

The Point Intermodal River Port Facility at the Port of Huntington

Project Benefit Cost Summary



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THE INTERMODAL RIVER PORT FACILITY AT THE PORT OF HUNTINGTON
BENEFIT COST ANALYSIS

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I. Base Case

The Point Industrial Park (The Point) is located in South Point, Ohio in Lawrence County. The site was cleared of its Brownfield status by the U.S. Environmental Protection Agency and now operates as an industrial park. The Point has capitalized on its unique strategic location and has attracted seven companies to its site since opening in 2000 and is poised to attract additional tenants as well as expansion by the existing businesses.

Ohio is a powerhouse in terms of logistics and freight shipping because of its central location, its economy and production capacity. The state is located within a one-day drive of 147 million people and has 61% of the nation's manufacturing capacity. In 2009, Ohio exported \$34.1 billion in goods, making it 7th in the nation, and shipped more freight tonnage than the Panama Canal. Those exports supported 362,000 jobs in Ohio (GoOhio 2011¹).

There are currently seven companies located at The Point that have created nearly 200 jobs and made nearly \$12 million in investments. Most of the companies have chosen to locate at this site because of its low land costs, availability of skilled labor, proximity to major thoroughfares such as I-64 & I-77 and the potential for intermodal activity with the Ohio River and the Heartland Corridor.

Lawrence County has an unemployment rate lower than the statewide average of 9.1% for September 2011 but the poverty level is much higher than the state average. The unemployment rate for Lawrence County in August 2011 was 8.8% (Bureau of Labor Statistics). This shows that while people have jobs; the jobs are not paying enough to bring them above the poverty thresholds. According to the USDA Economic Research Service, the poverty rate for Lawrence County was 19.6% in 2009, the most recent year data could be found for all surrounding counties. However, 2011 data shows the Lawrence County poverty rate at 20.1%²

Lawrence County has people available to train to meet the demands of the growing businesses at The Intermodal River Port Facility. Two of the three counties that surround Lawrence County have been designated as Labor Surplus Areas by the U.S. Department of Labor for the period October 1, 2011 through September 30, 2012. To qualify as a Labor Surplus Area during this period, the average unemployment rate in the specified area for the two year period January 2009 through December 2010 must be at least 10%³ (Ohio Labor Market Information).

¹ GoOhio Transportation Futures Plan

<http://www.dot.state.oh.us/groups/goohio/Pages/default.aspx>

² Ohio Poverty Report 2011 – Ohio Department of Development

<http://www.development.ohio.gov/research/files/p700000000.pdf>

³ Ohio Labor Market Information – Ohio Department of Development

<http://ohiolmi.com/>

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Table 1 - Unemployment & Poverty Data for Lawrence and Surrounding Counties

County	Unemployment	Poverty
Gallia, OH	9.9%	20.9%
Jackson, OH	10.8%	22.9%
Lawrence, OH	8.8%	19.6%
Scioto, OH	12.3%	23.5%
Cabell, WV	7.8%	20.9%
Wayne, WV	7.8%	20.8%
Boyd, KY	8.7%	20.9%
Greenup, KY	9.0%	16.0%

Sources: BLS Quarterly Census on Employment and Wages, August 2011; USDA Economic Research Service 2009.

II. Freight Projections

In 2009, The Port of Huntington, the part of the Ohio River where The Point is located, received 20.8 million tons and shipped 34 million tons on the Ohio River. The highest volume commodities were coal, petroleum and petroleum products, chemicals, and aggregates.

- The USDOT estimated that railroad freight tonnage will increase nationally by 88% by 2035 (OKI Freight Plan, 2011).
- The US Department of Transportation “estimates that population growth, economic development, and trade will almost double the demand for rail freight transportation by 2035” (National Rail Freight Infrastructure Capacity and Investment Study, 2007)
- Because of Ohio’s unique location, truck freight is expected to grow 71% by 2030 (GoOhio 2011).

