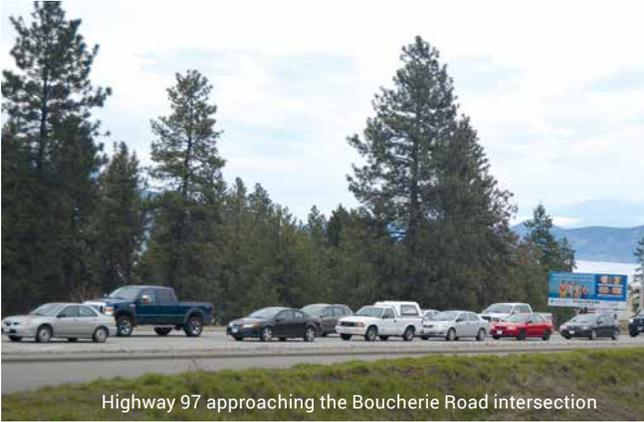


Highway 97: Intersection Improvements at Boucherie Road and Westlake Road



Boucherie Road Intersection Improvements



Highway 97 approaching the Boucherie Road intersection



Westlake Road Intersection Improvements



Highway 97 approaching the Westlake Road intersection

Discussion Guide and Feedback Form

Community Engagement

March 2–20, 2016

www.gov.bc.ca/okanaganvalleycorridorprojects



Ministry of
Transportation
and Infrastructure

Welcome

You're invited to provide input on conceptual layouts being considered for the intersection improvements at Boucherie Road and Westlake Road.

Community Engagement

There are several ways to participate and provide your feedback:

- ✓ Visit our website at www.gov.bc.ca/okanaganvalleycorridorprojects
- ✓ Read the Discussion Guide and complete the Feedback Form
- ✓ Fill out our online Feedback Form www.gov.bc.ca/okanaganvalleycorridorprojects
- ✓ Email us at boucherie.westlake@gov.bc.ca
- ✓ Attend an open house

Please submit
your comments by
March 20, 2016.

Public Open House Schedule

Location	Date/Time	Venue
West Kelowna	Wednesday, March 2, 2016 4:00 p.m. – 8:00 p.m.	Super 8 West Kelowna 1655 Westgate Rd, West Kelowna
Westbank First Nation	Thursday, March 3, 2016 4:00 p.m. – 8:00 p.m.	Sensisyusten Multi-Purpose Facility 1920 Quail Lane, Westbank

How Input Will be Considered

Input will be considered, along with technical information, costs and benefits, and further input from local governments, as preliminary designs for the intersection improvements are developed. There will be additional opportunities to provide input regarding the Boucherie Road and Westlake Road intersection improvements as the project proceeds.



Highway 97 approaching the Boucherie Road intersection

Highway 97: Intersection Improvements at Boucherie Road and Westlake Road

With the completion of the William R. Bennett Bridge and Westside Road Interchange projects, Boucherie Road to Westlake Road was identified as the next section of Highway 97 most in need of safety and mobility improvements. In addition to the Central Okanagan Planning Study launched in 2014, which looks at the transportation needs for the broader area, the Ministry of Transportation and Infrastructure (MoTI) initiated conceptual planning for these intersections as a result of the safety and mobility improvements needed in the near term.

In 2014, MoTI began planning for improvements to the Boucherie Road and Westlake Road intersections, to increase safety and mobility along the Highway 97 corridor. These intersections create significant highway and cross street delays, and experience higher collision rates compared to other locations throughout the province. The Boucherie Road and Westlake Road intersection improvements will help traffic continue to move safely and meet future traffic needs resulting from the projected population and economic growth in the area.

Planning and discussions with the local government and First Nations over the past year have resulted in conceptual layouts for intersection improvements at Westlake Road and Boucherie Road. The planning work for these intersections includes regular technical consultations with the City of West Kelowna and Westbank First Nation.

Highway 97: A Vital Transportation Corridor

Highway 97 is the primary north-south roadway through the Okanagan Valley, serving as the major connection between the communities of Osoyoos, Oliver, Penticton, the City of West Kelowna, Kelowna, Vernon and Kamloops, and connecting the U.S. in the south to the Trans-Canada Highway (Highway 1) in the north.

