Economic Impact Study

Prepared for Gateway Keewatin Corridor

Final Report

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Executive Summary

Context

The Gateway Keewatin Western Canadian Inter-Provincial Trade and Transportation Corridor (Gateway Keewatin Corridor) is an organization made up of Saskatchewan and Manitoba municipal governments, Aboriginal communities and industry stakeholders. The Gateway Keewatin Corridor is working towards upgrading the northern east-west transportation corridor (Highways #55, #9 and #283) to support economic growth, enhanced tourism, and public services (see Exhibit 1). The desired improvements are:

- Upgrade 37KM of Highway #55 east of Nipawin from secondary to primary weights at an estimated cost of $22.3M, and;
- Upgrade the remaining 74 KM of Saskatchewan's Highways #55 and #9 to the Manitoba border, as well as 40KM of Manitoba's Highway #283 to year-round primary weights at a total cost estimation of $96M.

Highway #283 is currently classified as A1 Seasonal RTAC (62,500 kgs). This means Winter Seasonal RTAC is in effect for Highway #283 from December 1 through February 28. On March 1, the classification of Highway #238 reverts back to A1 with the implementation of Pre-Spring weights. The Manitoba government has a program that allows businesses to obtain permits during the non-winter period that allow for 62,500 kg loading. However, the ability to obtain permits does not apply to the spring road restriction period that generally runs from March 31 to June 1, depending on the weather. Even empty haul trucks are prohibited from travelling on this stretch of road during this restricted period.

Development of this corridor to primary weights will improve transportation efficiencies and safety between Saskatchewan and Manitoba and enhance trade development to international markets via the Hudson Bay Railway, operated by OmniTRAX, connecting The Pas to shipping facilities at the Port of Churchill.

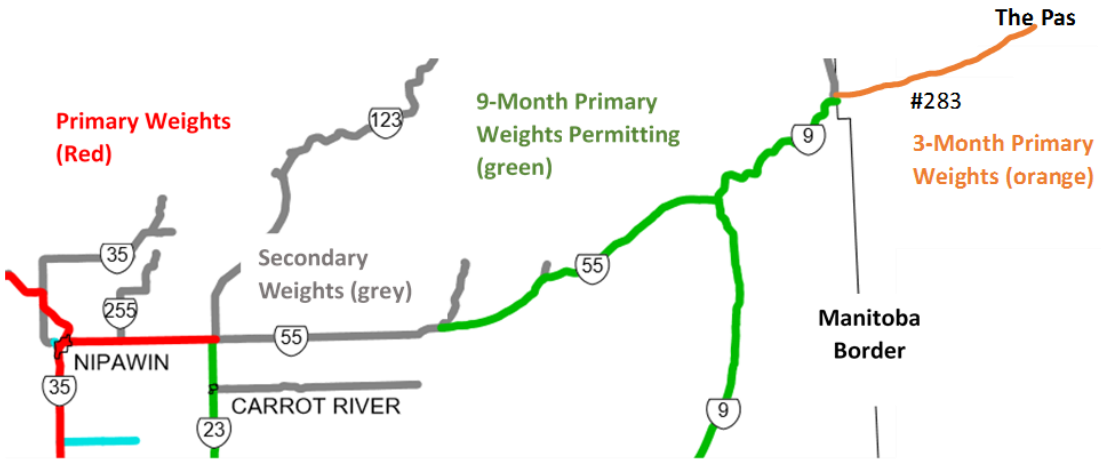

Figure 1: Weight Restrictions for Highway #55/#9 Connecting Nipawin to Manitoba Border and The Pas.

The purpose of this study is to assess the economic and other benefits of upgrading the highway corridor to support yearly primary hauling weights between Nipawin and the Manitoba border. In turn, this will improve export opportunities from farm gate to tidewater at the Port of Churchill.

The economic impact assessment includes the impact of infrastructure construction, as well as the overall provincial economic benefits for Nipawin and region, The Pas and region, as well as the Port of Churchill. It should be noted this highway corridor is also an important regional link to Prince Albert, Saskatoon, and points south, in addition to Edmonton and northern parts of Saskatchewan and Alberta. It is also envisioned the enhanced transportation corridor will attract investment along the corridor and provide significant economic development prospects.

The previous Manitoba government discussed the need to provide $250 million to upgrade Highway #283 between The Pas and the Saskatchewan border. They also indicated consideration of an additional $150 million for the rail line between The Pas and the Port of Churchill including upgrades to port facilities, pending additional planning.

At present, OmniTRAX; the railway company serving the Port of Churchill, employs 300 people on the Hudson Bay Railway and at the Port. Half of the workers are Aboriginal employees (Metis, First Nation and Inuit).

Saskatchewan exporters stand to gain from the export corridor to Churchill, especially grain and oilseed shippers, due to shorter/faster transportation to shipping lines. OmniTRAX has a commitment to have 150 grain producers' cars that would recycle in 24 hours going to and from The Pas and the Port. OmniTRAX asked the Federal Minister of Transportation for 250 more cars and the Saskatchewan Minister of Highways and Infrastructure for 100 producer cars. Eighty percent (80%) of the grain to Churchill coming from Saskatchewan is currently moved by rail by CN to The Pas and then by the Hudson Bay Railway to the port at Churchill.

Northern Corridor Proposed

The University of Calgary's School of Public Policy and Montreal's Centre for Interuniversity Research and Analysis of Organizations are advocating building a 7,000-kilometre trade and infrastructure corridor across northern Canada. The Northern Corridor would link Canada's people, goods and natural resources with overseas and southern markets, and boost sovereignty and development in vast swaths of the country that are economically isolated, concludes the first feasibility study of the concept.

In this concept pipelines, railways, roads, electricity and transmission lines would share a right of way that extends from the Pacific to Atlantic oceans, the Beaufort Sea to the north, as well as Hudson Bay and the St. Lawrence Seaway connecting to transportation infrastructure and ports in the southern Canada.

G. Kent Fellows, a co-author of the feasibility study, is quoted as saying: *"We think that it's got incredible potential merit in lowering trade costs between provinces and lowering trade costs in getting some of these landlocked areas access to tidewater. Any time you decrease costs of trade you're going to have improvements in overall social and economic welfare. The idea is not just to be able to get things to market from the North and near North, but also trying to get goods and services from Southern Canada and tidewater into those areas, too. Because trade has to go both ways."*

OmniTRAX Canada has recently entered into an agreement to sell the Port of Churchill and Hudson Bay rail line to a group of First Nations entities led by Mathias Colomb Cree Nation. If the sale proceeds, OmniTRAX suggests it will support the transfer for several years to ensure its success.

While economic impact results are shown as potential benefits, they can also be viewed as forgone revenues from not proceeding with the investment.

Potential Benefits

The upgrading of Highway #55/#9 is in alignment with the goals of the Saskatchewan Plan for Growth. Saskatchewan (and Manitoba) will benefit through facilitating the movement of goods and the provision of services in the impacted areas. This initiative supports local economic development and enriches trade and investment opportunities in both Saskatchewan and Manitoba. The envisioned benefits include the following:

1. **Transportation Benefits**

- Create a primary weight route connecting The Pas to Nipawin and on to major Western Canada centers to support the more efficient trade of goods and services in key sectors such as agriculture, mining, tourism and forestry;
- Over the long-term support the development of a northern energy corridor and potential partnerships with other entities, such as the Port of Rotterdam or international shipping lines.
- Support industries in both provinces to grow through reduced transportation costs;
- Encourage investment in existing and new businesses through better access to the Port of Churchill for industries and businesses located in Saskatchewan and Manitoba;
- Easier and safer passenger vehicle travel between northwestern Manitoba and northeastern Saskatchewan and enable greater traffic from the southern areas of these provinces;
- Lower the cost of transporting goods to northern communities through heavier loads and fewer trips;
- Reduce emissions due to more efficient truck movements and reduced rail mileage to Port of Churchill; and,
- Improve northern community access to education, medical services, food, fuel, etc.

2. **Investment Attraction and Job Growth**

- New or expanded businesses in areas such as grain processing, forestry, and other sectors due to enhancements to the trade corridor; and,
- Growth of supporting industries such as mechanics, warehousing, professional services and public services (education, health, etc.) and opportunities for Aboriginal employment and businesses.

3. **Passenger Travel and Tourism**

- Improve travel conditions for passenger vehicles and encourage tourism by better quality and safer roads.

Analysis and Economic Impacts

The analysis of the provincial economic benefit of the Gateway Keewatin Corridor in this study were estimated using Praxis's Provincial Economic Impact Models based on the latest available Statistics Canada's Saskatchewan and Manitoba's input-output tables. Canadian impacts were likewise estimated with Praxis's National Economic Impact Model. Key to this analysis was the estimation of impacts at the regional level for the areas impacted by the trade corridor. Regional level impacts were estimated by constructing separate sub-provincial economic models for the regions of Nipawin/northeastern Saskatchewan, The Pas/northwestern Manitoba, and the Port of Churchill. Inputs into the models were:

- Producer cost savings from shorter transportation routes;
- Transportation industry cost reductions for shorter routes and less vehicle depreciation;
- Industry output expansions resulting from expanded export opportunities;
- Increased tourist spending;
- Infrastructure spending by the public sector; and
- Infrastructure spending by the private sector notably OmniTRAX.

Model outputs were as a result of the subsequent expanded production/spending and cost savings stemming from the highway #55/#9 upgrade on the regions of Northeast Saskatchewan, The Pas, and Churchill and the two provinces. Total impacts are the sum of direct, indirect and induced impacts. Direct impacts reflect initial expenditures after adjusting for leakages. Indirect impacts measure the secondary business transactions that result from initial expenditures. Induced impacts are third round impacts from the spending of incremental labour income in the economy after removing a portion for taxes and savings.

A complete accounting of definitions and assumptions are included in the Detailed Economic Analysis Section. In all cases in this study, direct impacts are adjusting for leakages for imports and inventory withdrawals if applicable. Annual employment impacts are expressed in positions. Cumulative employment impacts are expressed in person years.

The economic impact assessment was based on the following two scenarios. The Base Case Investment Scenario would create about 1,700 jobs and contribute $194.9M to GDP over 20 years. The Full Investment Scenario would generate 12,000 jobs and about $19.3B to GDP over 20 years. The employment impacts include direct, indirect and induced jobs.

