

BENEFITS OF INTERMODAL CONNECTIONS FOR PORT

ACCESS IN MISSOURI



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Developing Port Access in Missouri to Reduce Freight Movement Costs.

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Missouri's waterway system has a long history of providing low-cost transportation benefits. Missouri's rivers are part of an intermodal transportation system linking Missouri to the rest of the world. Missouri is one of the few states with easy accessibility to two navigable inland waterways. The Mississippi River borders 500 miles on the eastern side of the state, and the Missouri River flows 550 miles through the middle of the state. These two rivers are avenues of commerce that provide Missouri farmers, industry and manufacturers with inexpensive transportation to world markets.

When compared to freight movement by truck or rail, the barge industry also demonstrates environmental benefits. Reduced air pollution, noise pollution, and decreased traffic congestion are all cited as benefits of water movement. Additionally, because river transportation takes place on naturally occurring right of ways, at least partially removed from population centers, the overall impacts to communities are reduced when compared to rail or truck movements.

However, ports and barges are underutilized in Missouri. While it may be a low-cost transportation alternative, the lack of timeliness of the service is a deterrent and cannot match other over-the-road, rail or air service. Because the decision to use the waterway system to move products is an economic question for private industry, better access could reduce their transportation cost and increase the usage of this alternative. To the extent that barge usage increases, industry, shippers and the State as a whole can expect additional economic benefits.

Based on a 1994 survey of Missouri business owners¹, it is apparent the waterway system is underutilized. The following table summarizes the business owners' responses to the question, "Does your business have good access to barge transportation?"

Businesses reporting "good" access to barge transportation.

Sales volume	Percent of group responding "yes"	Number of businesses
\$100 million +	17%	48
\$50-\$100 million	8%	38
\$10-\$50 million	13%	94
\$5-\$10 million	7%	29
Under \$5 million	7%	14

For all businesses, only 12.7 percent of the businesses report "good" access to barge transportation with 87.3 percent reporting that they did not have good access to barge transportation. When questioned if whether the lack of barge access increased their transportation cost, 88.5 percent report that it did not, 10.5 percent reported "a little"

impact, and 1.0 percent of those surveyed indicated the lack of access increased their costs “a lot”.

In the Missouri study, 78.2 percent of all businesses responding indicated that barge service was not an applicable category of transportation carrier for their businesses. Only 16 of the 248 businesses included in the survey indicated that they actually used barge service.

While the use of barge transportation is limited, there are economic efficiencies to be gained through additional infrastructure and use. It is estimated that for every dollar spent to improve the navigation infrastructure, the U.S. Gross Domestic Product increases by more than \$3. And in Missouri, it is estimated that the use of water transportation saves the state’s economy \$294 million compared to other modesⁱⁱ. In light of these facts, investments in port-access infrastructure could be expected to provide additional benefits to Missouri.

In addition to the economic efficiencies, research at the Louisiana Transportation Research Center affirms the possible environmental and social benefits from increasing barge movement of freightⁱⁱⁱ. In their case study, the authors estimate that Louisiana road travelers would save over \$1 million a year in congestion costs alone if one port area of the state were to ship wood chips on barges rather than on trucks. They state, “A review of the benefits of the intermodal access road suggests that the principal recipients are the state’s citizens affected by the social cost from the highway sector.” The authors conclude that increased use of barges can reduce the number of trucks on the road, and thus reduce congestion. This will result in reduced user costs of the transportation system. They argue that the highway sector should assume a majority of the costs of the port access road projects based on the reduced roadway congestion that would result.

Other economic efficiencies could be achieved in terms of fuel usage when switching from truck or rail to barge movement of goods. For example, industry standards indicate that for one gallon of fuel, a truck carries one ton of cargo 59 miles. For rail transport, one gallon of fuel will allow for 202 miles of travel for one ton of cargo, and by barge, one ton of cargo can be carried 514 miles on one gallon of fuel. Additionally, for a standard tow of 15 barges, the same amount of cargo would require a freight train $2\frac{3}{4}$ of a mile long or a line of trucks stretching more than 35 miles^{iv}.

In summary, the cost of freight movement can be reduced if increased port access results in greater use of river ports and barge transportation. Reduced road congestion costs and environmental benefits are also likely to occur with additional use of barges for freight movement. Timeliness and market cost are likely to continue to dominate the decisions of businesses and shippers and it is likely that any benefits will accrue to industries that handle large volume products such as grain, coal, petroleum products and cement.

Citations

ⁱ “Analysis of a Missouri Business and Industry Survey of Transportation and Economic Performance”, Forkenbrock, David J., and Norman S.J. Foster, MoDOT. 1994.

ⁱⁱ <http://www.modot.state.mo.us/trans/mofacts2.pdf>

ⁱⁱⁱ “Access to Louisiana Freight Terminals: An Intermodal Transportation Planning Framework for Needs Assessment and Funding” (Hochstein, Anatoly. Et.al. National Ports and Waterways Institute. December, 2000.

^{iv} [http://www.Inland Rivers Ports and Terminals, INC.](http://www.InlandRiversPortsandTerminals.com)