Stages of Planning and Engagement

1 Current Conditions Analysis

2 Future Needs Defined

3 Conceptual Planning – Development and Evaluation of Options

4 Community Engagement (March 2–20, 2016)

WE ARE HERE

Public input regarding the conceptual layouts under consideration

5 Revise Conceptual Layouts Considering Public Input

6 Initiate Preliminary Design

Planning for the Future: B.C. on the Move

In March 2015, the government of B.C. released *B.C. on the Move: A 10-Year Transportation Plan*. As part of developing this plan, province-wide engagement was held to seek comments from British Columbians about transportation priorities over the next 10 years. Over 12,500 survey responses were received and over 100 meetings were held with representatives of local governments, First Nations, chambers of commerce, port and airport authorities and other stakeholders.

Expanding the capacity of our transportation network is critical to improving safety, attracting new investment and supporting economic growth. The Province will invest approximately \$1 billion over the next three years to ensure our network has the safety, capacity and reliability to meet transport and trade needs.

You can read the full plan at engage.gov.bc.ca/transportationplan.

B.C. on the Move: Okanagan

In recent years, the regional transportation network in the Okanagan has undergone significant improvements for all modes of travel. Since 2001, the Highway 97 corridor in the Central Okanagan has received over \$400 million in upgrades to improve safety and mobility. Some of the highway improvements for the Okanagan region in *B.C. on the Move: A 10-Year Transportation Plan* include:

- ✓ Continue planning for the second crossing of Okanagan Lake
- ✓ Construct new passing lanes and four-laning on highways throughout the Okanagan, including six-laning through Kelowna
- ✓ Intersection improvements, new interchanges, and safety improvements on highways and roads throughout the Okanagan Valley

Central Okanagan Planning Study

The Central Okanagan Planning Study (COPS) will determine transportation needs of the area, and will look at route options including potential locations for a future additional lake crossing and potential timing for future projects. Although not part of COPS, the Boucherie Road and Westlake Road intersection improvements will be considered together with the recommendations resulting from COPS.

The study area for COPS extends from Greata Ranch, south of Peachland, north to Clerke Road/College Way south of Vernon, and encompasses the communities of Peachland, West Kelowna, Lake Country, the Westbank First Nation and Okanagan Indian Band.



To learn more about the Central Okanagan Planning Study, visit engage.gov.bc.ca/okanagansecondcrossing.

Boucherie Road and Westlake Road Intersections: Current Conditions

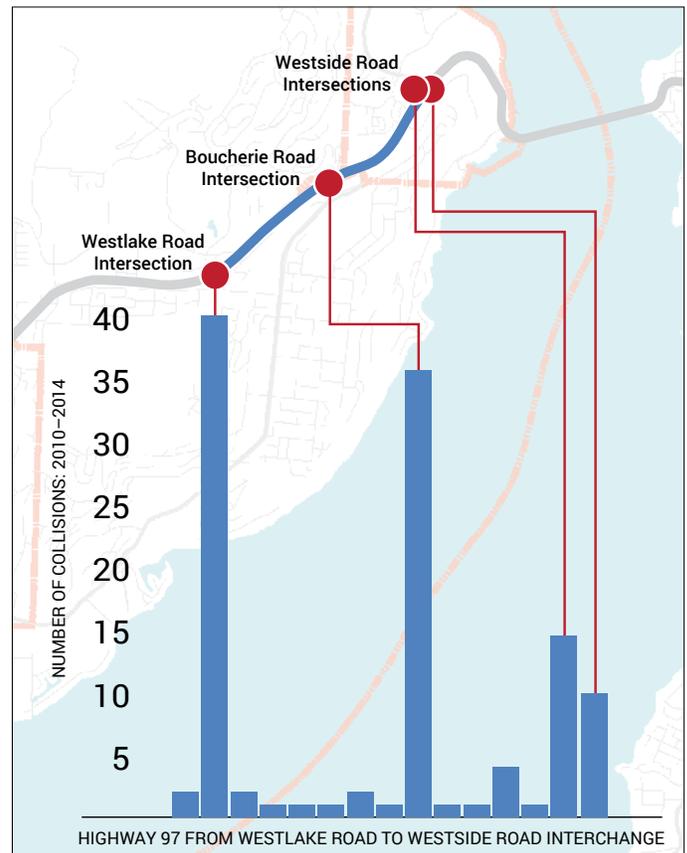
The population of the Okanagan is growing rapidly, and is predicted to continue to grow. From 1996 to 2011, the Central Okanagan population grew by 32%, a much higher rate than the provincial average of 18%. To meet this growing demand, capacity improvements are needed to address safety, queuing and delays and help improve travel times along Highway 97.

