



— THE EASTERN  
TRANSPORTATION  
COALITION

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# Freight Data and Planning Working Group Web Meeting

*December 15, 2022*

# Welcome

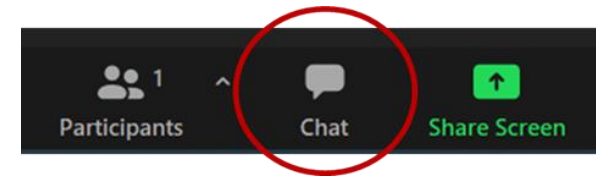
- We are using **Zoom Meeting**
- **VIDEO:** You are welcome to turn on your camera by pressing the camera icon in the bottom left corner of your screen
- **AUDIO (Computer):** Use your computer speakers and microphone by clicking the “Join Audio” button at the bottom left of the screen.
- **Alternate Audio (Phone):** Call into the meeting by dialing the phone number based on your location (provided in the confirmation email) and enter the Meeting ID at the prompt.
- Please keep your line muted when you are not speaking.
- **This web meeting is being recorded.**
- **Questions** with the audio or web? Please contact Esther directly via the chat box or email ([ekleit@kmjinc.com](mailto:ekleit@kmjinc.com))



# Asking Questions in Zoom Meeting

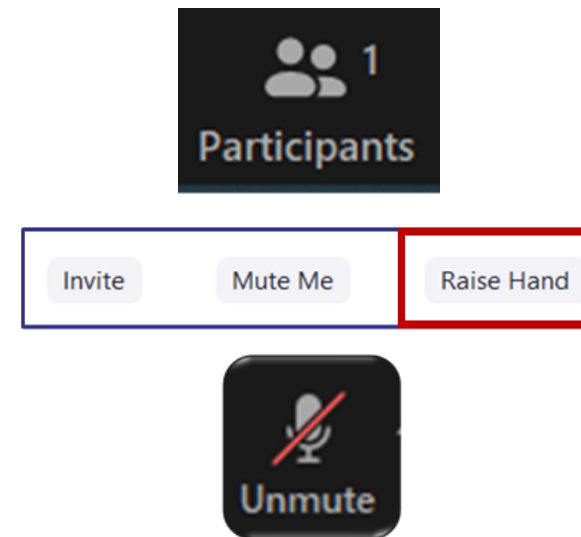
- **IN THE CHAT BOX**

- You may pose your questions using the Chat Box. Click on the chat icon at the bottom of your screen.
- The questions in the Chat Box will be monitored and answered at the end of the session.

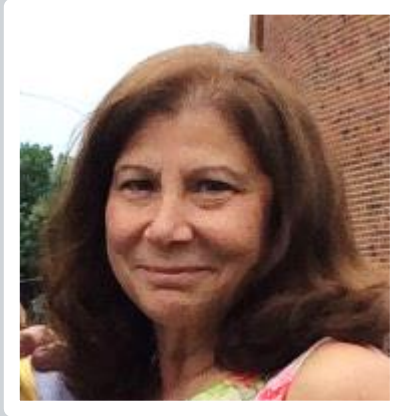


- **VERBALLY**

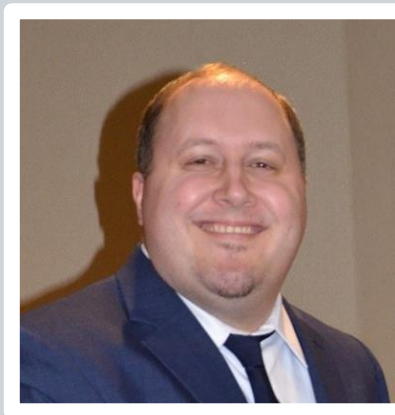
- Please raise your hand (click on the participants button at the bottom of the screen then scroll down to the bottom of the list of participants and click on the “Raise Hand” button) and unmute your line at the appropriate time.
- Please give your name and agency before asking your question
- **Please mute yourself when you are finished speaking**



# Welcome



**Marygrace Parker**, Freight Program Director,  
The Eastern Transportation Coalition



**Josh O'Neill**, Supervising Planner,  
Rhode Island Statewide Planning  
Freight Data and Planning Working Group Chair





# Agenda

Topic	Speaker
Welcome & Introductions	Marygrace Parker, The Eastern Transportation Coalition Josh O’Neill, RI Statewide Planning/Freight Data & Planning Working Group Chair
Overview/Update on USDOT FAF Activities	Ed Strocko, Stephanie Lawrence, Monique Stinson, Kyle Titlow USDOT, Bureau of Transportation Statistics
Rhode Island’s 2022 Interim Freight Plan Update: TRANSEARCH, Geotab, & FAF Data Utilization	Josh O’Neill
<b>Member Agency Roundtable on Using Disaggregated FAF Data</b>	All
Transportation Data Marketplace Update BTS Procurement Update	Marygrace Parker Kyle Titlow
Future Working Group Discussion Topics & Next Steps	Josh O’Neill



