

**Project Summary Report 8197**

**Authors: Daniel Hodge, Khalid Bekka, Jon Lee, Johnny Abedrabbo, Geoff Parkins, and Fred Kramer**  
**HDR | Decision Economics**  
**Silver Spring, MD**

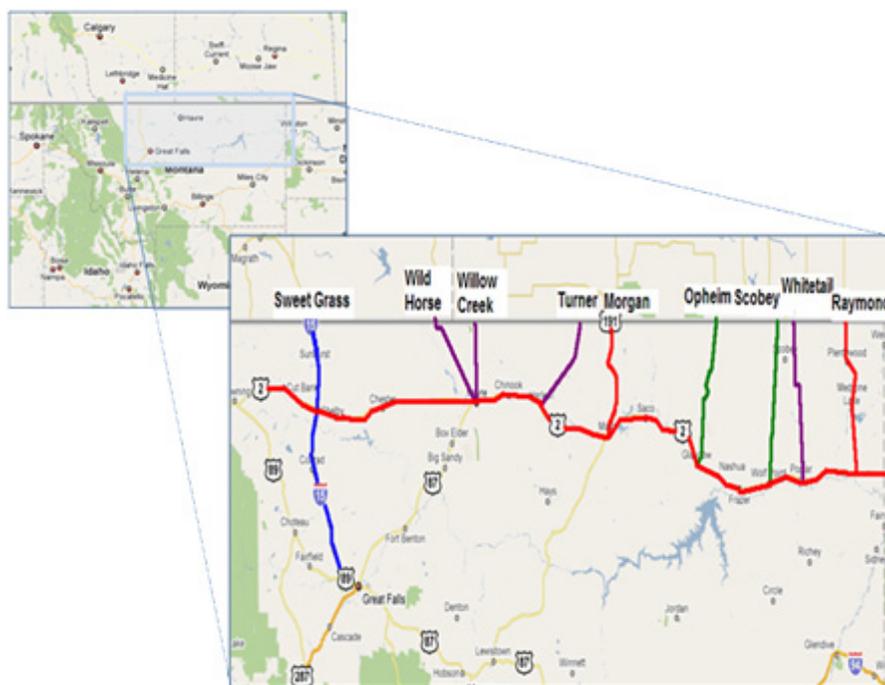
**Impact of Canadian Economic Development on Northern Montana Highways**

[http://www.mdt.mt.gov/research/projects/mcs/canada\\_impact\\_nhwy.shtml](http://www.mdt.mt.gov/research/projects/mcs/canada_impact_nhwy.shtml)

**Introduction**

The western Canadian provinces have been experiencing significant growth over the past decade, especially within the energy-related sectors. This research study provided an opportunity to examine long-term trade and traffic volume trends and forecasts. Montana, which borders three Canadian provinces (British Columbia, Alberta and Saskatchewan), represents a vital surface link between the United States and a number of these growing markets, especially the provinces of Alberta and Saskatchewan. Growth in Canada’s western province economies directly results in increased demand for goods movement, transportation services, and tourist travel and thus commercial traffic volumes at northern Montana ports (border crossings) and connecting roadways.

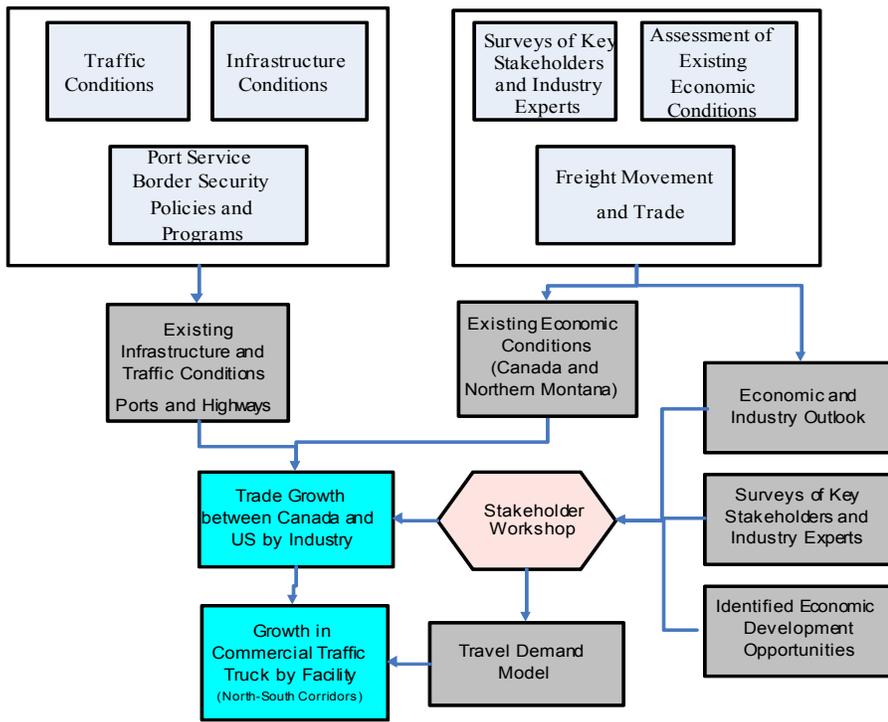
The study area includes highways and border crossing facilities in northern Montana (Figure 1).