Traffic Collisions

An analysis of current operations and collisions, completed as part of the conceptual planning process, shows the Boucherie Road and Westlake Road intersections are considered collision prone locations experiencing higher than average collisions and accident severity, based on comparable locations in the province. On Highway 97, between Westlake Road and Westside Road, over 115 collisions have been reported in a five year period (2010–2014), with the majority occurring at the Boucherie Road and Westlake Road intersections.

Westlake Road and Boucherie Road are currently ranked the most collision prone locations along Highway 97 south of the William R. Bennett Bridge. The Ministry's planned improvements will increase safety at these two intersections.

Highway 97: Westlake Road to Westside Road 5-Year Collision History (2010-2014)



Since 2013, the average yearly number of crashes at the Westside Road interchange has decreased by 75%

Guiding Principles – Improvements to Highway 97 Intersections

Planning for improvements to the Boucherie Road and Westlake Road intersections include the following principles to guide the decision-making process:

- ✓ Improve safety and traffic flow on the highway.
- ✓ Improve access and connectivity with the local road network.
- ✓ Support and enhance adjacent land uses and consider local community character, aesthetics and image.
- ✓ Minimize impacts to residents and businesses and maximize development potential.
- ✓ Support active transportation.

In addition, MoTI has worked with the City of West Kelowna and Westbank First Nation to consider their goals for transportation infrastructure improvements.

Boucherie Road and Westlake Road Intersections: Current Conditions

Current Traffic Congestion

Highway 97 experiences significant delays and queuing, particularly northbound traffic during the morning peak hour, and southbound traffic during the afternoon peak hour. The following locations are particularly congested:

- The right turn from Boucherie Road onto Highway 97 (northbound) during the morning and afternoon peak hours
- The left turn from Highway 97 (southbound) onto Boucherie Road during the afternoon peak hour
- Eastbound Westlake Road/Hudson Road, including the left turn from Westlake Road/Hudson Road onto Highway 97 northbound during the morning and afternoon peak hours

Within the Boucherie Road and Westlake Road study area, traffic volumes on the highway during morning peak hours are around 3,500 vehicles-per-hour (VPH) and in the afternoon are around 4,200 VPH.

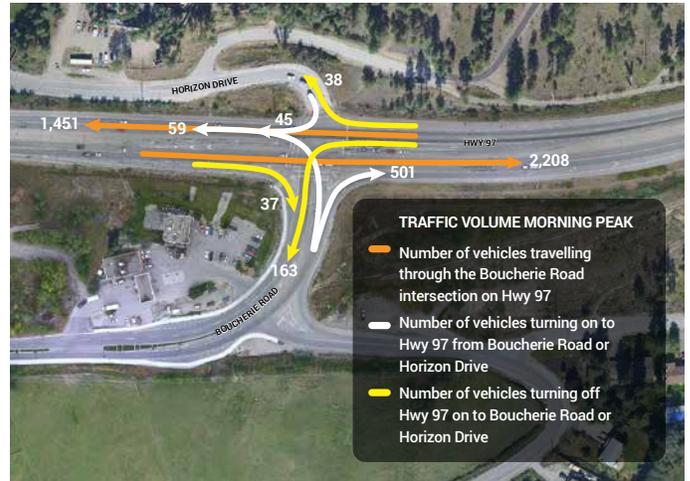
Traffic does not flow efficiently through the signalized intersections at Boucherie Road and Westlake Road as a result of existing traffic and land use patterns. For example, residential development is on the west side of Lake Okanagan and employment centres are on the east.

Congestion on Highway 97 has resulted in vehicles diverting to Sneena Road Extension, causing additional congestion on local roads.