# Participating Agencies (by state)

<p><b>Alabama</b> Alabama DOT</p>	<p><b>Georgia</b> Atlanta Reg Commission Georgia DOT</p>	<p><b>Maryland</b> Baltimore Metro Council Maryland DOT - SHA</p>	<p><b>New York</b> NYSDOT</p>	<p><b>Tennessee</b> Tennessee DOT</p>
<p><b>Connecticut</b> ConnDOT</p>	<p><b>Kentucky</b> KYTC</p>	<p><b>Massachusetts</b> Boston Region MPO MassDOT Merrimack Valley PC</p>	<p><b>Pennsylvania</b> North Central RPO PennDOT DVRPC Southwestern PA Commission</p>	<p><b>Washington DC</b> District DOT</p>
<p><b>Delaware</b> DeIDOT Wilmapco</p>	<p><b>Maine</b> Maine DOT</p>	<p><b>New Jersey</b> NJDOT NJTPA</p>	<p><b>Rhode Island</b> RI Statewide Planning</p>	



# Freight Data & Planning Working Group (FD&PWG) Activities

- FD&PWG Kick Off Web Meeting – 6/29/2022
  - 7/20/2022: Follow-up documents: Slides, Notes & Action Item Summary, and a recording of the meeting
- Freight Data Vendor Forum – 9/21/2022
  - 8/12/2022: Request for questions to ask the vendors during forum
  - 10/5/2022: Follow-up documents (for each vendor) - Slides, Q&A Summary, and a recording of the forum
- 11/8/22 - Examples of TDM Vendor Data for State Freight Plan Updates
  - Each Freight Data Vendor (Geotab, INRIX, Quetica, Streetlight Data) provided brief examples on agencies are using their data for State Freight Plans





# Overview/Update on USDOT FAF Activities

Ed Strocko and Staff

USDOT, Bureau of Transportation Statistics



# USDOT, Bureau of Transportation Statistics Staff



**Ed Strocko**

*Director, Office of Spatial  
Analysis and Visualization,  
BTS, USDOT*



**Stephanie Lawrence**

*Chief Economist,  
BTS, USDOT*



**Monique Stinson**

*Freight Estimation,  
Forecasting & Analysis Mgr,  
BTS, USDOT*



**Kyle Titlow**

*Spatial Statistician,  
BTS, USDOT*





# Bureau of Transportation Statistics

## Freight Analysis Framework

Stephanie Lawrence (presenter)

