MISSOURI RIVER SHIPPER NEEDS

September 8, 2004
Rural Freight Transportation Conference
Transportation 101

• Connects Buyers and Sellers
• Makes a Market
• Adds No Value
• Prices What Market Will Bear
• Selecting Modes
• Competing Intra and Inter Modal
Missouri River Issues

• Competing Water Interests

• Reliability of Depth
  – Adequate river flow for navigation-21,000 - 36,000 cfs

• Length of Navigation Season
  - Six month, eight month, or split season

• Market Choices
  – Water compel rates, captive shippers, highway & rail capacity, carrier de-marketing to eliminate service problems (both rail and barge)
Missouri River Carriers

• **General Towing**
  – Tramp
  – Specialty

• **Liquid Barge Lines**
  – Asphalt
  – Fertilizer
Missouri River Users

• **Geographic Region**
  – Counties adjacent the river

• **Terminals**
  – Grain
  – Fertilizer
  – Asphalt
  – Cement
  – General Commodities
  – Aggregates
Regional Commerce Modal Split (2002)

• Barge 1.2 Million Tons
  – Dredged 7.8 Million Tons
• Rail 96.3 Million Tons
• Truck 399.6 Million Tons
Barge
By Commodity

Totals - 2002

- ALL OTHER
- CHEMICALS
- GRAINS
- IRON & STEEL
- ORES & MINERALS

Tonnage

0 50,000 100,000 150,000 200,000 250,000 300,000
Barge
Above Omaha By Commodity

Reach 3 - 2002

Tonnage

ALL OTHER  CHEMICALS  GRANNS  IRON & STEEL  ORES & MINERALS
Barge
Kansas City-Omaha

Reach 2 - 2002
Barge
Below Kansas City

Reach 1 - 2002

- All Other
- Chemicals
- Grains
- Iron & Steel
- Ores & Minerals

Tonnage
Dredged Material
By Origin Reach

Reach 1-3 Aggregates 2002

<table>
<thead>
<tr>
<th>Reach</th>
<th>Tonnage</th>
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<tbody>
<tr>
<td>1</td>
<td>4,000,000</td>
</tr>
<tr>
<td>2</td>
<td>3,500,000</td>
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<tr>
<td>3</td>
<td>1,000,000</td>
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</table>
Rail
By Commodity Group

Rail 2002

Tonnage

Farm Products
Minerals, Ores, and Aggregates
Chemicals
Petroleum Products
Primary Metals
Trailers and Containers
Rail
All Other

![Bar chart showing Rail vs All Other from year 1999 to 2002.]
Truck

- U.S. Census Bureau 1997 Transportation Commodity Flow Survey
  - Ratio of truck to rail applied to 2002 rail tons
Regional Production

• Total Employment (2002)
  – Sioux City MSA  93,206
  – Kansas City MSA  1,225,451
  – Omaha MSA  538,121
  – Columbia MSA  349,783
  – Jefferson City MSA  97,253
  – Atchison Micro SA  10,332
  – St. Joseph MSA  68,849
Regional Production

• Total Earnings (2002)
  - Sioux City MSA      $3,073,345,000
  - Kansas City MSA   50,141,130,000
  - Omaha MSA           20,866,953,000
  - Columbia MSA      13,333,070,000
  - Jefferson City MSA   3,002,081,000
  - Atchison Micro SA       241,491,000
  - St. Joseph MSA      2,059,633,000
Future Modal Trends

• Barge
  – Deep draft barges-12’ (27% cover hopper fleet and 25% open hopper fleet)
  – Horsepower (towboat fleet configuration)
  – Labor
  – Container on barge (COB)
  – Empty return ratio
11-Foot Channel
9-Foot Draft
Future Modal Trends

• Rail
  – Car weight (264-286-292-315)
  – Train size (72-95-102-120-150-180)
  – Service type (farm products 2.5% of tons single car)
  – Labor
  – Containerization - double stack
  – Single line hauling
Trinity Industries
6300 Cu Ft
Modal Trends

- Truck
  - Hours of service
  - Fuel and emissions
  - Labor
  - Weight & length
Commodity Trends

• Grain Production
  – Western corn belt ethanol

• Grain By-Products
  – Corn gluten
## Missouri River Corn

### Ethanol Plants and 2001 Corn Production

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<tr>
<th>Type of Facility</th>
<th>Count</th>
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<tr>
<td>ED</td>
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<tr>
<td>EW</td>
<td>12</td>
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<tr>
<td>EW - Brewing</td>
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<tr>
<td>EW - Reprocess</td>
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<tr>
<td>EW - Whey</td>
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<table>
<thead>
<tr>
<th>Million Gallons per Year</th>
<th>Count</th>
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<td>200 to 350</td>
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<tr>
<td>125 to 200</td>
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<td>75 to 125</td>
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<td>50 to 75</td>
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<td>15 to 50</td>
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<tr>
<td>0 to 15</td>
<td>53</td>
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<th>Corn Prod. by County (bushels)</th>
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<tbody>
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<td>9,700,000 to 50,200,000</td>
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<td>4,100,000 to 9,700,000</td>
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<tr>
<td>1,900,000 to 4,100,000</td>
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<tr>
<td>0 to 35</td>
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Incremental Analysis

- Modal Capacity
- Just in Time (JIT)
- Investment
Missouri River Navigation
What’s Next

- Bigger-Deeper-Longer-Wider (Efficiency)
- O/M Expense (performance based budget)
- Capacity Investment
  - Highways
  - Rail
  - Waterways
- Incremental Markets