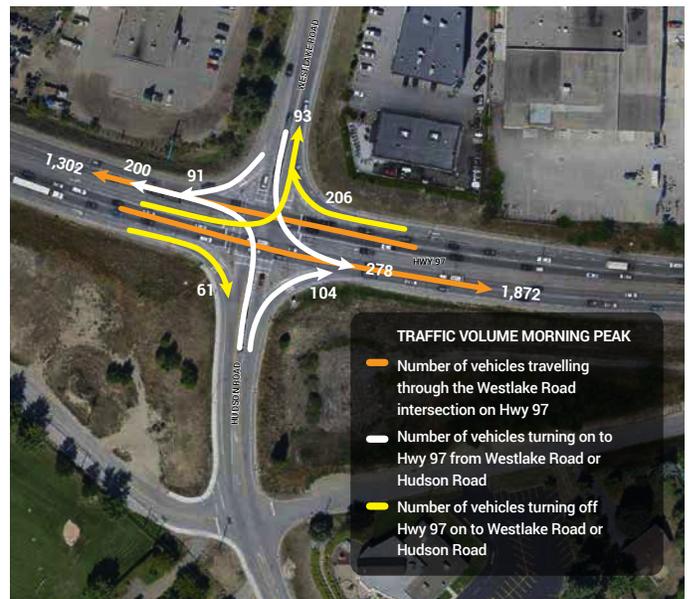
Future Traffic Conditions

Anticipated development in the area (identified by the City of West Kelowna and Westbank First Nation) could contribute up to an additional 2,300 vehicles-per-hour (VPH) during the morning peak hour and 3,600 VPH during the afternoon peak hour over a 25-year time frame. This would increase daily traffic in the area by about 70%.

Traffic Volume During the Morning Peak Hour – Boucherie Road Intersection (Summer 2015)



Traffic Volume During the Morning Peak Hour – Westlake Road Intersection (Summer 2015)



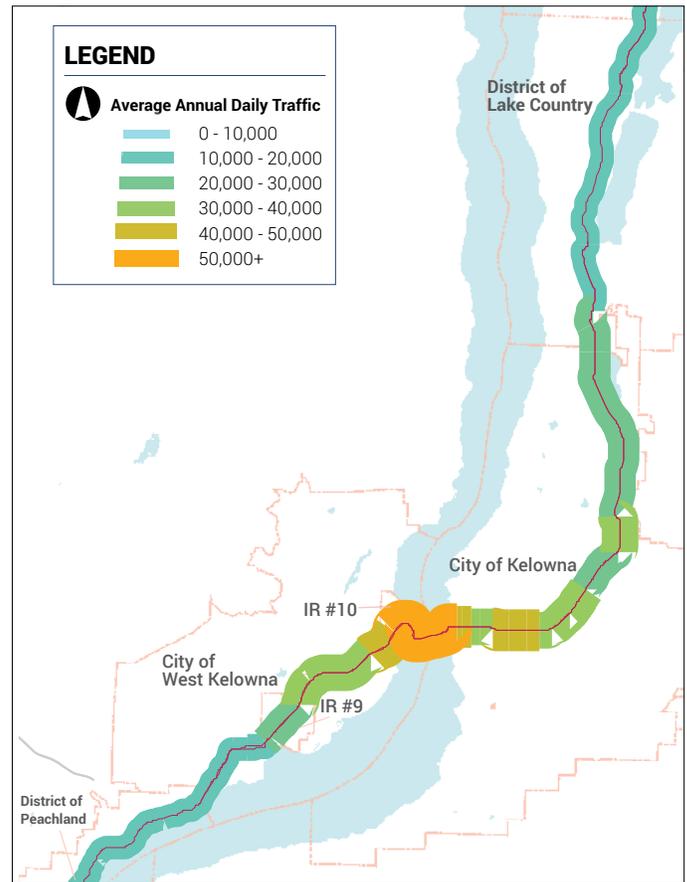
Current Traffic Congestion

There are many activity centres concentrated on the Highway 97 corridor, and few alternative routes. The greatest traffic congestion is around these activity destinations. Population and economic growth has resulted in congestion, particularly in the summer when the largest amount of tourist traffic is added to local and commercial traffic.