Monique Stinson

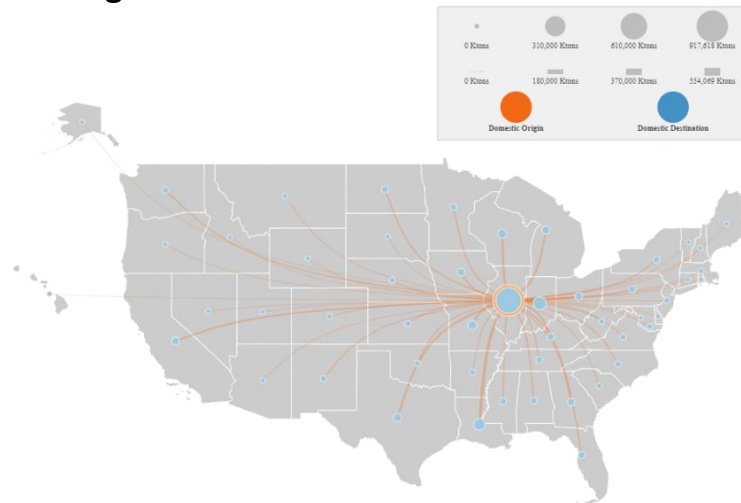
12/15/2022

Presented to the Eastern Transportation Coalition

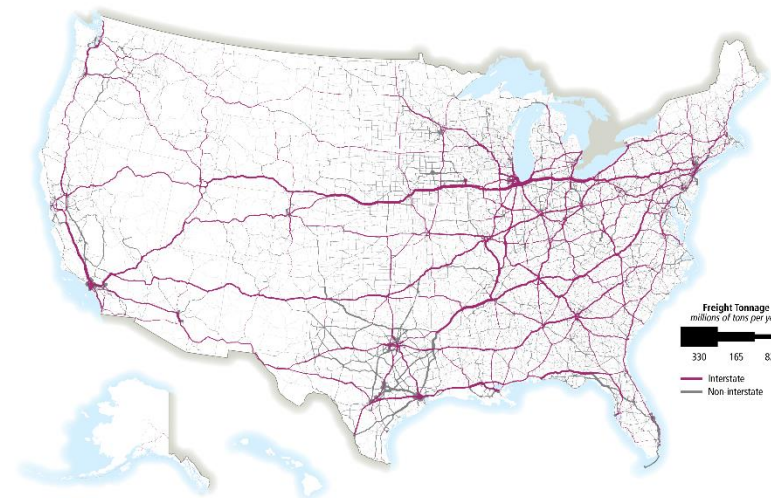
# Introduction

- The Freight Analysis Framework (FAF) consists of freight flow estimates throughout the US
  - Is a comprehensive picture of freight flows
  - 42 commodity types
  - Two parts:
    - **Origin-Destination (OD) flows** (e.g., tons, value and ton-miles of goods from one state to another)
    - **Network flows** by Truck, Rail and Water (e.g., estimated volumes on interstates)
- The FAF is developed by the Bureau of Transportation Statistics (BTS) with support from FHWA

**OD Flow example from online Data Tabulation Tool:  
Tonnage from Illinois to other states**



**Network Flow example: Tonnage by truck**



# Product Overview

- Use the [FAF5 Data Tabulation Tool](#)
- **Regional** database of tonnage and value by origin-destination pair, commodity type, and mode.
  - FAF5.4 **Regional Database** for 2017 and forecasts up to 2050 (**mid-range estimates only**): [FAF5.4\\_access.zip](#) (MS Access) | [FAF5.4.zip](#) (.csv)
  - FAF5.4 **Regional Database** for 2017 and forecasts up to 2050 (**including high and low estimates**): [FAF5.4\\_HiLoForecasts\\_access.zip](#) (MS Access) | [FAF5.4\\_HiLoForecasts.zip](#) (.csv)
  - FAF5.4 **Regional Database** for 2018-2020: [FAF5.4\\_2018-2020\\_access.zip](#) (MS Access) | [FAF5.4\\_2018-2020.zip](#) (.csv)
- **State** database of tonnage and value by origin-destination pair, commodity type, and mode.
  - FAF5.4 **State Database** for 2017 and forecasts up to 2050 (**mid-range estimates only**): [FAF5.4\\_State\\_access.zip](#) (MS Access) | [FAF5.4\\_State.zip](#) (.csv)
  - FAF5.4 **State Database** for 2017 and forecasts up to 2050 (**including high and low estimates**): [FAF5.4\\_State\\_HiLoForecasts\\_access.zip](#) (MS Access) | [FAF5.4\\_State\\_HiLoForecasts.zip](#) (.csv)
  - FAF5.4 **State Database** for 2018-2020: [FAF5.4\\_State\\_2018-2020\\_access.zip](#) (MS Access) | [FAF5.4\\_State\\_2018-2020.zip](#) (.csv)
  - FAF5.4 **Reprocessed State Level Annual Data for 1997-2012**: [FAF5.4\\_Reprocessed\\_1997-2012\\_State\\_access.zip](#) (MS Access) | [FAF5.4\\_Reprocessed\\_1997-2012\\_State.zip](#) (.csv)

## FAF5 Network Data

- [FAF5 Truck Network Database and Flow Assignment for 2017, 2022, and 2050](#)

## Summary Statistics and Products

- [Summary Tables by Mode and Commodity](#)

## Documentation

- FAF5 [User Guide](#)

Web-based data tabulation tool (DTT)

OD Flows (current & future years):

Region-to-region (132 regions)

& State-to-state (also has historical to 1997)

Network Flows (truck)

Other (summary statistics, documentation, ...)

# Data Tabulation Tool

**Custom Selection of FAF Data**

**Flow Type:** Total Flows

**Measure:** tons, value, current\_value, tmiles

**Origin-Destination Geography:** Domestic Origin, Domestic Destination

**Commodity:** Commodity

**Year:** 2017, 2018, 2019, 2020, 2022, 2023, 2025, 2030, 2035, 2040, 2045, 2050

**Forecast Scenarios:** (2020-2050)  
 Low Growth  
 High Growth

**Tabular output:** Tons, value or ton-miles for custom set of origin-destination pairs, mode, & commodity

Display output labels as descriptive (e.g., descriptive: '1-truck' vs num

Run

Create **visual summary** of flows by mode, commodity; mode shares; O-D flows; and more

**Quick Chart Generation**

1997-2050 total tonnage by domestic mode

Total tonnage by commodity

Mode share by commodity (tons)

State Level Origin-Destination Flows (tons)

Sankey diagram by mode and distance for two commodities (live animals/fish, meat/seafood)

Pie chart by commodity and mode for shipments coming into D.C.

