Ag. & Rural Transportation

School of Economic Sciences

Eric Jessup
Research Professor
Director: Freight Policy Transportation Institute
eric_jessup@wsu.edu
509-335-4987

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Transportation & WSU

• James C. Nelson (1947-1975)
  • Early proponent of deregulation (truck, rail)
  • Shaped subsequent changes to ICC

• Ken L. Casavant (1968-2018)
  ✓ $1.25m (1993-1998) Eastern Washington Intermodal Transportation Study (EWITS)
  ✓ $2.43m (2003-2009) Strategic Freight Transportation Analysis (SFTA)
  ✓ $1.67 m (2009-2019) Freight Policy Transportation Institute (FPTI)

• Eric L. Jessup (2001-2019)
  • Director: Freight Policy Transportation Institute
What is the function of Transportation...

- Transportation creates time and place utility
- Movement of people & products
- Creation of markets ... and value that otherwise would not exist
- This is not a recent phenomenon (driven by technological change)
- Transportation affects almost everything

- Especially when considering global supply-chains:
  - Food
  - Energy
  - Environment
  - Health

Issues are often quite complicated
Relationship Between Freight Performance and the Economy
The Road Ahead...

- Current U.S. Freight Situation
- Primary Ag. & Rural Freight Issues
- Columbia / Snake River
- Technological Change
- Current & recent FPTI research projects
U.S. Freight Picture

- Excess capacity, compared to 1-year prior
  - Class I rail & truck markets
  - Not the case for ocean freight
- Product of weakened import/export demand
- Should be good news for bulk grain shippers
Truck Rates - Year over Year

Data Range (Years)
- 2002
- 2019

Price Data
- Weekly Low

Origin State
- CA

Origin District
- Central San Joaquin Valley, CA
- IMP & COA Valley CA, W & C AZ
- Kern District
- Oxnard
- Salinas Watsonville
- San Joaquin
- Santa Maria
- South CA

Destination
- Chicago

Standard Deviations
- 2

Legend - Year
- 2019
- 2018
- 2017
Primary Ag. & Rural Transportation Issues

- Market Access
  - Availability (cost & service) of ocean containers
  - Availability of multi-modal transportation options (truck, barge, rail) (Ag. inputs and export markets)
  - Congestion at ports

- Infrastructure needs

- Maintaining shortlines railroads

- Class I railroad cooperation
TIGER (BUILD) Funding to Rural Areas:

2016 TIGER Grants

2018 BUILD Grants
Columbia / Snake River

- USACE Environmental Impact Study
- Washington State Legislature ($750,000)
- Columbia River Water Treaty
Technological Change
Technology that is Changing Transportation

- E-Commerce & online ordering / home delivery (Amazon, Blue Apron, Walmart)
  - Freight supply-chain needs
  - Congested cities

- Electric Vehicles
  - Charging stations
  - 15% of cars by 2025
  - Decreasing costs (over $1,000/kw hour in 2010 to below $130/kw hour today)
  - Increasing demand for Lithium carbonate (Australia, Chile, Argentina, China)

- Generating Electricity.....
  - Renewables
  - Oceans of natural gas
  - Technology on managing power grids (SEL)
Technology that is Changing Transportation

- Autonomous vehicles
  - Infrastructure needs
  - Large reduction in space allocated to parking and highway capacity

- Connected vehicles

- Drone delivery?

- How do we fund that future public transportation infrastructure?
  - Policies that link revenue to utilization of public infrastructure
Freight Policy Transportation Institute

• Recently Completed Projects:
  ✓ WSDOT: Improved Methodology to Evaluate Benefits of Highway Preservation
  ✓ USDA: Infrastructure Investment & Economic Modeling: Export Supply Chains
  ✓ USDA: PNW Container Availability Study
  ✓ USACE: Upper Mississippi Transportation Study

• Current Projects:
  ✓ Idaho Transportation Dept. Freight Supply Chain Analysis (ERoads)
  ✓ PacTrans: Confounding Factor Analysis of Commercial Vehicle Accidents
  ✓ USDA: Agricultural Truck Safety Study
  ✓ USDA: PNW Inland Terminal Optimization Model
  ✓ USDA: Livestock Transportation and ELD Mandate
  ✓ USDOT: Freight Data Warehouse:
    http://ses.wsu.edu/fpti/freight-data-warehouse/