1. Base Case Investment Scenario

The Base Case involves upgrading the 37km stretch of Highway #55 from secondary to primary weight status (see Figure 1) at an estimated cost of $22.3M. The remaining 74km of Highway #55/#9 to the border and the remaining 40km from the Manitoba/Saskatchewan border to the Pas will continue to allow for permitting of primary weights for nine (9) months of the year. Exhibit 1 provides a summary of the anticipated economic impacts.

Exhibit 1: Economic Impacts of Base Case Investment Scenario for 20-Years.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Jobs Annual	Jobs Cumulative
Manitoba Summary	0.1	2.9	0.1	1.5	2	33
Saskatchewan Summary	17.2	55.3	7.6	18.1	143	340
Canada Summary	32.2	136.7	16.7	68.4	316	1327
	Annual	**Cumulative**				
Tax Revenues SK	2.0	5.6				
Tax Revenues MB	0.01	0.26				
Tax Revenues Canada	5.2	21.6				

2. Full Investment Case Scenario

The Full Investment Scenario assumes the Base Case Scenario plus upgrading the additional 74 kilometers to 12-month primary all-weather pavement to Manitoba border, as well the remaining 40 kilometers to The Pas. A summary of the economic impacts are shown in Exhibit 2.

The Full Investment Scenario is an optimistic analysis of the economic impact benefits. Due to a limited budget the study does not undertake a detailed analysis of all of the effected businesses and industry relies on assumptions as outlined in the Detailed Economic Impact Analysis section of the report.

Exhibit 2: Economic Impacts of the Full Investment Case Scenario for 20-Years.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Jobs Annual	Jobs Cumulative
Manitoba Summary	55.4	546.6	30.1	302.3	848	9,382
Saskatchewan Summary	438.3	6,685.7	130.6	1,611.9	3,811	52,372
Canada Summary	834.8	12,062.6	342.1	4,363.0	7,362	99,803
	Annual	**Cumulative**				
Tax Revenues SK	54.8	826.8				
Tax Revenues MB	6.3	68.4				

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Jobs Annual	Jobs Cumulative
Tax Revenues Canada	135.0	1,971.4				

Note: Gross Domestic Product (GDP) is the measure of the sum of all goods and services produced within a geographic area and is the measurement of the "size" of an economy. GDP is included within gross output, represents value added or payments to final factors of production, and includes both profits and labour income.

Government Fiscal Impacts

An expansion in economic activity is expected to generate incremental government revenues. The economic impact model's fiscal module, based on the latest provincial and federal budgets, estimates government revenues on the following assumptions:

- Provincial personal income tax is calculated by using the provincial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income.
- Federal personal income tax is calculated by using the federal personal income tax rate that would apply to average industry annual income applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial and federal corporate tax rate to incremental corporate profits before taxes calculated by the model.
- Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits calculated by the model.
- Sales tax calculation is based on the ratio of provincial and federal sales taxes collected to retail trade gross output applied to incremental retail trade output calculated by the model.

Estimated government revenues are for direct, indirect, and induced impacts and do not represent solely proponent taxes and/or royalties paid. Estimates are not adjusted for any changes to equalization entitlements. The total combined revenue gains for Saskatchewan, Manitoba and the Federal Government are estimated at about **$2 billion over 20-years under the Full Investment Case Scenario**

Exhibit 3: 20-Year Estimated Government Fiscal Impacts.

	Investment SK Base Case	Investment SK Full Case	Investment MB Base Case	Investment MB Full Case
Provincial Government Net Present Value	-17.6	496.0	0.2	15.3
Federal Government Net Present Value	399.9	1491.8		

It must be noted that net government revenues vary widely between Saskatchewan and Manitoba reflecting that most of the benefits accrue in Saskatchewan. The federal government revenue impacts are overwhelmingly positive as funding for upgrades are made by the provincial governments. This, however, creates a thorough argument for federal funding of the project. A substantial portion of the

maximum investment case government revenues stem from the larger resource projects notably coal and should be treated as a "best possible" scenario and treated with a degree of caution.

Although there is a compelling financial argument to proceed even with the base case investment, the project should not be judged on a government financial basis alone. Aligning with the Saskatchewan Provincial Growth Plan and Federal Government infrastructure funding priorities aimed at highways and ports, there can be significant GDP and employment impacts. There are also a number of other less quantifiable arguments in favour of investing such as lowering the cost of transporting goods to many northern communities and improving access to education, medical services, food, fuel, etc. Many of these benefits are qualitative and cannot be quantified in the economic impacts.

Future Considerations

The budget for the study was modest and this impacted the number of consultations and limited the extent of the required secondary research on effected industries, businesses, communities and the range and potential of economic development opportunities (see Study Limitations in Methodology section of this report).

Moving forward, it is suggested that the Gateway Keewatin Corridor consider the following actions:

1. Establish a joint working group with the Government of Saskatchewan to develop an implementation plan for the upgrading of Highway #55/#9 as the first step in this initiatives;
2. Engage with the Government of Manitoba to develop an implementation plan for Highway #283:
3. Work with the Governments of Saskatchewan and Manitoba to more fully identify the investment and business opportunities associated with the development of a first-class road/rail trade corridor spanning from northeast Saskatchewan to the Port of Churchill and beyond. This work should examine options to further develop export opportunities and service to Canada's artic, as well as investigate what strategic investments will be further required for both the road and rail networks. And, it should identify actions needed to mitigate risks to the project. The Federal Government should be invited to participate through its infrastructure funding programs aimed at innovative and growth-oriented projects. For example, past studies have suggested the Port of Churchill could become a major shipping point for potash and grain brings significant benefits to the Western Canadian economy. There is also a need to investigate the opportunities for services and possible partnership arrangements to the Port of Rotterdam.
4. Develop an investment attraction and business development strategy and action plan. The long term development of this initiative will require attracting investors and the development of partnerships with a wide range of private and public participants.

Study Limitations

Related impacts from highway resurfacing are predicated on the type of investment made. It should be noted that when there are a range of related economy impacts resulting from the redevelopment of an enhanced transportation routes, the lesser impacts are evident in the Investment Base Case Scenario

reflecting a smaller level of investment and the larger related impacts emanate from the Full Investment Scenario.

The budget for the study was modest and this impacted the number of consultations and limited the extent of the required secondary research on effected industries, businesses, communities and the range and potential of economic development opportunities. Therefore, the Full Investment Scenario is an optimistic analysis of the economic impact benefits. With a larger budget, many of the following shortcomings could have been more fully addressed:

- Maximum investment case based on a number of "what if" scenarios not financial viability of any single project assessed. These should be used as a best "possible" result
- Did not exam relative economic impacts or resurfacing other highways connecting to the Gateway Keewatin Corridor, for example Highway #123 to Cumberland House, Highways #255 and #35 to Tobin Lake and Highway #282 to Swan River in Manitoba
- Use of lower or average production for project examined in the full investment case was based on generating conservative results not financial viability
- Did not examine the impact of cheaper food prices in the north. Cheaper food impacts imply that household dollars available will be used to purchase other consumer goods and an incremental impact will only occur if these are produced in the region or province under examination
- Tourism impacts based on a +10% scenario not a detailed market study
- Unable to quantify the impact of improved access to post-secondary education and primary and surgical healthcare
- Not able to evaluate the impact on artic developments and sovereignty, including foreign shipping plans
- Saskatchewan agricultural cost savings limited by Port of Churchill capacity. Total production in the Saskatchewan crop catchment area far exceeded port capacity
- Port capacity at Churchill assumed to be fixed
- No assumptions could be made regarding global warming and a resulting longer shipping season at Port of Churchill
- Cost savings by Manitoba agricultural producers assumed already realized by shipping on all-weather roads to The Pas and trans-loading to Churchill
- Data limitations necessitated that back haul opportunities not examined. Cheaper agricultural input impacts implicitly assumed to be used to purchase other inputs and an incremental impact is netted out. Proceeds from an improved profit margin spent on consumer goods was not examined
- Lack of data on lower emissions from a shorter transport route resulted in no consideration of lower greenhouse gas emissions
- Cost savings by Saskatchewan agricultural producers based on a single estimate from Enns trucking
- Lack of data on highway accidents caused by road conditions
- Economic impacts are subject to the usual constraints and limitations of IO analysis: the framework rests on the assumption of constancy of input co-efficient of production. The assumption of fixed coefficients of production ignores the possibility of factor substitution. The rigidity of the input-output model cannot reflect such phenomena as bottlenecks, increasing costs, etc. The analysis

operates on the basis of a fixed quantity of an input for the production of per unit of output or constant returns to scale where the increase in outputs is expected to be in proportion to an increase in inputs.

Disclaimer

The statements made in this report are based solely on the information obtained to date as part of the above referenced study. Praxis Consulting has used its professional judgment in assessing this information and formulating its opinion and recommendations. New information may result in a change in this opinion. The mandate at Praxis Consulting is to perform the tasks prescribed by the client with the due diligence of the profession. No other warranty or representation, expressed or implied, as to the accuracy of the information or recommendations is included or intended in this report. Praxis Consulting disclaims any liability or responsibility to any person or party, other than the party to whom this report is addressed, for any loss, damage, expense, fine, or penalty which may arise or result from the use of any information or recommendations contained in this report. Any use which a third party makes of this report, or any reliance on or decisions made based on it, are the sole responsibility of the third party.

Introduction

Gateway Keewatin Western Canadian Inter-Provincial Trade and Transportation Corridor (Gateway Keewatin Corridor) consists of municipal governments, Aboriginal communities and industry stakeholders in northeast Saskatchewan and northwest Manitoba. The Gateway Keewatin Corridor engaged Praxis Consulting Ltd. to conduct an economic impact analysis of potential investments by the Governments of Saskatchewan, Manitoba and Canada in the redevelopment of a highway trade corridor that links Nipawin and northeast Saskatchewan to The Pas and northwest Manitoba, and subsequently connections to the OmniTRAX rail line serving the Port of Churchill, Manitoba.

The purpose of this study is to assess the economic and other benefits of upgrading the highway corridor to support yearly primary hauling weights between Nipawin and The Pas. The assessment includes the economic impact of infrastructure construction, as well as the provincial economic benefits for Nipawin and region, The Pas and region and the Port of Churchill itself. It should be noted this highway is also an important regional link to Prince Albert, Saskatoon, points south and subsequently to Edmonton and the far northern areas of Saskatchewan and Alberta. It is also envisioned that enhanced transportation services would attract investment to the region and open up economic development opportunities.

