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309369

February 11, 2025

To:
Director
Office of Economics, Surface Transportation Board
Washington, DC.

ENTERED
Office of Proceedings
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Part of
Public Record

Subject: Request for Access to Confidential Carload Waybill Sample for U.S. Fertilizer Supply Chain Research

Dear Director,

I am writing to formally request access to the Confidential Carload Waybill Sample to support my academic research on the U.S. fertilizer supply chain.

(i) Purpose of Request: Research on U.S. Fertilizer Transportation and Supply Chain Efficiency

The U.S. fertilizer industry is vital for agricultural productivity, and rail transport is crucial in its distribution. This study analyzes rail-based fertilizer transportation patterns, costs, and logistical challenges to enhance our understanding of supply chain dynamics and inform policy and industry decision-making. Specifically, this research will:

1. **Examine the geographic flow of fertilizer shipments** from production facilities, such as domestic manufacturing plants and import hubs, to major agricultural regions. Identifying geographical flows will involve identifying key distribution centers and shipping routes.
2. **Analyze cost structures and transportation efficiency** by assessing freight rates, distances, and potential congestion points affecting fertilizer availability and pricing.
3. **Evaluate the seasonality and fluctuations in fertilizer supply**, which impact farmers' access to inputs during planting seasons.
4. **Assess policy implications** regarding rail service reliability, infrastructure investments, and carrier competition to support regulatory and industry decisions.

This research aligns with the Surface Transportation Board's role in monitoring and improving freight transportation efficiency and will directly impact agricultural production, food security, and rural economies.

(ii) Specific Data and Fields Requested

To conduct this analysis, I request access to the **Confidential Carload Waybill Sample for the years 1986 to 2023**, with a focus on the following data fields:

- **Geographic Scope:** Nationwide.
- **Shipment characteristics:** We require **data with origin and termination nodes**. To this end, station-level data would be optimal, while county-level data would also be acceptable. Business Economic Area (BEA)-level data is also suitable. We also seek interchange points to help us identify the shipping route. Additionally, the type of move (import, export, neither import nor export) should be recorded.
- **Commodity classification:** We are seeking all commodity codes that encompass nitrogen, potash, or phosphate, which should include at least the following five-digit Standard Transportation Commodity Codes (STCC5):
 - 28125 - Potassium Compounds
 - 28181 - Miscellaneous Acyclic Organic Chemical
 - 28193 - Sulphuric Acid
 - 28198 - Anhydrous Ammonia
 - 28712 - Superphosphate Solution or Nitrogen Fertilizer Solution
 - 28713 - Ammoniating Fertilizer Solution or Nitrogen Fertilizer Solution
- **Revenue and cost data:** Freight revenue, transit charges, and miscellaneous charges. The number of carloads, billed weight in tons, actual weight in tons, and distance traveled.
- **Time components:** Shipping month and year to analyze seasonal variation.

(iii) Justification for Requested Data

The **public-use Waybill Sample** is subject to strong sensitive information protection rules. As a result, we encountered a significant issue: numerous missing observations. For instance, when analyzing the transportation of Anhydrous Ammonia, 69% of the origin BEA (Business Entity Address) codes are classified as '0', indicating an unknown origin. Besides the origin, most interchange state information is missing. Additionally, we were unable to obtain comprehensive rail-transportation information for origin locations such as Louisiana or Ohio, which house the major domestic fertilizer manufacturers.

The **station-level granularity** is important for a rigorous economic and policy analysis of the fertilizer supply chain. The **confidential dataset is essential** for the following reasons:

- **Detailed Origin-Destination Analysis:** Aggregated public data does not allow for precise mapping of supply chains, which is critical for understanding regional disparities, congestion points, and potential transportation inefficiencies.
- **Economic and Policy Relevance:** Access to pricing, carload volumes, and distance metrics will provide insights into freight costs and market competitiveness, helping inform stakeholders and policymakers.

(iv) Personnel

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The requested access to the data is limited to the following two researchers:

1. Gal Hochman, Professor, University of Illinois Urbana-Champaign
2. Cheng Bi, PhD candidate, University of Illinois Urbana-Champaign

Thank you for considering the request.

Sincerely,

Gal Hochman