# Current Activities

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- 2021 Annual Estimates: release early next year (Feb./Mar.)
- 2022 Annual Estimates: release by ~May/June 2023
- Gathering information to understand our customer base
  - Who uses FAF
  - How do they use it
  - How can FAF be improved
  - Could FAF have additional users & uses
- Exploring FAF improvements
  - Goal: better meet users' needs
  - Exploring ways to improve the existing FAF product (e.g., more timely releases)
  - Exploring ways to modernize FAF, given increases in computational power and new data sources in recent years
- FHWA Tools (in progress): Highway network assignment & OD flow visualization tools



# Current List of Planned FAF Updates

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- Improved delivery time
  - E.g., annual estimates for year X by April of X+1
  - Timeline: we will be close in 2023 (2022 annual estimate by ~June), should be in full swing by 2024
- Developing a multiple modes and mail network assignment (late 2023/early 2024)
  - Historically, FAF network assignment was truck only
  - Exploring multi-modal assignment methods
- FAF6 release
  - Will use CFS 2022 data as main foundation
  - Release date ~2024
- Data tabulation tool (DTT) enhancements (timeline TBD)
  - TBD, considering also recent FHWA tool for visualizing OD flows

# Other Potential FAF Updates Are Being Considered

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- Improved granularity of estimates
    - Geographic: County-to-county flows
    - Commodity: more categories or different categories
  - Improved Quality Assurance and Quality Control: compare estimates against external benchmark data (e.g., economic or count data)
  - E-commerce: Improved coverage in the OD flows
  - FAF OD flow estimation process
    - Exploratory stage
    - Goal: leverage new computational power and data sources to improve granularity, forecast, and other features of FAF
  - Potential new products (ideas in preliminary stages)
- What is most important to you? How would you prioritize these improvements?**

# We Want Your Feedback!

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Regarding the current proposed updates and the potential FAF updates:

- What is most important to you?
- How would you prioritize these improvements?

*More discussion on FAF data during the Roundtable!*

# We Want Your Feedback!

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- How have you (or your consultants) used FAF? **What questions are you trying to answer** with FAF?
- What are the **challenges in using FAF?**
- **How can FAF be improved?** What would make you use FAF more? What questions do you want to use it for, but don't currently?
- **If you don't use FAF, why not?** Is it lack of expertise? Lack of geographic or commodity detail? Other reasons?

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Feedback and inquiries are always welcome at [FAF@DOT.GOV](mailto:FAF@DOT.GOV).

**THANK YOU!**



# Rhode Island's 2022 Interim Freight Plan Update: TRANSEARCH, Geotab, & FAF Data Utilization

*Josh O'Neill*





September 2016  
Amended July 2017  
STATE OF RHODE ISLAND

**Freight  
and Goods  
Movement  
Plan**

Planning Our Future

# RHODE ISLAND'S 2022 INTERIM FREIGHT PLAN UPDATE: TRANSEARCH, GEOTAB, & FAF DATA UTILIZATION

# Background on Rhode Island Freight Plan Update



RI Interim Freight Plan Update Was Approved by FHWA on August 18, 2022.



Current Approval Lasts For 4 Years (Note Shortened Approval Time Under IIJA/BIL)



Interim Plan Update Was “Phase 1” of Our Update Process. Phase 2 Consists of Statewide Truck Parking Study and Freight Commodity Flow Analysis and Freight Forecast



Staff Anticipates Completion of Phase 2 in Spring 2023.



# IIJA / BIL Freight Plan Require ments



# IIJA / BIL Freight Plan Requirements

- Truck parking assessment
- Supply chain cargo flows by mode
- Commercial ports inventory
- Findings/recommendations from any multi-state freight compact
- E-commerce impacts on freight infrastructure
- Considerations of military freight
- Goals and strategies to decrease:
  - Impact severity of extreme weather & natural disasters
  - Freight impacts on local air pollution
  - Freight impacts on flooding and storm water runoff
  - Freight impacts on wildlife habitat loss
- Also must:
- Enhance reliability or redundancy of freight transport, or
- Incorporate ability to rapidly restore freight access and reliability

# Some Takeaways from RI Freight Plan Update Thus Far

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- Capturing the impact of the Covid-19 Pandemic in our data was crucial for accurate freight forecast
- Economic data was a bit interesting to explain to our committee members due to the unprecedented ups and down in air passenger and cargo volumes, truck volumes, and employment impacts
- Covid-19 compounded existing truck parking shortage, truck driver shortage
- Freight forecast captures massive policy shift away from fossil fuels



# Overview of Transearch Database, Geotab, FAF, and Approach to Freight Commodity Study





# Consultant Team



- ✓ Project Management Lead
- ✓ National Freight Data Analysis and Logistics Leaders
- ✓ Statewide Truck Parking Study Experts



