

# ECONOMIC IMPACTS FROM THE OPERATION PHASE OF THE MINOT INTERMODAL FACILITY

## Executive Summary

This analysis estimated the potential economic impacts from the Intermodal facility to the Souris Basin Region economy using the Regional Economic Models, Inc. (REMI model). Please note that the analysis used the projected savings data from a one-way scenario of 39 intermodal unit trains per year transporting unprocessed grain (i.e., peas, lentils & food grade soybeans), processed grain products (i.e., soybean meal and dried distillers' grain) and ethanol from North Dakota to out-of-state markets (see page 3 for more information on the data used in this analysis). This means the analysis focuses only on estimating economic impacts from three agriculture related industries – farming, food manufacturing and ethanol manufacturing and not on all potential expected users of the intermodal facility. The impacts should be interpreted as increases in the gross domestic product (GDP), output, domestic supply, payroll creation (as measured by wages and salaries); new jobs created, and disposable personal income (i.e., total after-tax income).

The projected **6-year average** (i.e., 2021-2026) economic impacts from the operational phase of the Intermodal Facility in a given year would be an increase of:

- **61 jobs** across all industries, with 13 indirect jobs occurring in upstream industries that supply and support the core activities at the intermodal facility.
- **\$4.57 million** in wages and salaries, driven almost entirely by the growth in labor income derived from the jobs created across all industries.
- **\$6.67 million** in disposable personal income (i.e., the income available to North Dakotans for spending or saving).
- **\$28.45 million** in economic output (gross output), **\$32.17 million** in domestic supply (local production supplied to regions within the nation), and **\$15.23 million** in the GDP across all industries.

Table 1 shows the full set of employment impacts for the Souris Basin Region. Table 2 shows the impacts on the Souris Basin Region's economic output, GDP, domestic supply, wages and salaries, and disposable personal income.

Table 1: Employment (**Job Creation**) Impacts

<i>Category</i>	<i>Units</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>	<i>2025</i>	<i>2026</i>
<b>Total Employment</b>	Individuals (Jobs)	50	53	59	64	69	73
<b>Direct Employment</b>	Individuals (Jobs)	8	8	9	10	11	12
<b>Indirect Employment</b>	Individuals (Jobs)	10	11	12	13	14	15
<b>Induced Employment</b>	Individuals (Jobs)	14	15	16	17	19	20
<b>Other Employment</b>	Individuals (Jobs)	18	19	22	24	25	26

**Note:** Other Employment includes the dynamic responses of the REMI model, such as the impact to government demand employment, investment employment, and export-related employment (see Glossary section).

Table 2: Souris Basin Region's GDP, Output, Domestic Supply, Wages & Salaries and Disposable Income

