



Freight Resources – Data, Tools, Information and Technical Support Available to Florida MPOs

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**Federal Highway
Administration**

Available Resources

1. Freight Performance Measure Program (FPM)
 - National Performance Research Data Set
2. Freight Analysis Framework (FAF)
3. Freight Modeling Improvement Program (FMIP)
 - SHRP 2 C20 – Freight Modeling and Local data innovation
4. Training/Workshop
5. Technical Support

<http://www.ops.fhwa.dot.gov/freight/index.cfm>



1. Freight Performance Measure Program (FPM)

- ✓ **FPM** is an initiative to develop freight-specific performance measures that help identify transportation improvements and monitor their effectiveness.
- ✓ **FPM** includes the National Performance Management Research Data Set, a vehicle travel time data set accessible to State Departments of Transportation and Metropolitan Planning Organizations.

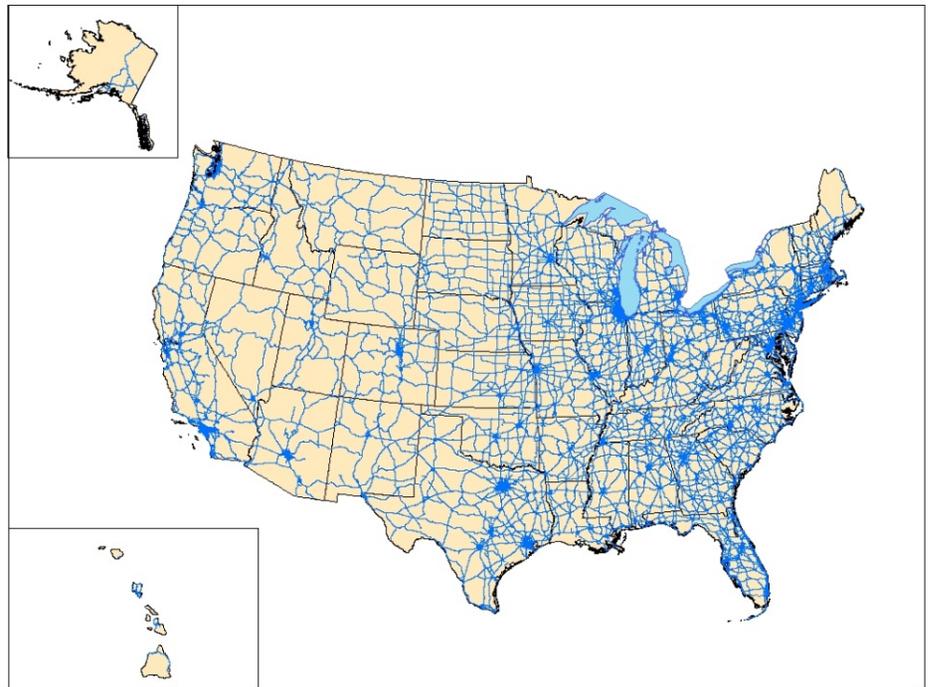
Learn more at:

http://ops.fhwa.dot.gov/freight/freight_analysis/perform_measures/index.htm and

http://ops.fhwa.dot.gov/freight/freight_analysis/perform_measures/vpds/npmrdsfaqs.htm

What is NPMRDS?

- National Performance Research Data Set
- A historical archive of average travel times by calendar day in 5-minute increments covering the National Highway System (NHS)
- An archived dataset is also available for October 2011 – June 2013
- Data for July 2013 – December 2013 is currently available
 - Data set is available on monthly basis
 - Each month's data will be available early in the following month



Potential NPMRDS Uses

- State DOTs and MPOs are encouraged to use the NPMRDS in any or all of the following ways:
 - Produce useful system performance measures that cover a wide range of operational strategies
 - Produce measures that will assist in operating the highway system more efficiently
 - Produce measures that will assist agencies in making better investment decisions
 - Produce measures that can report the story of system performance to decision makers and the public