- ✓ Creators of the Transearch© freight flow database
- ✓ Lead on updating the Transearch© database from 2019 to 2021



- ✓ Local stakeholder engagement Lead
- ✓ Extensive data analysis and presentation experience



- ✓ Largest provider of telematics to the trucking industry
- ✓ Provides detailed information on ownership, types of trips and vehicle characteristics such as parking v. staging



**Task 1: Project Management**

**Staff:** Pounds, Guerrero, Bryan, Grenier, Codd



**Task 2: Statewide Truck Parking Study**

**Staff:** Pounds, Guerrero, Wieghart, Bryan, Pulikanti, Codd, Gajjar, Boa, Benoit, Norris, Southern



**Task 3: Trucking Industry Survey**

**Staff:** Pounds, Guerrero, Wieghart, Pulikanti, Chiaramonte, Saldin



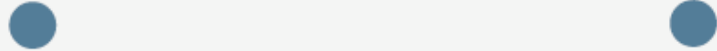
**Task 4: Commodity Flow & Freight Forecast Study**

**Staff:** Pounds, Guerrero, Bryan, Codd, Ciannavei, Muten, Flaskou, Maguire



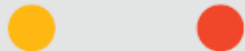
**Task 5: Geodatabase for Maps**








**Staff:** Bao, Benoit



**Task 6: Final Reports**

**Staff:** Pounds, Guerrero, Bryan, Wieghart, Codd, Pulikanti, Misiak, Antuik, Southern



-  Monthly Core Team Meetings (RIDSP, RIDOT, Consultant Team)
-  Presentation at Freight Advisory Committee
-  Trucking Industry Survey
-  Stakeholder Meetings/Interviews
-  Enhanced Transearch Commodity Flow Database
-  Draft Report
-  Final Report

# Transearch Database Overview



IHS Markit/S&P Global develops the Transearch database each year and it is used for transportation planning, freight modeling, market analysis and forecasting



The database utilizes data from dozens of public, private, and proprietary industry sources, and includes market-to-market flow data at the county level for more than 450 individual commodities and



seven modal categories of freight transportation

# Transearch Database Overview

- Validation process:
  - Comparisons with alternate sources of information, such as the Bureau of Transportation Statistics's Commodity Flow Survey (CFS) and the Federal Highway Administration's Freight Analysis Framework (FAF).
  - Information from the U.S. industry Input/Output (I/O) tables reported by the Bureau of Economic Analysis (BEA) is another key input to the process.

# Transearch Database Overview

- Additional Inputs in Transearch Commodity Flow Database Include Sampling of Data Covering 50 Million Individual Truck and Rail Shipments
- Data from Distribution Center and Warehouse traffic
- Shift in consumer behavior away from retail and towards e-commerce growth is also now a more nuanced input into the database and freight forecast produced.

# RI Freight Plan: Hybrid Freight Flow Data Set

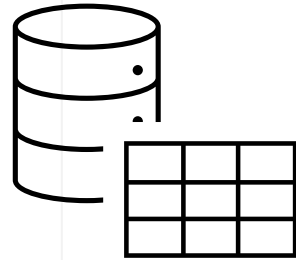
- Forecasts and overall commodity flow information are provided through a hybrid freight flow data set drawn from S&P Global's Transearch database and Geotab's Altitude Intelligent Transportation System (ITS) platform.
- The Geotab data covers approximately 20 percent of all the commercial vehicles registered in Rhode Island.
- Key attributes captured from commercial vehicles include NAICS, Gross Vehicle Weight Class, and Vocation
- This Enhanced Transearch database allowed us to advance the base year of the data to 2021 (as opposed to 2019) which is critical to capturing the effect of the Covid-19 Pandemic on freight flows



# RI Freight Plan: Hybrid Freight Flow Data Set

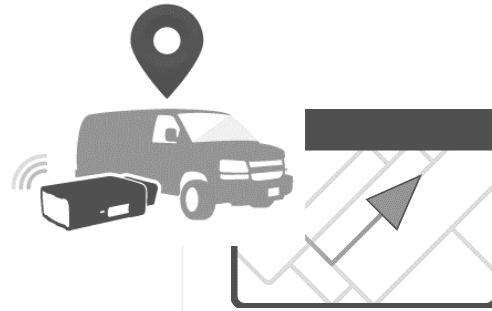
- IHS Markit/S&P Global had to correlate data attributes between the Geotab NAICS coding and the commodity data currently captured by Transearch
- The Geotab data captures local leg delivery of warehouse, distribution, retail, and e-commerce activity. Although some of the tonnage data is duplicative of what is already in Transearch, this allows for greater trip/routing clarity