Manitoba previously has discussed providing $250 million to complete the highway portion for The Pas to the Saskatchewan border. They have indicated consideration to an additional $150 million for the rail line between The Pas and the Port of Churchill including upgrades at the Port pending future plans.

At present, OmniTRAX, the railway company serving the Port of Churchill, employs 300 people on the rail service and at the Port. Half of the workers are Aboriginal employees (Metis, First Nation and Inuit).

The provincial economic impacts were estimated using Praxis's Provincial Economic Impact Models based on the latest available Statistics Canada's Saskatchewan and Manitoba's input-output tables. Key to this analysis was the estimation of impacts at the regional level for the areas impacted by the trade corridor. Inputs into the analysis included:

- Producer cost savings from shorter transportation routes;
- Transportation industry cost reductions for shorter routes and less vehicle depreciation;
- Industry output expansions resulting from expanded export opportunities;
- Increased tourist spending;
- Infrastructure spending by the public sector;
- Infrastructure spending by the private sector notably OmniTRAX; and,
- Annual major operational expenditures by expanded facilities such as utilities, insurance, and professional fees and where these are sourced: within region, outside region but still in province, and outside of the province.

Model outputs benefit analysis in this report included direct, indirect, and induced economic impacts of all subsequent expanded production/spending and cost savings stemming from the Gateway Keewatin Corridor upgrade on the regions of Northeast Saskatchewan, Northwest Manitoba, The Pas, and Churchill and the Provinces of Saskatchewan and Manitoba.

Background

Businesses and industry in northeast Saskatchewan and northwest Manitoba will grow and prosper through the creation of a strong transportation network within the region and through links with northern Manitoba and the Port of Churchill. Trade and transportation corridors becomes an overarching and essential venture for communities and businesses to thrive economically and enhance community socially well-being in an ever increasing global marketplace. With new international free trade agreements being signed around the world competitive access to markets are critical to export oriented economies. These global links are also essential to attracting new investment to fully develop regional resources and take advantage of local development opportunities.

Figure 2: Gateway Keewatin Trade/Transportation Highway Corridor.

The vision is to build Western Canada's most northern east-west interprovincial trade and transportation corridor across the northern prairies to the deep water export seaport at Churchill, Manitoba (see Figure 2). Anchoring this trade corridor is the need for the completion of an all-weather 12-month primary weight highway providing improved access to northern rail, air and shipping services and to act as a tributary to southern and other northern regions and markets.

Manitoba Context

Improving the transportation capabilities across the north support Manitoba's investment in strategic transportation assets, such as Winnipeg's Centreport and the Port of Churchill. Developing the Gateway Keewatin Trade Corridor strengthens and expands the province's transportation capacity and opens the door to new investment opportunities for its resource and agriculture industries and export businesses.

OmniTRAX Canada owns and operates the Port of Churchill through the Hudson Bay Port Company and its Churchill Marine Tank Farm is a fuel supplier to Northern Canada. This port is North America's only deep water Arctic port. At present, OmniTRAX employs 300 people for rail and port services. An estimated one half of these employees are Aboriginal (Metis, First Nation and Inuit). OmniTRAX is one of North America's largest private railroad and transportation management companies, with 16 regional and short line railroads serving 11 U.S. states and three Canadian provinces.

Manitoba discussed the commitment of $250 million to complete the portion for The Pas to the Saskatchewan border. An additional $150 million is under consideration to upgrade rail services and facilities at the Port. An all-weather 12-month primary weight Western Canadian highway corridor (Nipawin to The Pas) to truck grain should result in significant cost and time savings for shippers. OmniTRAX has committed to have 150 grain producers' cars that would recycle in 24 hours going from The Pas to the Port return. They have asked the Federal Minister for 250 more cars and the Saskatchewan Minister for 100 producer cars. Eighty percent (80%) of the grain to Churchill coming from Saskatchewan is currently moved by rail by CN to The Pas and then on the port by Hudson Bay Railway (OmniTRAX).

It is important to note that OmniTRAX Canada has recently entered into an agreement to sell the Port of Churchill and Hudson Bay rail line to a group of First Nations entities led by Mathias Colomb Cree Nation.

Saskatchewan Context

The Saskatchewan grain catchment area that would feed into The Pas Manitoba to the OmniTRAX rail head via road from Nipawin and by rail from the south through the Melville rail interchange. OmniTRAX and their investors are looking at the feasibility of building terminals in Nipawin, Prince Albert and Rosthern. They would then truck the gain at primary weights through Nipawin along Highway #55/#9 to The Pas. Eighty percent (80%) of the grain to Churchill coming from Saskatchewan is currently moved by rail by CN to The Pas.

In addition to expanded grain shipping opportunities, Nipawin/Carrot River/Hudson Bay supply wood products to a pulp mill in The Pas. Both the pulp industry and peat moss industry would benefit through new transportation options with improved efficiencies for export. Modest tourism impacts can also be expected along an enhanced Saskatchewan Highway #55/#9 and Highway #283 in Manitoba. It is also envisioned that enhanced transportation services would attract investment to the region and open up economic development opportunities.

This initiative aligns with the goals of The Saskatchewan Plan for Growth. The Gateway Keewatin Corridor is in perfect alignment with the plan's six core growth activities:

Core Growth Activity	Trade Corridor Alignment
Investing in the infrastructure required for growth.	The vision is to build Western Canada's most northern east-west interprovincial trade and transportation corridor from Northern Western Canada region to the Prairie's deep water seaport of Churchill, Manitoba. Then from the port to international export markets and for reciprocal import trade.

Core Growth Activity	Trade Corridor Alignment
Educating, training and developing a skilled workforce.	In addition to improving northern communities' access to education, the project creates thousands of jobs around forest-based communities, largely Aboriginal. There will also be employment opportunities associated with the transportation industry and highway construction and maintenance.
Ensuring the ongoing competitiveness of Saskatchewan's economy.	With international trade regulation and new free trade agreements around the world, strong transportation networks have become an ever more important factor for businesses. Only through such networks will businesses be able to fully take advantage of economic opportunities, both domestic and abroad.
Supporting increased trade, investment and exports through international engagement.	The project creates a much needed primary northern route from The Pas, Manitoba to Nipawin, Saskatchewan and major Western Canada centers to allow for easier trade of goods and services to the Port of Churchill.
Advancing Saskatchewan's natural resource strengths, particularly through innovation, to build the next economy.	The project heavily supports Saskatchewan's forest, mining, energy and agriculture sectors. At present there is an under-utilized, sustainable and financially viable forest resource. The input resource is of a renewable nature and energy produced from its operations is green energy. In recent years there has been significant development in innovative technologies to add value to pulp mill process streams.
Ensuring fiscal responsibility through balanced budgets, lower debt and smaller, more efficient government.	Related developments add considerable tax streams back to the Provincial government, substantially lowering total net costs in the base investment case and potentially adding to net revenues in the maximum investment case.

Methodology

Approach

The provincial economic impacts were estimated using Praxis's Provincial Economic Impact Models based on the latest available Statistics Canada's Saskatchewan and Manitoba's input-output tables. Canadian impacts were likewise estimated with Praxis's National Economic Impact Model. Key to this analysis was the estimation of impacts at the regional level for the areas impacted by the trade corridor. Regional level impacts were estimated by constructing separate sub-provincial economic models for the regions of Nipawin/northeastern Saskatchewan, The Pas, and the Port of Churchill using regional employment by industry to estimate regional output, a community hierarchy model to assess regional trade flows and leakages, and re-balancing to ensure model cohesiveness.

Inputs into the models were:

- Producer cost savings from shorter transportation routes;
- Transportation industry cost reductions for shorter routes and less vehicle depreciation;
- Industry output expansions resulting from expanded export opportunities;
- Increased tourist spending;
- Infrastructure spending by the public sector; and
- Infrastructure spending by the private sector notably OmniTRAX.

The model's economic outputs are direct, indirect, and induced impacts of all subsequent expanded production/spending and cost savings stemming from the Highway 55 upgrade on the regions of Northeast Saskatchewan, The Pas, and Churchill and the province.

A complete accounting of definitions and assumptions are included in the Detailed Economic Analysis Section.

Regional Study Areas

Key to this analysis is the estimation of impacts at the local level for the area expected to be impacted. Separate economic models were constructed for each Regional Study Area (RSA) which includes communities likely to be directly affected by an enhanced trade corridor.

Regional economic impact models for the region were constructed using regional employment by industry to estimate regional output, a community hierarchy model to assess regional trade flows and leakages, intra-provincial imports and exports were estimated residually, and re-balancing to ensure model cohesiveness. Imports from other areas of the province generate region-specific impact multipliers. Region-specific impact multipliers, in turn, provide more accurate results than when using provincial impact multipliers at the regional level. Given some degree of reliance on imported goods and services as productive inputs from other parts of the province and out-shopping within Saskatchewan and Manitoba but outside of the region, regional multipliers generated by the economic impact model were lower than provincial multipliers across all industries. The final results will vary from imported goods driven by not only choice of technology suppliers for specialty equipment but also by the strength of the Canadian dollar (a stronger dollar drives project benefits of offshore purchase). A detailed discussion on the development of regional economic impact models is available in Appendix B.

The Saskatchewan RSA is primarily defined as the crop catchment expected to benefit from an enhanced trade corridor. The crop catchment area corresponds to Statistics Canada's Saskatchewan Census Divisions 14, 15, 9, 10. In Manitoba, the RSA corresponds to the census divisions between (and including) the communities of Churchill and The Pas: 21, 22, and 23.

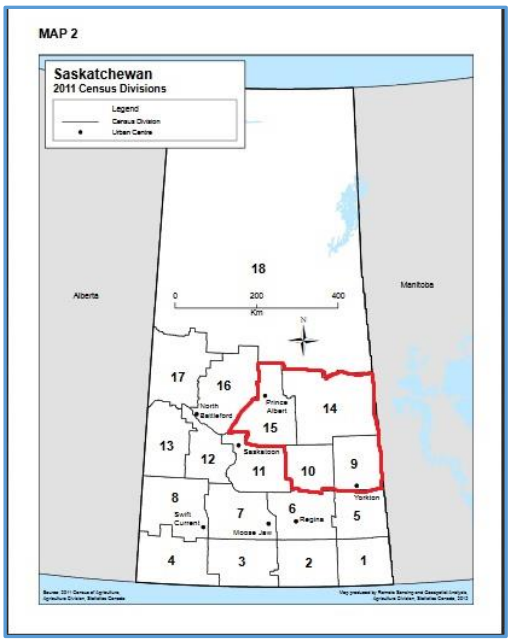

Figure 3: Saskatchewan Census Divisions and RSA in Red.

