



United States Department of Agriculture



# Agricultural Marketing Service

Research Needs for Agriculture Freight

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Jesse Gastelle

Economist

Transportation Services Division

# Transportation Services Division (TSD)

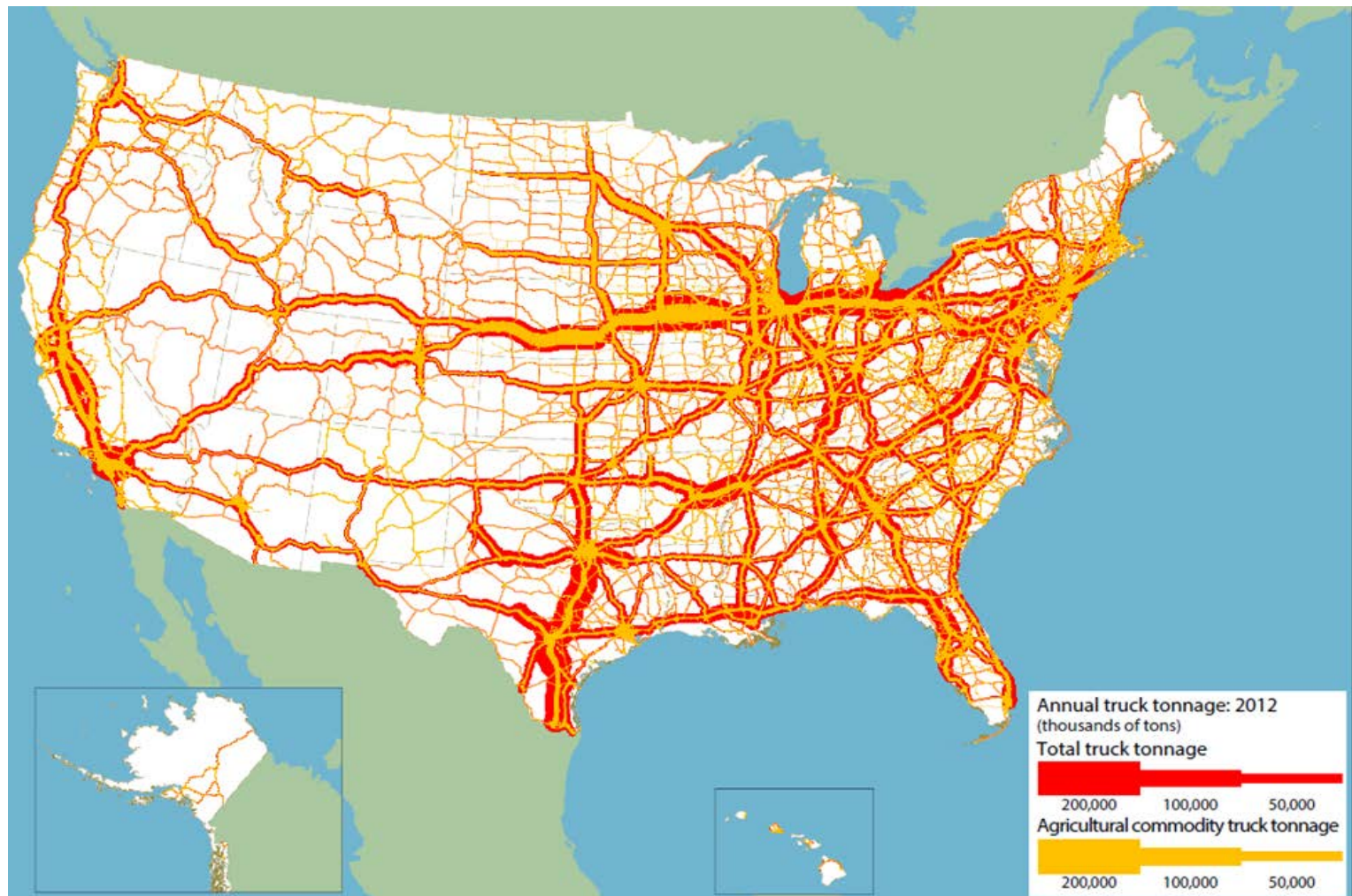
The screenshot shows the USDA Agricultural Marketing Service website. The top navigation bar includes links for 'About AMS', 'News & Announcements', 'Careers', 'For Employees', and 'Contact Us'. A search bar is located on the right. Below the navigation bar, there are tabs for 'Market News', 'Rules & Regulations', 'Grades & Standards', 'Services', 'Resources', and 'Selling Food to USDA'. The 'Services' tab is selected. The main content area features a large image of a port with ships and a crane, with the title 'Transportation Research & Analysis'. Below the image, there is a 'SHARE' button and a 'Sign up for Transportation Reports' button. The text describes the TSD's role as the definitive source for economic analysis of agricultural transportation. A 'Reports of Interest' section lists several documents from 2017, including a Secretary Perdue letter on CSX Service Issues, profiles of top U.S. agricultural ports, and USDA comments on agricultural rates. A 'News & Announcements' section lists reports from 2008 and 2017 regarding Japanese swine and cattle trade, USDA rule amendments for livestock reporting, and enhanced reporting for cattle. A 'Grain Transportation' section is also visible at the bottom.