2. Freight Analysis Framework - *Background*

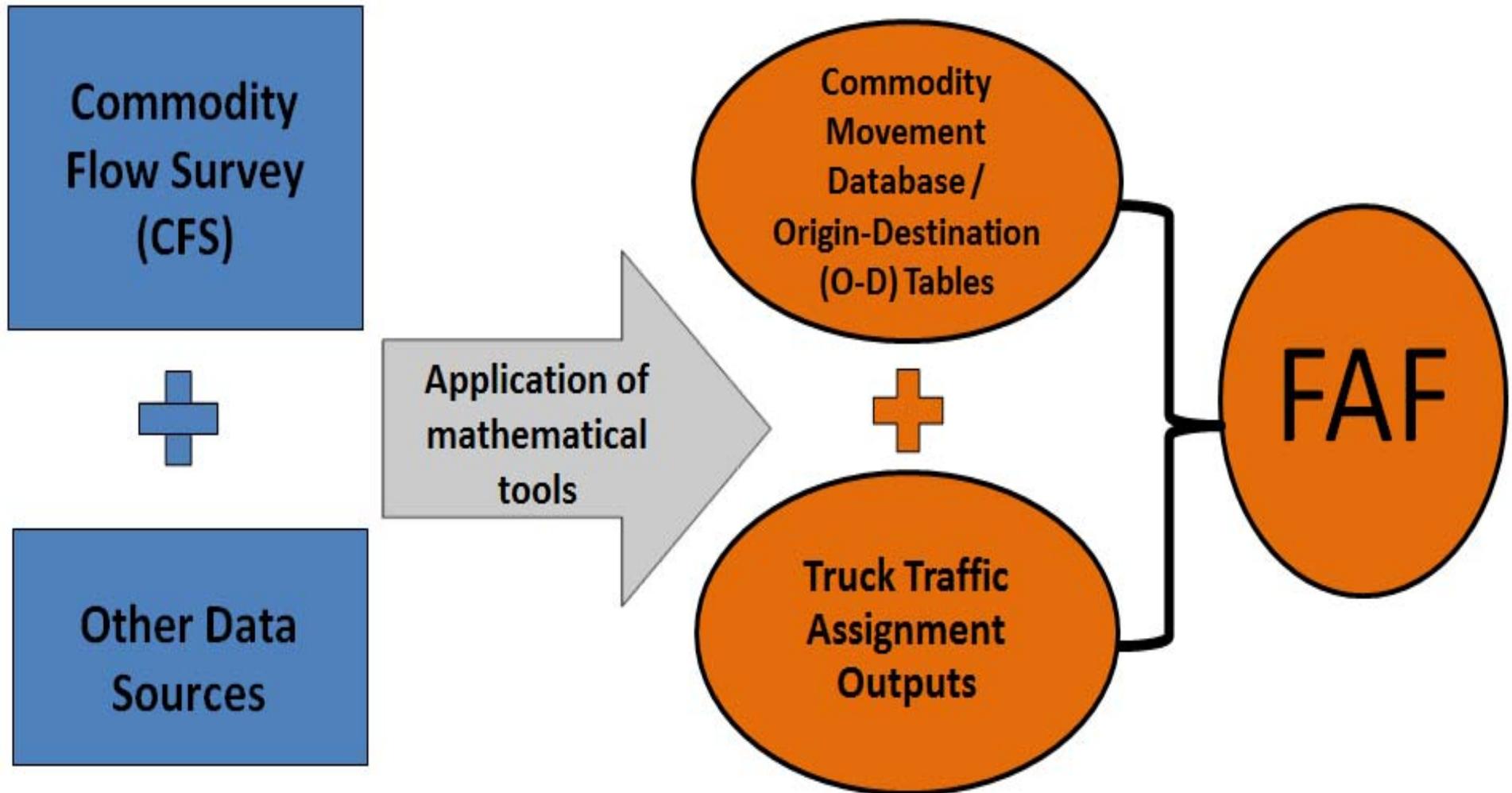
FAF is the preeminent national freight analysis tool for freight studies in the U.S.