Figure 4: Manitoba Census Divisions and RSA in Red.

Base and Full Investment Case Scenarios

The investment base case for analysis was upgrading the 37km stretch of paved highway from secondary to primary weight status, with the assumption the primary weight highway would allow for program weights year round. The remaining 74km of Highway #55/#9 to the border and the remaining 40km from the Manitoba/Saskatchewan border to the Pas will continue to allow for permitting of primary weights for nine (9) months of the year.

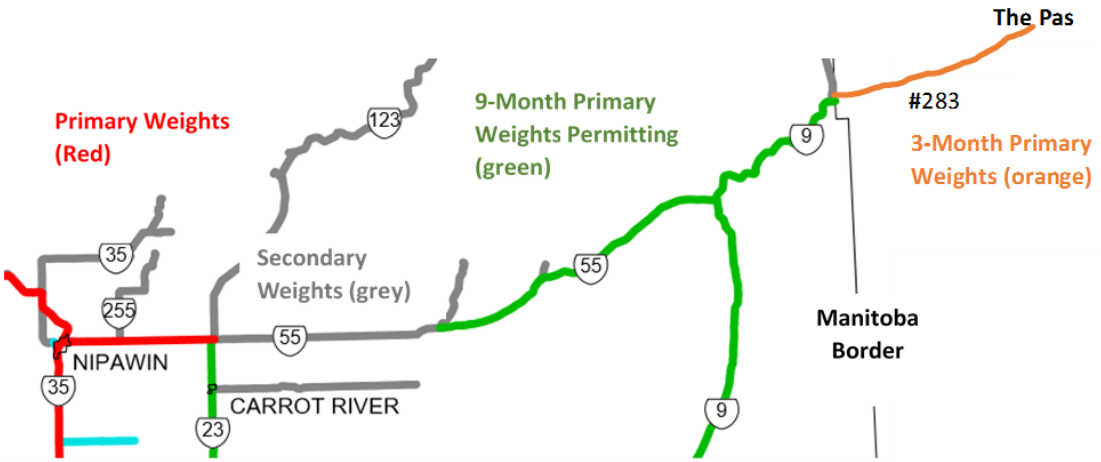

Figure 5: Current Saskatchewan Highway #55/#9 Weight Restrictions.

The Full Investment Base Case Scenario is based on the base case plus upgrading the additional 74km to provide for a 12-month primary all-weather pavement from Nipawin to the Manitoba border, as well as

upgrading the remaining 40km on Highway #283[1] to The Pas. OmniTRAX operates the rail line from The Pas to the Port of Churchill.

Study Limitations

Related impacts from highway resurfacing are predicated on the type of investment made. It should be noted that when there are a range of related economy impacts resulting from the redevelopment of an enhanced transportation routes, the lesser impacts are evident in the Investment Base Case Scenario reflecting a smaller level of investment and the larger related impacts emanate from the Full Investment Scenario.

The budget for the study was modest and this impacted the number of consultations and limited the extent of the required secondary research on effected industries, businesses, communities and the range and potential of economic development opportunities. Therefore, the Full Investment Scenario is an optimistic analysis of the economic impact benefits. With a larger budget, many of the following shortcomings could have been more fully addressed:

- Maximum investment case based on a number of "what if" scenarios not financial viability of any single project assessed. These should be used as a best "possible" result
- Did not exam relative economic impacts or resurfacing other highways connecting to the Gateway Keewatin Corridor, for example Highway #123 to Cumberland House, Highways #255 and #35 to Tobin Lake and Highway #282 to Swan River in Manitoba
- Use of lower or average production for project examined in the full investment case was based on generating conservative results not financial viability
- Did not examine the impact of cheaper food prices in the north. Cheaper food impacts imply that household dollars available will be used to purchase other consumer goods and an incremental impact will only occur if these are produced in the region or province under examination
- Tourism impacts based on a +10% scenario not a detailed market study
- Unable to quantify the impact of improved access to post-secondary education and primary and surgical healthcare
- Not able to evaluate the impact on artic developments and sovereignty, including foreign shipping plans

[1] *Highway #283 is currently classified as A1 Seasonal RTAC (62,500kgs), which means that starting December 1 the highway goes to Winter Seasonal RTAC till February 28. On March 1st with the implementation of Pre-Spring weights the classification reverts to A1. The Manitoba government has a program that allows businesses to obtain permits during the non-winter period that allow for 62,500kg loading. However, the ability to obtain permits does not apply to the spring road restriction period from that normally runs from March 31 to June 1 depending on the weather. During this restricted period even empty haul trucks are prohibited from travelling on this stretch of road.*

- Saskatchewan agricultural cost savings limited by Port of Churchill capacity. Total production in the Saskatchewan crop catchment area far exceeded port capacity.
- Port capacity at Churchill assumed to be fixed.
- No assumptions could be made regarding global warming and a resulting longer shipping season at Port of Churchill
- Cost savings by Manitoba agricultural producers assumed already realized by shipping on all-weather roads to The Pas and trans-loading to Churchill
- Data limitations necessitated that back haul opportunities not examined. Cheaper agricultural input impacts implicitly assumed to be used to purchase other inputs and an incremental impact is netted out. Proceeds from an improved profit margin spent on consumer goods was not examined.
- Lack of data on lower emissions from a shorter transport route resulted in no consideration of lower greenhouse gas emissions
- Cost savings by Saskatchewan agricultural producers based on a single estimate from Enns trucking
- Lack of data on highway accidents caused by road conditions
- Economic impacts are subject to the usual constraints and limitations of IO analysis: the framework rests on the assumption of constancy of input co-efficient of production. The assumption of fixed coefficients of production ignores the possibility of factor substitution. The rigidity of the input-output model cannot reflect such phenomena as bottlenecks, increasing costs, etc. The analysis operates on the basis of a fixed quantity of an input for the production of per unit of output or constant returns to scale where the increase in outputs is expected to be in proportion to an increase in inputs.

Summary of Findings

The upgrading of Highway #55/#9 is in alignment with the goals of the Saskatchewan Plan for Growth. Saskatchewan (and Manitoba) will benefit through facilitating the movement of goods and the provision of services in the impacted areas. This initiative supports local economic development and enriches trade and investment opportunities in both Saskatchewan and Manitoba. The envisioned benefits include the following:

While economic impact results are shown as potential benefits, they can also be viewed as forgone revenues from not proceeding with the investment.

1. Transportation Benefits

- Create a primary weight route connecting The Pas to Nipawin and on to major Western Canada centers to support the more efficient trade of goods and services in key sectors such as agriculture, mining, tourism and forestry;
- Over the long-term support the development of a northern energy corridor and potential partnerships with other entities, such as the Port of Rotterdam or international shipping lines.
- Support industries in both provinces to grow through reduced transportation costs;
- Encourage investment in existing and new businesses through better access to the Port of Churchill for industries and businesses located in Saskatchewan and Manitoba;
- Easier and safer passenger vehicle travel between northwestern Manitoba and northeastern Saskatchewan and enable greater traffic from the southern areas of these provinces;
- Lower the cost of transporting goods to northern communities through heavier loads and fewer trips;
- Reduce emissions due to more efficient truck movements and reduced rail mileage to Port of Churchill; and,
- Improve northern community access to education, medical services, food, fuel, etc.

2. Investment Attraction and Job Growth

- New or expanded businesses in areas such as grain processing, forestry, and other sectors due to enhancements to the trade corridor; and,
- Growth of supporting industries such as mechanics, warehousing, professional services and public services (education, health, etc.) and opportunities for Aboriginal employment and businesses.

3. Passenger Travel and Tourism

- Improve travel conditions for passenger vehicles and encourage tourism by better quality and safer roads.

The economic impact assessment was based on the following two scenarios. The Base Case Investment Scenario would create about 1,700 and contribute $194.9M to GDP over 20 years. The Full Investment Scenario would generate 12,000 jobs and almost $2.0B to GDP over 20 years. The employment impacts include direct, indirect and induced jobs.

1. Base Case Investment Scenario

The Base Case involves upgrading the 37km stretch of Highway #55 from secondary to primary weight status (see Figure 1) at an estimated cost of $22.3M. The remaining 74km of Highway #55/#9 to the border and the remaining 40km from the Manitoba/Saskatchewan border to the Pas will continue to allow for permitting of primary weights for nine (9) months of the year. Exhibit 1 provides a summary of the anticipated economic impacts.

Exhibit 4: Economic Impacts of Base Case Investment Scenario for 20-Years.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Jobs Annual	Jobs Cumulative
Manitoba Summary	0.1	2.9	0.1	1.5	2	33
Saskatchewan Summary	17.2	55.3	7.6	18.1	143	340
Canada Summary	32.2	136.7	16.7	68.4	316	1327
	Annual	**Cumulative**				
Tax Revenues SK	2.0	5.6				
Tax Revenues MB	0.01	0.26				
Tax Revenues Canada	5.2	21.6				

3. Full Investment Case Scenario

The Full Investment Scenario assumes the Base Case Scenario plus upgrading the additional 74 kilometers to 12-month primary all-weather pavement to Manitoba border, as well the remaining 40 kilometers to The Pas. A summary of the economic impacts are shown in Exhibit 2.

The Full Investment Scenario is an optimistic analysis of the economic impact benefits. Due to a limited budget the study does not undertake a detailed analysis of all of the effected businesses and industry relies on assumptions as outlined in the Detailed Economic Impact Analysis section of the report.

Exhibit 5: Economic Impacts of the Full Investment Case Scenario for 20-Years.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Jobs Annual	Jobs Cumulative
Manitoba Summary	55.4	546.6	30.1	302.3	848	9,382
Saskatchewan Summary	438.3	6,685.7	130.6	1,611.9	3,811	52,372
Canada Summary	834.8	12,062.6	342.1	4,363.0	7,362	99,803
	Annual	**Cumulative**				
Tax Revenues SK	54.8	826.8				
Tax Revenues MB	6.3	68.4				
Tax Revenues Canada	135.0	1,971.4				

Note: Gross Domestic Product (GDP) is the measure of the sum of all goods and services produced within a geographic area and is the measurement of the "size" of an economy. GDP is included within gross output, represents value added or payments to final factors of production, and includes both profits and labour income.

