At the east end of the town centre, the options include realigning Dobbin Road so that it connects to Main Street north of the RCMP building. At the west end, a new local connection is needed to provide access to properties that currently have direct access to Highway 97.

### Option 1a Dobbin Road — Grade-separated Crossings



Example of a grade separated crossing (overpass) over a highway. This provides a local connection for all modes without access to the highway.

*Knight Street at Cambie Road - Richmond, BC.*

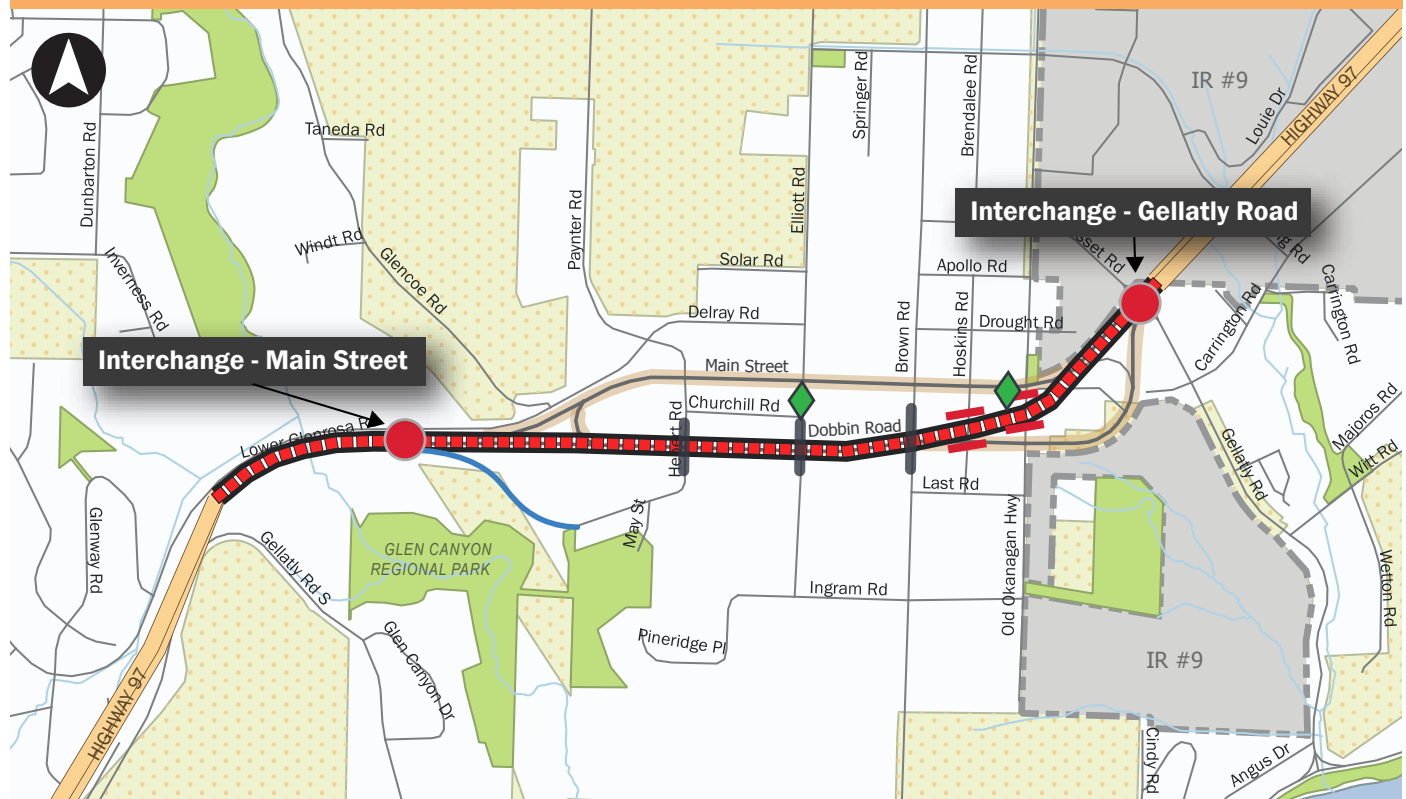
Existing Highway	Interchange	Rapid Transit Stop
Option Alignment	Half Interchange	Transit Access Only
Trenched	Right-In/Right-Out	Agricultural Land Reserve
Median Express Lanes	Closed Access	Parks
Grade Separated Express Lanes	Grade Separated Crossing	Municipal or IR Boundary
Local Connection	Bike/Ped. Grade Separated Crossing	Indian Reserve Lands
Number of Lanes in a Direction	Area of Special Consideration	

#### Option Characteristics:

- Lowers traffic volumes along Main Street by turning it into a local street
- Provides connections across Dobbin Road on Elliott Road and Brown Road with reduced delays since there are no traffic signals
- Eliminates access to Elliott and Brown Roads between Main Street and Dobbin Road and immediately south of Dobbin Road because of difference in elevation
- Impacts businesses on the north side of Dobbin Road east of Brown Road and next to the RCMP building
- Minimizes disruptions to traffic during construction because it can be built in stages
- Has visual and noise effects due to overpasses
- Requires moving or reconfiguring Elliot Road Transit Exchange
- Shifts main transit, pedestrian, and cyclist connections to Main Street

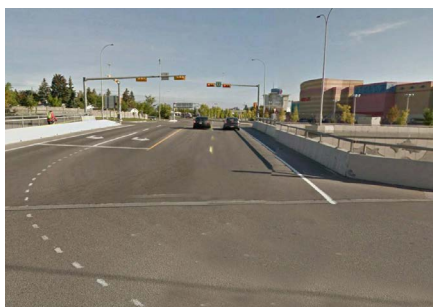
## Option Group 1 Westbank Town Centre

## Option 1b Dobbin Road – Trench



Example of a trenched road with a local connection overhead. Local traffic, pedestrians and cyclists can cross the highway without changing elevation.

*Glenmore Trail at 5 Street SW - Calgary, AB.*



Example of a crossing over a trenched road.

*Glenmore Trail at 5 Street SW - Calgary, AB.*

- |   |                                |   |                                    |   |                           |
|---|--------------------------------|---|------------------------------------|---|---------------------------|
|  | Existing Highway               |  | Interchange                        |  | Rapid Transit Stop        |
|  | Option Alignment               |  | Half Interchange                   |  | Transit Access Only       |
|  | Trenched                       |  | Right-In/Right-Out                 |  | Agricultural Land Reserve |
|  | Median Express Lanes           |  | Closed Access                      |  | Parks                     |
|  | Grade Separated Express Lanes  |  | Grade Separated Crossing           |  | Municipal or IR Boundary  |
|  | Local Connection               |  | Bike/Ped. Grade Separated Crossing |  | Indian Reserve Lands      |
|  | Number of Lanes in a Direction |  | Area of Special Consideration      |   |                           |

### Option Characteristics:

- Places Highway 97 in a trench on Dobbin Road with crossings at Herbert, Elliott, and Brown Roads
- Lowers traffic volumes along Main Street by turning it into a local street
- Creates crossings for vehicles, pedestrians and cyclists without interacting with highway traffic or changing elevation
- Reduces noise from highway
- Limits access to properties on Dobbin Road from local cross streets only
- Impacts businesses on the north side of Dobbin Road east of Brown Road and next to the RCMP building
- Disrupts highway traffic during construction by moving traffic to Main Street
- Requires reconfiguring Elliott Road Transit Exchange in the existing location
- Shifts main transit, pedestrian, and cyclist connections to Main Street



## Option 2 Westbank Town Centre to W.R. Bennett Bridge

The section of Highway 97 between the Westbank Town Centre and the W.R. Bennett Bridge has been the subject of several plans over the past two decades. Some of these plans are no longer feasible because of development that has occurred, but all suggested replacing existing signals with grade separations (underpasses/overpasses and/or interchanges) as reflected in the map below.

### Option 2 Westbank Town Centre to W.R. Bennett Bridge – Grade Separation



#### Option Characteristics:

- Has full interchanges at Butt, Westlake, and Boucherie Roads
- Has half interchanges at Daimler Road (access to/from south), and Bartley Road (access to/from east)
- Creates a highway crossing at Elk Lake Road
- Has a right-on, right-off at Grizzly Road
- Reduces congestion along the route by removing traffic signals
- Reduces high-severity collisions with the removal of at-grade intersections
- Has some property impacts where interchanges are proposed
- Requires some additional travel to access Elk, Grizzly, and Ross Roads
- Maintains current transit operation
- Provides parallel walking and cycling routes with crossings at interchanges

## West Kelowna and Westbank First Nation Alternate Corridor Options

Alternate routes through West Kelowna are influenced by the City of West Kelowna's Transportation Master Plan (TMP) which indicates:

- The idea of an alternate route between Hwy 97C and Okanagan Lake (no specific alignment)
- Connections at Smith Creek Road and at an extension of Bartley Road
- Connections to an alternate route

Steep hillsides and existing development limit the range of options potentially available.

The alternate routes map is broken down into the following sections:

1. Options south/west of Smith Creek Road (Options 1a & 1b)
2. The single, feasible route between Smith Creek Road and Bartley Road (Connector)
3. Options north/east of Bartley Road (Options 2a & 2b)

All alternate corridor options are new high-speed highway corridors, with access at interchanges only. All options could connect to a new second crossing and/or the existing bridge.

### Option 1a

Trepanier Road to Smith Creek Road

#### Characteristics:

- Provides access to West Kelowna at the Smith Creek Road interchange
- Does not provide good connections to Highway 97 through Peachland or to the south
- Could connect to a possible Peachland alternate corridor
- Has long sections of steep grades (similar grades as Highway 97C from the Information Centre to Highway 97)
- Requires the acquisition of some rural residential properties

### Option 1b

Highway 97/97C Junction to Smith Creek Road

#### Characteristics:

- Provides a direct connection to the existing Highway 97/97C interchange
- Provides access to West Kelowna at the Smith Creek Road interchange
- May have noise and/or visual impacts for the Glenrosa neighbourhood
- Requires the acquisition of some rural residential properties

### Connector

Smith Creek to Bartley Road

#### Characteristics:

- Forms the only feasible route between Bartley Road and Smith Creek Road and is common to all alternatives
- Follows the lower slopes of the hillside through undeveloped land
- Has visual and noise impacts on residential neighbourhoods below the alignment

### Option 2a

Bartley Road to Bear Creek/Westside Road

#### Characteristics:

- Is considerably longer than the existing highway
- Has visual and noise effects on the West Kelowna Estates / Rose Valley neighbourhoods
- Impacts some properties on McPhail Court
- Passes through Rose Valley Lake Regional Park