FAF:

- Integrates data from several sources to create a comprehensive picture of freight movement by all modes of transportation
- Provides a tool to support national freight policy decision-making



Current FAF Structure



FAF Information

FAF available at:

www.ops.fhwa.dot.gov/freight/freight_analysis/faf

General email address:

FAF@dot.gov



The screenshot shows the website for the Freight Analysis Framework (FAF) under the Federal Highway Administration. The header includes the U.S. Department of Transportation logo and the text "FREIGHT MANAGEMENT AND OPERATIONS". Below the header is a navigation bar with "OFFICE OF OPERATIONS" and "21ST CENTURY OPERATIONS USING 21ST CENTURY TECHNOLOGIES". The main content area features a search bar labeled "Search Freight:" with a "Go" button. To the left of the search bar is a sidebar menu with links: "Freight Office Home", "About Us", "Contact Us", "Subject Index", and "Analysis, Data, and System Performance" (which is highlighted). The main text area is titled "Freight Analysis Framework" and contains a paragraph describing the FAF's purpose and data sources. A link "Home > Analysis, Data, and System Performance" is visible above the title. At the bottom of the main text area, it states "The FAF³ Users Guide provides additional information about the FAF and how to use it."

FAF Current Issues

- Refine FAF to address:
 - “What if?” national policy scenarios (e.g., port shutdowns, gas price fluxes)
 - Need for information in a more timely manner
 - Improved truck traffic assignments (accuracy and reliability)
 - Regional and local needs
 - Need for transparency, reproducibility, and accessibility as a public tool



3. Freight Modeling Improvement Program (FMIP)

- ✓ FMIP is a collaborative effort with freight stakeholders to improve the state-of-the-art and -practice in freight modeling/tool at national, regional, and local levels.
- ✓ FMIP provides a forum for practitioners and researchers to:
 - Develop a local understanding of freight
 - Discuss needed improvements in freight modeling/information tool and ways to meet those needs
 - Identify new approaches for national and regional freight modeling/information tool
- ✓ FHWA is developing new approaches for FMIP and is seeking your feedback on how FMIP can better meet your needs.

