INLAND WATERWAYS TRANSPORTATION: Our Competitive Advantage

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Canal Barge Company
Big River Moves Leadership Forum
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Waterways transportation keeps commerce on the move with fewer adverse societal impacts than truck or rail.

Highlights of “A Modal Comparison of Freight Transportation Effects on the General Public”
A Study in Freight Transportation Solutions

Highlights of “A Modal Comparison of Freight Transportation Effects on the General Public”

Conducted by the Texas Transportation Institute, Center for Ports & Waterways, Texas A&M University

• compares the various surface transportation modes in terms of safety, energy efficiency and environmental impacts
• conducted over a one-year period
• peer-reviewed by independent university-based experts
America’s Inland Waterways:

An “Inland Marine Highway” for Freight Transportation

Our “inland marine highways” move commerce to and from 38 states throughout the nation’s heartland and Pacific Northwest, serve industrial and agricultural centers, and facilitate imports and exports at gateway ports on the Gulf Coast.

- 12,000 miles of commercially navigable channels
- 240 lock sites
America’s Inland Waterways:

An “Inland Marine Highway” for Freight Transportation

Moving the nation’s commodities

Barges are ideal for hauling bulk commodities and oversized or overweight equipment:

- Coal
- Petroleum
- Iron & Steel
- Project cargoes
- Grain
- Chemicals
- Aggregates
- Intermodal containers
America’s Inland Waterways:

Domestic Barge Traffic – Total Tons Moved

- Petroleum & Petroleum Products, 253.9
- Coal, 202.0
- Crude Material, 157.4
- Food & Farm Products, 83.8
- Chemicals, 70.4
- Primary Mfd Goods, 40.3
- Mfd Equipment, 7.1
- Waste & Scrap, 3.0
Strengthening the economy

Each year, 624 million tons of waterborne cargo transit the inland waterways.

• This equals 14% of all intercity freight, valued at nearly $70 billion.
Advantages of Inland Waterways Transport:

Easing Rail and Highway Congestion in Our Communities

Waterways provide great cargo capacity and move freight more safely than truck or rail. In fact, they carry the equivalent of 58 million truck trips per year, with room to spare.

If waterborne cargo were diverted to highway or rail:
- Truck traffic would double on the Interstates
- Rail tonnage would increase 25%
Advantages of Inland Waterways Transport:

**Easing Rail and Highway Congestion in Our Communities**

- One loaded covered hopper barge carries 58,333 bushels of wheat, enough to make almost 2.5 million loaves of bread.

**Units to Carry 1,750 Short Tons of Dry Cargo**

- 1 barge
- 16 rail cars
- 70 trucks
Advantages of Inland Waterways Transport:

Easing Rail and Highway Congestion in Our Communities

A loaded tank barge carries 27,500 barrels of gasoline, enough to keep about 2,500 automobiles running for an entire year.

Units to Carry 27,500 Barrels of Liquid Cargo

- 1 barge
- 46 rail cars
- 144 trucks
Advantages of Inland Waterways Transport:

One 15-Barge Tow Equals 216 Rail Cars or 1,050 Trucks

One 15-Barge Tow

216 Rail Cars + 6 Locomotives

1,050 Large Semi Tractor-Trailers
Transporting freight by water is also the most energy-efficient choice.

Barges can move one ton of cargo 576 miles per gallon of fuel. A rail car would move the same ton of cargo 413 miles, and a truck only 155 miles.
Advantages of Inland Waterways Transport:

The Greener Way to Go

Inland barges produce less carbon dioxide while moving America’s cargoes.

In terms of CO₂ produced per ton of cargo moved, inland barges have a significant advantage over trains and trucks.
Advantages of Inland Waterways Transport:

Safeguarding Our Health and the Environment

Inland waterways transport moves hazardous materials safely. Overall, spill rates remain low. Trucks lose 6.06 gallons per one million ton-miles, rail cars 3.86 gallons and barges 3.6 gallons per one million ton-miles.

<table>
<thead>
<tr>
<th>Rate of Spills in Gallons per Million Ton-miles</th>
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</thead>
<tbody>
<tr>
<td>Spills of More Than 1000 Gallons</td>
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<tr>
<td>Trucks: 6.06</td>
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</tbody>
</table>
Advantages of Inland Waterways Transport:

Safeguarding Our Health and the Environment

Inland waterways transport has a low fatality record compared to rail or truck.

Ratio of Fatalities in Freight Transportation

For each barge transportation fatality, there are 22.7 fatalities related to rail and 155 truck-related fatalities.
Our inland waterways have capacity:
• to transport today’s bulk commodities and intermodal cargo,
• to accommodate tomorrow’s growth in those cargoes, and
• to accept cargo diverted from overcrowded highways and railways.
America’s Inland Waterways:

Anticipating Future Demands

2020 Truck Volumes on U.S. Highways
(U.S. DOT forecasts)

2020 Daily Truck Volume
- Truck < 5,000
- 5,000 < Truck ≤ 10,000
- Truck > 10,000
- Other

Miles

Battelle, February 25, 2002
## Freight Delays on Highways 2010

<table>
<thead>
<tr>
<th>Urban Area</th>
<th>Total Delay (1000 Hours)</th>
<th>Rank</th>
<th>Truck Delay (1000 Hours)</th>
<th>Rank</th>
<th>Congestion Cost</th>
<th>Truck Commodity Value ($ million)</th>
<th>Rank</th>
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<tr>
<td>Very Large Average (15 areas)</td>
<td>187,872</td>
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<td>12,120</td>
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<td>895</td>
<td>206,375</td>
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<td>Chicago IL-IN</td>
<td>367,122</td>
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<td>31,378</td>
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<td>2,317</td>
<td>357,816</td>
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<td>Los Angeles-Long Beach-Santa Ana CA</td>
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<td>30,347</td>
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<td>2,254</td>
<td>406,939</td>
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<td>New York-Newark NY-NJ-CT</td>
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<td>9,299</td>
<td>4</td>
<td>688</td>
<td>230,769</td>
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<td>85,686</td>
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Inland Waterways:

A View of the World’s Inland Waterways

Seine River, France

Rhine/Danube River System
Inland Waterways:

A View of the World’s Inland Waterways

Parana/Paraguay River System

Corumba, Brazil – Buenos Aires = 1,800 miles
Inland Waterways:

A View of the World’s Inland Waterways

Yangtze River, China
Freight Tonnage on Highways, Rails, and Waterways