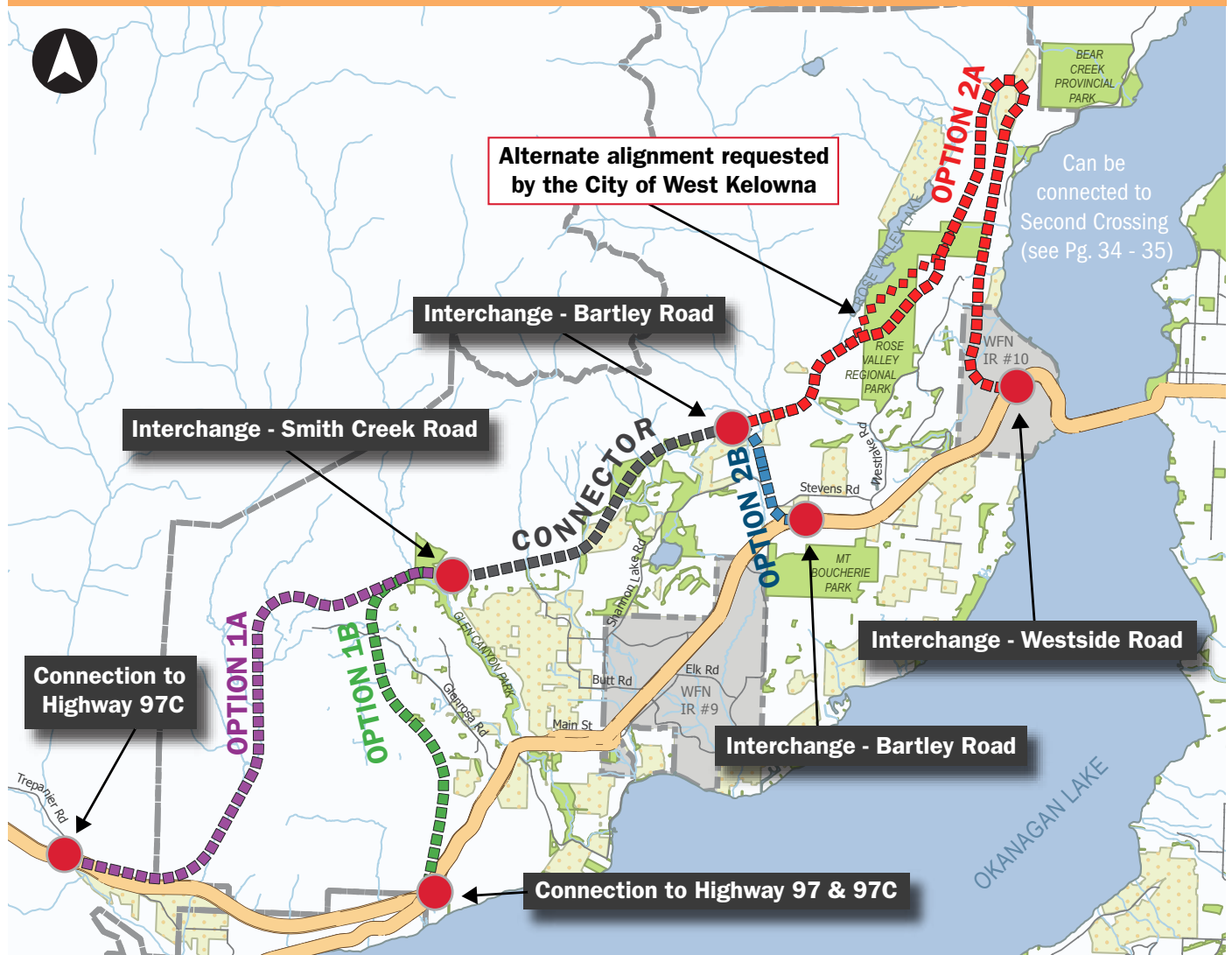
### Option 2b

Bartley Road Extension

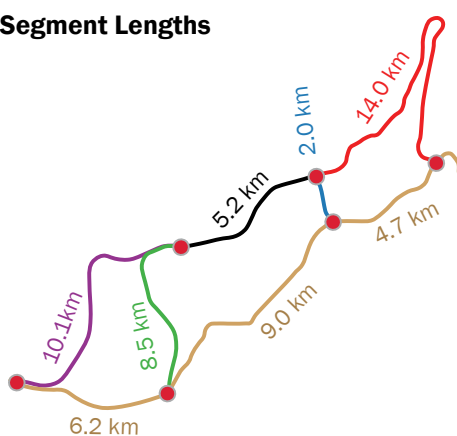
#### Characteristics:

- Parallels Bartley Road and the Bartley Road Extension
- Creates short section of new highway through mostly industrial / commercial land
- Has impacts for some of the Bylands site, but buildings can be avoided
- Has environmental impacts for Rose Valley

## West Kelowna and Westbank First Nation Alternate Corridor Options



### Segment Lengths

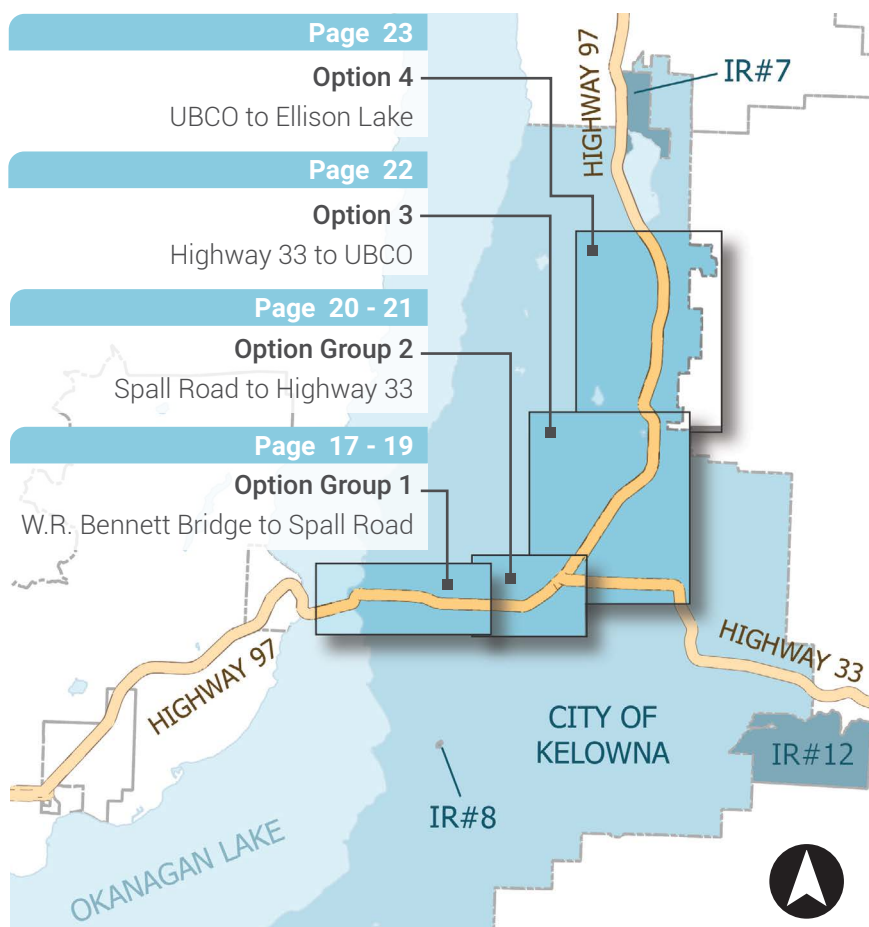


- |                                |                                    |                           |
|--------------------------------|------------------------------------|---------------------------|
| Existing Highway               | Interchange                        | Rapid Transit Stop        |
| Option Alignment               | Half Interchange                   | Transit Access Only       |
| Trenched                       | Right-In/Right-Out                 | Agricultural Land Reserve |
| Median Express Lanes           | Closed Access                      | Parks                     |
| Grade Separated Express Lanes  | Grade Separated Crossing           | Municipal or IR Boundary  |
| Local Connection               | Bike/Ped. Grade Separated Crossing | Indian Reserve Lands      |
| Number of Lanes in a Direction | Area of Special Consideration      |                           |

## Kelowna Existing Corridor Options

Highway 97, known as Harvey Avenue through Kelowna, is a six-lane urban arterial roadway, including signals and a high occupancy vehicle (HOV) lane for much of its length. Currently, movement along Highway 97 has priority over crossing and turning movements, causing delays for traffic on the side streets. Collision rates are higher along Highway 97 than for similar intersections in the province. Over the next 25 years, almost all traffic signals will reach capacity, leading to even greater congestion and longer delays for traffic on Highway 97 and side streets.

The options presented below provide grade-separation (overpasses and interchanges) for all or some traffic, depending on the option. Detailed traffic modelling will be necessary to further refine and evaluate the options, including their effects on the local street network.



### Highway 97 and Downtown Kelowna (between the bridge and Richter Street)

Changes to Highway 97 between the bridge and east of Richter Street would affect traffic flow, ease of pedestrian movement, access to downtown and the visual appearance of the area.

Downtown Kelowna has the highest intensity of urban activity in the BC Interior. Changes to Highway 97 through this section would balance the need for efficient movement of people with the important urban character of the downtown.

The existing corridor options would consider various forms for Highway 97 from the bridge to east of Richter Street, including highway or express lanes:

- At-grade
- Elevated
- In a trench
- In a tunnel

Each of these has its own challenges and benefits, which will be further explored through the next stage of the study.

### Existing Corridor Characteristics

	Bridge to Spall Road	Spall Road to Highway 33	Highway 33 to UBCO	UBCO to Ellison Lake
Length	3.7km	2.7km	6.1km	5.2km
Number of Traffic Signals	8	5	4	2
Number of Overpasses	1 pedestrian	0	1 at John Hindle Drive	0
Average Space Between Highways Crossings	410m (pedestrians) 460m (vehicles)	540m	1,200m	2,600m
Posted Speed Limit	50 - 60 km/h	60 km/h	70 - 80km/h	80 - 90km/h



## Option Group 1 W.R. Bennett Bridge to Spall Road

Downtown Kelowna and areas to the south of Highway 97 are among the highest traffic generators in the Central Okanagan. Congestion through downtown and along Harvey Avenue limits the amount of traffic that can use the bridge, and creates a barrier to travel between downtown and the south for vehicles, pedestrians, and bicycles. Removing traffic signals will increase the capacity of Highway 97.

The three options being considered for the section from the W.R. Bennett Bridge to Spall Road include:

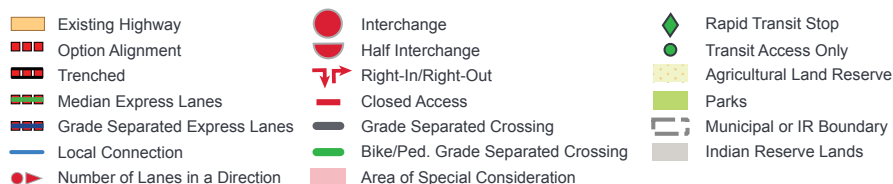
- **Option 1a:** Six lanes with grade-separated interchanges
- **Option 1b:** Median express lanes
- **Option 1c:** Elevated express lanes

### Option 1a Six Lanes with Grade-separated Interchanges



Example of a Single Point Urban Interchange

John Laurie Boulevard at 14 St. NW - Calgary, AB

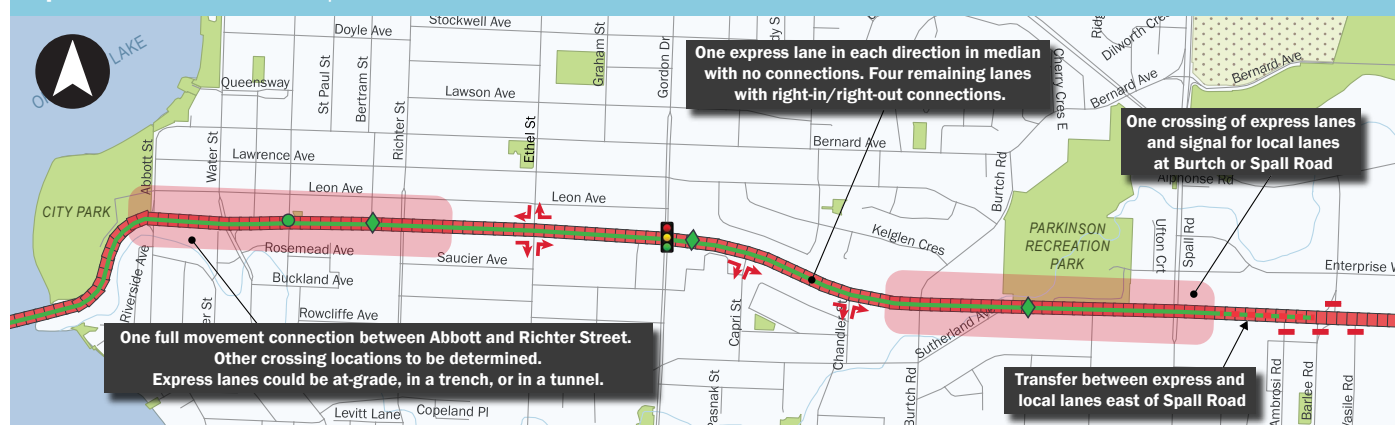


#### Option Characteristics:

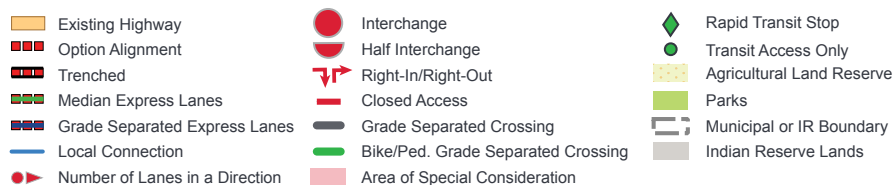
- Maintains existing six-lanes and removes all signals
- Provides interchanges and overpasses for access and crossing the highway
- Uses compact urban interchanges to minimize property acquisition (see the photo for an example of one type of compact urban interchange known as a *Single Point Urban Interchange*)
- Creates curbside Rapid Transit Stations similar to existing stops with connections via pedestrian overpasses across Highway 97
- Reduces the number of places Highway 97 can be crossed, but also reduces crossing delays
- May create additional traffic for local street network because traffic making shorter trips will not be able to access Highway 97
- Improves efficiency of travel along Highway 97, but increases traffic noise
- Minimizes disruptions to traffic during construction because it can be built in stages