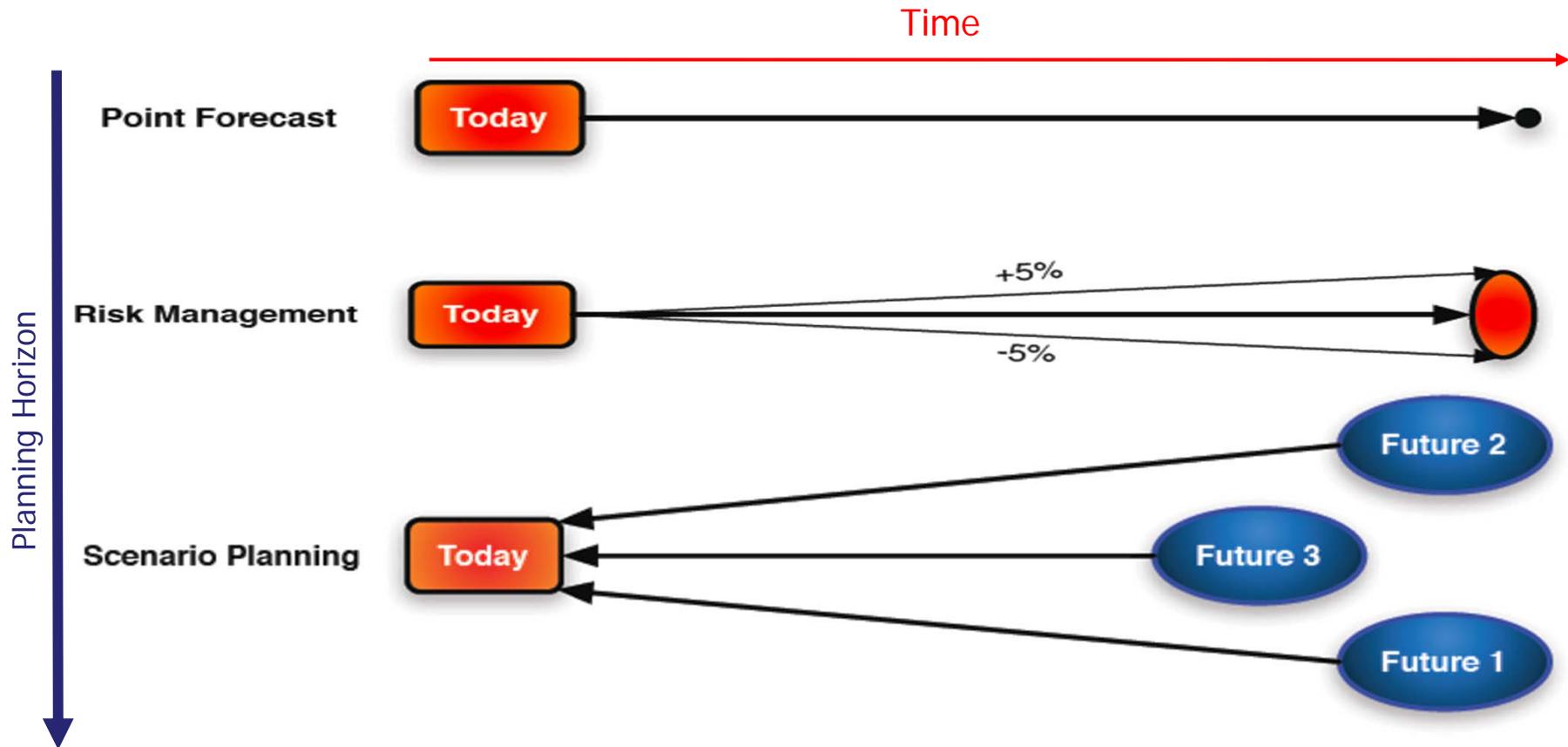


The future of Freight Modeling! Where do we go from here?

- ✓ Long term freight forecasting modeling (20 years and beyond) - **Scenario based freight planning model**
- ✓ Short term and immediate time horizon freight forecasting modeling (less than 10 years) - **Behavior based freight modeling**



Long term – Scenario based planning



Shift focus from prediction to preparation

Future: Behavior-based Freight Model

Behavior-based freight modeling represents decisions made by producers or logistics firms to ship goods to consumers. These decisions include:

- Supplier and Buyer Firms
- Size and value of shipments
- Supply chain elements – transfer facilities, retailers, wholesalers
- Mode
- Vehicle type
- Tour patterns for pick-up and delivery of goods
- Stops and timing for pick-up and delivery of goods



Model have to address – Policy Sensitivity!

- ✓ Changes in land use and economy: spatial distribution of employment and mix of industries
- ✓ Changes in transportation supply
 - ✓ Major highway network changes
 - ✓ Changes to rail capacity
 - ✓ Intermodal facility capacity changes, including deep water ports and airports
- ✓ Changes in distribution center network
 - ✓ New facilities (with regional significance)
- ✓ Changes in commodity flow origins and destinations outside Florida





FMIP - Next Steps

Implement SHRP2 C20 Recommendation:

- ✓ Define strategic needs in freight demand modeling and freight data
- ✓ Develop models to address range of policy issues more effectively
- ✓ Develop a strategy to obtain better freight data
- ✓ Develop new paradigm for freight models - Useful to both DOT and MPOs



SHRP2 C20 - Implementation Assistance

Behavior-Based Freight Modeling Pilot Assistance Program

- Advance 'tour-based' and 'supply chain' freight modeling
- Improve the understanding of decision-making by freight agents and their implications for network modeling

Innovations in Local Freight Data Pilot Assistance Program

- Identify and adapt disparate sources of data
- Refine of current data sources
- Develop new data sources on smaller geographic scales



SHRP2 C20 - Assistance Opportunities

Funding (up to **\$350K** per proof of concept pilot applicant) is available, for **4** pilots, to be applied to the implementation of - **The Behavior-Based Freight Modeling**, and,

Funding (up to **\$150K** per proof of concept pilot applicant) is available, for **5-7** pilots, to be applied to the implementation of - **The Innovations in Local Freight Data**.

Implementation Assistance Timeline

Application period opened	January 17, 2014
Application period closes	February 14, 2014
Selections announces	March 28, 2014

More information at

http://www.fhwa.dot.gov/goshrp2/ImplementationAssistance/C20/Freight_Demand_Modeling_and_Data_Improvement

4. Workshop (new) - Fundamental of Freight Data

The workshop will provide participants with:

- A broad knowledge of the freight data sources.
- The ability to utilize freight data for transportation planning program/project development and policy analyses.
- March 3rd, 2013 – Tampa, FL.

For registration:

http://www.ittsresearch.org/ITTS_2014_conference.html

More Freight training information is available at:

<http://www.ops.fhwa.dot.gov/freight/fpd/training/index.htm>

Thank you

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