# Developed first-in-the-nation post pandemic freight flow database



## IHS Transearch Freight Flows

- Gold standard of commodity flow datasets for planning
- 441 commodity groups included
- Truck, water, air modes
- Confidential rail data from the STB
- County detail and network routed



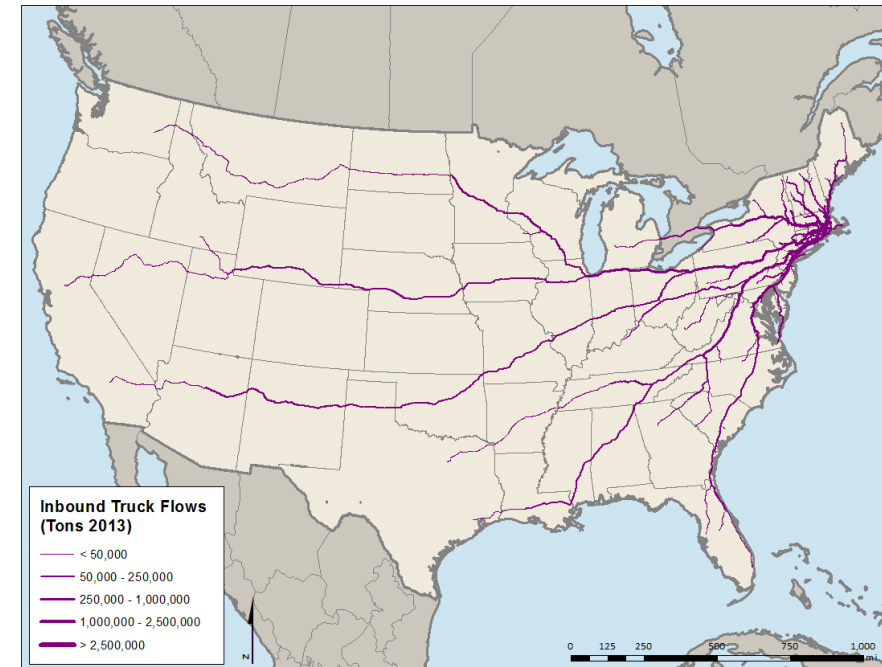
## 2021 Geotab Truck Telematics Data from

- Newly available truck telematics data
- Largest telematics provider in North America
- Industry and vehicle type detail



# Custom Commodity Flows and Freight Forecasts Approach

- Transearch© Database & Forecasts
  - Long-Standing Standard for Goods Movement Data
- Geotab Altitude API
  - More precise geocoding & truck industry segmentation and local delivery capture



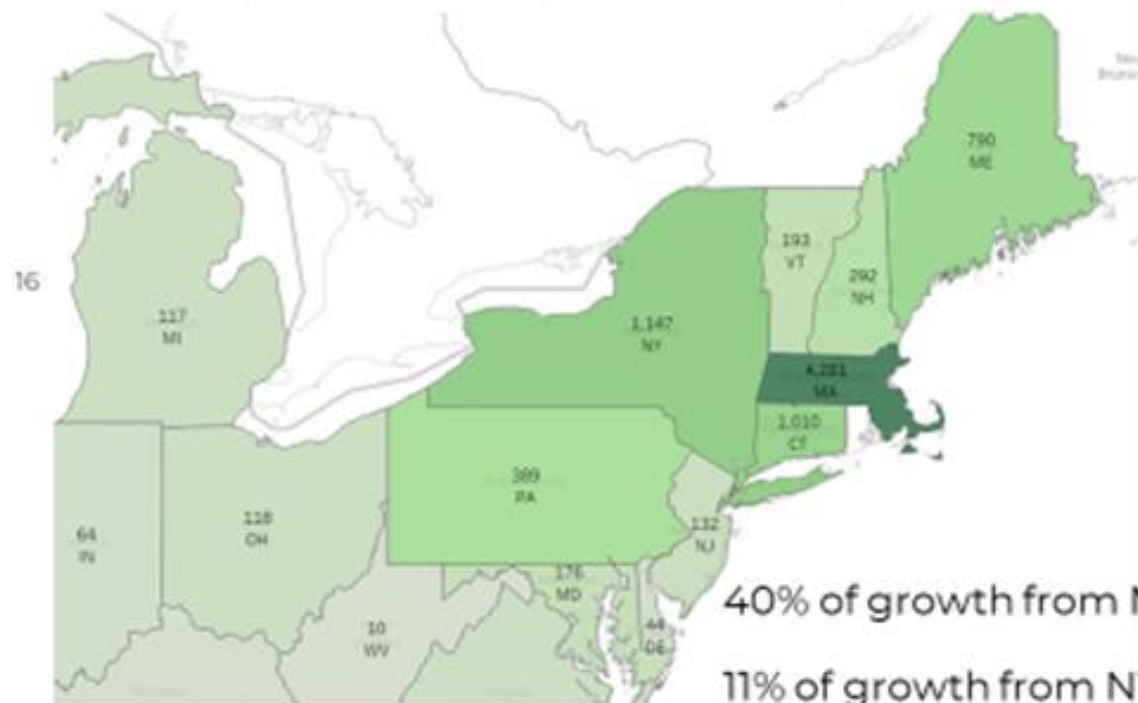
# Custom Commodity Flows and Freight Forecasts Approach

