

EXECUTIVE SUMMARY

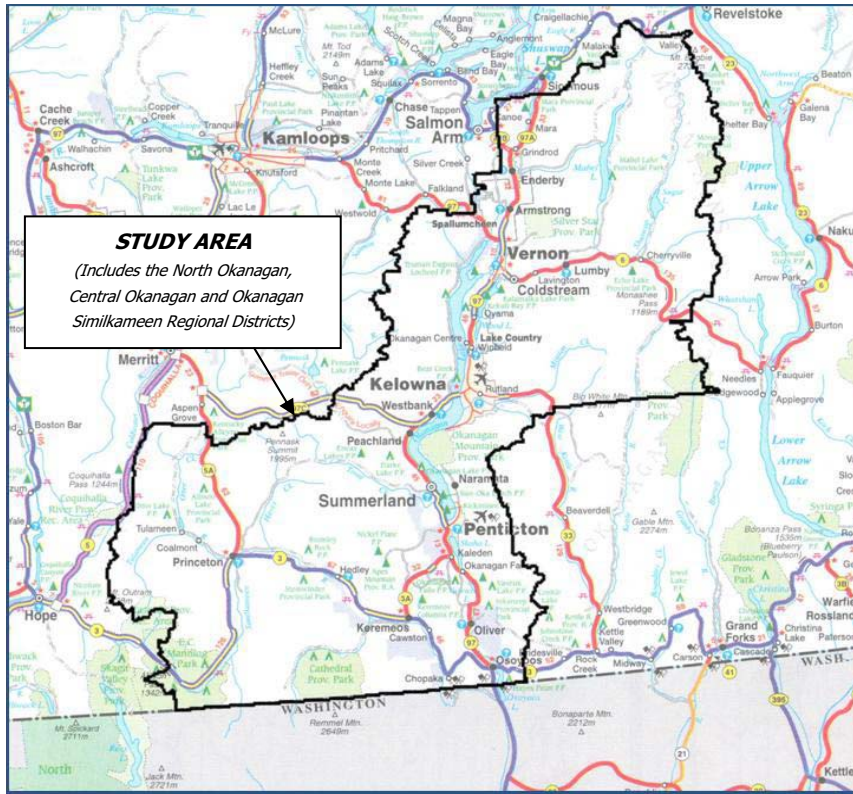
Major transportation infrastructure projects are costly, high profile and often politically motivated initiatives. Opinions frequently vary between the perspectives of the numerous stakeholders, and public sentiment is often unpredictable. For larger projects, funding is often split between various government agencies based upon perceived levels of responsibility and established cost-sharing arrangements, adding complexity and bureaucracy to the implementation process. Planning and ownership responsibility issues usually stretch across jurisdictions. In short, the implementation of such projects is a highly involved and challenging process.

Locally, the Okanagan and Similkameen Valleys continue to grow and thrive. Correspondingly, the need for new and improved transportation infrastructure to support and foster economic development and to ensure consistency with public expectation continues to grow. A number of transportation planning and economic development documents aimed at addressing these issues have been sponsored by varying government jurisdictions, often with differing perspectives on project justification and need. The resulting candidate list of potential investment in transportation infrastructure is often scattered and inconsistent, and the local range of potential economic benefits is rarely the primary driver under these circumstances.

In recognition of these conditions, Western Economic Diversification Canada has partnered with the three Regional Districts in the Okanagan and Similkameen Valleys in an effort to produce a consolidated, consistent and prioritized transportation infrastructure investment list aimed at establishing a sound platform upon which to make decisions and lend support. The goal is to identify which projects are the most significant, in terms of offering the greatest range of benefits specifically to the Valleys.

Reporting to a Steering Committee of representatives from the three Regional Districts, Western Economic Diversification Canada and the First Nations' communities, the objective of this assignment is to develop and deliver this preferred and prioritized transportation infrastructure list along with project justification and rationale, as well as an assessment of potential funding mechanisms. Consideration is given to alternative modes of transportation, to ensure that costly investments in transportation infrastructure could not be deferred by the successful implementation of more environmentally sustainable modes of transportation.