## Option Group 1 W.R. Bennett Bridge to Spall Road

### Option 1b Median Express Lanes



Example of a median express lane. At crossings, the express lanes go under the cross street and the remaining four lanes would be signalized.

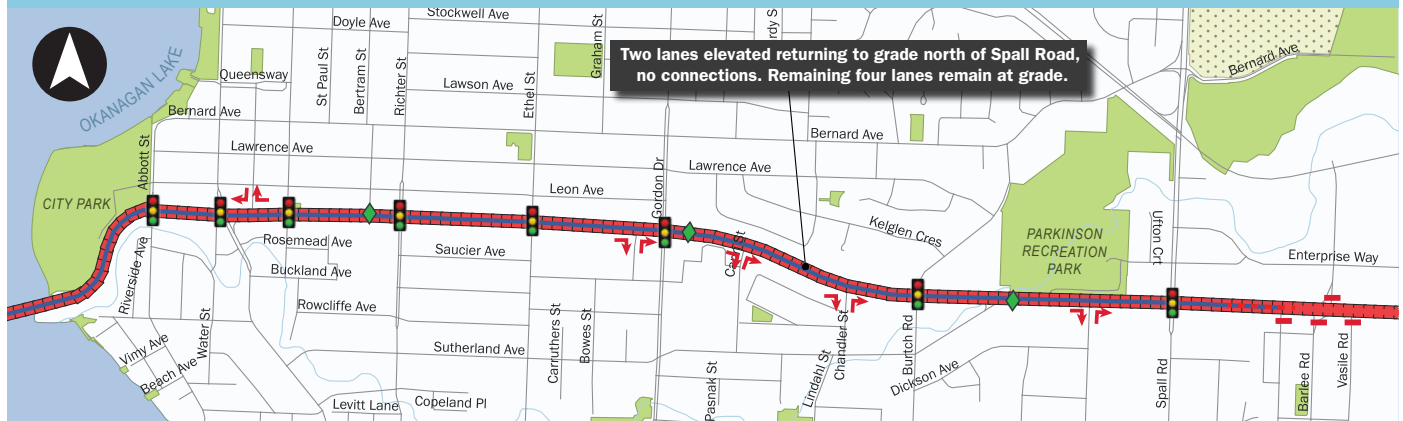


#### Option Characteristics:

- Creates separate two-way road in the median with no connection to the rest of Highway 97 and no connection to the local street network between the bridge and Spall Road
- Maintains right turns onto local streets along remaining four lanes (two lanes in each direction)
- Creates at least one crossing at Highway 97 between Abbott Street and Richter Street, a crossing at Gordon Drive, and a crossing at either Burch Road or Spall Road
- Places express lanes under the cross street and uses signals at the crossing for the local remaining lanes (see left - example of a cross street)
- Uses pull-outs along express lanes for transit stops/stations
- Reduces the number of places Highway 97 can be crossed, but also reduces crossing delays since there is an overpass over the express lanes
- Improves traffic flow for through traffic but local roads remain signalized with delays
- Maintains access to Highway 97 at most existing locations with right turns
- Requires less reliance on the local street network than Option 1a
- Creates additional barriers to crossing Highway 97, but has fewer barriers than grade-separated interchanges
- Minimizes disruptions to traffic during construction because it can be built in stages

## Option Group 1 W.R. Bennett Bridge to Spall Road

### Option 1c Elevated Express Lanes



Example of elevated lanes with local road at grade



#### Option Characteristics:

- Elevates two lanes that will have no connection to the local street network between the W.R. Bennett Bridge and Spall Road
- Keeps remaining four lanes on the ground with all existing connections and crossings.
- Creates rapid bus service along elevated express lanes with stations connected by overhead walkways
- Reduces the number of lanes on Highway 97 for pedestrians and cyclists to cross
- Provides fast travel for through-traffic on Harvey Avenue (Highway 97)
- Creates significant visual and noise impacts due to high speed traffic along elevated lanes
- Has high cost
- Needs to be constructed all at once

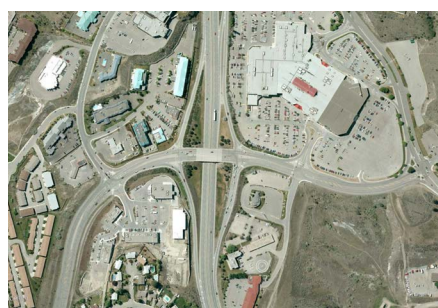
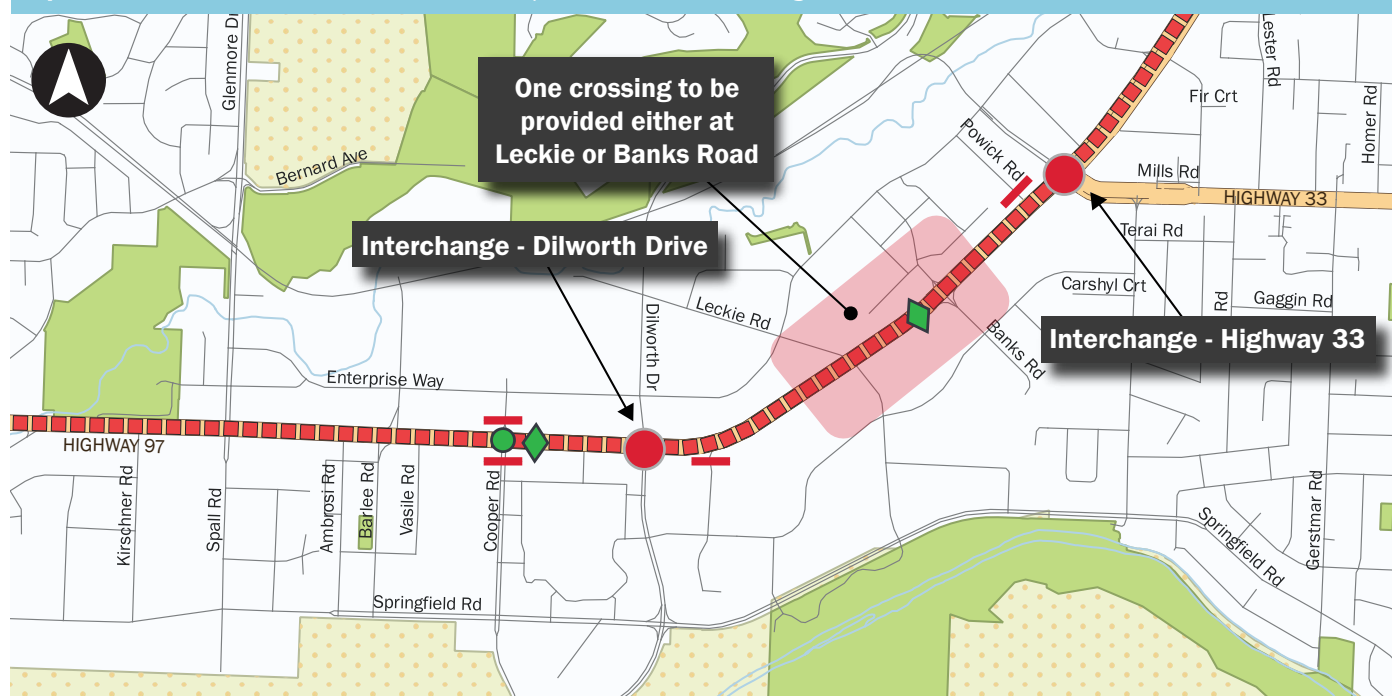
## Option Group 2 Spall Road to Highway 33

Highway 97 provides access to major regional shopping and other commercial activities. The volume of turning traffic at each intersection is very high. An elevated highway is not feasible through this section because of the high cost and minimal benefits.

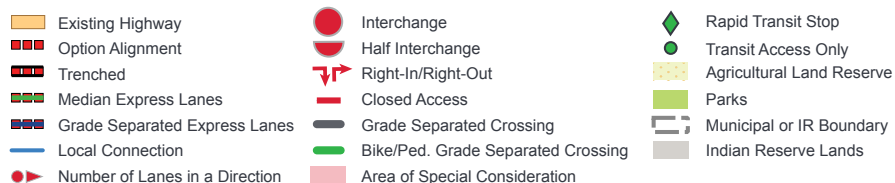
The options under consideration in this section are:

- **Option 2a:** Six lanes with grade-separated interchanges
- **Option 2b:** Median express lanes

### Option 2a Six Lanes with Grade-separated Interchanges



Example of a Diamond Interchange. This is one of the most common types of interchanges.