These recent studies affirm the potential for the Intermodal River Port Facility. Businesses like Engines, Inc., McGinnis, Inc., Phoenix Hydraulics & Controls and Superior Marine have said they support and will use the Intermodal River Port Facility to move and export goods.

III. Nature of the Project

The proposed project is the improvement of existing infrastructure to create the development of an Intermodal River Port Facility at a thriving industrial development at The Point Industrial Park in South Point, Ohio. Currently, there are no similar bridge crane facilities, private or public, within 100 miles of the site.

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The Point has focused on bringing employers with well-paying jobs to the region and a TIGER Discretionary Grant would allow The Point to:

- Restore direct water access for shippers,
- Provide intermodal movement from water to truck and rail with a new 300-ton bridge crane and dock at a terminal with bulk dry and liquid storage facilities (pads and warehousing)
- Handle material with a bulk conveyor.
- Serve as a portal for manufacturing in Southern Ohio, Eastern Kentucky, and Northern, West Virginia to global markets.

The proposed Intermodal River Port Facility is designed to enhance the usage of The Point Industrial Park and accommodate the transportation needs of heavy manufacturing in Southern Ohio.

IV. Justification and Long Term Outcomes

A. Economic Competitiveness

Economic competitiveness benefits will be realized in terms of operating cost savings by reducing the friction felt by companies selling products in the US and by opening up Southern Ohio to bring the goods it produces to global markets.

Two companies we surveyed, Engines, Inc and Muth Lumber, are examples of businesses that would realize an operating cost savings with a reduction in time it takes to send and receive their goods. Engines, Inc will have the opportunity to avoid the congestion associated with shipping their repair cars and containers from ports in Southern California and Norfolk Virginia by shipping and receiving via barge at The Point. Muth Lumber will also experience a savings by being able to ship their lumber to China via barge on the Ohio River and the Panama Canal rather than through the heavily congested railroad in Chicago.

The GoOhio report in 2011 forecasted that when the Panama Canal opens in 2013 more freight will move inland to Ohio via barge and transfer to truck for the “last mile” delivery to regional stores and manufacturers. The intermodal facility at the Point will make this offloading from barge onto rail or truck quicker and more efficient. This translates into time and cost savings.

In interviews with companies we found strong support for the intermodal facility with the 300-ton bridge crane. Several companies have told us that they would hire additional employees and make investments so that they could enter new markets and realize new savings. They would be unable to experience these savings without this facility.

To estimate how many other businesses may benefit from the Intermodal River Port Facility, we created a list of businesses looked for other similar businesses in the area. Businesses were placed on the list after being identified in one of two ways: they were interviewed, or they expressed interest in Intermodal River Port Facility directly to the Lawrence Economic

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Development Corporation staff. The list included seven businesses and the primary NAICS codes for each of the seven businesses were identified. A search of Hoover’s Business Database for businesses with matching NAICS codes within a 50-mile radius of The Point. When the resulting list was compiled, the number of employees and revenue that were provided for each company by the business information database were summarized.

The search resulted in the identification of 277 companies with matching primary NAICS codes (199 of which had both revenue and jobs data). The combined revenue of the 199 was over \$638 million and those companies employed 6518 workers.

The Port of Huntington has numerous companies in the area that ship and receive bulk commodities and are ideally located to take advantage of The Point Intermodal Facility.

B. Safety

Shipping by barge is considerably safer than shipping via truck. The Intermodal River Port Facility will provide companies with the option to ship and receive goods via a safer mode. It was difficult to provide a value for this benefit without mode use data from companies but providing the opportunity to ship via barge will undoubtedly reduce the use of less safe modes (truck) to more safe modes (barge). While the extent of the shift is unknown, professional contacts confirmed that in their own experiences a shift has occurred.

