Washington Transportation Commission
Glen Squires, CEO, Washington Grain Commission
September 16, 2020
2019 PNW Wheat Production: 291.5 million bushels
### Cargo Capacity Comparison

<table>
<thead>
<tr>
<th>Cargo Capacity</th>
<th>Barge</th>
<th>4-Barge Tow</th>
<th>Hopper Car</th>
<th>100-Car Train (grain)</th>
<th>Semi-Truck</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>3,500 Tons</td>
<td>14,000 Tons</td>
<td>100 Tons</td>
<td>10,000 Tons</td>
<td>26 Tons</td>
</tr>
<tr>
<td></td>
<td>122,500 Bushels</td>
<td>490,000 Bushels</td>
<td>3,500 Bushels</td>
<td>350,000 Bushels</td>
<td>910 Bushels</td>
</tr>
<tr>
<td></td>
<td>875,000 Gallons</td>
<td>3,500,000 Gallons</td>
<td>30,240 Gallons</td>
<td>3,024,000 Gallons</td>
<td>7,865 Gallons</td>
</tr>
</tbody>
</table>

#### Equivalent Units

- **1 Barge** = 35 Hopper Cars
- **1 Tow** = 1.4 Trains
- **134 Trucks**
- **538.4 Trucks**
Transportation – Critical Infrastructure

- **Inputs**
  - Fertilizer: Barge, Truck, Rail
  - Fuel: Barge, Truck, Rail, Pipeline
  - Seed: Truck
  - Equipment: Truck Rail
- **Road:** Trucks
- **Rivers (Snake/Columbia):** Barges
- **Rail:** Class I; Shortline
- **Ocean Freight**
Columbia River Jetties
Specific Vulnerabilities:
- River – Federal Snake/Columbia River System (eight dams/navigational locks); Estuary, Jetties
- Class I Rail – Columbia Gorge, Stampede Pass, track conditions before entering WA, congestion, railcar availability, service due to other products displacing wheat
- Shortline Rail – Maintenance, state funding/support
- Truck – Access to river/rail terminals, drivers
- Water – Aquifers, Columbia Basin water delivery system, Grand Coulee, etc
- Electric – Northwest power grid
- Elevator System – Terminals/sub-terminals
- End Users – Mills
- Fuel/Fertilizer – Tank farms, terminal/sub-terminal, on-farm
- Grain Inspection
- Labor
- Weather / Natural disasters

Critical Infrastructure:
- Roads – State/County/Port access
- Rail – Mainline/Shortline systems
- River – Snake/Columbia/Estuary
- Fuel/Input Delivery + Storage System
- Grain Handling/Storage – On-farm & commercial
- Milling/Processing Facilities
- Baking Facilities
- University – Fields & Labs
- USDA/FSA County Offices
- Electricity Supply
- Financial Institutions
- Ground/Surface Water

Legend:
- C – Container
- B – Barge
- R – Rail
- P – Pipeline
- S – Ship
- F – Finance Transaction (Paper/Electronic)
Thank You