## Rhode Island Commodity Flow Data Set Elements

- Origin & Destination Market (counties within RI; BEA's in other states, also Mexico & Canada)
- Commodity (4-digit Standard transportation commodity code)
- Transport mode (rail carload, rail/truck intermodal, for-hire truckload, for-hire LTL, private truck, air, water)
- Equipment Type (Dry Van, Refrigerated, Tank, Flat Bed, Other)
- Trade Type (Domestic, Import, Export)
- Annual Short Tons
- Number of Trucks/Rail Cars
- Estimated Dollar Value
- Origin & Destination Highway Nodes (for linkage to mapping)

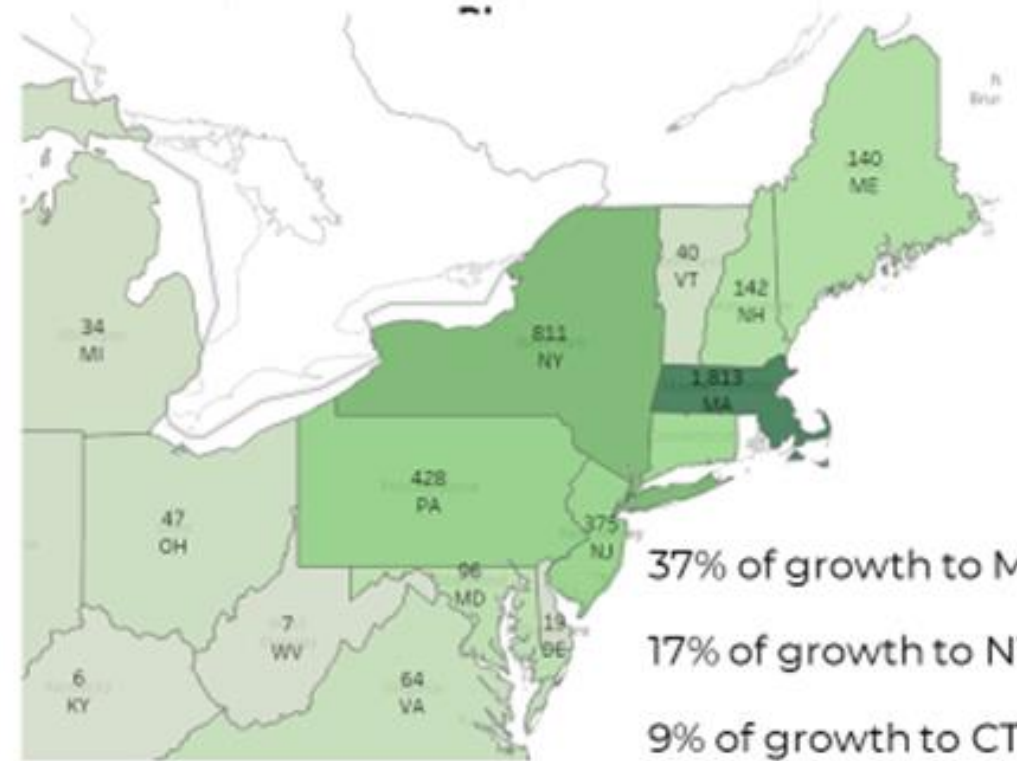
# Majority of tonnage growth to/from RI involves MA, NY and CT

