

BUREAU OF TRANSPORTATION STATISTICS

Advisory Council on Transportation Statistics

BTS Program Resources

June 4, 2010

Bureau of Transportation Statistics Budget

- **Budget Enacted, by fiscal year**
 - **2008 – \$27M**
 - **2009 – \$27M**
 - **2010 – \$28M** (\$27M available under contract authority)
 - **2011 – \$30M** (President's request, \$27M under contract authority)
- **The FY 2011 increase request reflects \$2M for Commodity Flow Survey and \$1M for general BTS programs**
- **Although the requested obligation limitation increase is \$2 million, there is insufficient contract authority to provide for this enhancement. The BTS account is limited to the \$27 million SAFETEA-LU Extension Act.**



Highway Trust Fund Allocation

Bureau of Transportation Statistics

Appropriations Summary by Program Activity

Appropriations, Obligation Limitations, and Exempt Obligations (\$000)

	FY2009 Actual	FY2010 Enacted	FY2011 Request	FY10-11 Change
Travel Statistics	2,947	3,056	3,056	0
Freight Statistics	10,723	11,120	13,120	2,000
Transportation Economics	1,811	1,878	1,878	0
Geospatial Information	1,758	1,823	1,823	0
Compilations, Methods, and Standards	7,416	7,691	7,691	0
National Transportation Library	2,345	2,432	2,432	0
TOTAL: [Discretionary]	[27,000]	[28,000]	[30,000]	[2,000]
Direct Funded	68	70	70	0
Reimbursable FTE	16	19	19	0



Airline Statistics

Actual and Requested Program Budget (\$000)

FY2010 Actual – 4,000

FY2011 Requested – 4,000

FY10-FY11 Change – 0

Airline Statistics is a BTS Reimbursable Program



Travel Statistics

Program Budget (\$000)

FY2009 Actual – 2,947

FY2010 Enacted – 3,056

FY2011 Requested – 3,056

FY10-FY11 Change – 0

The Travel Statistics Program provides information regarding business and personal travel as well as passenger travel facilities. Travel data is prepared and disseminated for Federal, State, and local governments to effectively establish transportation policy, planning, and program management.



Freight Statistics

Program Budget (\$000)

FY2009 Actual – 10,723

FY2010 Enacted – 11,120

FY2011 Requested – 13,120

FY10-FY11 Change – 2,000

The Freight Data Program develops and compiles data and information on the movement of freight within, through, into, and from United States by all modes of transportation. It is a critical program that focuses on collecting, compiling, analyzing, and publishing a comprehensive set of transportation statistics on the performance and impacts of national and international freight flows on the Nation's transportation system.



Transportation Economics

Program Budget (\$000)

FY2009 Actual – 1,811

FY2010 Enacted – 1,878

FY2011 Requested – 1,878

FY10-FY11 Change – 0

The Transportation Economics Program develops basic economic and financial data to support transportation decision making, including the development of economic indicators that explain the relationship between transportation and the economy. Program products provide transportation policy officials with information and data on how decisions influence the larger economy to optimize transportation investments, improve transportation system productivity, and increase the value of transportation to users.



Geospatial Information

Program Budget (\$000)

FY2009 Actual – 1,758

FY2010 Enacted – 1,823

FY2011 Requested – 1,823

FY10-FY11 Change – 0

The Geospatial Information Program provides a comprehensive set of geospatial information as the basis for planning, policy, investment, asset management, and improved transportation decision making. Transportation planners and others can use geospatial information to prioritize highway maintenance projects, study noise footprints around airports, and plan for system disruptions due to natural disasters or national security threats.



Compilations, Methods, and Standards

Program Budget (\$000)

FY2009 Actual –7,416

FY2010 Enacted – 7,691

FY2011 Requested – 7,691

FY10-FY11 Change – 0

The Compilations, Methods, and Standards Program compiles and publishes multi-modal and intermodal transportation data and analysis covering critical and timely transportation topics with the ultimate goal of providing quality data and information for all modes of transportation for decision making. The program assembles data and provides technical support regarding performance measure scope, sources, statistical issues, completeness, and reliability for the DOT operating administrations.