The study area is focused primarily on the transportation corridor between Osoyoos and Enderby (Okanagan Valley) and along the transportation corridor between Osoyoos and Princeton (Similkameen Valley). Within the context of these valleys, the corridors are primarily described as the Highway 97 and the Highway 3 corridor, although it is stressed that this assessment does not intend to suggest that transportation investments are to be solely limited to highway improvements in these Valleys. By definition, the exercise will focus only upon opportunities and initiatives that benefit intra-regional transportation (i.e. transportation within the study area) and will not extend to include external linkages (i.e. connections from the Valley(s) to external points) or investment with primarily localized benefits.



Methodology

The methodology for this assignment is comprised of the following fundamental steps:

Literature & Stakeholder Search. A review of all pertinent documentation was undertaken to ensure that the full range of projects and initiatives are explored. This step included a key stakeholder consultation initiative, in order to develop an understanding of market interests in transportation infrastructure and ensure that any other potential projects or initiatives not mentioned in the existing reference documents are captured.

Screening. A screening model has been developed to ensure that the resources for this assessment focus upon the key projects and initiatives for the Okanagan and Similkameen Valleys. This step reduced the number of projects and initiatives to a manageable size and scope and allowed for a more intense scrutiny of the opportunities that are expected to be of primary interest to the three Regional Districts.

Scope Definition & Verification. Determination of the level of detailed information available was a key step in advancing the project analysis as the various projects and initiatives have been developed to varying degrees of detail and accuracy. This step ultimately dictated the extent to which the opportunity could be assessed.

Assessment. Based upon the previous steps, the resultant projects and initiatives were evaluated and ranked in a business case framework where pertinent information and details were available, or discussed qualitatively where significant steps in project development were required. This step represents the key deliverable of the assignment. The framework, applied where possible, consists of a benefit-cost analysis using the parameters described below.

Benefit Cost Analysis Parameters

Benefit-cost analysis is a formal technique used for balancing the benefits which a project produces against the costs of producing that benefit. The framework provides both the rigor and flexibility to evaluate the range of transportation projects that will be considered in this analysis. The benefit parameters utilized in the benefit-cost analysis were applied consistently among all the projects to allow for relevant comparisons, and include the following:

- Travel Time Value
- Vehicle Operating Values
- Collision Values
- Vehicle Emission Value
- Land Use Values

The cost parameters utilized in the analysis were also applied consistently, where possible, among all the projects, and include the following:

- Traffic Growth
- Foregone Revenues from Agricultural Production
- Loss of Environmental Values
- Consideration of First Nations Interest

Where the benefit or cost parameters could not be quantified, they were expressed in qualitative terms and included in the analysis.

Candidate Project and Initiative Assessment

Based on the background research and screening process outlined in the methodology, the following projects and initiatives were identified and confirmed with the Steering Committee for analysis and assessment, based on three categories:

- **Alternate Travel Mode Initiatives**
 - Valley Trail System
 - Commuter Rail
 - Commuter Transit
 - Water Based Travel
 - Intermodal Facilities
 - Integrated Transportation Demand Management (TDM)

- **Corridor Enhancement Initiatives**
 - Context Sensitive Design Guidelines
 - Intelligent Transportation Systems (ITS)
 - Access Management
 - Branding

- **Corridor Expansion Projects**
 - Vernon West Bypass
 - Highway 97 4-laning at Wood Lake
 - Kelowna Gateway
 - Highway 97 Widening at Kelowna – Highway 33 to Gordon Drive
 - North End Connector, Kelowna – McCurdy Road to Ellis Street
 - Boucherie Road and Westside Road Interchanges
 - Westbank Bypass
 - Highway 97 Widening – Peachland to Summerland

Each of the identified projects and initiatives is described in detail in the study, including estimated capital costs, potential benefits and potential constraints, where applicable.