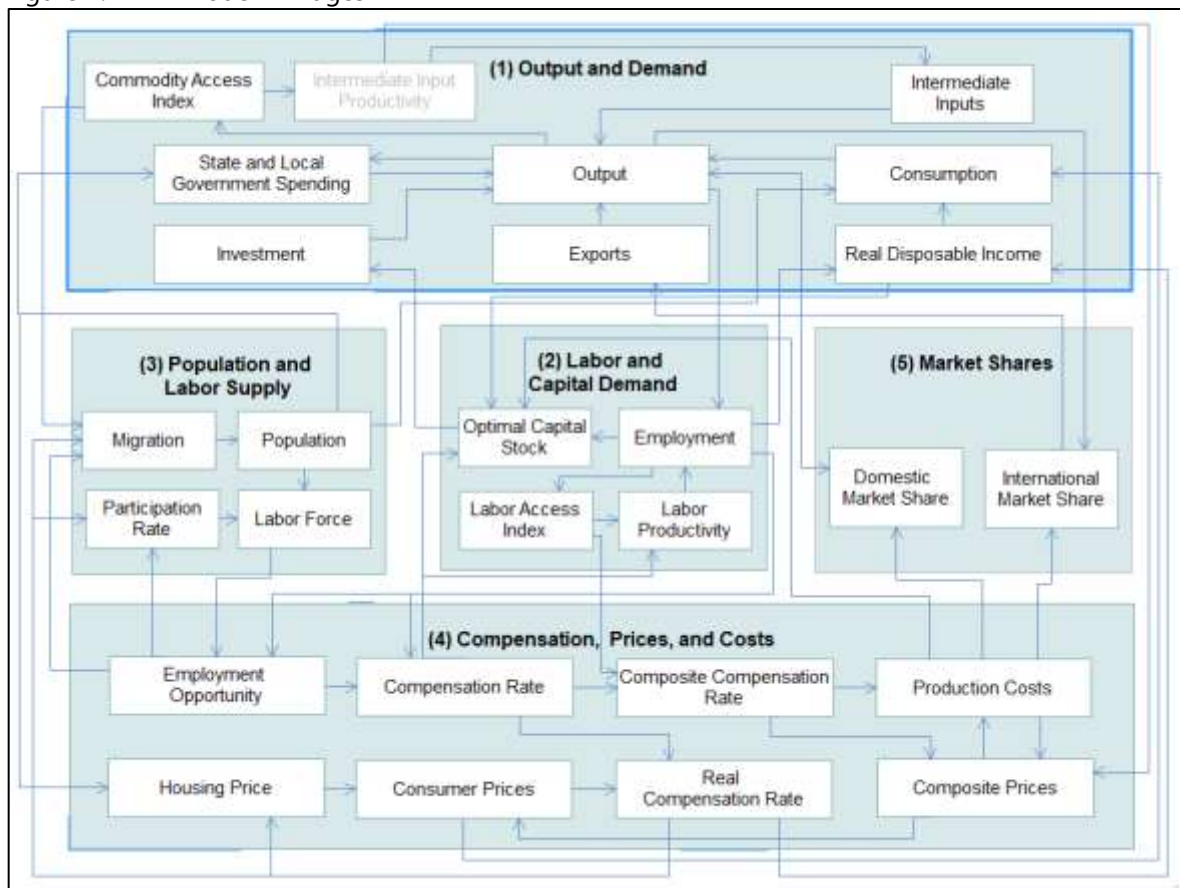
<i>Category</i>	<i>Units</i>	<i>2021</i>	<i>2022</i>	<i>2023</i>	<i>2024</i>	<i>2025</i>	<i>2026</i>
<b>Gross Domestic Product</b>	Millions of Fixed (2020) Dollars	\$12.20	\$12.80	\$14.30	\$15.80	\$17.40	\$18.90
<b>Output</b>	Millions of Fixed (2020) Dollars	\$22.90	\$23.70	\$26.60	\$29.50	\$32.50	\$35.50
<b>Domestic Supply</b>	Millions of Fixed (2020) Dollars	\$25.80	\$27.00	\$30.30	\$33.40	\$36.60	\$39.90
<b>Wages and Salaries</b>	Millions of Fixed (2020) Dollars	\$3.60	\$3.80	\$4.30	\$4.80	\$5.20	\$5.70
<b>Disposable Personal Income</b>	Millions of Fixed (2020) Dollars	\$5.30	\$5.70	\$6.30	\$6.90	\$7.60	\$8.20

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## Methodology

The REMI model is a structural economic forecasting and policy analysis model. The model integrates input-output tables, computable general equilibrium, econometric, and economic geography methodologies. The model is dynamic, **with annual forecasts, simulations**, and behavioral responses to compensation, price, and other economic factors. The main idea behind economic impact analysis is that one more dollar spent in a local or regional economy results in a greater than one dollar change in economic activity in the area. As shocks from investment spending, industry sales, and direct employment move throughout the economy, the model provides results regarding the impact across the entire economic system. The REMI model takes direct benefits and translates them into spending effects in the economy and the impact on jobs and other potential economic activity generated by the project. This means the REMI model simulates how the Souris Basin Region's economy can respond to the income resulting from the Intermodal facility. The REMI model is tailored to North Dakota's Economic Regions using historical data from reliable sources such as the Census Bureau, the Bureau of Economic Analysis, the Bureau of Labor Statistics, the Energy Information Administration, and other reliable data sources. Figure 1 provides the methodology framework applied to this study.

Figure 1: REMI Model Linkages



Source: REMI Model Equation

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## Data and Assumptions

### Data:

Table 2: Scenario for Estimating Savings Data

<b>SCENARIO: ONEWAY - TRANSPORTING FROM NORTH DAKOTA TO OUT-OF-STATE MARKETS<sup>1</sup></b>	
Number of intermodal unit trains per week	0.75
Number of intermodal unit trains per year	39
Number of Containers per week	330
Number of Containers per year	12,870
Average Savings per container ( <i>in 2021 current dollars</i> )	\$250
Average Savings per year ( <i>in 2021 current dollars</i> )	\$3,217,500