National Transportation Library

Program Budget (\$000)

FY2009 Actual – 2,345

FY2010 Enacted – 2,432

FY2011 Requested – 2,432

FY10-FY11 Change – 0

The National Transportation Library maintains and facilitates access to statistical and other information needed for transportation decision making at the Federal, State, and local levels. These goals are achieved through coordination with public and private transportation libraries and information providers to improve information sharing among the transportation community.





Research and Innovative Technology Administration

Research and Innovative Technology Administration

BUREAU OF TRANSPORTATION STATISTICS

Advisory Council on Transportation Statistics

BTS Stakeholder Key Ideas Regarding Data to Enhance Decision Making

June 4, 2010

Stakeholder Ideas for Enhanced Decision Making

Ten Priority Data Ideas

- Enhanced Airline Statistics and Analysis
- Vehicle Inventory and Use Survey (VIUS)
- Commodity Flow Survey (CFS) Enhancements
- International Freight Data System (IFDS)
- Expanded Safety Data

Continued...



Stakeholder Ideas for Enhanced Decision Making

Ten Priority Data Ideas (continued)

- Local Freight Data (e.g., metro truck movement)
- Improved Data Quality and Performance Measures
- Economic Competitiveness and Livability
- Transit Data
- Intelligent Transportation Systems Data Analysis





Research and Innovative Technology Administration

Research and Innovative Technology Administration

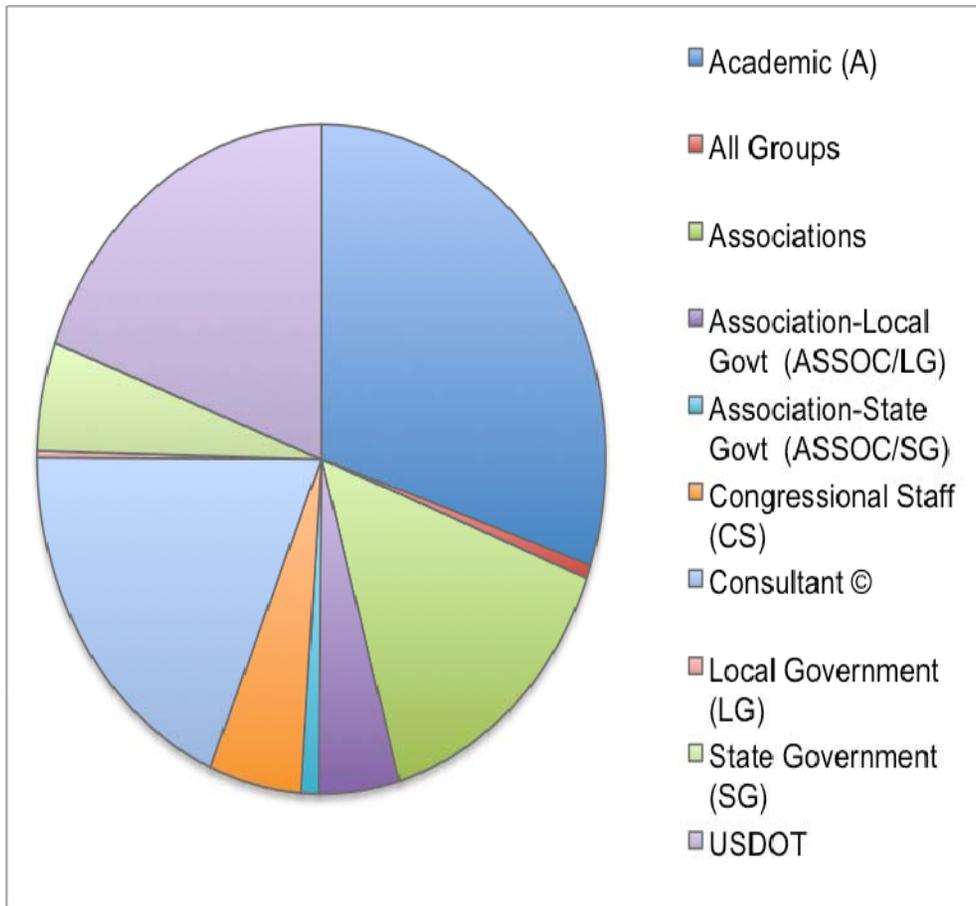
Stakeholder Outreach, Customer Feedback, and Knowledge Sharing