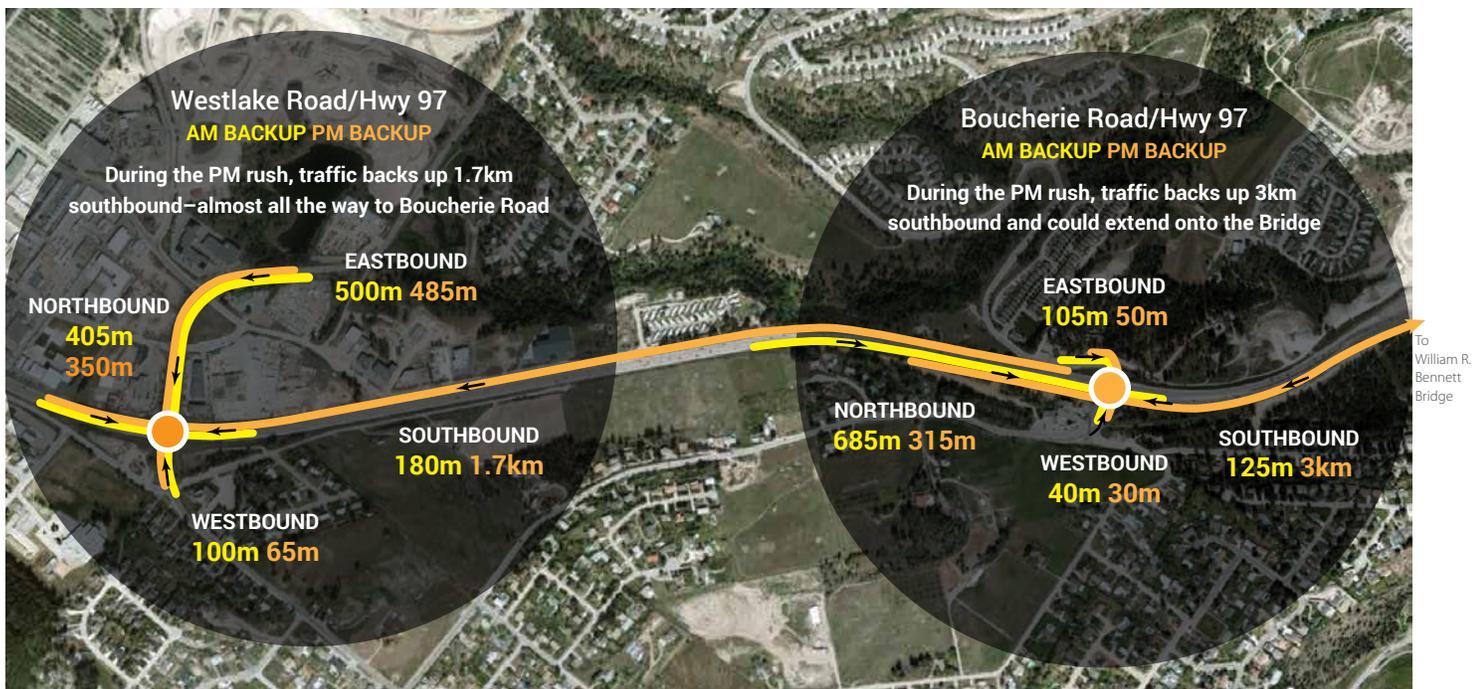
Traffic counts at the south end of William R. Bennett Bridge show that the average weekday daily traffic over the year 2014 is 56,000 vehicles per day, ranging from 47,000 in winter to 64,000 in summer.

Highway 97 and the side-streets at the Boucherie Road and Westlake Road intersections experience significant traffic congestion and traffic queues during the morning and afternoon peak hours, particularly in the summer months when traffic volumes increase by about 15%.