Government Fiscal Impacts

An expansion in economic activity is expected to generate incremental government revenues. The economic impact model's fiscal module, based on the latest provincial and federal budgets, estimates government revenues on the following assumptions:

- Provincial personal income tax is calculated by using the provincial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income.
- Federal personal income tax is calculated by using the federal personal income tax rate that would apply to average industry annual income applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial and federal corporate tax rate to incremental corporate profits before taxes calculated by the model.
- Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits calculated by the model.
- Sales tax calculation is based on the ratio of provincial and federal sales taxes collected to retail trade gross output applied to incremental retail trade output calculated by the model.

Estimated government revenues are for direct, indirect, and induced impacts and do not represent solely proponent taxes and/or royalties paid. Estimates are not adjusted for any changes to equalization entitlements. The total combined revenue gains for Saskatchewan, Manitoba and the Federal Government are estimated at about **$2 billion over 20-years under the Full Investment Case Scenario**

Exhibit 6: 20-Year Estimated Government Fiscal Impacts.

	Investment SK Base Case	Investment SK Full Case	Investment MB Base Case	Investment MB Full Case
Provincial Government Net Present Value	-17.6	496.0	0.2	15.3
Federal Government Net Present Value	399.9	1491.8		

It must be noted that net government revenues vary widely between Saskatchewan and Manitoba reflecting that most of the benefits accrue in Saskatchewan. The federal government revenue impacts are overwhelmingly positive as funding for upgrades are made by the provincial governments. This, however, creates a thorough argument for federal funding of the project. A substantial portion of the maximum investment case government revenues stem from the larger resource projects notably coal and should be treated as a "best possible" scenario and treated with a degree of caution.

A breakdown of economic impact analysis for the Investment Base Case and the Full Investment scenarios are contained below.

Exhibit 7: 20-Year Base Case Investment Benefits Breakdown.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Employment Annual	Employment Cumulative
Investment SK Base Case	15.2	15.2	7.1	7.1	132	132
Forestry Savings M&E SK	0.2	3.4	0.05	0.9	1	17
Crop Transport Savings ME SK	1.7	34	0.5	9.3	9	175
Farm Machinery SK Production	0.1	2.3	0.0	0.8	1	16
Forestry Savings M&E MB	0.1	2.9	0.1	1.5	2	33
Manitoba Summary	0.1	2.9	0.1	1.5	2	33
Saskatchewan Summary	17.2	55.3	7.6	18.1	143	340
Canada Summary	32.2	136.7	16.7	68.4	316	1327
	Annual	**Cumulative**				
Tax Revenues SK	2.0	5.6				
Tax Revenues MB	0.01	0.26				

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Employment Annual	Employment Cumulative
Tax Revenues Canada	5.2	21.6				

The full investment impacts are summarized in the following exhibit.

Exhibit 8: 20-Year Full Investment Economic Benefits Breakdown.

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Employment Annual	Employment Cumulative
Investment SK Max Case	65.7	65.7	30.7	30.7	572	572
Investment MB Max case	29.6	29.6	15.7	15.7	379	3
Forestry Savings Output SK	1.7	33.9	1.0	20.1	25	495
Crop Transport Savings Income SK	6.5	130.3	2.4	48.1	62	1248
Forestry Savings Output MB	1.3	26.6	.7	13.4	15	295
Tourism SK	22.4	448.4	12.7	253.1	427	8550
Tourism MB	16.2	324.2	9.2	184.5	347	6949
OmniTRAX Investment MB	8.3	166.3	4.4	88.6	107	2135
Helium Mining SK	9.7	193.8	1.5	29.6	22	442
Coal Mining SK Construction	11.1	11.1	5.2	5.2	98	98
Coal Mining SK Production	161	3220.9	24.6	492.5	367	7342
Gravel SK Production	2	41	.3	6.3	5	93
Ethanol SK Construction	32.7	32.7	16.8	16.8	585	585
Ethanol SK Production	125.4	2508	35.5	709.5	1647	32946
Peat Moss Expansion	4.6	91.6	.7	14	10	209
Manitoba Summary	55.4	546.6	30.1	302.3	848	9382
Saskatchewan Summary	438.3	6685.7	130.6	1611.9	3811	52372
Canada Summary	834.8	12062.6	342.1	4363	7362	99803

	GDP Annual ($M)	GDP Cumulative ($M)	Labour Income Annual ($M)	Labour Income Cumulative ($M)	Employment Annual	Employment Cumulative
	Annual	**Cumulative**				
Tax Revenues SK	54.8	826.8				
Tax Revenues MB	6.3	68.4				
Tax Revenues Canada	135	1941.4				

Although there is a compelling financial argument to proceed with the base case investment, the project should not be judged on a government financial basis alone. There is also the substantial GDP and employment impacts and alignment with the Provincial Growth Plan.

There are a number of other arguments in favour investing that are difficult to quantify such as lower the cost of transporting goods to many northern communities and improving access to education, medical services, food, fuel, etc. Many of these benefits are qualitative and cannot be quantified in the economic impacts.

Detailed Economic Impact Analysis

All impacts are expressed as impacts over the status quo (no investment) and are in 2015 CDN dollars, except where otherwise noted. The assumptions and impacts are described in each of the impacted areas by the investment made or accrued benefits due to savings in transportation costs and/or increased production.

Base Case Highway Saskatchewan Construction Costs

Saskatchewan Ministry of Highways and infrastructure (MHI) provided construction cost information. The latest available was the 2014 estimated costs for upgrading the 37km stretch of Highway 55 east to the forest boundary from secondary to primary weight status was about $22.3M. This includes $3M to upgrade the bridge in Nipawin, and $19.3 m to upgrade the highway section. The economic models were "shocked" by $22.3M in non-residential construction. Leakages from imports and inventory withdrawals were applied. It is assumed that maintenance costs are the same as the "no investment" case.

Results are below:

Investment SK Base Case	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	6.7	64.2	4.0	na	8.8	84.9	5.7	na	5.6	60.3	2.9
Indirect Impact	4.6	30.5	1.7	na	7.8	70.4	3.8	na	1.0	7.2	0.3
Induced Impact	3.9	37.8	1.5	na	10.1	108.5	4.5	na	0.1	1.1	0.1
Total Impact	**15.2**	**132.4**	**7.1**	**1.8**	**26.7**	**263.2**	**14.0**	**4.3**	**6.7**	**68.7**	**3.3**

Saskatchewan Forestry Transport Savings

The Saskatchewan Ministry of the Economy recently did some analysis on Highway 55 in collaboration with Ministry of Highways and the forest industry. The Ministry of the Economy shared the high level results with Praxis. The assumptions used in the analysis pertaining to increased haul weights for timber are below:

Forestry wood haul loads in 8 axle trucks (Tonnes)	Net Weight	Empty Weight	Gross Weight
Secondary Weight	34	20.5	54.5
Primary Weight	42	20.5	62.5
Program Weight (overweight permits)	54.5	20.5	75

The savings in haul costs to the forestry sector on Highway 55 from Carrot River east to the forest boundary was based on upgrading this 37km stretch of paved highway from secondary to primary weight status, with the assumption the primary weight highway would allow for program weights year round.

If this road upgrade was completed, it would result in fewer trucks on the highway and heavier payloads per truck. Average delivered wood costs for the affected forest products mills would be reduced by approximately 18% for a saving of $1.5M per year. This figure was applied to the economic models in two ways. First, it was assumed that the cost savings were translated into increased output (i.e., Edgewater in Carrot River would produce $1.5M more per year at the same cost). Second, the $1.5M was reinvested into further plant equipment and equipment. In the first case, the economic models were "shocked" by $1.5M in forestry product manufacturing output, without adjusting for leakages. In the second case, business investment in machinery and equipment (M&E) was increased by $1.5M per year after adjusting for leakages from imports and inventory withdrawals. Results for both simulations are below:

Exhibit 9: Forestry Savings Output for Saskatchewan.

Forestry Savings Output SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct	0.9	17	0.7	na	0.5	5	0.3	na	0.4	3	0.2
Indirect	0.2	2	0.1	na	0.6	8	0.3	na	0.2	1	0.0
Induced	0.5	5	0.2	na	0.7	8	0.3	na	0.0	0	0.0
Total	**1.7**	**25**	**1.0**	**0.2**	**1.9**	**20**	**1.0**	**0.3**	**0.6**	**4**	**0.2**

Exhibit 10: Forestry Savings Output for Machinery and Equipment in Saskatchewan.

Forestry Savings M&E SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct	0.1	0	0.0	na	0.1	1	0.1	na	0.0	0	0.0
Indirect	0.0	0	0.0	na	0.2	2	0.1	na	0.0	0	0.0
Induced	0.0	0	0.0	na	0.2	2	0.1	na	0.0	0	0.0
Total	**0.2**	**1**	**0.0**	**0.0**	**0.4**	**4**	**0.2**	**0.1**	**0.0**	**0**	**0.0**

Saskatchewan Crop Transport Savings

The savings in haul costs to the agriculture sector were based on data supplied by A&K Enns trucking in Melfort, Saskatchewan. This company hauls wheat for a local grain company to an OmniTRAX reload facility in The Pas. Currently A&K Enns hauls from Carrot River south to Hudson Bay and north to The Pas. A Highway 55 upgrade would lower freight costs from $1.23 per bushel to $0.40 per bushel. This is roughly a $30 saving per tonne. However, application of this saving is limited by Port of Churchill available remaining capacity (roughly 500,000 tonnes) resulting in total cost savings of $15.26M per year for Saskatchewan agriculture.

The $15.26M was applied to the economic models in two ways. In the first case, the $15.26M was reinvested into further farm equipment and machinery by Saskatchewan producers and business investment in machinery and equipment (M&E) was increased by $15.26M per year after adjusting for leakages from imports and inventory withdrawals. In the second case, the $15.26 was taken as producer income and applied to household purchases after adjusting for leakages from imports and inventory withdrawals, savings and taxes. Results for both simulations are below:

Exhibit 11: Crop Transport Savings Machinery & Equipment for Saskatchewan.

Crop Transport Savings M&E SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct	1.0	3	0.2	na	1.2	12	0.7	na	0.4	4	0.2
Indirect	0.5	3	0.1	na	1.5	14	0.7	na	0.0	0	0.0
Induced	0.3	2	0.1	na	1.5	17	0.7	na	0.0	0	0.0
Total	**1.7**	**9**	**0.5**	**0.2**	**4.3**	**42**	**2.1**	**0.7**	**0.4**	**4**	**0.2**

Exhibit 12: Crop Transport Savings from Producer Income for Saskatchewan.

