Opportunities for Port Growth Through Marine Highway Development
Who we are

- Global, full-service professional planning, design, and construction consultant of choice
- 18,000 employees worldwide
- 85% of business from repeat clients
- 350+ design and personnel awards for excellence and innovation
- 65% of ACASS ratings “Exceptional” or “Very Good”
**Who we are: ENR rankings**

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Top 500 design firm</strong></td>
<td>11</td>
</tr>
<tr>
<td>General building</td>
<td>29</td>
</tr>
<tr>
<td>Government Offices</td>
<td>7</td>
</tr>
<tr>
<td>Transportation</td>
<td>12</td>
</tr>
<tr>
<td>Airports</td>
<td>15</td>
</tr>
<tr>
<td>Highways</td>
<td>9</td>
</tr>
<tr>
<td><strong>Marine and Port Facilities</strong></td>
<td>10</td>
</tr>
<tr>
<td>Mass Transit and Rail</td>
<td>18</td>
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<tr>
<td>Power</td>
<td>33</td>
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<tr>
<td>Wind Power</td>
<td>9</td>
</tr>
<tr>
<td>Nuclear Power</td>
<td>22</td>
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<tr>
<td>Transmission and Distribution Plants</td>
<td>18</td>
</tr>
<tr>
<td><strong>Offshore and Underwater Facilities</strong></td>
<td>14</td>
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<tr>
<td>Pipelines</td>
<td>21</td>
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<tr>
<td>Sanitary and Storm Sewers</td>
<td>17</td>
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<tr>
<td>Sewerage and Solid Waste</td>
<td>26</td>
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<tr>
<td>Transmission Lines and Aqueducts</td>
<td>12</td>
</tr>
<tr>
<td>Water Supply</td>
<td>25</td>
</tr>
<tr>
<td><strong>Water Treatment &amp; Desalination Plants</strong></td>
<td>16</td>
</tr>
<tr>
<td>Wastewater Treatment Plants</td>
<td>24</td>
</tr>
</tbody>
</table>
• Where we are

• 80 offices in U.S. coast to coast
• 11 offices in Texas
• 350 employees in Houston
• Port and maritime clients
What we do

www.atkinsglobal.com

• Water and Environment
• Terminal Master Planning
• Asset Management
• Project Management
• Construction Management
• Port Security and Safety
• Port Automation
• Environmental Science and Permitting
• Marine Structural Engineering
• Marine Structural Inspection
• Wharf Repair and Rehabilitation
• Rail Infrastructure Design and Rehabilitation
US Inland Barge Traffic
Building an Alternative Transportation Network
Cargo Capacity Comparison

ONE JUMBO HOPPER CAR (100 tons) = 3.8 LARGE SEMI TRUCKS (26 tons each)

ONE BARGE (1,500 TONS) = 15 JUMBO HOPPER CARS

ONE BARGE (1,500 TONS) = 58 LARGE SEMI TRUCKS

15 BARGE TOW = 2¼ ONE-HUNDRED CAR UNIT TRAINS OR 870 TRUCKS

Click on Cargo Comparison Chart to enlarge Chart.
Inland Waterway System
Barge Operations

- 38 states served
- 12,000 miles of navigable waterways
- 275 locks

- \(\frac{1}{2}\) nations grain and oilseed exports
- 20% of all coal for utility power plants
- 22% of all domestic petroleum shipments

<table>
<thead>
<tr>
<th>Waterway</th>
<th>Tonnage (x 000)</th>
<th>Trip Length miles</th>
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</thead>
<tbody>
<tr>
<td>Mississippi</td>
<td>270,270</td>
<td>569</td>
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<tr>
<td>Ohio</td>
<td>249,213</td>
<td>240</td>
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<tr>
<td>GIWW</td>
<td>115,768</td>
<td>160</td>
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<tr>
<td>Tennessee</td>
<td>53,225</td>
<td>109</td>
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<tr>
<td>Cumberland</td>
<td>23,418</td>
<td>108</td>
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<tr>
<td>Columbia/Snake</td>
<td>13,129</td>
<td>465</td>
</tr>
</tbody>
</table>
Container on Barge