Per tons of goods moved, water is the safest of all transportation outlets when moving goods. A 2007 study amended in 2009 by the Texas Transportation Institute shows that inland towing has by far the lowest injury rate of any mode of transport. Per billion ton-miles, trucks have 2171 fatalities while inland towing has one. **Table 4** below compares the number of injuries per mode

Table 2 - Comparison of Injuries by Mode⁴

Mode	4-yr avg ton-miles (millions)	4-yr avg total injuries	Rate per Billion ton-miles
Highway	1,259,535	124,750	99.044
Railroad	1,554,130	9,036	5.814
Inland Towing	287,680	13	0.045

⁴“A Modal Comparison of Domestic Freight Transportation Effects on the General Public”; Texas Transportation Institute, The Texas A&M University System, 2007 – Amended 2009

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In addition, the same study reports that for one death per billion ton-miles for inland towing trucks have 155 deaths.

According to the Ohio Department of Transportation, the 2009 economic costs only of a highway fatality crash was \$1,199,558. If even one life is saved by implementing this project it adds \$1,199,558 in economic and safety benefit. Additionally, the economic cost of an incapacitating injury is \$84,698 and an injury is \$70,815.

In a comparative Benefit-Cost analysis, it was assumed that two lives would be saved over 20 years, ten incapacitating injuries and 20 injuries eliminated by moving freight by water. The result was a 2.51 benefit ratio. The safety benefits are likely to be larger and the potential for greater benefit should be recognized.

C. Sustainability

Shipping via barge is an environmentally friendly mode of freight transportation and is perhaps the only mode with capacity to spare. Transportation on the Ohio River is ideal for large bulk cargo, heavy-wide or heavy cargo and other cargo. In the recent OKI Regional Freight Plan, it was estimated that commodity and project cargo (especially heavy or oversized) can be moved by the river at 33% of the cost of a rail move and 20% of the cost of a truck move.

The sustainability benefit for this project is difficult to quantify in this case because data such as how many trucks will be diverted to water or from rail to water was not provided by individual companies. However, estimates show the following costs for the value of emissions.

Table 3 - Value of Emissions

Emission Type	Value
CO ₂	\$2/metric ton (2007\$)
VOCs	\$1700/ long ton (2007\$)
NO _x	\$4000/long ton (2007\$)
PM	\$168,000/long ton (2007\$)
SO _x	\$16,000/long ton (2007\$)

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V. Benefit-Cost Calculation

The Intermodal River Port Facility shows a net benefit ratio of 2.44 including initial project costs, annual maintenance costs and the benefits from the increases in productivity and exports from the businesses that will use the Intermodal River Port Facility. **Table 4**, below shows the value of the benefits.

Monetized Benefits and Costs

Table 4 - Benefit-Cost Calculation

Year	Maintenance	Increased Productivity	Increased Export Value	Project Costs	Net Benefit	Discounted Net Benefit
1				\$ (25,282,800)	\$ (25,282,800)	\$ (23,628,785)
2	\$ (500,000)				\$ (500,000)	\$ (436,719)
3	\$ (500,000)	\$ 5,668,165	\$ 5,000,000		\$ 10,168,165	\$ 8,300,252
4	\$ (500,000)	\$ 5,668,165	\$ 5,000,000		\$ 10,168,165	\$ 7,757,244
5	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 6,893,268
6	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 6,442,307
7	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 6,020,847
8	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 5,626,960
9	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 5,258,841
10	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 4,914,805
11	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 4,593,276
12	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 4,292,781
13	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 4,011,945
14	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 3,749,481
15	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 3,504,188
16	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 3,274,942
17	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 3,060,693
18	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 2,860,461
19	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 2,673,328
20	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 9,668,165	\$ 2,498,438
					Total	\$ 61,668,552