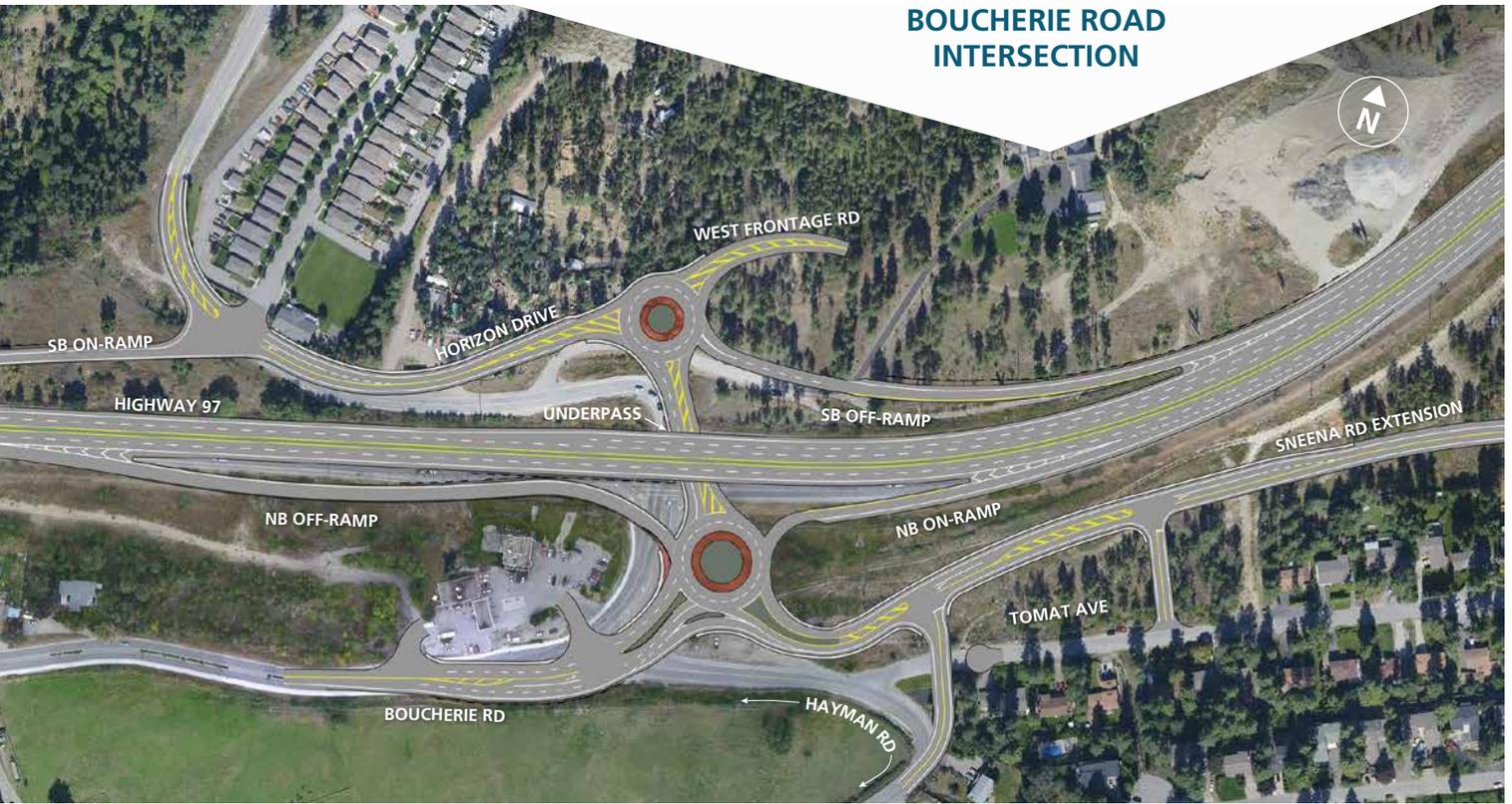
Highway 97 Annual Average Daily Traffic (2014)



Traffic Backups on Highway 97 During the Morning and Afternoon Peak Hours (Summer 2013)



Boucherie Road Intersection Improvements - Conceptual Layout



The Boucherie Road intersection conceptual layout will increase safety and capacity, and improve traffic flow.

Boucherie Road Intersection: Conceptual Layout

This conceptual layout provides on/off ramps to and from the highway. An underpass at the current intersection of Highway 97 and Boucherie Road would connect the two sides of the highway. The three-lane underpass would be a continuation of Boucherie Road to the west side of the highway using a new roundabout intersection with Horizon Drive.

On the east side, Boucherie Road would tie into a new roundabout with northbound on/off ramps. The Hayman Road intersection would be relocated to intersect with the extension of Sneena Road.

This conceptual layout reduces congestion and improves movement to and from the highway.

Planning and Conceptual Layout:

Project planning identifies the transportation issues for the project to solve, defines the scope of the project and recommends a solution to move forward into the design stage. A conceptual layout illustrates the recommended design during the planning phase of a project. The next step is preliminary design.

Boucherie Road Intersection Improvements - Conceptual Layout



Safety and Mobility Benefits Achieved with the Boucherie Road Conceptual Layout:

- Reduces potential for high speed collisions on highway
- Removes traffic signal from the highway
- Improves traffic flow
- Improves access and connectivity with the local road network
- Enables pedestrians and cyclists to cross underneath the highway
- Supports the efficient movement of goods

Other Benefits:

- Supports and enhances adjacent land uses
- Minimizes effects to residents and businesses and provides opportunities for development



Highway 97 approaching the existing Boucherie Road intersection

Multiple concepts were considered through the planning process to address safety and mobility concerns along the Highway 97 corridor between Westlake Road and the Westside Road interchange.

For a full list of the concepts assessed please see pages 11 and 12.