Is it a Sustainable Alternative to Truck and Rail?
Study After Study! Over 100 Studies

- Container on Feeder Barge Service Study – Connecticut DOT 2001
- Container on Barge Pre-Feasibility Study - Port of Pittsburgh – 2003
- Feasibility of COB Along the Texas Gulf Coast Center for Trans UT Austin 2003
- Cascade Gateway Study – Transport Canada 2004
- Short Sea Shipping in the Columbia/Snake River System Pacific NW Waterways Association 2005
- Container on Barge for Missouri Waterways - Missouri DOT – 2006
- Container on Barge Concept Paper Southeastern Ohio Port Authority 2008
- Mississippi Container on Barge Marine Highway Intermodal Supply Chain Mississippi DOT - 2010
- Container on Barge – Heart of Illinois Regional Port District - 2009
- Container on Barge Tenn/Tombigbee Waterway Port of Itawamba - 2011
COB Benefits

- Most efficient transportation mode
- Greater fuel efficiencies
- Less air pollution
- Less highway wear & tear
- Reduces highway and rail congestion
- Reduced urban impacts

- Transportation cost savings
- Less weight restriction
- Hazardous cargo friendly
- High and wide cargo capable
- Project cargo compatible
- Reduced gate paperwork
- Great additional capacity
- Expand the reach of small ports
Challenges

- Sufficient critical mass cargo volumes
- Jones Act restrictions
- Adequate & dependable marine equipment
- Maintenance of river and intercoastal waterways
- River conditions
- Slower service
- Maintaining schedule
- Draft restrictions
- Additional port handling
- Destination trucking usually required
- Adequate barge port facilities
- Integrated intermodal supply chain
Need dedicated barge ports with:

- Container handling cranes
- Container handling equipment
- Sufficient chassis and/or flatbeds
- Sufficient container storage area
- Intermodal connectivity
Success or Failure

Many have tried,
Few have succeeded!
Osprey Line

Weekly service between

Houston
New Orleans
Memphis
Baton Rouge

Inducement Service to

Brownsville
Freeport
Victoria
Beaumont
Lake Charles
Pascagoula

Mobile
St Louis
Chicago
Owensboro
Cincinnati
Pittsburgh

Ceased operations in 2010
Columbia Coastal COB Services

• Norfolk VA and Baltimore MD.
• Round trip weekly service
• General cargo service
• Refrigerated cargoes

Other port pairs on inducement

• Philadelphia PA. and Norfolk VA
• Round trip weekly service.
• Primarily single shipper service

• Service to Freeport Ba. and or Cuba available
Despite the economic downturn and its dire consequences for all segments of our industry, things are lining up perfectly for waterborne container barge services linking U.S. ports. Why? Because more shippers and consignees are “going green,” changing the way they do business to reduce their carbon footprint and save energy.
Couch Lines
Inter-port Barge Operations

- Inner harbor services
- Single shipper or consignee
- Extension of ocean carriers service
- Repositioning of empties
- Project Cargoes
- Concentrated container volumes
- Quick turnaround
- Over highway weight containers
- Oversized cargo
- Hazardous cargos
Tidewater

- Columbia Snake River System
- States of Washington, Oregon, Montana & Idaho
- 465 miles
- 36 ports districts
- 5 terminals
- 51 hours from Lewiston to Portland

- 10 million tons of cargo
- 60,000 containers
- Jumbo barges (274x42x14)
- Petroleum products
- Grain & Agricultural products
- Refrigerated cargo
- Forest products
Can Container on Barge be Sustainable?
What have we learned?
There are great opportunities but we need -

- Competitive marine equipment
- Cooperation between ports and carriers
- Development of barge port infrastructure
- Exploit inefficiencies in the supply chain
- Commodity mix conducive to COB
- Proper geography & demographics
- Lower value, non-time sensitive cargo
- Adding COB to regular tows
- Defined market
- Labor flexibility
Thank you