Project Costs	\$	25,282,800
Net benefit	\$	61,668,552
Ratio		2.44

While safety benefits cannot be fully quantified,

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Year	Maintenance	Increased Productivity	Increased Export Value	Value of Safety Benefits (Fatality)	Safety Benefits (Incap. Injury)	Safety Benefits (Injury)	Project Costs	Net Benefit	Discounted Net Benefit
1							\$ (25,282,800)	\$ (25,282,800)	\$ (23,628,785)
2	\$ (500,000)							\$ (500,000)	\$ (436,719)
3	\$ (500,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 10,238,980	\$ 8,358,058
4	\$ (500,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 10,323,678	\$ 7,875,885
5	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 6,943,758
6	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 6,545,931
7	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 6,064,947
8	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 5,717,470
9	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 5,297,360
10	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000	\$ 1,199,558	\$ 84,698	\$ 70,815		\$ 11,023,236	\$ 5,603,654
11	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 4,626,919
12	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 4,361,831
13	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 4,041,330
14	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 3,809,792
15	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 3,529,855
16	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 3,327,620
17	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 3,083,112
18	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000		\$ 84,698	\$ 70,815		\$ 9,823,678	\$ 2,906,472
19	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000			\$ 70,815		\$ 9,738,980	\$ 2,692,909
20	\$ (1,000,000)	\$ 5,668,165	\$ 5,000,000	\$ 1,199,558	\$ 84,698	\$ 70,815		\$ 11,023,236	\$ 2,848,614
Total									\$ 63,570,011

Project Costs	\$	25,282,800
Net benefit	\$	63,570,011
Ratio		2.51

Table 5 - Value From Increased Productivity

Company	New Employees	Avg Wage	County Avg Wage	Total Net Income per job	Total new net income
Engines, Inc	50	\$ 40,000	\$ 26,807	\$13,193.00	\$659,650.00
Liebert	100	\$ 40,000	\$ 26,807	\$13,193.00	\$1,319,300.00
Service Pump	25	\$ 53,000	\$ 26,807	\$26,193.00	\$654,825.00
Fisher Company	75	\$ 40,000	\$ 26,807	\$13,193.00	\$989,475.00
Superior Marine	15	\$ 40,000	\$ 26,807	\$13,193.00	\$197,895.00
McGinnis	100	\$ 40,000	\$ 26,807	\$13,193.00	\$1,319,300.00
Phoenix Hydraulics	10	\$ 40,000	\$ 26,807	\$13,193.00	\$131,930.00
Intermountain	30	\$ 40,000	\$ 26,807	\$13,193.00	\$395,790.00
Total					\$5,668,165.00

Source: LEDC and Businesses

The average wage of the jobs that will be created is approximately \$20/hour. Because the jobs are full time, year round jobs we assumed that \$20/hour is roughly equal to an annual salary of \$40,000. One company has said the average wage of the jobs it will create is \$53,000. The average annual wage in Lawrence County is \$26,801 (BLS Quarterly Census of Employment and Wage). The total value of increased productivity from these jobs being created is \$5,272,375 annually.

Several business leaders have told us that the intermodal facility and bridge crane would allow their businesses to accept contracts for exports that they were previously unable to accept due to

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barge shipping and lifting constraints. To attempt to quantify this we included \$5 million annually in the benefit cost calculation to show that even a very conservative estimate of money from foreign countries drastically increases the benefit cost ratio. If a large data set was available it is certain that this income would be much larger.

Costs

The costs for this project include the initial costs from this grant, from LEDC, and from the State of Ohio. A table with the initial costs is on Page 8. On-going costs for operating costs and maintenance are explained in this section.

The LEDC contacted two ports in Louisiana who are familiar with maintenance costs for similar bridge cranes. In the first 1-3 years aggregates are estimated to be the bulk of the freight moved with the crane and it would not be used to capacity. The contacts also said that these costs are usually written into the users' contracts. At the fourth year we predicted that the crane's use will have increased and therefore maintenance would roughly double.

Table 6 - Costs of Maintenance and Inspection Fees for Crane

	Year 1	Year 2	Year 3	Year 4 - 20
Maintenance	\$500,000	\$500,000	\$500,000	\$1,000,000

Affected Populations

- Users
 - Operating cost savings
 - Access to global markets
 - More reliable shipments with less congestion
- External parties
 - Less emissions from trucks on highways
 - Safer with fewer trucks on highway
 - More income generated in community because of increased exports