- Analysis and market reports:
  - U.S. grain
  - Brazil & Mexico grain analysis
  - Modal share analysis
  - Commodity and port profiles
  - Rail studies
  - Study of Rural Transportation Issues
- STB filings
- Cooperative research agreements
- Data

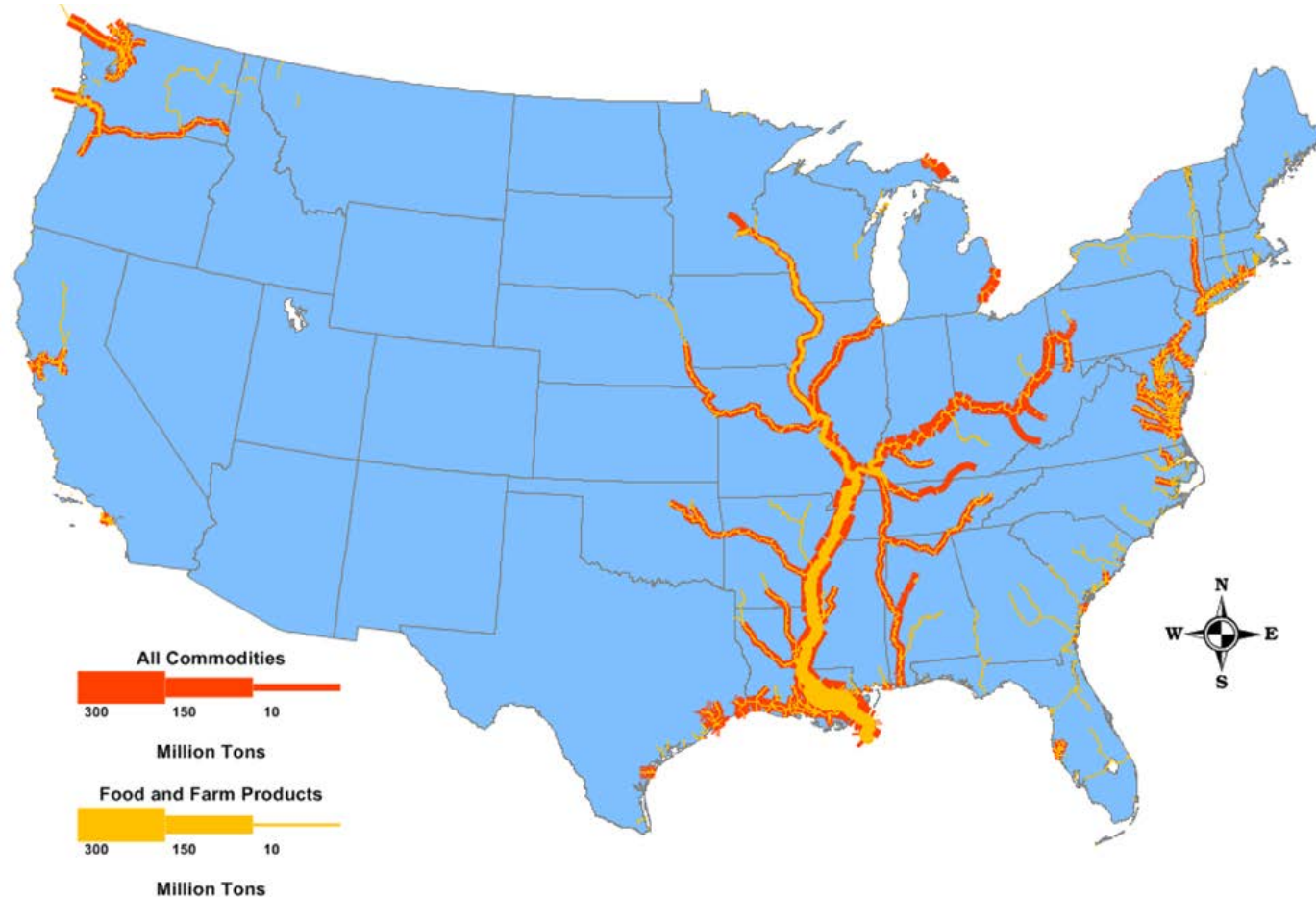
# Agriculture and Infrastructure

- Efficient transportation is critical to US agriculture's world competitiveness
- Agricultural shippers are significant users of the US transportation system
- Agriculture's use of the transportation system encompasses all modes, from rural highways to coastal ports.
- Agriculture's and other freight's transportation volume is expected to increase over coming decades