Crop Transport Savings Income SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct	4.2	39	1.4	na	5.0	53	2.0	5.0	0.3	2	0.1
Indirect	1.0	10	0.5	na	2.2	24	1.1	2.2	0.1	0	0.0
Induced	1.3	13	0.5	na	3.4	36	1.5	3.4	0.0	0	0.0
Total	**6.5**	**62**	**2.4**	**1.2**	**10.5**	**113**	**4.7**	**10.5**	**0.4**	**3**	**0.1**

Saskatchewan Farm Machinery Production

Included in the Saskatchewan RSA is the community of St. Brieux. St. Brieux is the home of Bourgault Industries Ltd. With employment of 250 to 499 employees, Bourgault is a major producer of cultivators, drills, augers, seeders, harrows, and tillage tools. Bourgault also ships as far as Kazakhstan and it is likely that Bourgault would benefit from improved access to the port of Churchill. Industry Canada's trade database on-line indicates that 8432 HS code (farm machinery) 2014 exports to Kazakhstan from Saskatchewan where $1,741,992. It is assumed that a 10% increase in farm machinery exports (or $174k) to Kazakhstan could be experienced with improved access to the Port of Churchill without compromising port capacity. $174k was applied to the economic models by increasing exports of machinery and equipment without adjusting for leakages from imports and inventory withdrawals. Results of this scenario are below:

Exhibit 13: Farm Machinery Saskatchewan Production.

Crop Transport Savings Income SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct	0.0	0	0.0	na	0.05	0	0.0	na	0.1	0	0.0
Indirect	0.0	0	0.0	na	0.1	1	0.0	na	0.0	0	0.0
Induced	0.0	0	0.0	na	0.1	1	0.0	na	0.0	0	0.0
Total	**0.1**	**1**	**0.0**	**0.0**	**0.2**	**2**	**0.1**	**0.03**	**0.1**	**0**	**0.0**

Manitoba Forestry Transport Savings

In an interview with representatives of the Northern Manitoba Forest Products Industry, it was determined that the industry would stand to realize a potential cost savings of up to $2 million per year with the upgrading of the existing route between The Pas and Nipawin to all-season, paved and RTAC rated status. The anticipated upgrades to this road network would allow haul trucks to always utilize the most direct route resulting in a reduction in clear diesel consumption of up to 150,000 litres and a savings of up to 13,000 hours in driving time per year.

The Northern Manitoba Forest Products Industry sources fibre in various locations throughout the Province of Saskatchewan and this route is vital to the business and suppliers. Without a customer for pulp logs and excess residual chips, Saskatchewan based sawmills would struggle to operate.

This figure was applied to the economic models in two ways. First, it was assumed that the cost savings were translated into $2M per year in increased output. Second, it is assumed the $2M is reinvested into further plant equipment and equipment. In the first case, the economic models were "shocked" by $2M in forestry product manufacturing output, without adjusting for leakages. In the second case, business investment in machinery and equipment (M&E) was increased by $2M per year after adjusting for leakages from imports and inventory withdrawals. Results for both simulations are below:

Exhibit 14: Forestry Savings Output for Manitoba.

Forestry Savings Output MB	MB GDP ($M)	MB Jobs	Labour Income ($M)	MB Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	MB RSA GDP ($M)	MB RSA Jobs	MB RSA Labour Income ($M)
Direct	0.7	7	0.4	na	0.6	5	0.3	na	0.7	7	0.4
Indirect	0.3	3	0.1	na	0.7	7	0.3	na	0.1	1	0.0
Induced	0.4	4	0.2	na	0.7	7	0.3	na	0.0	0	0.0
Total	**1.3**	**15**	**0.7**	**0.1**	**1.9**	**19**	**1.0**	**0.3**	**0.8**	**8**	**0.4**

Exhibit 15: Forestry Savings Output for Machinery and Equipment in Manitoba.

Forestry Savings M&E MB	MB GDP ($M)	MB Jobs	Labour Income ($M)	MB Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	MB RSA GDP ($M)	MB RSA Jobs	MB RSA Labour Income ($M)
Direct	0.1	0.8	0.0	na	0.2	1.6	0.1	na	0.0	0	0.0
Indirect	0.0	0.3	0.0	na	0.2	2.3	0.1	na	0.0	0	0.0
Induced	0.0	0.5	0.0	na	0.2	2.2	0.1	na	0.0	0	0.0
Total	**0.1**	**1.6**	**0.1**	**0.0**	**0.6**	**6.1**	**0.3**	**0.1**	**0.0**	**0**	**0.0**

Full Investment Case Highway Saskatchewan and Manitoba Construction Costs

The maximum investment case is based on the base case plus upgrading the additional 74 kilometers to 12-month primary all-weather pavement to Manitoba border as well the remaining 40 kilometers to The Pas. The Saskatchewan Ministry of Highways and Infrastructure (MHI) provided construction cost information for the maximum investment case. This estimate consisted of the additional 74k of primary pavement to the Manitoba border at $1M per kilometre beyond the base case investment for a total of $96.3M. The same estimate of cost per kilometres was applied to the 40 kilometers from The Pas to the Saskatchewan border totalling $40M. It is assumed that maintenance costs are the same as the "no investment" case or status quo. The economic models were "shocked" by $96.3M and $40M in non-residential construction. Leakages from imports and inventory withdrawals were applied. Results for both provinces are below:

Exhibit 16: Maximum Investment Case for Saskatchewan.

Investment SK Maximum Case	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	29.0	277	17.2	na	37.9	367	24.5	na	24.1	261	12.5
Indirect Impact	20.0	132	7.2	na	33.9	302	16.5	na	4.1	31	1.4

Investment SK Maximum Case	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Induced Impact	16.7	163	6.3	na	43.4	469	19.5	na	0.6	5	0.2
Total Impact	**65.7**	**572**	**30.7**	**7.7**	**115.2**	**1137**	**60.5**	**18.6**	**28.8**	**297**	**14.2**

Exhibit 17: Maximum Investment Case for Manitoba.

Investment MB Maximum Case	MB GDP ($M)	MB Jobs	Labour Income ($M)	MB Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	MB RSA GDP ($M)	MB RSA Jobs	MB RSA Labour Income ($M)
Direct Impact	14.5	209.5	9.1	na	15.7	152	10.2	na	10.2	147	6.4
Indirect Impact	6.8	68.7	3.0	na	14.1	126	6.8	na	1.3	8	0.4
Induced Impact	8.3	101.3	3.6	na	18.0	195	8.1	na	0.2	2	0.1
Total Impact	**29.6**	**379.5**	**15.7**	**3.0**	**47.8**	**472**	**25.1**	**7.7**	**11.6**	**157**	**6.9**

Tourism Impacts Saskatchewan and Manitoba

Fully upgrading the route to all-weather status from Nipawin to The Pas will encourage tourism by better quality of road for visitors and provide the desired northern "circle route" for tourism. This means tourists will no longer have to backtrack on their journey to access tourist attractions (something tourists generally try to avoid) and there will be safer driving conditions which will lower wear and tear and prevent damage to vehicles. This is especially important for those hauling campers and trailers.

According to Tourism Saskatchewan, in 2012 there were 2 million Saskatchewan residents, other Canadians, and visitors from the USA and out of country visitors that travelled in East Central Saskatchewan on overnight and same-day trips. They visited destinations throughout the area in order to see friends and relatives, for business or for pleasure. Tourism generated more than $211.3 million in consumer spending in East

Central Saskatchewan. For this scenario it is assumed that an all-weather road/corridor between The Pas and Nipawin will generate another 10% in tourism spending, adding another $21.1 million in sales in Saskatchewan, annually. A similar figure was assumed for Manitoba. In both cases, consumer spending was increased in the economic models by $21.1M and allocated across the major tourist spend categories (accommodation and food, retail, entertainment and recreation) according to the Saskatchewan breakdown in the Statistics Canada Travel Survey Residents of Canada 2013 and International Travel Survey 2012. Results are below:

Exhibit 18: Tourism Impacts for Saskatchewan.

Tourism Impacts SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	11.7	317	8.2	na	10	282	7.5	na	11.2	358	8.0
Indirect Impact	3.8	43	1.9	na	5.6	64	3.0	na	0.7	6	0.3
Induced Impact	6.9	67	2.6	na	11.1	120	5.0	na	0.4	3	0.1
Total Impact	**22.4**	**427**	**12.7**	**7.1**	**27.0**	**465**	**15.5**	**8.4**	**12.2**	**367**	**8.4**

Exhibit 19: Tourism Impacts for Manitoba.

Tourism Impacts MB	MB GDP ($M)	MB Jobs	Labour Income ($M)	MB Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	MB RSA GDP ($M)	MB RSA Jobs	MB RSA Labour Income ($M)
Direct Impact	8.3	253.4	5.7	na	10	282	7.5	na	0.0	1	0.0
Indirect Impact	3.1	34.7	1.3	na	5.6	64	3.0	na	0.0	0	0.0
Induced Impact	4.8	59.3	2.1	na	11.1	120	5.0	na	0.0	0	0.0
Total Impact	**16.2**	**347.5**	**9.2**	**2.3**	**27.0**	**465**	**15.5**	**8.4**	**0.0**	**1**	**0.0**

OmniTRAX Investment Manitoba

In an interview with the current President of OmniTRax Canada, it was determined that OmniTRAX is prepared to invest $1.5M to $3M annually in upgrades to rail and port facilities for every extra 100,000 tonnes in deliveries to the port. The upgraded transportation corridor and resulting cost saving to grain producers hauling over Highways #55, #9, and #283 to load in The Pas is expected to create a further 500,000 tonnes in port traffic per year.

To estimate the level of expected private sector investment, the mid-point of $1.5M and $3M per 100,000 tonnes was multiplied by five yielding $11.25M per year.

The economic models were "shocked" by $11.25M in non-residential construction. Leakages from imports and inventory withdrawals were applied. Results are below:

Exhibit 20: OmniTRAX Investment for Manitoba.