Westlake Road Intersection Improvements - Conceptual Layout



The Westlake Road intersection conceptual layout will increase safety and capacity, and improve traffic flow.

Westlake Road Intersection: Conceptual Layout

This conceptual layout provides “right in/right out” movements to and from the highway, with an underpass north of the current Highway 97/Westlake intersection. This underpass would connect Hudson Road with Stevens Road.

A section of Concord Road would be removed and a new road would extend from Hudson Road and connect back to Concord Road. The exact alignment would be confirmed in the next phase of preliminary design.

This conceptual layout provides better movements to and from the highway.

Roundabouts – Benefits:

- Roundabouts are growing in popularity across Canada and the U.S.
- Roundabouts reduce vehicle speeds through an intersection, improving safety for all users.
- Roundabouts reduce the potential for serious crashes, such as t-bone or head on-collisions.
- Roundabouts reduce GHG emissions by reducing delay and encouraging free flow of traffic.

Westlake Road Intersection Improvements - Conceptual Layout



Safety and Mobility Benefits Achieved with the Westlake Road Conceptual Layout:

- Reduces potential for high speed collisions on highway
- Removes traffic signal from the highway
- Improves traffic flow
- Improves access and connectivity with the local road network
- Supports the efficient movement of goods
- Maintains and improves business access
- Includes rapid bus facility
- Enables pedestrians and cyclists to cross underneath the highway



Highway 97 at the existing Westlake Road intersection

Other Benefits:

- Supports and enhances adjacent land uses
- Minimizes effects to residents and provides opportunities for development

Multiple concepts were considered through the planning process to address safety and mobility concerns along the Highway 97 corridor between Westlake Road and the Westside Road interchange.

For a full list of the concepts assessed please see pages 11 and 12.

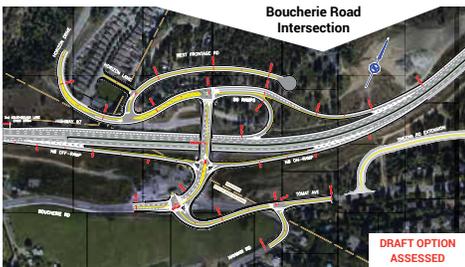
Other Concepts Assessed

Multiple concepts were considered through the planning process to address safety and mobility concerns along the Highway 97 corridor between Westlake Road and the Westside Road interchange.

How does the Ministry Select a Conceptual Layout?

The Ministry's transportation planning analysis looks at many factors when examining conceptual layouts for solving a transportation related issue. Our teams consider technical information, along with environmental and land impacts, and community interests by using a multiple accounts evaluation (MAE). The content of the MAE is developed by our planning teams and includes input from local governments, First Nations and stakeholders. An MAE allows us to directly compare the benefits and impacts of each concept and assists our engineers in recommending a preferred layout.

Other Concepts Assessed: Boucherie Road Intersection

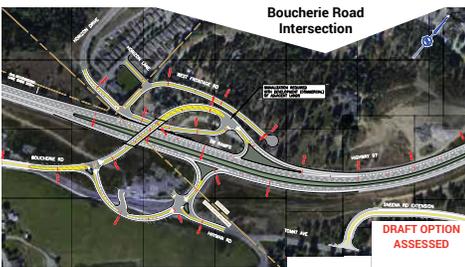


Signalized Diamond Interchange (Highway 97 Underpass)

Boucherie Road would pass over the highway, connecting the local roads on either side of the highway. Direct ramps would be provided to/from the highway northbound, while southbound a direct off-ramp and loop on-ramp from Horizon Drive (in the northwest quadrant of the interchange) would be provided.

Reasons why this concept was not selected:

- Property impacts to adjacent lands
- Short intersection spacing affects traffic operations
- High fill slope or retaining wall on west side
- Highest construction costs

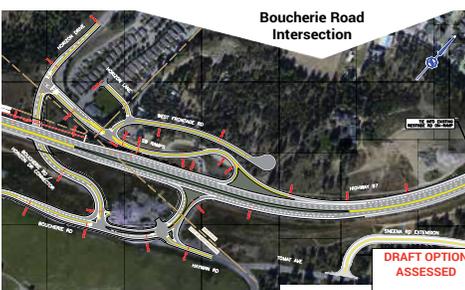


Boucherie Road Flyover (Highway 97 Underpass)

Boucherie Road would pass over the highway, providing access to lands on either side of the highway. Access to/from the highway would be provided by "right-in/right-out" ramps.