Thomas Bolle & Amanda J. Wilson

Advisory Council on Transportation Statistics

4 June 2010

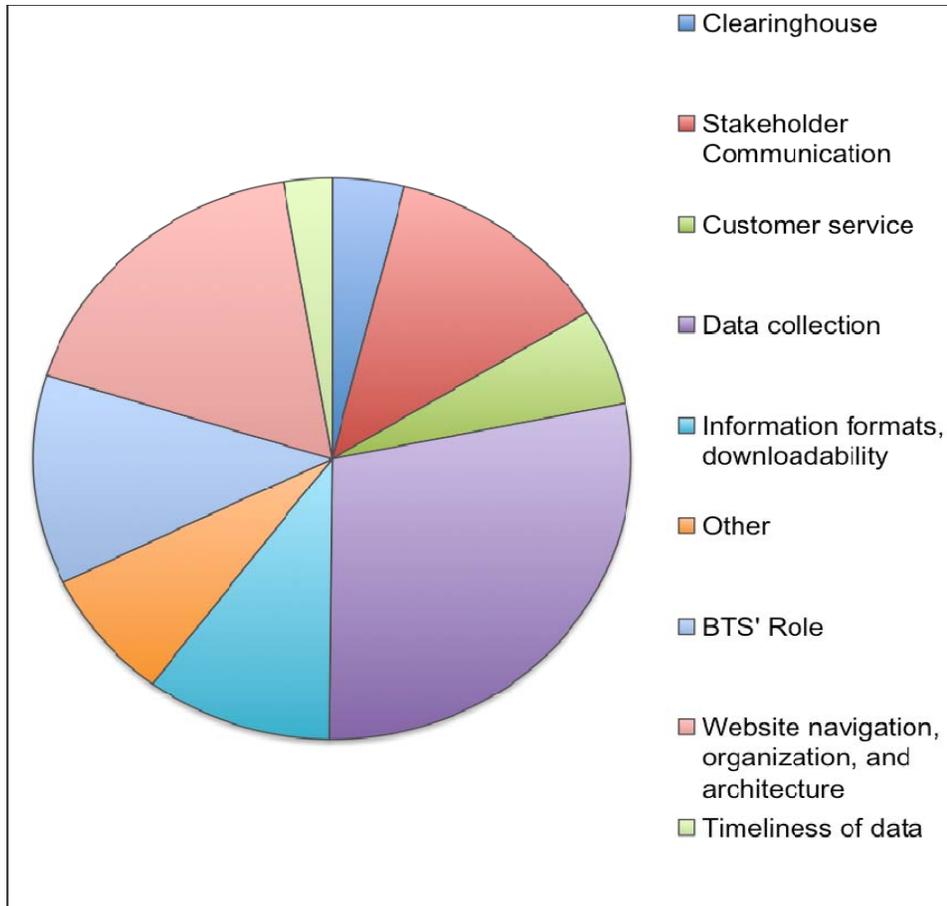
BTS Listening Sessions Stakeholders



Group	Number of Groups	Percentage of Total User Groups
Academic	92	30%
All Groups	2	1%
Associations	45	15%
Association-Local Government	14	5%
Association-State Government	3	1%
Congressional Staff	16	5%
Consultant	57	19%
Local Government	1	0%
State Government	16	5%
USDOT	59	19%
Total	305	100%