Table 3: Industry Classification and Project Timeline

Commodities	Ethanol, Peas, Lentils and Food Grade Soybeans, Soybean Meal and Dried Distillers Grain
REMI industry classification based on commodities/products	<ul style="list-style-type: none"> <li>• <b>Farm</b> - Unprocessed Grain (Peas, Lentils &amp; Food Grade Soybeans)</li> <li>• <b>Food Manufacturing</b> – Processed grain (Soybean Meal and Dried Distillers Grain)</li> <li>• <b>Chemical Manufacturing</b> - Ethanol, non-potable, manufacturing</li> </ul>
Timeline for the Operation Phase	<b>2020-2026</b>

### Assumptions Applied on Estimating the Final Savings Data:

1. 39 Intermodal Unit Trains equivalent to 12,870 containers per year transporting ethanol, peas, lentils, food grade soybeans, soybean meal and dried distillers' grain (DDG)
2. 50% 20' containers and 50% 40' containers
3. Savings increase over time at 0.75% for the next 5 years (see Table 4) and will be distributed as follows:
  - a) **70%** - Farm industry
  - b) **20%** - Ethanol, non-potable, manufacturing (i.e., chemical manufacturing) industry
  - c) **10%** - Food manufacturing industry

Table 4: Final Savings Data and Direct Employment for REMI Analysis

<b>Year</b>	<b>Average Savings</b>	<b>Direct Jobs/Employment</b>
<b>2020</b>	\$3,155,142	8
<b>2021</b>	\$3,202,209	8
<b>2022</b>	\$3,197,820	8
<b>2023</b>	\$3,215,911	9
<b>2024</b>	\$3,238,214	10
<b>2025</b>	\$3,260,749	11
<b>2026</b>	\$3,283,997	12

Notes for Table 1, Table2, and Table 3:

- Source: Please contact Mark Lyman for more information on the data in Table 2, Table 3, and Table 4.
- Average savings are adjusted for inflation using the projected inflation rates for the next 5 years released by the Congressional Budget Office
- Projected direct employment at the Intermodal Facility, thus for the Rail Transportation industry

## ECONOMIC IMPACTS FROM THE OPERATION PHASE OF THE MINOT INTERMODAL FACILITY

### Glossary

**Total Employment** comprises estimates of the number of jobs, full-time plus part-time, by place of work for all industries. Full-time and part-time jobs are counted at equal weight. Employees, sole proprietors, and active partners are included, but unpaid family workers and volunteers are not included.

**Direct Employment** is the estimated number of employees directly hired to operate the intermodal facility.

**Indirect Employment** includes the employment in upstream industries that supply and support the core activities at the intermodal facility. These jobs are supported by business-to-business transactions from the economic activity generated by the intermodal facility in rail transportation industry.

**Induced employment** encompasses jobs beyond the rail and transportation industry and its upstream industries, such as the consumer goods industry. When workers employed directly or indirectly spend their incomes on various items in the broader economy (such as food, clothing, transportation, and entertainment), the expenditure gives rise to induced employment effects.

**Other Employment** includes the dynamic responses of the REMI model, such as the impact to government demand employment, investment activity demand employment, and export-related employment (see below).

- **Government Demand Employment:** The employment needed to satisfy demand for goods and services by government expenditures.
- **Investment Activity Demand Employment:** The employment needed to satisfy demand for capital goods.
- **Exports to Multiregions Employment:** The employment needed to satisfy demand for a region's goods and services from the other regions in a multi-area model.
- **Exports to Rest of Nation Employment:** The employment needed to satisfy demand for a region's goods and services from areas in the rest-of-nation region.
- **Exports to Rest of World Employment:** The employment needed to satisfy demand for a region's goods and services from the rest of the world.

**Gross Domestic Product** is the total of all value added created in the Souris Basin Region's economy. The value added means the value of goods and services that have been produced minus the value of the goods and services needed to produce them, the so-called intermediate consumption.

**Output** is the amount of production, including all intermediate goods purchased and value added (compensation and profit), across all industries. It can also be thought of as sales or supply. The components of Output are Self Supply and Exports (Multi regions, Rest of Nation, and Rest of World).

**Domestic Supply** is the amount of local production across all industries supplied to regions within the nation. The components are Self Supply, Exports to Multi regions, and Exports to the Rest of the Nation.

**Wages & Salaries** are the monetary remunerations of employees across all industries, including the compensation of corporate officers; commissions, tips, and bonuses; voluntary employee contributions to certain deferred compensation plans, such as 401(k) plans; and receipts in kind that represent income.

**Disposable Personal Income** is the total after-tax income received by persons; it is the income available to persons for spending or saving.