

Benefits of Twinning Highway 3 (2023)

Issue

Twinning construction of the remaining (approximately) 170 kilometers of Alberta Highway 3 known as Crowsnest Pass Highway, has been a concern for nearly two decades due not only to safety and efficiency concerns, but also concerns related to the stagnation of economic benefits and market access along this corridor. The main benefits that accrue from twinning Highway 3 include safety improvements, time savings for commercial and recreational travel, increased social and economic activities, tourism, and agricultural needs.

Background

Alberta Provincial Highway 3 was designated as a core of the National Highway System in 1988, which recognizes its importance as a “key interprovincial and international corridor route”⁴⁰². At a length of 324 kilometers (201 miles) it is a highway that transverses southern Alberta, connecting the Crowsnest Pass to the Trans-Canada Highway in Medicine Hat. It also serves as an alternative route to the Trans-Canada from Lower Mainland to the Canadian Prairies. Unfortunately, it is the last highway in Alberta recognized as a part of the national highway system that is not twinned.

The Alberta portion of Highway 3 begins in the Canadian Rockies at Crowsnest Pass, parallel to the Canadian Pacific Railway. Highway 3 is also part of Alberta’s “Export Highway” - a name given to the southern portion of Alberta’s north-south trade corridor, including a segment of the CANMEX Corridor that stretches from Alaska to Mexico. The highway connects to multiple other major highways, including Highway 2 and Highway 1 to Calgary, and Highway 4 to the Coutts border crossing – the only 24 hour crossing in Alberta.

From Fort Macleod to Taber (approximately 104 kilometers), Highway 3 is divided with a speed limit of 100-110 km/h through the rural area with the remaining route as an undivided two-lane highway (approximately 220 kilometers) with a speed limit of 100 km/h. Twinning the Taber to Burdet portion was approved in 2020 with construction expected to start in the spring of 2023.

The costs and benefits of twinning Highway 3 have been previously discussed in a study conducted by the Van Horne Institute at the University of Calgary under the direction of Dr. Frank J. Atkins in 2002 (and a revised report in 2004). In an updated 2017 report, results of the cost-benefit analysis demonstrate that the net present value of Highway 3 twinning project over twenty years, using Alberta Transportation recommended real discount rate of 4%, exceed \$2.3 billion dollars. However, equivalently in terms of benefit-cost ratio, the analysis shows that for each dollar spent on this project, there is \$2.97 in benefits, which translates into the internal rate of return of 12.3%. Consequently, for a public infrastructure investment, these results, with a return of 3 to 1 are highly significant and demonstrate the worthiness of the twinning investment project.

It should be noted that the areas for construction are not all equal as there are approximately 25 kilometers from the B.C. border to the Crowsnest Pass area that are considered to be ‘difficult’

⁴⁰² Government of Canada. 2022. National Highway System. <https://tc.canada.ca/en/corporate-services/policies/national-highway-system>

due to the mountainous terrain. Consequently, the costs of twinning (direct and maintenance) this part of the highway will be higher.

Summary of Analysis (In Millions of 2016 Dollars) Discount Rate: 4% over 20 years⁴⁰³

Project Benefits	
Travel Time Cost Savings	\$1,292.72
Accident and Injury Cost Savings	\$804.64
Vehicle Operating and Emission Cost Savings	\$1,358.62
Tourism and Others	\$94.41
Total Benefits	\$3550.39
Projected Costs	
Direct Construction Costs	-\$1,183.38
Maintenance and Repair costs	-\$13.75
Total Cost	-\$1,197.13
Net Present Value	\$2,353.26
Benefit-Cost Ratio	2.97
Internal Rate of Return	12.3%

The Piikani Nation recently had a Functional Planning Study funded with engagement started on the 23km of Highway 3. This section in the Piikani Nation is particularly important as economic development is a call to action of the Truth and Reconciliation Commission.

As Southern Alberta is expanding their economic contribution, the discussion around twinning Highway 3 is becoming an increasing priority. Highway 3 is a critical pipeline for moving commodities from processors to markets of which traffic is only set to increase over the next few years.

The increase in traffic will also impact import and export through Southern Alberta and South-Eastern BC US border crossings which are already among the busiest in Canada. In 2018, export in the Lethbridge Region totaled over \$1 billion dollars, \$700 million of which were from the manufacturing sector that grew 15% in the year previous⁴⁰⁴. Also, the area between Lethbridge and Bow Island has 7 ready to move home and 4 Large Storage Container businesses that travel Highway 3. These businesses require special permits to transport within a specific time frame and speed restrictions which impact the already slower travel speed of 90 km/hour for traditional

⁴⁰³ Source: based on author's calculations. The data was obtained from Alberta Transportation, Alberta Culture and Tourism, AMA, Alberta Treasury Board and Finance (Southern Alberta Region) and Environics Research/Economic Development Lethbridge

Tran, Kien C., Ph.D. Professor, Department of Economics University of Lethbridge (2017, April 22) *'Highway 3 Twinning Feasibility: A Cost Benefit Analysis'*

⁴⁰⁴ Lethbridge Export Highlights 2018.

commercial trucks. Deliveries can be dangerous to both vehicles and transport truck teams and delays are costly to business owners.

Because of nature of Highway 3 being heavily relied on as the secondary supply chain route to Vancouver ports, as seen during the 2021 BC flooding, the Alberta Motor Transport Association has placed the twinning of Highway 3 as a top 5 priority.⁴⁰⁵ Accordingly, the twinning of Highway 3 underscores the need for improvement of Southern Alberta Infrastructure to support a growing economy.

The current cost of the next stage of the project—engineering—is an estimated \$800,000 per 10km of a total 220 km left to twin. However, cost of Southern Alberta farmland has increased 60% since the Highway 3 Twinning Feasibility studies were started in 2002 and continues to increase, stressing the importance of moving forward with the project sooner rather than later. Thus, a dedicated program for twinning Highway 3 allows the project to be placed in a carry-forward position with both flexibility for annual funding and forward momentum for the project to be undertaken in manageable and economically responsible sections.

The economic contribution of Southern Alberta is significant. Moving products to market is a provincial and national benefit, as is the importance of ensuring tourists and commuters can travel safely across the province. As such, a dedicated program to plan for funding to twin Highway 3 is becoming increasingly crucial. The style of program suggested will provide annual, fiscally flexible, planned funding to complete the steps needed to eventually twin Highway 3 and as a result will champion jobs and support the expanding economy of Southern Alberta and the province.

The Alberta Chambers of Commerce recommends the Government of Alberta:

1. Create a dedicated program for twinning all sections of Highway 3 with an annual sustainable contribution.
2. Initiate archeological studies at the Highway 2/Highways 3 proposed bypass interchange at Fort Macleod and completion of the Highway 3 Fort Macleod bypass.
3. Twin Highway 3 between municipalities as a highway rather than a freeway to allow for more cost flexibility.
4. Advocate to the Government of British Columbia the benefits of twinning Highway 3, and encourage them to begin the process of continuing highway twinning on their side of the border.

⁴⁰⁵ AMTA Press Release - <https://amta.ca/8455-2/>