Themes from BTS Listening Sessions

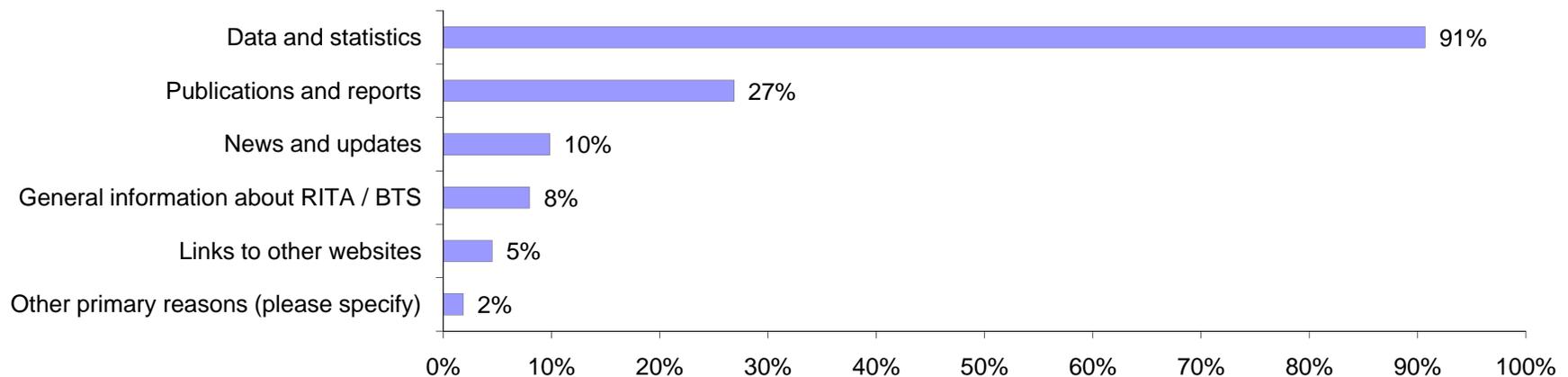


Category	Number of Comments	Percentage of Total Comments
Clearinghouse	12	4%
Stakeholder Communication	38	12%
Customer service	17	6%
Data collection	87	28%
Information formats, downloadability	31	10%
Other	23	7%
BTS' Role	37	12%
Website navigation, organization, and architecture	54	18%
Timeliness of data	8	3%
Total Comments	307	100%