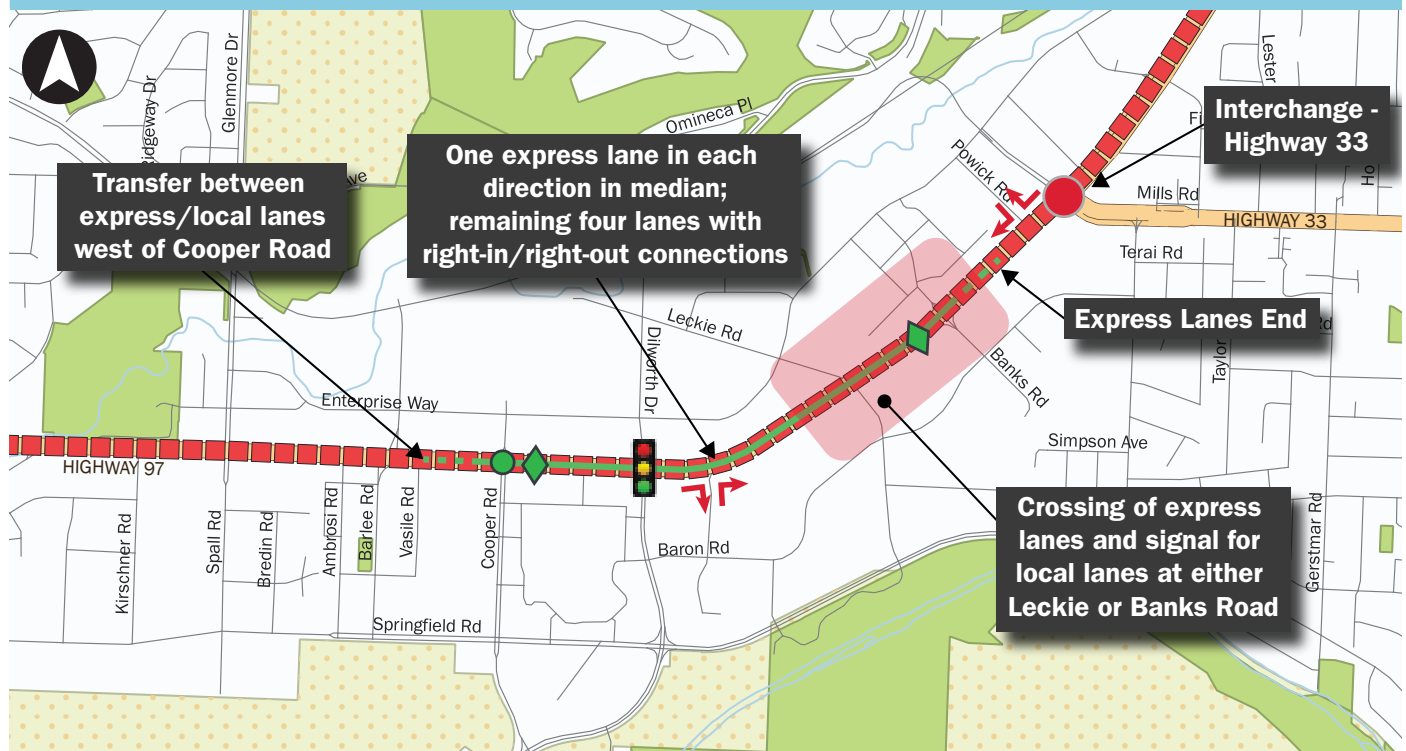
#### Option Characteristics:

- Has interchanges at Dilworth Drive and Highway 33
- Provides access to the Orchard Park Transit Exchange via a bus-only connection at Cooper Road
- Maintains existing six-lanes and removes all signals
- Creates Rapid Transit Stations similar to existing stops with connections via pedestrian overpasses across Highway 97
- Limits access and crossings for Highway 97
- Increases noise because traffic travelling at higher speeds
- Requires use of Enterprise and Springfield Roads for shorter trips
- Creates additional barriers to crossing Highway 97



## Option Group 2 Spall Road to Highway 33

### Option 2b Median Express Lanes



Example of a median express lane. At crossings, the express lanes go under the cross street and the remaining four lanes would be signalized.



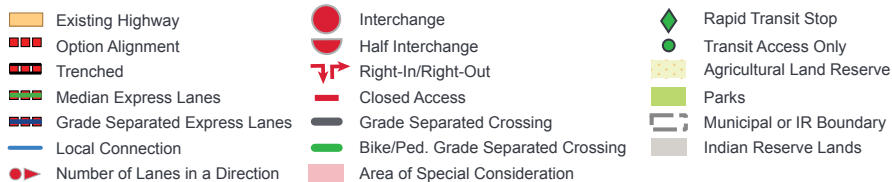
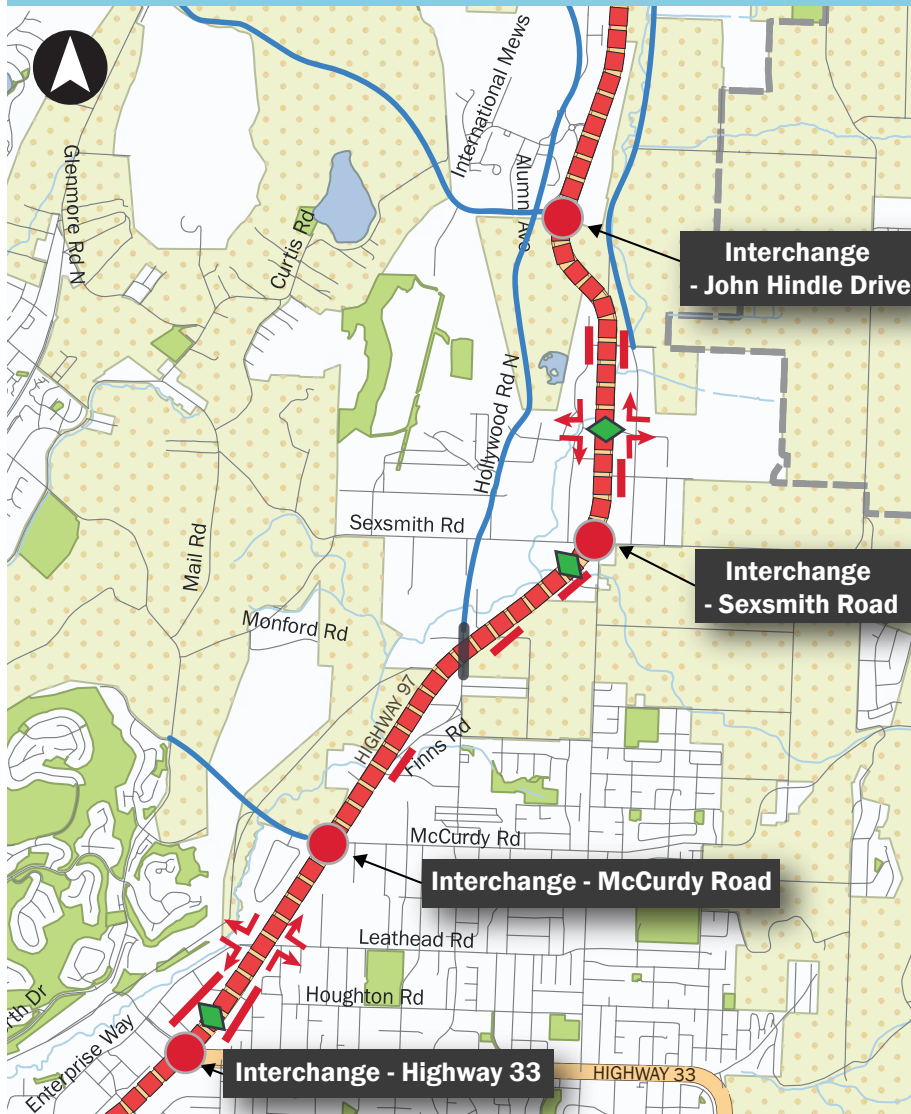
#### Option Characteristics:

- Creates separate two-way road in the median with no connection to the rest of Highway 97 and no connection to the local street network between Spall Road and Highway 33
- Provides crossings of express lanes at Dilworth Road with signals for local lanes
- Maintains right turns to/from local streets along remaining lanes (two lanes in each direction)
- Allows traffic to switch between express and local lanes north of Spall Road with transfer lanes
- Reduces the number of places Highway 97 can be crossed, but also reduces crossing delays since there is an overpass over the express lanes
- Creates bus-only access to the transit exchange at Cooper Road to/from express lanes
- Creates Rapid Transit Stations with pull-outs in the express lanes
- Improves traffic flow for vehicles and transit travelling between Spall Road and Highway 33 in the express lanes
- Maintains access to Highway 97 at most existing locations with right turns
- Requires less reliance on the local street network than the grade-separated interchange option
- Minimizes disruptions to traffic during construction because it can be built in stages

## Option 3 Highway 33 to UBCO

The current six-laning project on Highway 97 north of Highway 33 will increase capacity and removes some of the existing direct property access points. Only one option that includes grade-separated interchanges at key locations is under consideration for this section. The future Hollywood Road extension, including a grade-separated crossing of Highway 97 and the Airport Way extension to Acland Road are part of the City of Kelowna 30 year Road Network Plan. These future local connections will replace Highway 97 for some shorter distance trips.

### Option 3 Highway 33 to UBCO – Six Lanes with Grade-separated Interchanges

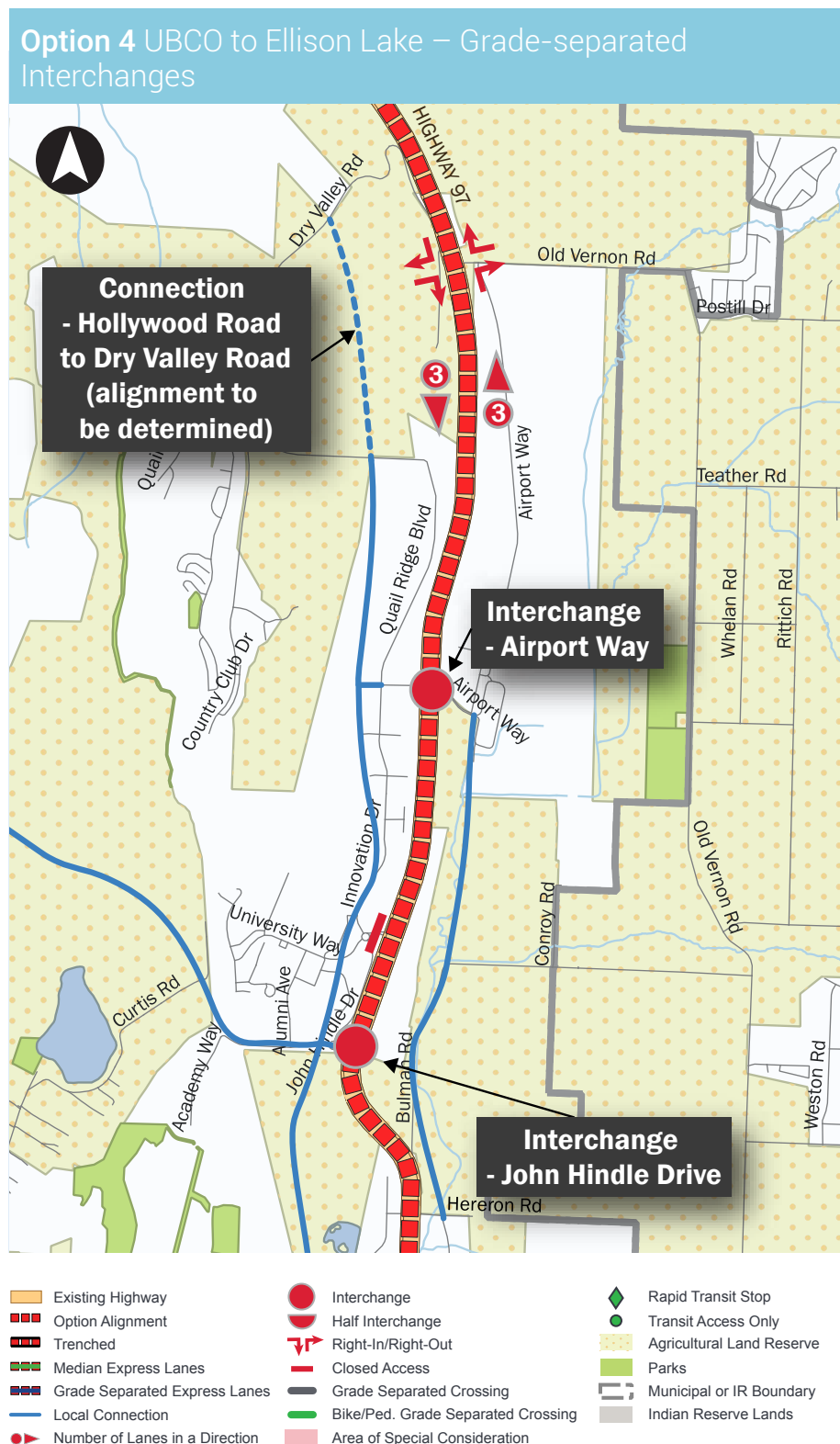


#### Option Characteristics:

- Has interchanges at McCurdy and Sexsmith Roads
- Reduces opportunities to cross or access Highway 97
- Increases noise because traffic is travelling at higher speeds
- Improves traffic flow along Highway 97
- Shifts shorter trips to the future local road network

## Option 4 UBCO to Ellison Lake

Only one option exists for the section between UBCO and Ellison Lake north of the airport. Existing intersections will be closed and all highway access will be at grade-separated interchanges. This concept includes local road connections that are consistent with the City of Kelowna 30 year Road Network Plan and other network planning for the UBCO/ Kelowna Airport area.