**Figure 1. Overview of Research Study Area**

The objectives of this study were to:

- Assess current and future conditions of the Canadian economy, with particular focus on Alberta and Saskatchewan;
- Assess current traffic, infrastructure, and border crossing conditions;
- Identify the major freight and passenger routes, origins, destinations, commodities, and trends across northern Montana;
- Estimate the relationships between economic growth and commercial traffic volumes; and
- Forecast future commercial traffic volumes on northern Montana highways and through ports of entry (POE) within a risk analysis framework that accounts for uncertainty and includes input from industry and development experts.



**Figure 2. Overview of Research Study Approach**

## What we did

This study (see Figure 2 for study approach) forecasts commercial traffic through the ports and the relevant connecting highway corridors. The assessment is based on economic conditions that consider multi-state and multi-provincial areas that capture the relevant freight flows onto the Montana highway system. This study is not a standard cost-benefit analysis, nor an economic impact study but, rather, a detailed analysis of:

- existing and future regional economic conditions and
- traffic and infrastructure conditions, to estimate future commercial traffic volumes through northern Montana's ports and connecting highways.

The research employs Risk Analysis by attaching probability distributions to the forecasts of each input variable.

Consequently, the commercial traffic volume forecast was derived from multiple sources of information and a risk analysis modeling approach that:

- explicitly accounted for uncertainty and risk factors;
- incorporated refinements and review by regional stakeholders and experts; and
- generated "most likely" forecasts along with confidence interval-based ranges of low to high traffic volumes.

## What we found

Canada is the number one trading partner for the U.S., and trade has been and is expected to continue to be a growing part of the economy. While the economic recession of 2008-2009 is expected to continue well into 2010, this research study provides an opportunity to examine longer-term trade and traffic volume

trends and forecasts. A summary of key recent trends includes:

- Montana's GDP has been growing at an average annual rate of 3.0 percent over the last decade, with growth exceeding the U.S. average since 2001. Meanwhile, Alberta and Saskatchewan have been growing at 3.5 percent and at 2.3 percent, respectively, over the last decade. Especially since 2002 and consistent with rising energy prices and regional oil production, Alberta's GDP has been growing at a much higher rate than the rest of Canada.
- The value of U.S. imports from Canada across the Montana border in 2008 for all modes was \$16.6 billion, and has been growing at an average annual rate of 13.9 percent since 1995. The growth rates of trade value reflect the impacts of inflation such as the relatively high increases in oil prices. Of the total trade value, 33% of trade was carried via truck through Montana POEs, while 62 percent was carried via pipeline. Truck imports have increased from \$1.7 billion in 1995 to \$5.4 billion in 2008.
- Trade imports from Canada using Montana ports (by value) largely originated in Alberta (91 percent) and to a lesser degree Saskatchewan (2.4 percent) in 2008. For truck only imports via Montana ports, the Alberta share of tonnage is 77 percent with 14 percent of the truck volumes from Saskatchewan. Meanwhile, a growing share of Canada-U.S. trade by value is shipped by pipeline rather than truck such that energy-related economic expansion typically results in growth of shipments across multiple modes.
- Total traffic crossing at Montana POEs has been growing at an average annual rate of 5 percent over the period 1997 through 2004. Since 2004, the level of

traffic has been falling at an annual rate of 4 percent. Border crossing traffic is dominated by the two 24 hour POEs: Sweet Grass and Raymond. Sweet Grass has the largest traffic volumes with 1,890 daily trips and 720 trucks, followed by Raymond with 250 daily trips and 88 trucks. The remaining seven study area POEs account for 17%, or 430 daily trips, according to the latest MDT traffic counts.

- Directional traffic volumes are very consistent over time with between 50 to 60 percent of all traffic headed north-south, and the remaining traffic traveling south-north for the study area highways and POEs. This relationship holds during economic booms, recessions, oil price changes, and exchange rate fluctuations. Thus, thorough estimates of north-south traffic volumes are a good proxy for south-north volumes.