OmniTRAX Investment MB	MB GDP ($M)	MB Jobs	Labour Income ($M)	MB Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	MB RSA GDP ($M)	MB RSA Jobs	MB RSA Labour Income ($M)
Direct Impact	4.1	59	2.6	na	4.4	43	2.9	na	2.9	41	1.8
Indirect Impact	1.9	19	0.8	na	4.0	36	1.9	na	0.4	2	0.1
Induced Impact	2.3	28	1.0	na	5.1	55	2.3	na	0.1	1	0.0
Total Impact	**8.3**	**107**	**4.4**	**0.8**	**13.5**	**133**	**7.1**	**2.2**	**3.3**	**44**	**1.9**

Saskatchewan Gravel, Coal and Helium Mining Impacts

In an interview with the Economic Development Officer of the Red Earth Cree First Nation, a member of the Prince Albert Grand Council, it was determined that exploration in the 1980s found viable natural resources for development: gravel, coal, and helium. All of these developments, however, are not feasible without pursuing the maximum investment case of a 12-month all-weather resurfacing program.

Gravel

A problem facing Rural Municipalities (RMs) in Saskatchewan is the changing demand and supply of gravel required to maintain the grid road system. The rising cost of gravel in some cases it accounts for over 50% of an RMs budget. The loss of local gravel pits means that trucking distances (and therefore costs) are increasing. RMs in the northeast collectively need about 75,000 – 100,000 cubic yards of gravel each year to maintain the road system and for other uses. The significant upswing in provincial economic development activity indicates ongoing and future demand for gravel and aggregate throughout the Province.

The gravel development scenario is based on 19 companies, with a total of 183 employees, involved in sand and gravel extraction. In 2001, the province produced about 11,700,000 tonnes, valued at almost $45 million. On average each company produced $2.37 million. The economic models were accessed by increasing production of the non-metallic minerals industry by this amount without adjusting for leakages. Simulation results are below:

Exhibit 21: Gravel Production in Saskatchewan.

Gravel Production SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	1.6	1	0.2	na	2	3	0.3	na	1.6	2	0.1
Indirect Impact	0.3	2	0.1	na	0.5	5	0.2	na	0.1	0	0.0
Induced Impact	0.2	2	0.1	na	0.6	6	0.3	na	0.0	0	0.0
Total Impact	**2.0**	**5**	**0.3**	**0.2**	**2.7**	**14**	**0.8**	**0.3**	**1.8**	**2**	**0.2**

Coal

The coal mine development scenario is based on the following assumptions:

- Currently there are 3 coal mines in the province producing a total of 10 million tonnes per year or an average of 3.33 million tonnes per year. The current price is $41.88 USD. Therefore, total mine output would be $186.13M CDN.

- The economic models were accessed by increasing mineral output by 3.33 million tonnes this amount without adjusting for leakages from imports and inventory withdrawals. Construction cost is based on a similar sized facility in NWT (open pit only and this amount after adjusting for leakages from imports and inventory withdrawals.

Exhibit 22: Coal Mining Construction in Saskatchewan.

Coal Mining Construction SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	5.0	48	2.9	na	7	88	4.7	na	4.0	43	2.1
Indirect Impact	3.2	22	1.2	na	4.9	53	2.7	na	0.7	5	0.2
Induced Impact	2.8	28	1.1	na	7.9	85	3.5	na	0.1	1	0.0
Total Impact	**11.1**	**98**	**5.2**	**1.3**	**19.8**	**225**	**11.0**	**3.3**	**4.8**	**49**	**2.4**

Exhibit 23: Coal Mining Operations in Saskatchewan.

Coal Mining Operation SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	126.9	115	12.9	na	123	199	24.9	na	127.0	127	11.5
Indirect Impact	20.7	121	6.7	na	39.4	364	19.0	na	11.6	38	2.2
Induced Impact	13.4	131	5.0	na	46.5	502	20.8	na	0.6	5	0.2
Total Impact	**161.0**	**367**	**24.6**	**12.7**	**209.0**	**1064**	**64.7**	**27.1**	**139.1**	**169**	**13.9**

Helium

Nearly all of the helium found in the earth today comes from this radioactive decay of uranium and thorium-rich minerals. All helium which is produced today is extracted from natural gas streams where concentrations are high enough to economically separate. Almost all natural gas contains traces of helium but it is relatively rare to find it in concentrations that are commercially viable to extract.

Currently, the United States is the largest producer of helium in the world. Although new helium extraction/purification plants have come on-line in other countries, they are still not able to meet their own demand and rely on U.S. imports. Liquid helium is used in cryogenics (its largest single use, absorbing about a quarter of production), particularly in the cooling of superconducting magnets, with the main commercial application being in MRI scanners. Helium's other industrial uses—as a pressurizing and purge gas, as a protective atmosphere for arc welding and in processes such as growing crystals to make silicon wafers—account for half of the gas produced.

The helium production scenario is based on the following assumptions:

- Extraction is similar to natural gas and no major incremental construction costs are likely.
- Production from the smallest (Poland) mine where data was available was used. This is 100 million cubic feet per (MMCF) per year at the current price of $84 USD per thousand cubic feet. As such output is expected to be $11.2M CDN per year.
- The economic models were accessed by increasing oil and gas production by this amount.

Exhibit 24: Helium Mining Operation in Saskatchewan.

Helium Mining Operation SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	7.6	7	0.8	na	7	12	1.5	na	7.6	8	0.7
Indirect Impact	1.2	7	0.4	na	2.4	22	1.1	na	0.7	2	0.1
Induced Impact	0.8	8	0.3	na	2.8	30	1.3	na	0.0	0	0.0
Total Impact	**9.7**	**22**	**1.5**	**0.8**	**12.6**	**64**	**3.9**	**1.6**	**8.4**	**10**	**0.8**

Ethanol Impacts Saskatchewan

Town of Nipawin officials indicated the strong possibility of ethanol production occurring in the region under the maximum investment case, assuming long term market feasibility. A previous SJ Research study was used to model the impact of regional ethanol production. In fact, The Pas has a new trans loading facility.

Under this scenario, the ethanol plant will produce 80 million litres per year and is integrated with an 80,000-head feedlot utilizing 25% wet mash. In order for the feedlot to be successful it must feed 120,000-head. Therefore, an additional 120,000 head cow-calf operation is included as a direct impact. Direct employment for the total operation will be 510 persons. The ethanol plant will employ 30 persons, the feedlot 80, and the cow-calf operation 400. Total construction/investment for the project is $115.8M. Construction of the ethanol plant will be $47.5M, the feedlot $11.2M, and the cow-calf operation $57.1M. Scenario results are below:

Exhibit 25: Ethanol Plant Construction in Saskatchewan.

Ethanol Plant Construction SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	15.8	290	9	na	20	259	13.8	na	11.7	127	6.1
Indirect Impact	7.7	107	3	na	14.5	154	8.0	na	2.0	15	0.7
Induced Impact	9.0	189	4	na	23.1	250	10.4	na	0.3	2	0.1
Total Impact	**32.7**	**585**	**17**	**5.2**	**58.0**	**662**	**32.2**	**9.6**	**14.1**	**145**	**6.9**

Exhibit 26: Ethanol Plant Operations in Saskatchewan.

Ethanol Plant Operation SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	47.6	510	6	na	82	510	6.0	na	87.6	510	6.0
Indirect Impact	45.7	596	16	na	103.4	897	47.5	na	34.0	112	5.0
Induced Impact	32.1	541	13	na	102.2	1103	45.8	na	1.7	13	0.7
Total Impact	**125.4**	**1647**	**35**	**18.1**	**287.9**	**2510**	**99.3**	**45.2**	**123.3**	**635**	**11.7**

Peat Moss Production

Peat is a plant product derived from sphagnum moss, reed and sedge deposits. Canadian sphagnum peat is rated among the best in the world.

Saskatchewan's peatlands consist of a 200 km wide band ranging across the southern edge of the Precambrian Shield, from Alberta to Manitoba, in the boreal zone largely in boggy lowlands, while smaller amounts are located in upland areas. Most of Saskatchewan's peat is harvested in the Carrot River district. Commercial production of peat was begun by the Carrot River Peat Moss Co. Ltd. in the Carrot River area in the late 1950s. Today Premier Tech Horticulture operates three harvest sites, along with a production facility in Carrot River. Its products are offered throughout North America. Although Premiere Tech did not provide cost savings for the Carrot River facility from resurfacing Highway 55, its planned expansion of 2 additional harvest sites (Technical Review Comments on the Environmental Impact Statement - Premier Tech Horticulture - Smokey Ridge Peat Harvesting Project - Saskatchewan Ministry of Environment Environmental Assessment Branch - May 2015) is likely predicated on highway resurfacing under the maximum investment scenario. With the bulk of peat moss harvesting and packaging in the province occurring around Carrot River from 3 harvesting sites, the addition of 2 more sites in the Smokey Ridge Peat Harvesting Project is estimated to add a further $5.3M in exports to the region based on 2015 international exports of Saskatchewan peat moss of $7.9M (Canadian international trade merchandise database).

Incremental impacts of peat moss industry expansion are outlined below.

Exhibit 27: Peat Moss Expansion in Saskatchewan.

Peat Moss Expansion SK	SK GDP ($M)	SK Jobs	Labour Income ($M)	SK Prov Govt. Rev. ($M)	CDN GDP ($M)	CDN Jobs	CDN Labour Income ($M)	CDN Fed. Govt. Rev. ($M)	SK RSA GDP ($M)	SK RSA Jobs	SK RSA Labour Income ($M)
Direct Impact	3.6	3	0.4	na	3.4	6	0.7	na	3.6	4	0.3
Indirect Impact	0.6	3	0.2	na	1.1	11	0.5	na	0.3	1	0.1
Induced Impact	0.4	4	0.1	na	1.3	14	0.6	na	0.0	0	0.0
Total Impact	**4.6**	**10**	**0.7**	**0.4**	**5.8**	**31**	**1.8**	**0.8**	**4.0**	**5**	**0.4**

Access to Education

Access to education is fundamentally important not only for the growth and future well-being of an individual, but also for the broader community where that individual lives. Educational access affects the extent to which an individual can contribute both civically and economically to his or her community, as well as the future life choices available to that individual.

Cumberland College, a member of the Association of Saskatchewan Regional Colleges, has four campuses throughout the province: Nipawin, Melfort, Tisdale and Hudson Bay. Programs offered include, but are not limited to: Technical, University, Adult Basic Education, Agriculture, Industrial & Trades Training, Heavy Equipment Operation, Languages, Safety Training, and Online Learning. Although not quantifiable, students from Red Earth and Shoal Lake First Nations, notably those attending the Cumberland College Nipawin campus, will benefit considerably from resurfacing of Highway 55, lowering travel times and wear and tear on vehicles travel to and from campus.