### Option Characteristics:

- Creates a new interchange at Airport Way and reconfigures interchange at John Hindle Drive
- Provides future local connections on both sides of the highway
- Shifts access for some traffic from University Way to John Hindle Drive or Airport Way
- Improves airport access
- Improves traffic flow along Highway 97
- May have some property impacts at interchange locations
- Requires back tracking to turn left from Gale Road to Highway 97

## Kelowna Alternate Corridor Options

Over the past 20 years several plans have identified an alternate corridor through Kelowna, known as the Central Okanagan Multi Modal Corridor (COMMC). The existing four-lane section of Clement Avenue and the overpass at Bernard Avenue are early phases of this corridor.

The alternate corridor options outlined in the following pages are intended to draw traffic from the existing Highway 97 corridor to provide some congestion relief there while also providing a higher-speed route for longer-distance trips.

### Kelowna Downtown North End (DNE) Second Crossing Connection Options

The options through the north end of downtown Kelowna represent connections between a potential second lake crossing and Clement Avenue. However, these routes do not necessarily need to be connected to a second crossing to provide benefit for travel to and from downtown Kelowna. For more information about the second crossing, including why the study is focusing on the downtown north end, please see page 34.

Two connections to a potential second crossing location are being considered:

- **Option 1:** Connection near Poplar Point
- **Option 2:** Connection near Manhattan Point

#### Option 1

##### DNE — Connection Near Poplar Point

##### Characteristics:

- Crosses Knox Mountain Drive and connects to Gordon Drive with an interchange
- Assumes a new bridge landing south of Poplar Point, and continuing along the base of Knox Mountain
- Has noise and/or visual impacts for the North End neighbourhood and Poplar Point Road
- May require additional structures to deal with slope stability issues along the base of Knox Mountain
- Has some industrial property impacts

#### Option 2a

##### DNE — Connection Near Manhattan Point Through Mill

##### Characteristics:

- Crosses Ellis Street with no connections
- Has interchanges at Richter Street and Gordon Drive
- May have noise and/or visual impacts for the North End neighbourhood
- Requires mill closure
- Has some commercial/industrial and residential property impacts along Ellis Street

#### Option 2b

##### DNE — Connection Near Manhattan Point to Bay Avenue

##### Characteristics:

- Crosses Ellis Street with no connections
- Has interchanges at Richter Street and Gordon Drive
- May have noise and/or visual impacts for the North End neighbourhood
- Will affect mill operations
- Has some commercial/industrial and residential property impacts along Ellis Street
- Will require acquisition of residential properties at Manhattan Point

#### Option 2c

##### DNE — Connection Near Manhattan Point to Manhattan Drive

##### Characteristics:

- Crosses Ellis Street with no connections
- Has interchanges at Richter Street and Gordon Drive
- May have noise and/or visual impacts for the North End neighbourhood
- Avoids impacts to mill operations
- Has residential properties impacts on the Manhattan Point neighbourhood
- Has some industrial property impacts along Recreation Avenue



# Kelowna Alternate Corridor Options – Kelowna Downtown North End (DNE) Second Crossing Connection Options



- |                                |                                    |                           |
|--------------------------------|------------------------------------|---------------------------|
| Existing Highway               | Interchange                        | Rapid Transit Stop        |
| Option Alignment               | Half Interchange                   | Transit Access Only       |
| Trenched                       | Right-In/Right-Out                 | Agricultural Land Reserve |
| Median Express Lanes           | Closed Access                      | Parks                     |
| Grade Separated Express Lanes  | Grade Separated Crossing           | Municipal or IR Boundary  |
| Local Connection               | Bike/Ped. Grade Separated Crossing | Indian Reserve Lands      |
| Number of Lanes in a Direction | Area of Special Consideration      |                           |

## Kelowna Alternate Corridor Options Central Okanagan Multi-Modal Corridor (COMMC)

The Central Okanagan Multi-Modal Corridor is a high-speed corridor west of the existing Highway 97 corridor. Three options with different connections back to the existing corridor are being considered:

- **Option 1:** Follows the COMMC from Spall Road to Highway 33, including an overpass of Enterprise Way and a full interchange to connect to Highway 97
- **Option 2:** Follows the COMMC from Spall Road to just north of McCurdy Road, connecting with a half interchange at Highway 97. There will be a full interchange between COMMC and Highway 33
- **Option 3:** Follows the COMMC from Spall Road to UBCO, connecting to the existing highway north of John Hindle Drive with a half interchange providing connections to and from the north

### Option 1

COMMC – Spall Road to Highway 33

#### Characteristics:

- Diverts some traffic from the existing Highway 97 corridor, but much of the extra capacity created is filled with new trips, creating little overall change in traffic volumes on Highway 97
- Provides an efficient route for longer distance trips between Highway 33 and downtown Kelowna
- May have noise and/or visual impacts

### Option 2

COMMC – Spall Road to McCurdy Road

#### Characteristics:

- Diverts some traffic from the existing Highway 97 corridor, but much of the extra capacity created is filled with new trips, creating little overall change in traffic volumes on the existing Highway 97 corridor
- Provides an efficient route for longer distance trips between McCurdy Road and downtown Kelowna
- Attracts more traffic than Option 1
- Maintains pathway along the former rail corridor
- Maintains transit along the existing Highway 97 corridor

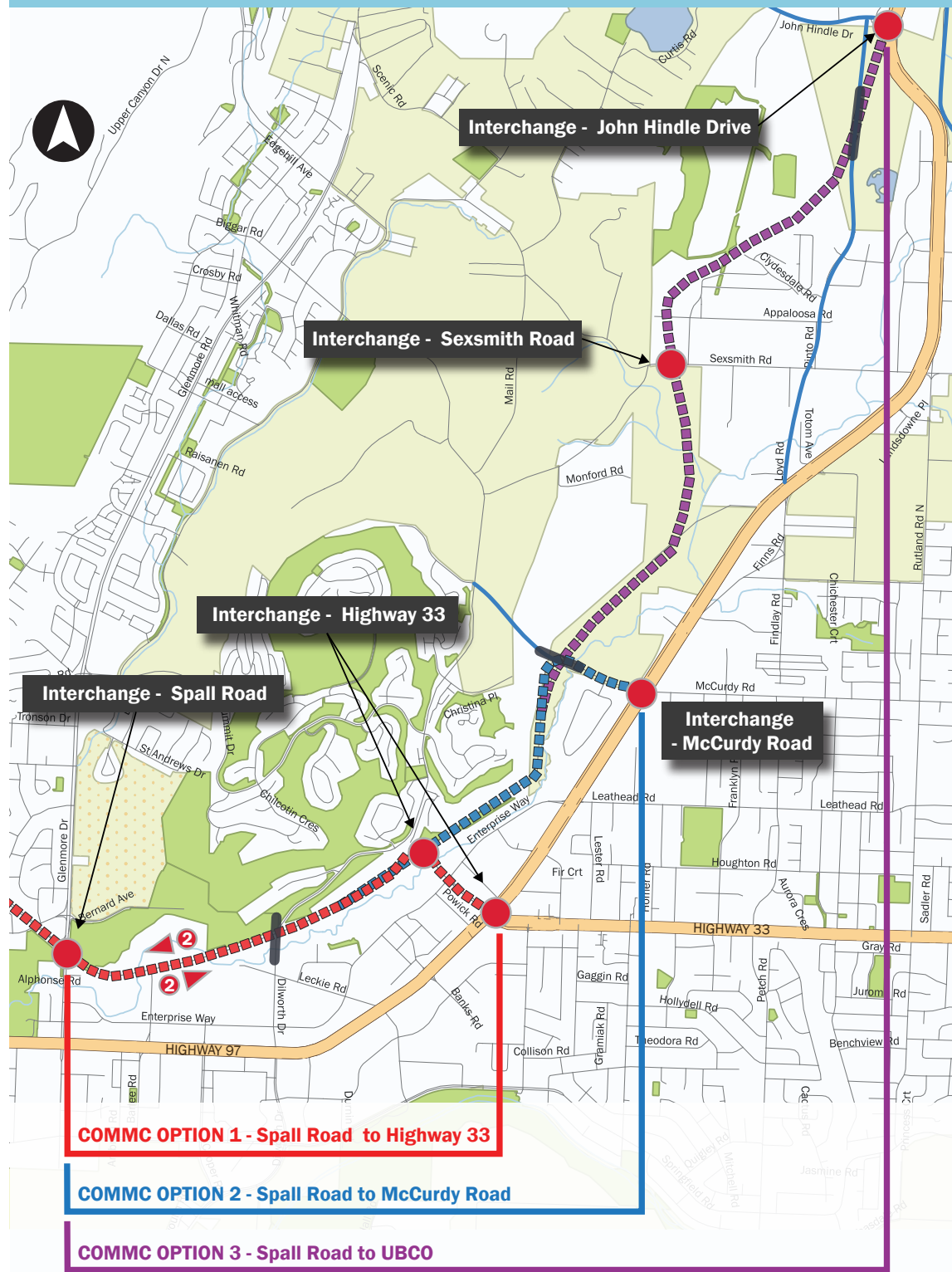
### Option 3

COMMC – Spall Road to UBCO

#### Characteristics:

- Diverts some traffic from the existing Highway 97, but much of the extra capacity created is filled with new trips, creating little overall change in traffic volumes on the existing Highway 97 corridor
- Provides an efficient route for longer distance trips between UBCO and downtown Kelowna
- Attracts more traffic than Options 1 and 2
- Maintains pathway along the former rail corridor
- Maintains transit along the existing Highway 97 corridor

# Kelowna Alternate Corridor Options Central Okanagan Multi-Modal Corridor (COMMC)



- |                                |                                    |                           |
|--------------------------------|------------------------------------|---------------------------|
| Existing Highway               | Interchange                        | Rapid Transit Stop        |
| Option Alignment               | Half Interchange                   | Transit Access Only       |
| Trenched                       | Right-In/Right-Out                 | Agricultural Land Reserve |
| Median Express Lanes           | Closed Access                      | Parks                     |
| Grade Separated Express Lanes  | Grade Separated Crossing           | Municipal or IR Boundary  |
| Local Connection               | Bike/Ped. Grade Separated Crossing | Indian Reserve Lands      |
| Number of Lanes in a Direction | Area of Special Consideration      |                           |



## Lake Country and Duck Lake Indian Reserve No. 7 Existing Corridor Options

This area of Highway 97 is defined by transitions between low-speed urban sections and high-speed rural sections. Its key challenges include:

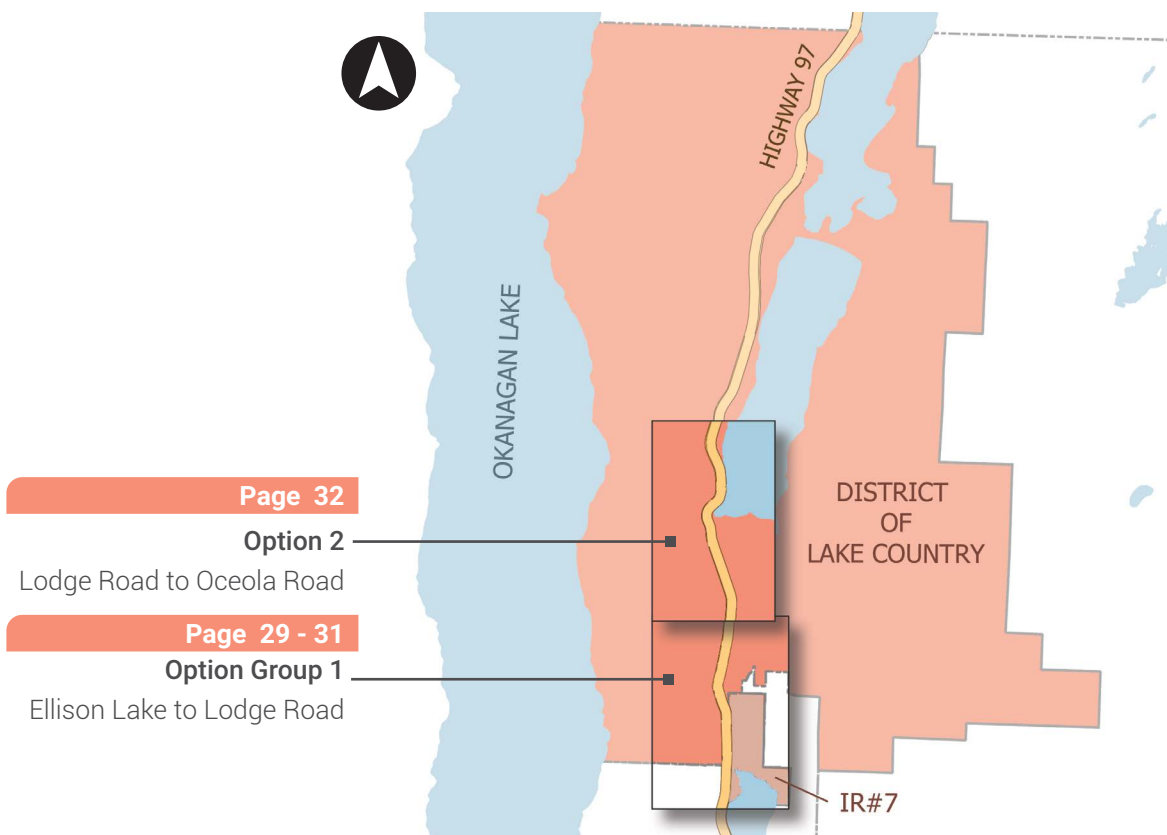
Through Duck Lake I.R. No. 7:

- Direct access to agricultural properties and minor local roads creates safety issues and causes delays due to vehicles turning to and from the highway
- Collision severity along Commonwealth Road that is higher than the provincial average

Through Lake Country:

- The Beaver Lake Road / Glenmore Road intersection has high delays and steep approaches to Highway 97
- The high number of local road intersections creates safety issues and causes delays due to turning vehicles
- High speeds and complex geometry at intersection of Oceola Road/Woodsdale Road create collision rates and severities that are higher than typically expected for this type of intersection

The following options attempt to address these key challenges by easing congestion and increasing the safety of key intersections.



### Existing Corridor Characteristics

	Lake Country and Duck Lake I.R. No. 7
Length	21.8 km
Number of Traffic Signals	11
Number of Overpasses	4
Average Space Between Highway Crossings	1,400m
Posted Speed Limit	50 - 70km/h



## Option Group 1 Ellison Lake to Lodge Road

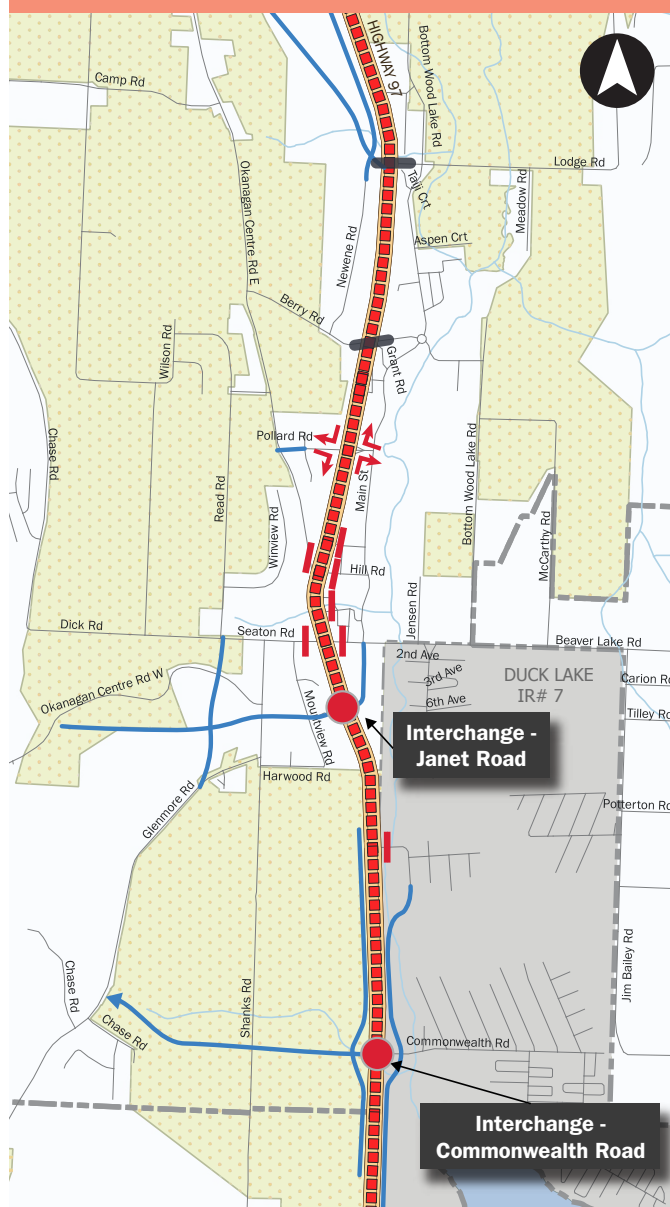
This section of Highway 97 provides access to the Okanagan Indian Band Duck Lake I.R. No. 7 and to the District of Lake Country. Through Duck Lake I.R. No. 7, there are several access points to agricultural properties and local roads primarily serving rural land uses. Through Winfield, the highway passes through the commercial area of Lake Country, with several local street intersections providing access to commercial properties.

The options between Ellison Lake and Lodge Road involve interchanges and overpasses to provide access and connections across the highway, and closing other existing highway access points. The options under consideration in this section are:

- **Option 1a:** Interchanges at Commonwealth Road and Janet Road
- **Option 1b:** Interchanges at Commonwealth Road and Okanagan Centre Road East
- **Option 1c:** Interchange North of Commonwealth Road and Half Interchanges at Janet Road and Pollard Road

The local road connections within the District of Lake Country are consistent with the District's Transportation for Tomorrow Plan.

### Option 1a Interchanges at Commonwealth Road and Janet Road

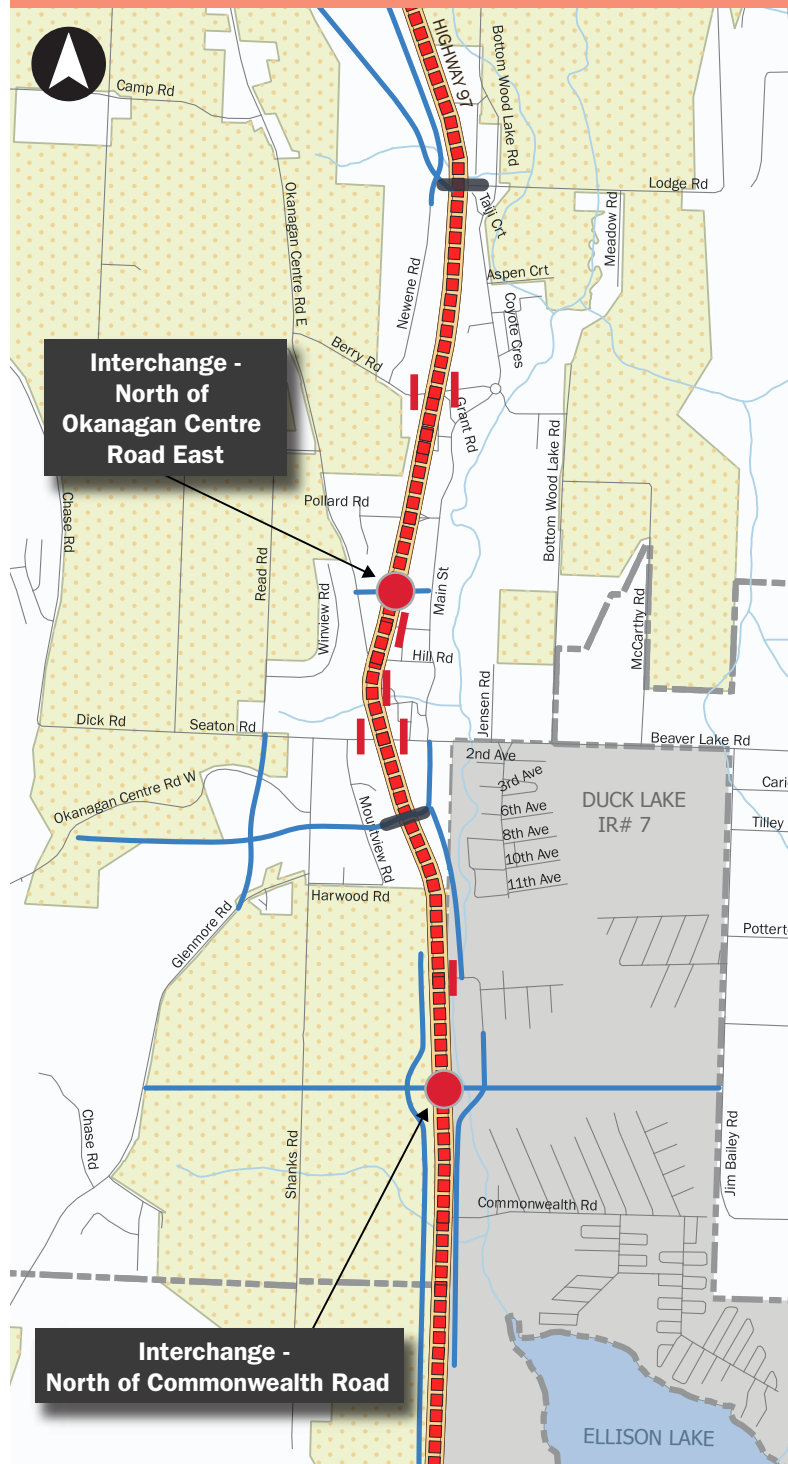


#### Option Characteristics:

- Requires significant local road construction through Agricultural Land Reserve
- Has property and environmental impacts along frontage roads
- Increases traffic on Commonwealth Road
- Improves access to Jim Bailey industrial area
- Creates more direct connection between Glenmore Road and Highway 97
- Improves access to Main Street
- Creates less direct access to commercial properties fronting on Highway 97
- Has property impacts on Janet Road
- Requires development of a supporting local road network
- Creates safe and convenient connections across the highway for all modes of transportation using grade-separated crossings at Berry Road and Lodge Road
- Consistent with Lake Country's road network plans