## Incremental Tons Inbound to RI



40% of growth from MA  
11% of growth from NY  
9% of growth from CT

## Incremental Tons Outbound from

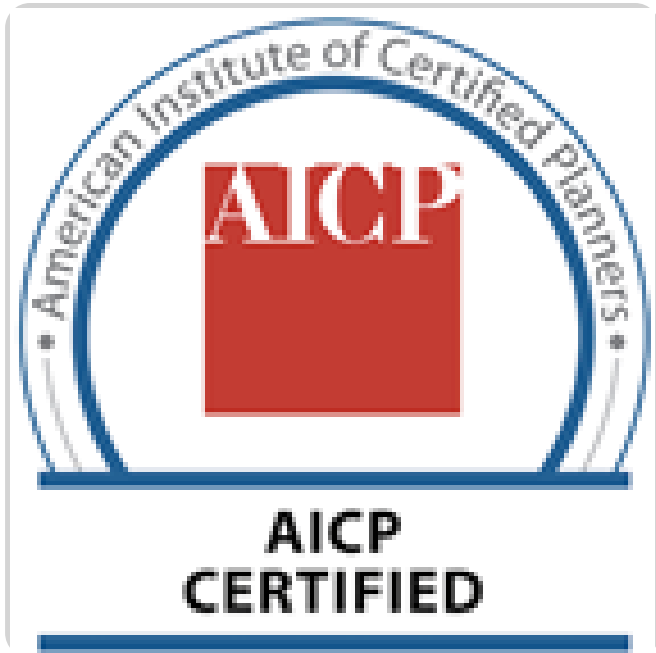


37% of growth to MA  
17% of growth to NY  
9% of growth to CT



# Questions?

Josh O'Neill, AICP  
Supervising Planner  
RI Department of Administration  
Division of Statewide Planning  
235 Promenade Street  
2<sup>nd</sup> Floor, Suite 230  
Providence, RI 02908





# Member Agency Roundtable including using Disaggregated FAF Data

*All*

# Agency Roundtable

- The focus of this agency roundtable FAF data particularly the disaggregated FAF data you received from TETC's 2022 work plan effort.
- This roundtable is intended to be a discussion on how agencies are using disaggregated FAF data and any issues you have encountered. *It is an opportunity to understand how the data is being used.*
- The questions are grouped into the following categories:
  - General
  - Using FAF Data
  - Challenges and Potential Improvements





# Agency Roundtable Questions: FAF data & FAF Disaggregated data

## General

- Does/did your agency use the data directly? (With in-house staff or on-contract consultant)
- Do/did you share your data with another entity? (such as an MPO or other public entity).
- Did you use/look at FAF Disaggregated data files that were provided for other states in your work?

## Using FAF Data

- How have you (or your consultants) used FAF?
- What questions are you trying to answer with FAF?
- What type of project/application do/did you use this for? (e.g., freight plan or other project/study)



# Agency Roundtable Questions (continued)

## Challenges and Potential Improvements

- Please explain any challenges you had in using/trying to use the data.
- How can FAF be improved? What would make you use FAF more? What questions do you want to use it for, but don't currently?
- If you don't use FAF, why not? Is it lack expertise? Lack of geographic or commodity detail? Other reasons?



# Agency Roundtable

- The focus of this agency roundtable is the disaggregated FAF data you received from TETC's 2022 work plan effort.
- This roundtable is intended to be a discussion on how agencies are using disaggregated FAF data and any issues you have encountered. *It is an opportunity to understand how the data is being used.*





# Updates

Transportation Data Marketplace Update – Marygrace Parker, TETC  
BTS Procurement Update - Kyle Titlow, USDOT, BTS



## Transportation Data Marketplace Update

- **Transportation Data Marketplace is open as of July 1, 2022**
- Freight data vendors: Geotab, INRIX, Quetica, Streetlight
- TDM webpage: <https://tetcoalition.org/projects/transportation-data-marketplace/>
- For questions on purchasing data contact, Denise Markow ([dmarkow@tetcoalition.org](mailto:dmarkow@tetcoalition.org))
- For information on the TDM Freight Data Vendor Forum (9/2022), contact Marygrace Parker ([mgparker@tetcoalition.org](mailto:mgparker@tetcoalition.org))



# Bureau of Transportation Statistics

## **BTS Procurement Update**

Kyle Titlow, USDOT, BTS



# Future Working Group Discussion Topics

Next Steps

*Josh O'Neill*

# Upcoming Freight Data & Planning Working Group Meetings

## SAVE THE DATE

- March 22, 2023 - 1:30pm to 3:00pm, ET – more information to come!
- June 21, 2023 - TBD





# Remaining Questions or Comments?



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# THANK YOU

Marygrace Parker, Freight Program Director

The Eastern Transportation Coalition

[mgparker@tetcoalition.org](mailto:mgparker@tetcoalition.org)

# We Want Your Feedback!

---

- How have you (or your consultants) used FAF? **What questions are you trying to answer** with FAF?
- What are the **challenges in using FAF?**
- **How can FAF be improved?** What would make you use FAF more? What questions do you want to use it for, but don't currently?
- **If you don't use FAF, why not?** Is it a lack of expertise? Lack of geographic or commodity detail? Other reasons?

# Participating Agencies (by state)

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# Roundtable Questions

1. Does/did your agency use the data directly? (*With in-house staff or on-contract consultant*)
2. What type of project/application do/did you use this for? (*e.g., freight plan or other project/study*)
3. Do/did you share your data with another entity? (*such as an MPO or other public entity*).
4. Did you use/look at FAF Disaggregated data files that were provided for other states in your work?
5. Please explain any challenges you had in using/trying to use the data.