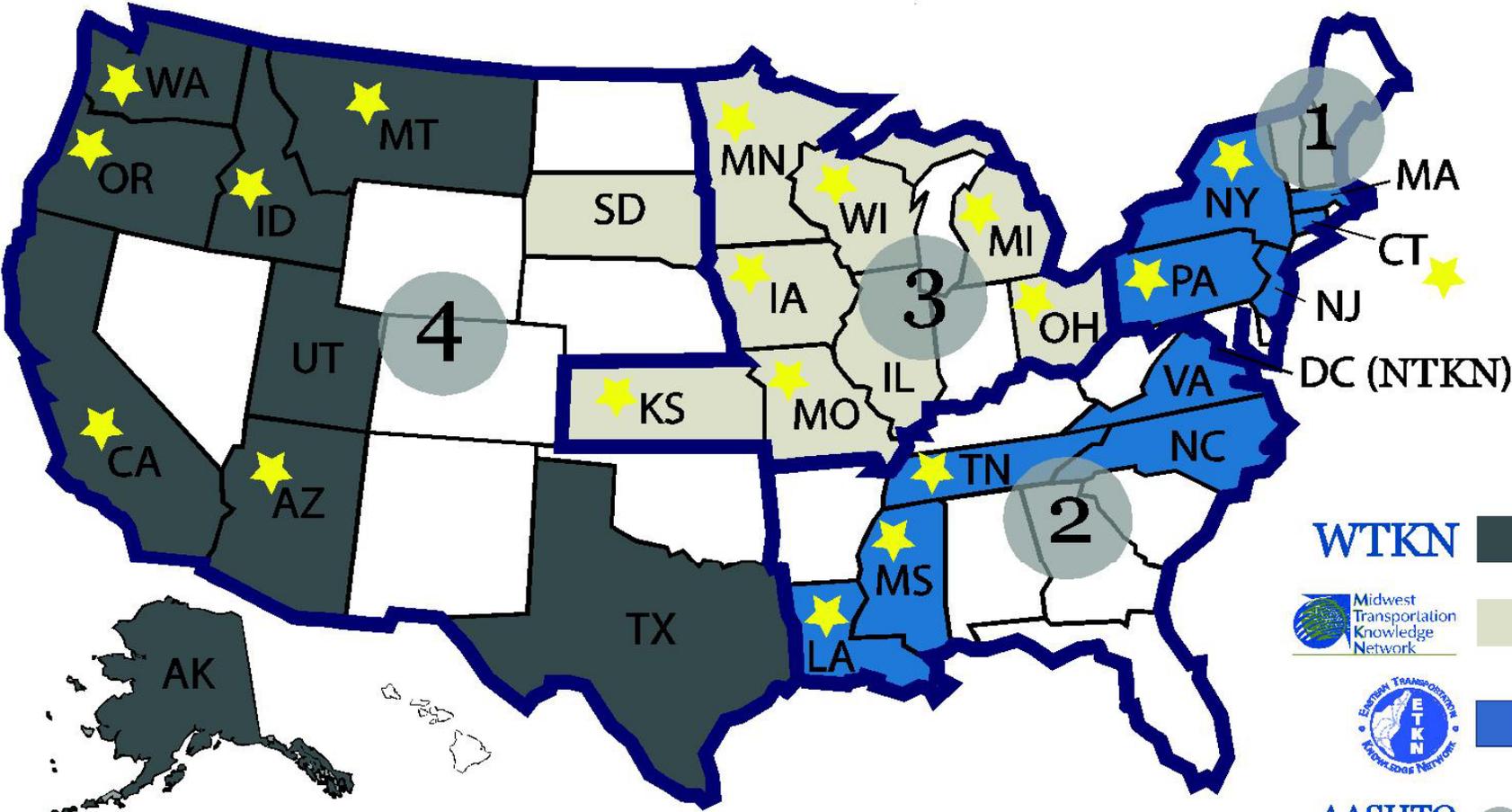


ACSI Web Survey Results – Reason For Using BTS Website

	Data and statistics	Publications and reports	News and updates	General information about RITA / BTS	Links to other websites	Other primary reasons (please specify)	Overall
<i>Responses:</i>	341 91%	101 27%	37 10%	30 8%	17 5%	7 2%	533
Content	77	77	79	80	81	82	77
Functionality	74	75	76	75	77	64	73
Look and Feel	67	69	71	71	71	58	67
Navigation	62	64	68	72	66	47	62
Online Transparency	72	74	77	77	69	73	72
Search	64	67	75	78	73	54	65
Site Performance	82	82	81	83	84	81	82
Satisfaction	67	72	78	75	76	54	67
Likelihood to Return	82	84	86	86	90	59	81
Primary Resource	79	79	83	84	85	62	78
Recommend	76	81	86	86	89	54	76