First Nations Employment Opportunities in Saskatchewan and Manitoba

It should be noted that the bulk many of the highway construction and maintenance and resourced based employment opportunities in the maximum investment case are likely to accrue to First Nations employees. Employment opportunities are likely to include but limited to:

- bridge and highway construction gang foreman/woman
- gang foreman/woman, bridge and highway construction
- highway maintenance foreman/woman
- highway snow removal equipment operator
- snowplough operator, highway
- erector, highway signs
- highway concrete mixer operator helper
- highway sign erector
- highway line painter
- mining engineering technician
- mining survey technician
- mining technician
- soil science technician – mining
- technician, mining engineering
- technician, soil science
- mining technologist, mining engineering
- welding technician, mining
- mining industry development consultant
- mining equipment sales representative
- mining equipment master mechanic
- heavy mobile mining equipment mechanic
- mining machinery fitter
- blaster – surface mining
- core drill operator – construction, surface mining and quarrying
- driller – surface mining
- coal conveyor operator – surface mining
- tipman/woman – surface coal mining
- Heavy equipment operators (except crane)
- surface mining equipment operator
- foreman/woman, highway construction
- highway and bridge maintenance road boss
- highway construction foreman/woman
- road boss, highway and bridge maintenance
- highway snowplough operator
- concrete mixer operator helper – highway construction
- helper, highway concrete mixer operator
- highway maintenance worker
- sign erector, highways
- line-painting machine operator – highways and roads
- mining engineering technologist
- mining survey technologist
- mining technologist
- technician, mining
- technician, mining survey
- technologist, mining
- technologist, mining survey
- mining rescue instructor
- mining equipment sales engineer
- master mechanic, mining equipment
- mining machinery mechanic
- mechanic, mobile mining equipment
- hoist operator (except underground mining)
- blaster (except underground mining)
- diamond drill operator – surface mining and quarrying
- rotary drilling machine operator – surface mining and quarrying
- dumper – surface coal mining
- Transport truck drivers
- mining shovel operator (except underground)

Government Fiscal Impacts

An expansion in economic activity is expected to generate incremental government revenues. The economic impact model's fiscal module is based on the latest provincial and federal budgets and estimates government revenues as follows:

- Provincial personal income tax is calculated by using the provincial personal income tax rate that would apply to average industry annual income. This is applied to model-generated labour income.
- Federal personal income tax is calculated by using the federal personal income tax rate that would apply to average industry annual income applied to model-generated labour income.
- Corporation income tax is calculated by applying the respective provincial and federal corporate tax rate to incremental corporate profits before taxes calculated by the model.
- Unincorporated business income taxes are calculated by applying the small business tax rate to incremental unincorporated business profits calculated by the model.
- Sales tax calculation is based on the ratio of provincial and federal sales taxes collected to retail trade gross output applied to incremental retail trade output calculated by the model.

Estimated government revenues are for direct, indirect, and induced impacts and do not represent solely proponent taxes and/or royalties paid. Estimates are not adjusted for any changes to equalization entitlements.

The table below illustrates the streams of government revenues and expenses in current values. Road construction occurs and is completed in Year 1. Revenues from related impacts begin to accrue in year 2. One exception is coal mining and ethanol, production. Construction occurs in Year 2 and operational revenues begin to accrue in Year 3. A 20-year highway life is assumed.

Exhibit 28: Streams of Government Revenues and Expenses in Current Values.

Current Value Gov't Expenses and Revenues	Investment SK Base Case	Investment SK Max Case	Investment MB Max Case	Tax Rev. SK Min	Tax Rev. SK Max	Tax Rev. MB Min	Tax Revs MB Max	Tax Revs Fed Gov't Min	Tax Revs Fed Gov't Max
Year 1	-22.30	-96.30	-40.00	1.79	7.73	0.00	6.26	4.30	80.19
Year 2	0.00	0.00	0.00	0.19	15.94	0.01	3.27	4.12	60.23
Year 3	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61

Current Value Gov't Expenses and Revenues	Investment SK Base Case	Investment SK Max Case	Investment MB Max Case	Tax Rev. SK Min	Tax Rev. SK Max	Tax Rev. MB Min	Tax Revs MB Max	Tax Revs Fed Gov't Min	Tax Revs Fed Gov't Max
Year 4	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 5	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 6	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 7	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 8	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 9	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 10	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 11	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 12	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 13	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 14	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 15	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 16	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 17	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 18	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 19	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61
Year 20	0.00	0.00	0.00	0.19	40.63	0.01	3.27	27.96	96.61

Current Value Gov't Expenses and Revenues	Investment SK Base Case	Investment SK Max Case	Investment MB Max Case	Tax Rev. SK Min	Tax Rev. SK Max	Tax Rev. MB Min	Tax Revs MB Max	Tax Revs Fed Gov't Min	Tax Revs Fed Gov't Max
Total	**-22.30**	**-96.30**	**-40.00**	**5.42**	**755.05**	**0.24**	**68.43**	**511.72**	**1879.44**

Present value, also known as present discounted value, is the value of an expected income stream determined as of the date of valuation. The present value is always less than or equal to the future value because money has interest-earning potential. As this is a publically funded project, the current long term federal government bond rate of 2.5% (although provincial rates will vary slightly a consistent rate is required) was used to discount future revenues and expenses. Present value calculations are below:

Exhibit 29: Present Value Government Expenses and Revenues.

Present Value Gov't Expenses and Revenues	Investment SK Base Case	Investment SK Max Case	Investment MB Max case	Tax Rev. SK Min	Tax Rev. SK Max	Tax Rev. MB Min	Tax Revs MB Max	Tax Revs Fed Gov't Min	Tax Revs Fed Gov't Max
Year 1	-22.30	-96.30	-40.00	1.79	7.73	0.00	6.26	4.30	80.19
Year 2	0.00	0.00	0.00	0.19	15.55	0.01	3.19	4.02	58.76
Year 3	0.00	0.00	0.00	0.18	38.67	0.01	3.11	26.61	91.96
Year 4	0.00	0.00	0.00	0.18	37.73	0.01	3.04	25.96	89.71
Year 5	0.00	0.00	0.00	0.17	36.81	0.01	2.96	25.33	87.53
Year 6	0.00	0.00	0.00	0.17	35.91	0.01	2.89	24.71	85.39
Year 7	0.00	0.00	0.00	0.16	35.04	0.01	2.82	24.11	83.31
Year 8	0.00	0.00	0.00	0.16	34.18	0.01	2.75	23.52	81.28
Year 9	0.00	0.00	0.00	0.16	33.35	0.01	2.69	22.95	79.29
Year 10	0.00	0.00	0.00	0.15	32.54	0.01	2.62	22.39	77.36

Present Value Gov't Expenses and Revenues	Investment SK Base Case	Investment SK Max Case	Investment MB Max case	Tax Rev. SK Min	Tax Rev. SK Max	Tax Rev. MB Min	Tax Revs MB Max	Tax Revs Fed Gov't Min	Tax Revs Fed Gov't Max
Year 11	0.00	0.00	0.00	0.15	31.74	0.01	2.56	21.84	75.47
Year 12	0.00	0.00	0.00	0.15	30.97	0.01	2.49	21.31	73.63
Year 13	0.00	0.00	0.00	0.14	30.21	0.01	2.43	20.79	71.84
Year 14	0.00	0.00	0.00	0.14	29.48	0.01	2.37	20.28	70.08
Year 15	0.00	0.00	0.00	0.14	28.76	0.01	2.32	19.79	68.38
Year 16	0.00	0.00	0.00	0.13	28.06	0.01	2.26	19.31	66.71
Year 17	0.00	0.00	0.00	0.13	27.37	0.01	2.20	18.84	65.08
Year 18	0.00	0.00	0.00	0.13	26.70	0.01	2.15	18.38	63.49
Year 19	0.00	0.00	0.00	0.12	26.05	0.01	2.10	17.93	61.94
Year 20	0.00	0.00	0.00	0.12	25.42	0.01	2.05	17.49	60.43
Total	**-22.30**	**-96.30**	**-40.00**	**4.65**	**592.27**	**0.19**	**55.27**	**399.87**	**1491.84**

Summary results by level of government are displayed below:

	Investment SK Base Case	Investment SK Max Case	Investment MB Base Case	Investment MB Max Case
Provincial Government Net Present Value	-17.6	496.0	0.2	15.3
Federal Government Net Present Value	399.9	1491.8		

Of note, net government revenues vary widely between Saskatchewan and Manitoba reflecting that most of the benefits accrue to Saskatchewan. The federal government revenue impacts are overwhelmingly positive, as funding for upgrades are made by the provincial governments. This however, creates a thorough argument for federal funding of the project. A substantial portion of the maximum investment case government revenues stem from the larger resource projects notably coal and should be treated as a "best possible" scenario and treated with a degree of caution.

Although there is a compelling financial argument to proceed even with the base case investment, the project should not be judged on a government financial basis alone. There is also the substantial GDP and employment impacts and alignment with the Saskatchewan Provincial Growth Plan and expanded Federal Government infrastructure funding plans. There are a number of other arguments in favour which are difficult to quantify such as lower the cost of transporting goods to northern communities and improving northern communities' access to education, medical services, food and fuel.

Future Considerations

The budget for the study was modest and this impacted the number of consultations and limited the extent of the required secondary research on effected industries, businesses, communities and the range and potential of economic development opportunities (see Study Limitations in Methodology section of this report).

Moving forward, it is suggested that the Gateway Keewatin Corridor consider the following actions:

1. Establish a joint working group with the Government of Saskatchewan to develop an implementation plan for the upgrading of Highway #55/#9 as the first step in this initiatives;
2. Engage with the new Government of Manitoba to develop an implementation plan for Highway #283.
3. Work with the Governments of Saskatchewan and Manitoba to more fully identify the investment and business opportunities associated with the development of a first-class road/rail trade corridor spanning from northeast Saskatchewan to the Port of Churchill and beyond. This work should examine options to further develop export opportunities and service to Canada's artic, as well as investigate what strategic investments will be further required for both the road and rail networks. And, it should identify actions needed to mitigate risks to the project. The Federal Government should be invited to participate through its infrastructure funding programs aimed at innovative and growth-oriented projects. For example, past studies have suggested the Port of Churchill could become a major shipping point for potash and grain bring significant benefits to the Western Canadian economy. There is also a need to investigate the opportunities for services and possible partnership arrangements to the Port of Rotterdam.
4. Develop an investment attraction and business development strategy and action plan. The long term development of this initiative will require attracting investors and the development of partnerships with a wide range of private and public participants.

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