Reasons why this concept was not selected:

- Increased circuitousness of local road network
- Property impacts to adjacent lands
- Reconstruction of Boucherie Road
- High fill slope or retaining wall on west side



Highway 97 Overpass (Horizon Drive Tube)

An underpass would be provided south of the existing highway intersection to access lands on either side of the highway. "Right-in/right-out" ramps would provide access to/from the highway.

Reasons why this concept was not selected:

- Increased circuitousness of local road network
- Pedestrian and cyclist connectivity between east and west sides less desirable
- Rapid bus stop placement challenging
- New intersection on Boucherie Road at an 8% grade

Evaluation Process

The Boucherie Road and Westlake Road intersection concepts were evaluated by assessing the following criteria:

Economic Account

- Convenient access
- Highway exposure (to businesses)
- Land consumption

Socio-Community Account

- Cross-highway connectivity
- Impacts to residences
- Impacts to businesses
- Multi-modal (pedestrian, bicycle, transit)

Financial Account

- Maintenance cost
- Construction costs
- Property cost

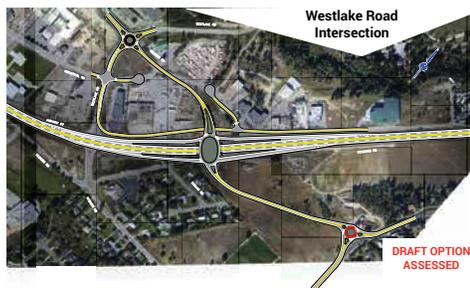
Customer Service Account

- Safety
- Travel time savings
- Highway operations
- Ramp operations
- Network road operations
- Constructability

Local Government Input

- Westbank First Nation
- City of West Kelowna

Other Concepts Assessed: Westlake Road Intersection



Oval Roundabout (Stevens Road)

All movements to/from the highway would be provided by an oval roundabout connecting Stevens Road across the highway and connecting to Boucherie Road.

Reasons why this concept was not selected:

- Property and access impacts to adjacent lands (i.e. residences, ALR and Business Park)
- Grade differential between Boucherie Road east of highway and Stevens Road west of highway
- Significantly higher construction costs
- Includes unfamiliar traffic manoeuvres for drivers



Westlake/Hudson Road Overpass (Oval Roundabout, NB; "Right-in/Right-out", SB)

Westlake/Hudson Road overpass would connect local roads on either side of the highway. Access to/from highway northbound would be provided by an oval roundabout, while "right-in/right-out" ramps would be provided southbound.

Reasons why this concept was not selected:

- Property and access impacts to adjacent lands (i.e. residences, ALR and Business Park)
- Traffic management during construction would be challenging
- Includes unfamiliar traffic manoeuvres for drivers



Westlake Diamond Interchange

All movements to/from the highway would be provided by a diamond interchange just north of the current Westlake intersection. Westlake Road would pass over the highway, connecting the local roads on either side of the highway.

Reasons why this concept was not selected:

- Property and access impacts to adjacent lands (i.e. residences, ALR and Business Park)
- Grade differential between Boucherie Road east of highway and Stevens Road west of highway
- Potential environmental impact on west side of highway
- Significantly higher construction costs

FEEDBACK FORM

Boucherie Road Intersection: Conceptual Layout

2) How important are each of the following considerations to you as the Ministry of Transportation and Infrastructure designs the Boucherie Road Intersection?

	Very Important	Somewhat Important	Not Very Important	Not Important at All
Removing traffic signals from the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving traffic flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving access and connectivity with the local road network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting the efficient movement of goods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving business access to the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing access for pedestrians and cyclists to cross underneath the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting and enhancing adjacent land uses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimizing effects to residents and businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing opportunities for development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FEEDBACK FORM

Westlake Road Intersection: Conceptual Layout

4) How important are each of the following considerations to you as the Ministry of Transportation and Infrastructure designs the Westlake Road Intersection?

	Very Important	Somewhat Important	Not Very Important	Not Important at All
Removing traffic signals from the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving traffic flow	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving access and connectivity with the local road network	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting the efficient movement of goods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Improving business access to the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing access for pedestrians and cyclists to cross underneath the highway	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Supporting and enhancing adjacent land uses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Minimizing effects to residents and businesses	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Providing opportunities for development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Highway 97: Intersection Improvements at Boucherie Road and Westlake Road

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