Key forecast results include:

- Montana's major Canadian trading partners are expected to experience positive economic growth over the next 20 years. Alberta's median GDP forecast is to increase from \$228 billion in 2008 to \$285 billion by 2020 (in real 2009 dollars), an average annual growth rate of 2 percent. Similarly, Saskatchewan's median GDP forecast is to grow from \$48 billion in 2008 to \$60 billion in 2020, an average annual growth rate of 1.9 percent.
- The estimated combined imports carried by truck through Montana's POEs from Saskatchewan and Alberta are projected to be \$5.8 billion in 2020, an increase of 1.4 percent annually compared to 2008 volumes. This is expected to translate into an increase of 565,300 tons of freight shipped across Montana POEs over the next 20 years.
- The total traffic crossing at Montana POEs is anticipated to grow at an average annual rate of

2.0 percent. Annual average traffic volume growth rates are projected to be between 0.7% to 4.6% across all Montana POEs, with potential ranges of small negative growth to 6.1% annual growth rates in a high (90%) forecast scenario. The most probable (50%) forecast indicates that commercial traffic volumes are likely to equal the peak volumes experienced between 2003 and 2005, but even with fairly consistent growth, it may take 15 to 20 years to reach that level. Truck volume growth at Montana POEs is projected to have greater growth and variation based on more direct influence from Canadian trade.

- The forecast also reflects the possibility that oil prices could recover quickly (as they have in the past) and oil production facility investment rebounds, thus leading to a stronger volume of commercial traffic growth. For example, in the "high" traffic growth scenario (90% confidence interval), truck traffic volumes at Montana POEs recover to the peak volumes from earlier this decade by about 2012 and grow to about 860 daily trucks by 2029 compared to 470 daily trucks in 2009.

## What the researchers recommend

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Traffic at Montana borders and the connecting corridors have been very sensitive to Western Canada's economic conditions and the fluctuations in energy prices. While traffic increased significantly from 2002 to 2004, it has slowed down notably in the past few years due to the economic recession. The current economic conditions have placed a significant dampening effect on border crossing volumes as truck traffic volumes have decreased significantly.

While the forecasts did not identify significant capacity constraint at

any of the POEs or connecting corridors over the next ten years, the results are not conclusive. This study recognizes the fact that truck traffic is and will still remain very sensitive to various trade drivers. And stakeholder interviews confirmed the constraints and limitations of not having any 24-hour operating POEs between Sweet Grass and Raymond. Fluctuations in commodity prices, debate over environmental policies, and the prospect of changes in trade agreements, add a high level of uncertainty to the freight traffic forecast. Another area of uncertainty is the private sector market for developing significant alternative trade corridors and the necessary trade-supporting services.

Still, longer term growth trends in trade and anticipated expansion of key commodity markets in the region (namely energy) are projected to result in long-term positive growth in commercial traffic volumes at Montana POEs and the connecting highways. Based on this research and the forecasts, two specific improvements to consider for more detailed planning are:

- Expanded port operations between Sweet Grass and Raymond – this would include 1-2 POEs with 18 to 24 hour operations to facilitate regional connectivity and economic opportunities. As specified by many stakeholders, this should be coordinated with improved connecting highway corridors.
- Tracking potential highway corridor capacity needs – the current economic recession has slowed the need for general capacity enhancements at connecting highways but the speed of the economic recovery, especially related to the energy industry, should be tracked as the upper (90%) forecasts indicate the potential for significant growth at Montana POEs.

## For More Details . . .

The research is documented in Report FHWA/MT-10-001/8197, *Impact of Canadian Economic Development on Northern Montana Highways*.

### **MDT Project Manager:**

Craig Abernathy, [cabernathy@mt.gov](mailto:cabernathy@mt.gov), 406.444.6269

### **HDR|Decision Economics Project Manager:**

Daniel Hodge, [dhodge@hdrinc.com](mailto:dhodge@hdrinc.com), 617.357.7738

To obtain copies of this report, contact Craig Abernathy, MDT Research Programs, 2701 Prospect Avenue, PO Box 201001, Helena MT 59620-1001, [cabernathy@mt.gov](mailto:cabernathy@mt.gov), 406.444.6269.

## MDT Implementation Status July 2010

This report examines recent trends and conditions and provides traffic forecasts for the Port of Sweetgrass (Interstate 15) and other ports of entry to the east of it in Montana. Because forecasts for each port are given in confidence intervals, they provide a useful gauge for comparison with future traffic counts. MDT will systematically track port-related traffic with reference to these projections. Second, although (federal) port service enhancements are not without merit, this research suggests that enhanced port services would not require substantial Montana highway enhancements in the near or mid-term. All the highway corridors studied are operating at high levels of service and are projected to continue to do so under current plans with or without port service expansions. Significant economic developments outside the scope of this research may alter the needs of any given corridor. Routine coordination of information will help inform whether improvements to the state's port-related highway corridors should be reconsidered.

For more information contact Hal Fossum at, [hfossum@mt.gov](mailto:hfossum@mt.gov), 406.444.6116.

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