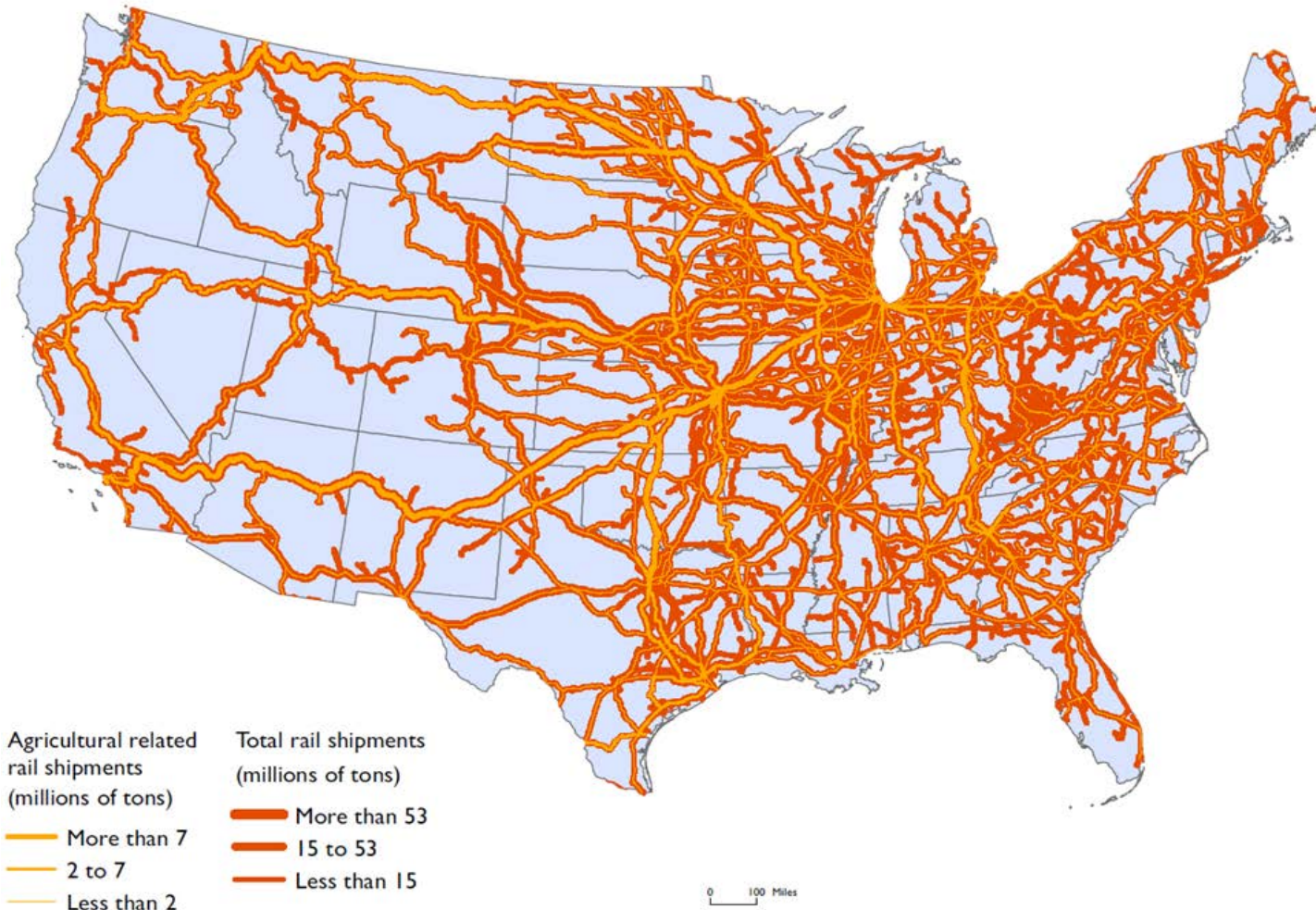
# Truck Flows: Agriculture vs. Total Freight



# Barge Flows: Agriculture vs. Total Freight



# Rail Flows: Agriculture vs. Total Freight



Source: U.S. Department of Transportation. The map uses data from the 2013 Carload Waybill Sample.