## Option Group 1 Ellison Lake to Lodge Road

### Option 1b Interchanges at Commonwealth Road and Okanagan Centre Road East

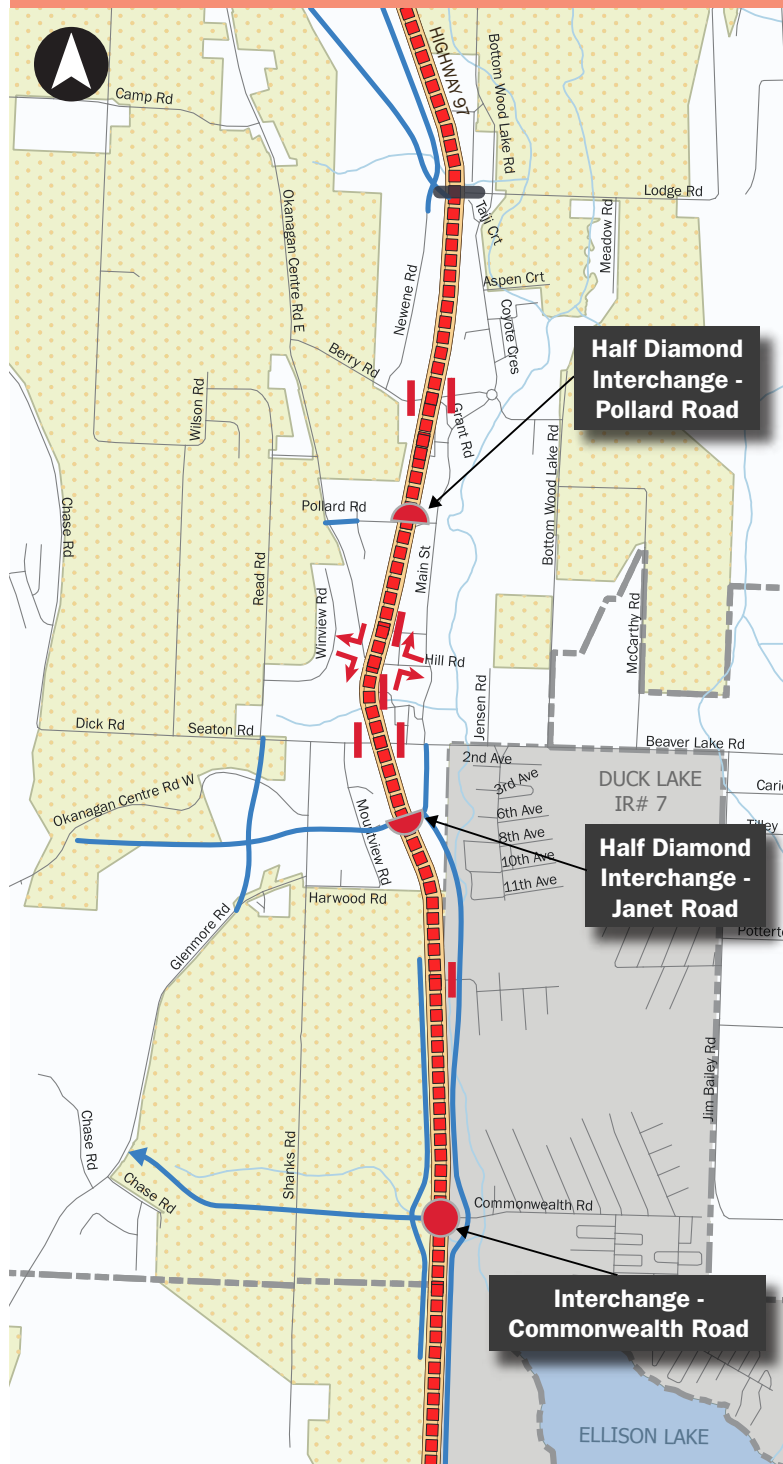


#### Option Characteristics:

- Requires significant local road construction through Agricultural Land Reserve
- Improves access to Jim Bailey industrial area
- Provides more direct connections between Glenmore Road and Highway 97
- Has property and environmental impacts along frontage roads
- Provides good local connections to Main Street, but reduces convenience of connections to Main Street in comparison to options with an interchange at Janet Road
- Reduces traffic on Commonwealth Road
- May have property impacts at Hill Road/Okanagan Centre Road East depending on interchange layout and location
- Requires development of a supporting local road network
- Requires use of the local road network to access the interchange at Hill Road/Okanagan Centre Road East
- Creates safe and convenient connections across the highway for all modes of transportation using grade separated crossings at Janet Road and Lodge Road

## Option Group 1 Ellison Lake to Lodge Road

### Option 1c Interchanges North of Commonwealth Road and Half Interchanges at Janet Road and Pollard Road



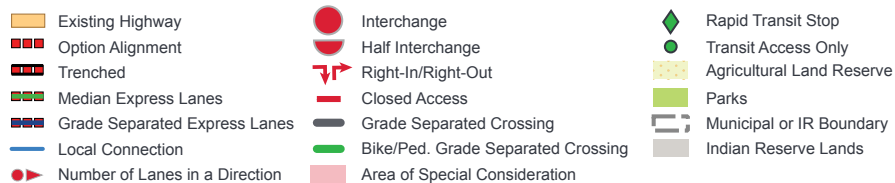
#### Option Characteristics:

- Requires significant local road construction through Agricultural Land Reserve
- Has property and environmental impacts along frontage roads
- Increases traffic on Commonwealth Road
- Improves access to Jim Bailey industrial area
- Creates more direct connections between Glenmore Road and Highway 97
- Creates fewer property impacts than full interchanges
- Provides better local access through the commercial area of Winfield than other options
- Creates easier crossings for pedestrian and cyclists in comparison to full interchanges
- Requires development of a supporting local road network
- Requires use of the local network to access the half interchanges
- Creates safe and convenient connections across the highway for all modes of transportation using grade-separated crossing at Lodge Road



An example of a half diamond interchange. A half diamond is used where traffic patterns require a connection in one direction only, or as a supplement to a nearby interchange.

*TransCanada Highway at Six Mile Road - Near Victoria, BC.*





## Option 2 Lodge Road to Oceola Road

Through the north end of Winfield, the number of access points decreases and the adjacent land use becomes more rural. Only one option is being considered in this section, which involves an interchange at Oceola Road and the closure of the existing Robinson Road access. The form of the interchange at Oceola Road is yet to be determined, but due to development constraints, it will not be a conventional interchange.

### Option 2 Lodge Road to Oceola Road



#### Option Characteristics:

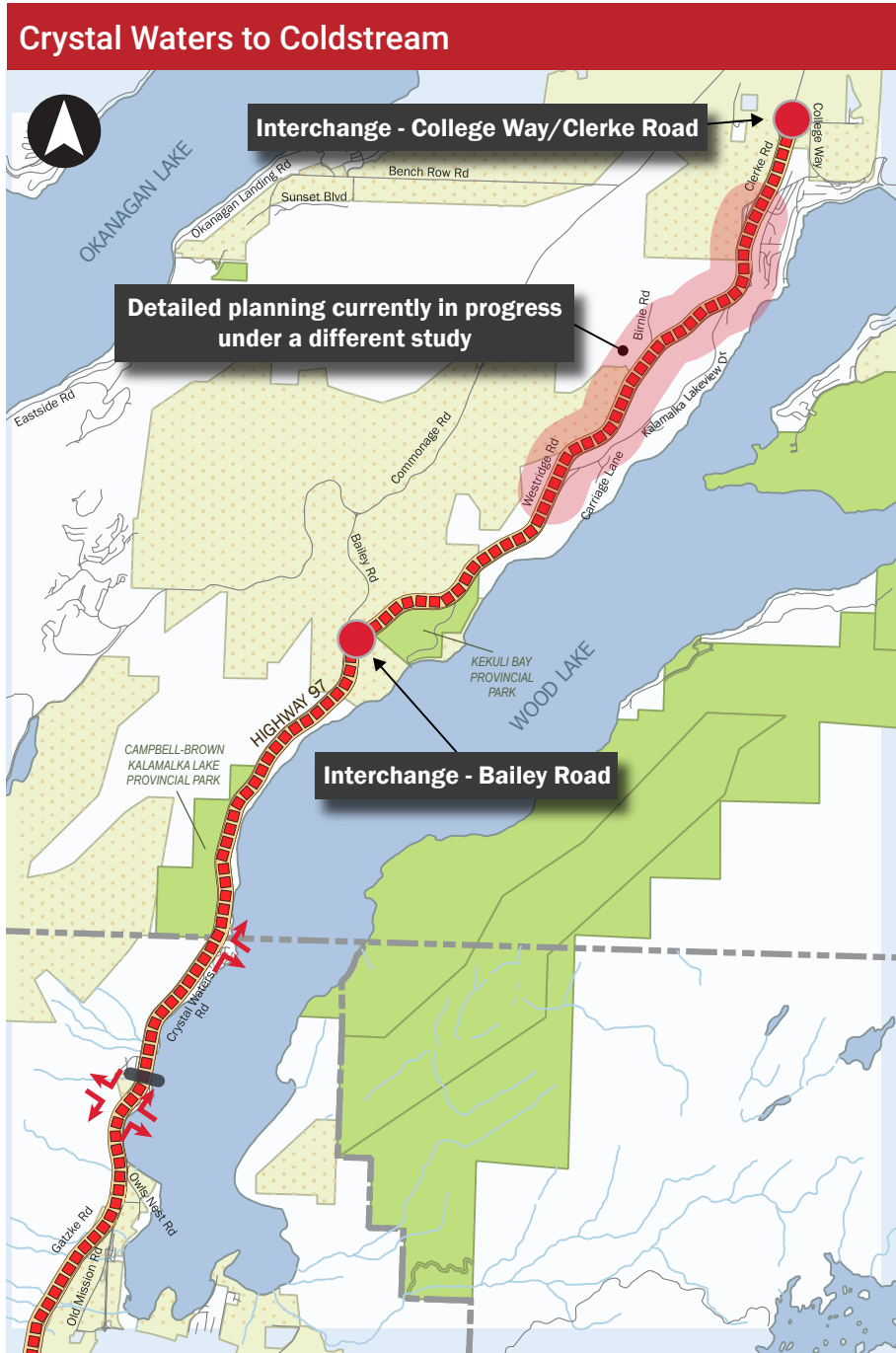
- Removes left turns at Robinson Road, reducing access but improving safety
- Has property and other impacts at Oceola Road / Woodsdale Road (form of the interchange will determine impacts)





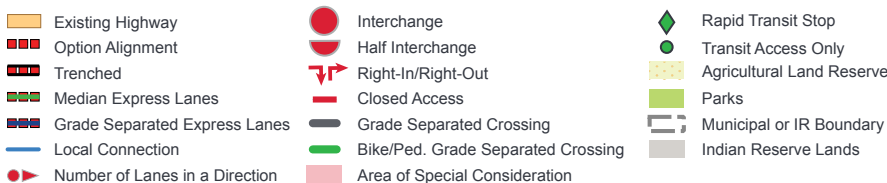
## Crystal Waters to Coldstream

Highway 97 is a high-speed, rural four-lane highway from Oyama to the College/Clerke intersection in Coldstream. Although there are relatively few intersections, they are prone to collisions, related to travel speeds on the highway. The plan for this section includes removal of all left turns in the long-term. These left turns will be replaced with a combination of right-on/right-off access points, local road connections, overpasses/underpasses and interchanges that will allow for access and crossing of the highway.



### Option Characteristics:

- Has a right-in, right-out at Crystal Waters Road (north and south)
- Has a grade-separated crossing north of Crystal Waters Road (south)
- Has an interchange at Bailey Road
- Creates an interchange at College Way and Clerke Road



## Exploring Second Crossing Options

A key component of the Central Okanagan Planning Study (COPS) is consideration of a second crossing of Lake Okanagan. The previous future conditions assessment determined that the capacity of the existing 5-lane bridge will be reached in about 25 years, with the capacity on the Kelowna side of the bridge reached before then.

### Previous Second Crossing Studies

Previous studies have investigated potential crossing locations north and south of the W.R. Bennett Bridge and with the exception of those connecting to the north end of downtown Kelowna, all have been shown to attract very little traffic. Within the Central Okanagan Planning Study, existing and forecast travel patterns have confirmed that there is little demand for crossings with an east connection outside the downtown Kelowna area.

### Consideration of a Northern Crossing

Future growth in the area around UBCO and the Kelowna airport is expected to be strong over the next 25 years. A detailed traffic demand evaluation was completed for a potential crossing between Traders Cove on the west side of the lake and south of McKinley Landing on the east side, including high speed connections to the existing highway and UBCO. The intent of this detailed evaluation was to determine if future growth in the vicinity of UBCO and the airport could generate enough traffic to justify a new northern crossing. The evaluation found that this northern crossing would attract less than one lane of traffic in each direction in the peak hour (2040 horizon year). Only a small amount of traffic will be diverted from the W.R. Bennett Bridge.