Comparative Ranking of Select Projects and Initiatives

Based on the quantitative and qualitative assessment of each of the select projects and initiatives, comparative ranking were assigned as follows:

Corridor Expansion Projects

Rank	Project	Estimated Project Costs (2003 \$)	Internal Rate of Return (IRR)	NPV (2030 or 2032 at 6% discount rate) ¹
1	Hwy 97 Widening, Hwy 33 to Gordon Drive	\$9.0 Million	29.9%	\$25.3 Million
2	Kelowna Gateway	\$20.0 Million	26.3%	\$49.0 Million
3	Boucherie & Westside Road Interchanges	\$26.0 Million	21.3%	\$39.0 Million
4	Hwy 97 4-laning Peachland to Summerland	\$76.0 Million	10.5%	\$30 Million
5	Westbank Bypass ²	\$23.0 Million	12.8%	\$14.9 Million
6	Hwy 97 Wood Lake 4-laning	\$49.8 Million	9.4%	\$16.5 Million
7	Kelowna North End Connector ³	\$50.0 Million	7.5%	\$7.2 Million
8	Vernon West Bypass	\$140.0 Million	6.3%	\$3.3 Million

NOTES:

1. Net Present Value (NPV) measured to 2032 for North End Connector and Vernon West Bypass (with 3-year construction phasing), and to 2030 for remaining projects (with 1-year construction phase). All projects have a 25-year benefit stream.
2. Capital costs are order-of-magnitude estimates since no detailed transportation study has been undertaken for this project. No direct estimate of mobility benefits is available for this project from previous studies, and proxy benefit measures used in the analysis for this project rely on information from the Vernon Bypass project. A lower ranking is given to this project compared to the Peachland to Summerland Highway 97 4-laning project (although it has a higher IRR) because of its moderate to high environmental impacts and significantly lower NPV.
3. Capital costs are order-of-magnitude estimates since no detailed transportation study has been undertaken for this project. No direct estimate of mobility benefits is available for this project from previous studies, and proxy benefit measures used in the analysis for this project rely on information from the Highway 97 widening, Highway 33 to Gordon Drive project. Mobility benefits that will accrue to Highway 97 because of traffic shifts to the North End Connector route have not been estimated.

As part of this project, a number of corridor enhancement and alternate travel mode initiatives were analysed, in order to set the stage for future implementation opportunities. Benchmark capital costs were provided, where available, and the potential benefits and constraints of each initiative were identified. Costs for operation were not incorporated into the analysis, due to its high variability depending on service levels. The most direct regional impact, either transportation or tourism related, was identified for each candidate initiative, in order to provide links to potential funding sources. The comparative ranking of corridor enhancement and alternate travel mode initiatives are as follows:

Corridor Enhancement Initiatives

Rank	Project	Estimated Capital Cost	Most Direct Regional Impacts (Transportation or Tourism)
1	Intelligent Transportation Systems (ITS)	Various, depending on application	Transportation
2	Design Guidelines	To be determined	Transportation
3	Access Management (selected locations)	\$18.4 Million	Transportation
4	Branding	To be determined	Tourism

Alternate Travel Mode Initiatives

Rank	Project	Estimated Capital Cost	Most Direct Regional Impacts (Transportation or Tourism)
1	Valley Trail System	\$20-50 Million, depending on trail specifications	Tourism (potential for local transportation impacts)
2	Integrated Transportation Demand Management (TDM)	To be determined *	Transportation
3	Commuter Transit	To be determined *	Transportation
4	Water Based Travel	\$30-50 Million, depending on project scope	Tourism
5	Intermodal Facilities	\$20-30 Million, depending on project scope	Transportation
6	Commuter Rail (Light Rail Transit)	\$150-200 Million, depending on project scope	Transportation

** Note that the estimated operating costs for these initiatives would exceed their potential capital costs.*

For each of the candidate projects and initiatives assessed in this study, a series of potential action items and associated timeframes have been identified, and are included in the complete report.

Recommendations

The study has presented a business case framework for a number of regionally significant transportation corridor expansion projects using benefit cost analysis. It also provides details for a number of corridor enhancement and alternate travel mode initiatives as a stepping stone towards fostering regional cooperation on sustainable transportation issues, similar to the GSED initiative for sustainable economic development. Based on the information provided in this report and through discussions with the Steering Committee on this project, the following recommendations are presented in the order of proposed actions targeted at regional, provincial, and federal levels:

- In order to protect future transportation corridors, **it is recommended that the local governments within the three Regional Districts include policies in their respective planning documents emphasizing the importance of corridor preservation, for the specific projects and initiatives identified in this report.** This can be incorporated as part of Regional District Growth Management Strategies as well as local government Strategic Plans and/or Official Community Plans.
- **It is recommended that the three Regional Districts consider the creation of a valley-wide transit and/or transportation authority to assist in seeking, obtaining and administering strategic funding towards regionally significant transportation initiatives.**
- Specific funding sources have been identified to help advance a number of regional projects and initiatives. **It is recommended that individual projects and initiatives outlined in this study which are initiated at the local or Regional District level receive Valley-wide support from all three Regional Districts, in order to identify these projects as having regional transportation significance.**
- A Valley-wide economic development initiative to promote the Highway 97 corridor supports enhanced tourism opportunities and provides additional leverage in the marketplace. **It is recommended that the Valley communities, economic development agencies, and three Regional Districts continue to explore the branding of Highway 97 through the Okanagan, as a Valley-wide coordinated economic development initiative.**
- **It is recommended that a Valley-wide panel be created, comprised of technical representation from all three Regional Districts and the Ministry of Transportation, to oversee new design guidelines for Highway 97 to provide for a strategic, consistent design approach to the highway corridor through the Okanagan Valley.**

- It is been identified in this study that mobility and safety improvements to existing highway corridors may be realized with the use of Intelligent Transportation Systems (ITS). **It is recommended that additional study take place with respect to Intelligent Transportation Systems (ITS) through the endorsement of an ITS strategy for the Okanagan Valley, with the objective being the short-term (within 5 years) implementation of an ITS pilot project along the Highway 97 corridor in Kelowna and/or Vernon.**

- In order to determine the success of regional transportation initiatives, it is important to set objectives, milestones and benchmarks which can be monitored and reviewed periodically. **It is recommended that an Okanagan Valley Transportation Corridor Monitoring Committee be established, comprising of the Chief Administrative Officers and Chairs of the three Regional Districts in the Okanagan and Similkameen Valleys. The monitoring committee will ensure Valley-wide cooperation on regionally significant corridor expansion projects, as well as identify opportunities to advance sustainable transportation initiatives where appropriate.**

- This report has provided details on the positive business case of a number of regionally significant transportation projects. **It is recommended that the following corridor expansion projects be acknowledged as providing potentially positive regional transportation and economic development benefits to the three Regional Districts:**
 - **Highway 97 Widening, from Highway 33 to Gordon Drive**
 - **Kelowna Gateway (Highway 97 at Kelowna Airport and OUC)**
 - **Boucherie and Westside Interchanges**
 - **Highway 97 4-laning, Peachland to Summerland**
 - **Westbank Bypass**
 - **Wood Lake 4-laning Project**
 - **North End Connector (Ellis Street to McCurdy Road)**
 - **Vernon Bypass (revised City option)**

- It is acknowledged that the selected corridor expansion projects identified in this study have varying degrees of background engineering, design and cost estimation. **In order to provide consistent comparisons between regionally significant projects, it is recommended that more detailed engineering, design, cost estimation, and identification of benefit and cost parameters be performed on the following corridor expansion projects:**
 - **Westbank Bypass**
 - **Boucherie and Westside Interchanges**
 - **North End Connector (Ellis Street to McCurdy Road)**
 - **Wood Lake 4-laning Project**
 - **Vernon Bypass (revised City option)**

- Alternate Travel Modes and other Sustainable Transportation initiatives have a number of current challenges for implementation due to high capital and operating costs, lack of critical mass, and inflexibility of consumer preference to change from current modes of transportation (i.e. automobile use). Some initiatives are worthy of more detailed study, with regard to their contribution towards regional sustainable transportation. **It is recommended that the three Regional Districts pursue senior government funding, in conjunction with the Green Sustainable Economic Development initiative, for the following:**
 - **Valley Trail System**
 - **Integrated Transportation Demand Management (TDM)**
 - **Commuter Transit**
 - **Water Based Travel**
 - **Intermodal Facilities**

The information provided in this study is intended to be used as a guide for current and future regional transportation issues. Many of the projects and initiatives will require additional information and analysis in order to finalize the business case model and determine their feasibility. It is anticipated that the initial analysis provided in this report can be utilized by staff, elected officials and citizens throughout the Okanagan and Similkameen Valleys to make better-informed regional transportation decisions.