# Federal Agencies are Recognizing Need to Invest in Infrastructure

- DOT's "2015 Status of the Nation's Highways, Bridges and Transit: Conditions and Performance" identifies an \$836 billion backlog of unmet capital investment needs for highways and bridges
- USACE's 2016 Capital Investment Strategy identified \$4.9 billion needed to maintain Inland Waterways over the next 20 years
- American Association of Port Authorities 2015 "State of Freight" identified \$29 billion in baseline investment needs over the next decade

## MAP-21 and Fast Act

- Multimodal Freight Policy designed to improve infrastructure investments and policies to
  - Strengthen U.S. competitiveness
  - Reduce congestion and bottlenecks
- DOT National Multimodal Freight Plan
  - Freight tonnage expected to double over next 30 years
  - Recognized underinvestment in infrastructure
  - Plans to:
    - Direct funding/incentives to reduce congestion/bottlenecks
    - Facilitate intermodal connectivity
    - Identify major gateways/corridors



# AMS Cooperative Agreements

- Research is policy and industry driven, aiming to
  - Improve understanding of infrastructure needs for agriculture
  - Better understand agricultural transportation economics
  - Increase understanding of agricultural freight flows
- Recent cooperative agreements fit into the MAP-21 and FAST Act framework

## Examples of Recent Cooperative Agreements (1/3)

- Agricultural Supply Chains and Infrastructure Needs on the U.S.-Mexico Border
  - Luis Ribera and Flynn Adcock at TAMU
  - Conducted research into potential cross-border infrastructure and institutional improvements to enhance ag trade efficiency
  - Conducting workshops in cross-border states to present research to stakeholders and decision makers

## Examples of Recent Cooperative Agreements (2/3)

- Agriculture Infrastructure Prioritization
  - Eric Jessup and Ken Casavant
  - Developed model for evaluating infrastructure investments for different types of agricultural supply chains
  - Conducting workshops to present this research to state, regional, and local decision makers, in order to improve investment prioritization and to refine the model to incorporate more local needs

## Examples of Recent Cooperative Agreements (3/3)

- Agricultural Freight Corridors, Railroad Capacity, and the Implications of Railroad Rates
  - Mark Burton and Larry Bray at University of Texas
  - Studying the competitive interactions between barge and rail in areas that are served by both railroads and the inland navigation system.
- Commodity Competition for Rail: Measuring Effects of Rail Traffic on Rates and Carloadings of Grain
  - Wesley Wilson at University of Oregon
  - Estimating the effects of changes in the distribution and level of railroad traffic on rates and carloadings for grain and other agricultural commodities

# Ideas for Potential Future Research (1/2)

- **Trucking**

- Quantify the independent owner-operator drivers, other small trucking companies serving the agricultural, forest products, and food industry
- Quantify truckloads of such products in NAFTA trade

- **Barge**

- Evaluate how barge benefits U.S. agriculture and the wider economy
- How to fund Inland Waterways in the future?
- How resilient are inland waterways to disruptions?

## Ideas for Potential Future Research (2/2)

- **Rail**

- Evaluating effects of and potential for shortline railroads investment
- Evaluating effects of decline of coal and changing traffic mix on agricultural service and rates

- **Ocean**

- The impact of the new ocean carrier alliance structure
- Container availability
- Effects of new technology systems to improve supply chain efficiencies.

## Data Needs

- Additional data
  - Timely truck volumes, rates, and availability for grain and other commodities
  - Multimodal data of higher fidelity
  - Port performance measures to include vessel queues, berth activities, terminal yard activities, and truck gate operations
  - Lock performance measures to include vessel type
- Better “Open Data” Experiences
  - Under development internally
  - Data visualizations - Create a better “open data” experience for AMS’ public ag. transportation data
  - On behalf of stakeholders, “unlock” data from AMS and other agencies

## Contact Information

Jesse Gastelle

Economist

Transportation Services Division

Agricultural Marketing Service

U.S. Department of Agriculture

Phone: (202) 690-1144

Email: [jesse.gastelle@ams.usda.gov](mailto:jesse.gastelle@ams.usda.gov)

Website: [www.ams.usda.gov/agtransportation](http://www.ams.usda.gov/agtransportation)