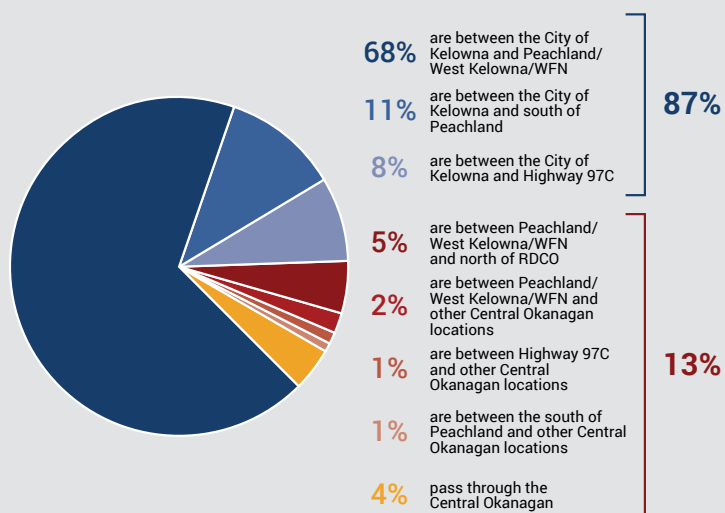
### A Reduced Study Area for a Second Crossing

As a result of this detailed evaluation, previous studies and understanding of travel patterns, the potential east and west landing points for a second crossing have been narrowed to include:

- **West Side** – South of Old Ferry Wharf Road to south of Bear Creek Provincial Park
- **East Side** – South of Poplar Point to south of Manhattan Point
- **Existing Location** – Expansion of capacity

### Where are the trips between?

**Congestion on the Corridor is Primarily the result of local/regional traffic.** As discussed during spring and winter consultations in 2015, **only 1/3 of vehicles entering the Central Okanagan from outside the area actually cross the W. R. Bennett Bridge. Only 4% of bridge traffic is the result of vehicles just passing through the Central Okanagan.** Traffic volumes are highest on the bridge, but congestion occurs in the urban portions of the corridor on either side.



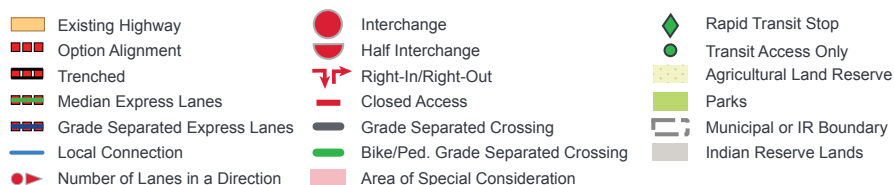
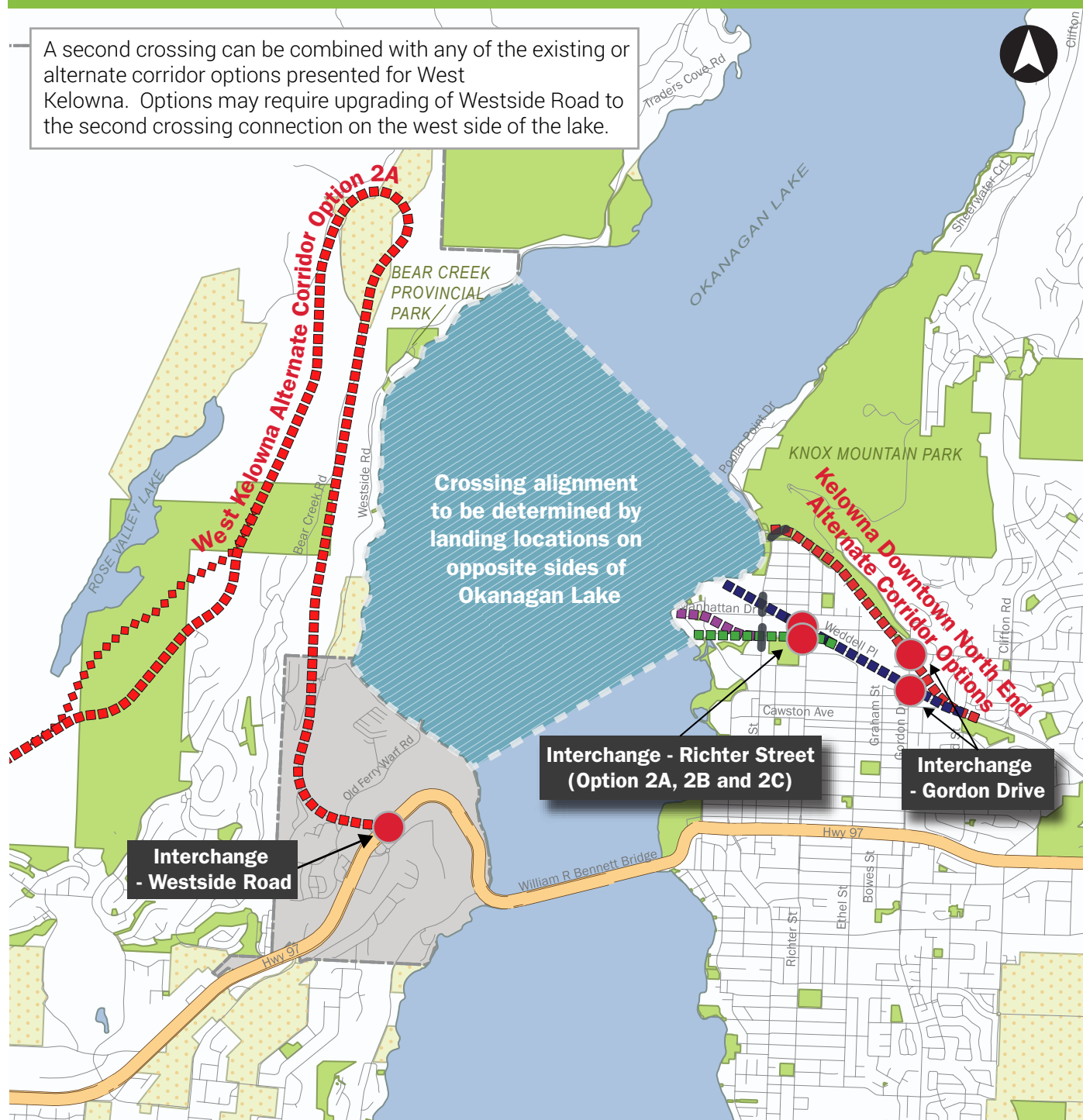
**Specific crossing locations will be examined through the next stage of the Central Okanagan Planning Study.**

### Other Options

Options to add capacity to the existing crossing through modification to the existing structure or a new parallel bridge beside the W.R. Bennett Bridge are also being considered, along with the options to expand capacity on Highway 97 in Kelowna.

## Second Crossing Options

A second crossing can be combined with any of the existing or alternate corridor options presented for West Kelowna. Options may require upgrading of Westside Road to the second crossing connection on the west side of the lake.





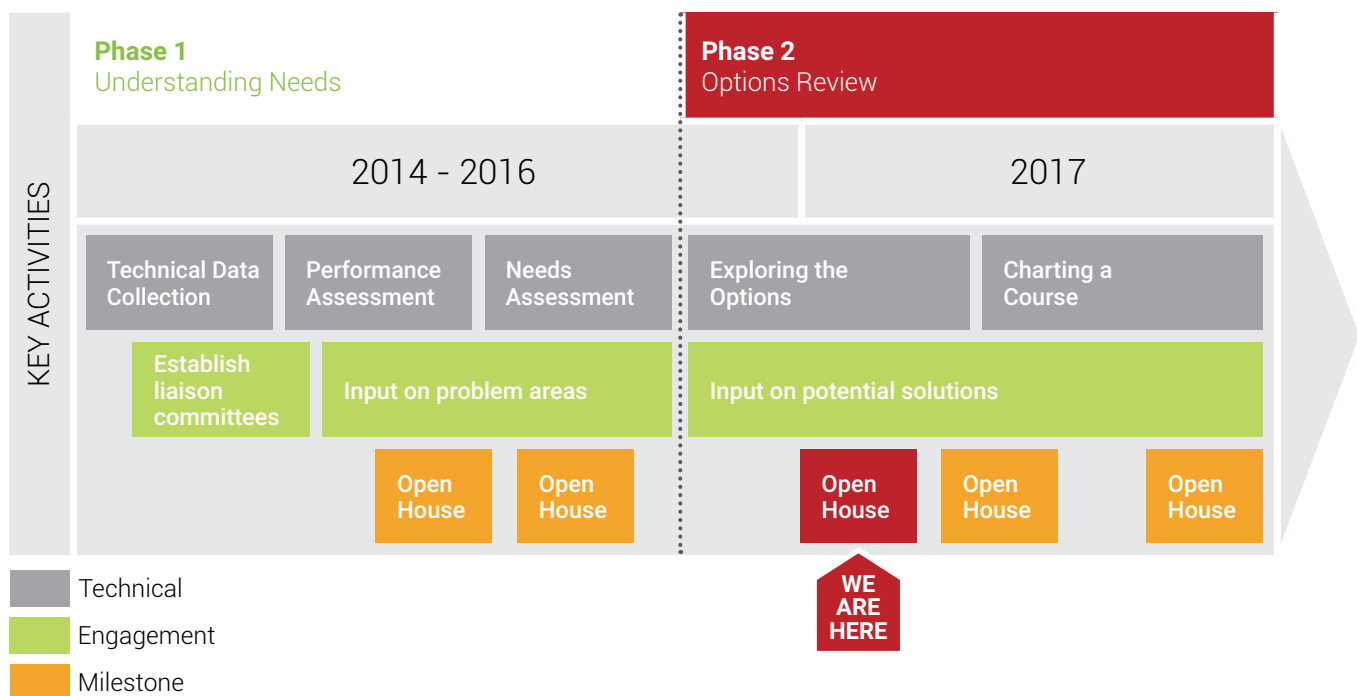
### What other options were considered?

Not all of the options that were developed will be moving forward for further consideration. To see the options that won't be moving forward, please visit <http://engage.gov.bc.ca/okanagansecondcrossing>.

## Next Steps

The options for Highway 97 through the Central Okanagan will now be evaluated from a number of perspectives to better understand how the options compare to each other. When complete, the evaluation is meant to provide a balanced picture of the options that takes into account all of the important variables, including public input. Once complete, the study team will present the evaluation results to the public for input.

### Central Okanagan Planning Study Process Snapshot







### Stay up to date

You can sign up to receive ongoing project updates by submitting a request to **[okanagansecondcrossing@gov.bc.ca](mailto:okanagansecondcrossing@gov.bc.ca)** or calling **250-712-3660**.



Visit us online at

**<http://engage.gov.bc.ca/okanagansecondcrossing>**.

# Notes

# Notes

## Sources

BC Transit

BC Stats

City of Kelowna

City of Vernon

District of Lake Country

District of Peachland

City of West Kelowna

HDR Consultants

Ministry of Transportation and  
Infrastructure

Okanagan Indian Band

Parsons –  
Central Okanagan Planning Study

Partnerships BC

Regional District of Central Okanagan

Statistics Canada

Sustainable Transportation Partnership of  
the Central Okanagan

Tourism Kelowna

Westbank First Nation



*All of the information provided in this Consultation Companion is based on the most recent complete data available.*

## Contact Information:

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Ministry of Transportation and Infrastructure  
#300 – 1358 St. Paul Street  
Kelowna, BC V1Y 2E1  
250-712-3660



Ministry of  
Transportation  
and Infrastructure