Iowa DOT Freight Advisory Council
Transportation & Farmer Profitability
December 11, 2015
Why Should Farmers Care About Transportation? …Because our international competitiveness depends on it.

Costs of transporting soybeans: U.S. vs. Brazil (per metric ton; 4th quarter, 2014)

<table>
<thead>
<tr>
<th></th>
<th>Davenport to Shanghai</th>
<th>Sioux Falls to Shanghai</th>
<th>N. Mato Grosso to Shanghai</th>
</tr>
</thead>
<tbody>
<tr>
<td>Truck</td>
<td>$12.06</td>
<td>$12.06</td>
<td>$90.94</td>
</tr>
<tr>
<td>Barge</td>
<td>$47.68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ocean</td>
<td>$42.64</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total Trans</strong></td>
<td><strong>$102.38</strong></td>
<td><strong>$95.23</strong></td>
<td><strong>$121.44</strong></td>
</tr>
<tr>
<td>Farm Value</td>
<td>$369.89</td>
<td>$350.66</td>
<td>$361.74</td>
</tr>
<tr>
<td>Customer Cost</td>
<td>$472.27</td>
<td>$445.89</td>
<td>$483.18</td>
</tr>
<tr>
<td>T. as % of Cust. Cost</td>
<td>21.68%</td>
<td>21.36%</td>
<td>25.13%</td>
</tr>
</tbody>
</table>

Source: USDA
The Soy Transportation Coalition – Farmer funded & farmer led

Federal Funding for Roads & Bridges

- Good News: Multi-year highway bill with increased funding; Bad News: Funding mechanism remains unsustainable
- Fundamental flaw – A fixed source of revenue trying to meet the needs of an escalating cost
- Analysis (STC & Indiana University) – If the U.S. had indexed fuel tax to inflation the last time they were adjusted (1997), an additional $133 billion would have been generated.
Trucking Concerns

- Freight demand by all modes of transportation will increase from 18.5 billion tons in 2010 to 27.5 billion tons by 2040; Demand for trucking will increase from 12.5 billion tons to 18.5 billion – 50% increase (Source: U.S. DOT)

- Since 1980, miles of public roadways have increased by only 4.5% (Source: U.S. DOT)

- Widespread shortage of truck drivers

- Must be open to opportunities to get more out of the current system
Trucking Concerns

“Safe Trucking Act” (Cong. Reid Ribble, R-WI); Would have allowed 6 axle, 91,000 lbs. semis on interstates vs. 5 axle, 80,000 lbs. limit; Defeated 187-236 in House (11-3-15)

- Motorist safety
  - Shorter stopping distances (1 foot less)
  - Fewer trucks vs. status quo

- Infrastructure wear & tear
  - Federal Bridge Formula compliant
  - 80,000 lbs. ÷ 5 axles (18 tires) = 4,444 lbs. per tire; 91,000 lbs. ÷ 6 axles (22 tires) = 4,136 lbs. per tire (308 lbs. less per tire)

- Cost savings & efficiency gains
  - 137 additional bushels of soybeans or wheat; 146 additional bushels of corn per load
  - ↓ gallons of fuel, carbon emissions

- Trucking & Rail – Increasingly not interchangeable
### U.S. Agriculture: A 21\textsuperscript{st} Century Industry Utilizing an Early 20\textsuperscript{th} Century Rural Infrastructure

#### Iowa

<table>
<thead>
<tr>
<th>Metric</th>
<th>Then (Year)</th>
<th>Now (Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of Farms (Total)</td>
<td>206,000 (1950)</td>
<td>92,400 (2010)</td>
</tr>
<tr>
<td>Average Farm Size</td>
<td>169 acres (1950)</td>
<td>333 acres (2010)</td>
</tr>
<tr>
<td>Volume (bushels)</td>
<td>687 million (1940)</td>
<td>2.83 billion (2011)</td>
</tr>
<tr>
<td>% Living in Rural Areas</td>
<td>60.4% (1930)</td>
<td>36% (2010)</td>
</tr>
<tr>
<td>% Consumed on Farm</td>
<td>3.12% (1950)</td>
<td>0.06% (2010)</td>
</tr>
<tr>
<td># of Hog Farms</td>
<td>153,619 (1954)</td>
<td>8,758 (2007)</td>
</tr>
<tr>
<td>Average # of Hogs per Farm</td>
<td>93 (1954)</td>
<td>5,398 (2007)</td>
</tr>
<tr>
<td>Average Tractor Weight</td>
<td>5,904 lbs (1950)</td>
<td>11,816 lbs (2011)</td>
</tr>
<tr>
<td>Railroad Miles</td>
<td>9,808 (1920)</td>
<td>3,925 (2009)</td>
</tr>
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</table>
U.S. Agriculture: A 21\textsuperscript{st} Century Industry Utilizing an Early 20\textsuperscript{th} Century Rural Infrastructure

Framing Questions (Indiana Soybean Alliance, Indiana University, Purdue, STC):

- If we were to design a rural road & bridge system to meet the current & future needs of U.S. agriculture, would we design the system we have today?
- What does the infrastructure need to look like in 10 years, & what are the incremental steps that need to be taken to achieve that? (Prioritizing roads & bridges, relocating storage, etc.)
Rail issues

- Positive Train Control extension; Extension was provided & provided sooner rather than later
- Rail service for the 2015 harvest has been very reliable:
  - Railroads have responded to demand
  - Farmers storing grain
Locks & Dams: Despite new WRRDA law & IWT increase, frustration remains

- A predictably good inland waterway system is better than a hypothetically great one.

- Should we transition from a “build & expand” approach to a “preserve & maintain” approach? Viability? Cost savings?

- Cost of 1 lock construction project ($376.8 million) is approximately equal to the cost of 9 major rehabilitation projects ($40.7 million).
Panama Canal Expansion – Opportunity for increased efficiency, or are we shifting the bottleneck?

- Soybean checkoff-funded study
  - Total grain & oilseeds transiting the canal will increase 30% by 2020/21
  - Each vessel will accommodate 500,000 or more additional bushels; $5-8 million in additional value; 35 cents per bushel savings
  - Increase the average draw area by 91 miles (70 miles to 161 miles); Impact on rail rates
Panama Canal Expansion – Opportunity for increased efficiency, or are we shifting the bottleneck?

Pre Panama Canal Expansion (70 miles)

Post Panama Canal Expansion (111 miles)

Post Panama Canal Expansion (161 miles)
Thank You

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