Transportation Knowledge Networks



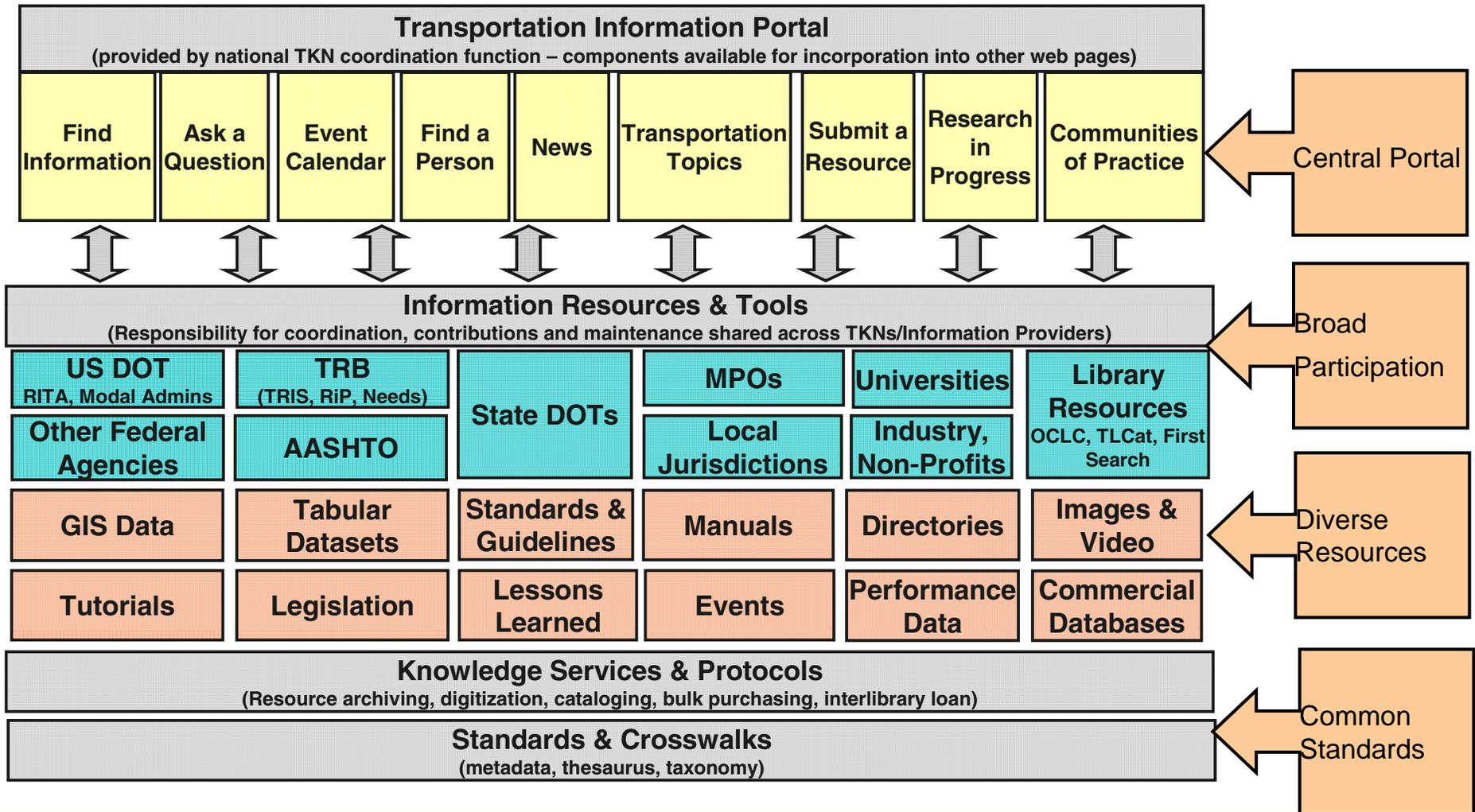
WTKN [Dark Grey Box]

 Midwestern Transportation Knowledge Network [Light Grey Box]

 ETKN [Blue Box]

AASHTO Regions [Grey Circle]

Future Vision: Information Sharing Infrastructure



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U.S. Department of Transportation
Research and Innovative Technology Administration



Research and Innovative Technology Administration

Research and Innovative Technology Administration

Bureau of Transportation Statistics
2007 Commodity Flow Survey

Ron Duych

June 4, 2010

Advisory Council on Transportation
Statistics

CFS Objective and Background

- Section 111 of ISTEA, requires BTS to collect statistics on goods movement
- The Commodity Flow Survey is the only comprehensive source of information on National Freight Flow. Provides information on commodities shipped, value, weight, ton-miles, origin/destinations by all modes of transportation, either single mode or multi-mode.
- National source of data for the highway mode that carries about 75 percent of the value and 70 percent of the tonnage of freight transported.
- Fourth in series - previously conducted in 1993, 1997 & 2002
- Conducted through a major partnership between:
 - Bureau of Transportation Statistics (BTS),
 - *Research and Innovative Technology Administration, U.S. Department of Transportation*
 - U.S. Census Bureau,
 - *U.S. Department of Commerce*



Major Uses and Key Applications of the CFS

- Foundation of Federal Highway Administration's Freight Analysis Framework.
- Fundamental input for freight flow datasets developed and marketed by private vendors.
- Provides input and calibration for freight flow models.
- Used by federal, state and local/regional analysts for policy, management and investment decisions.
- Analyze and map spatial patterns of commodity and vehicle flows.
- Provides denominator data for conducting safety risk analyses and security assessments of hazardous material flows.

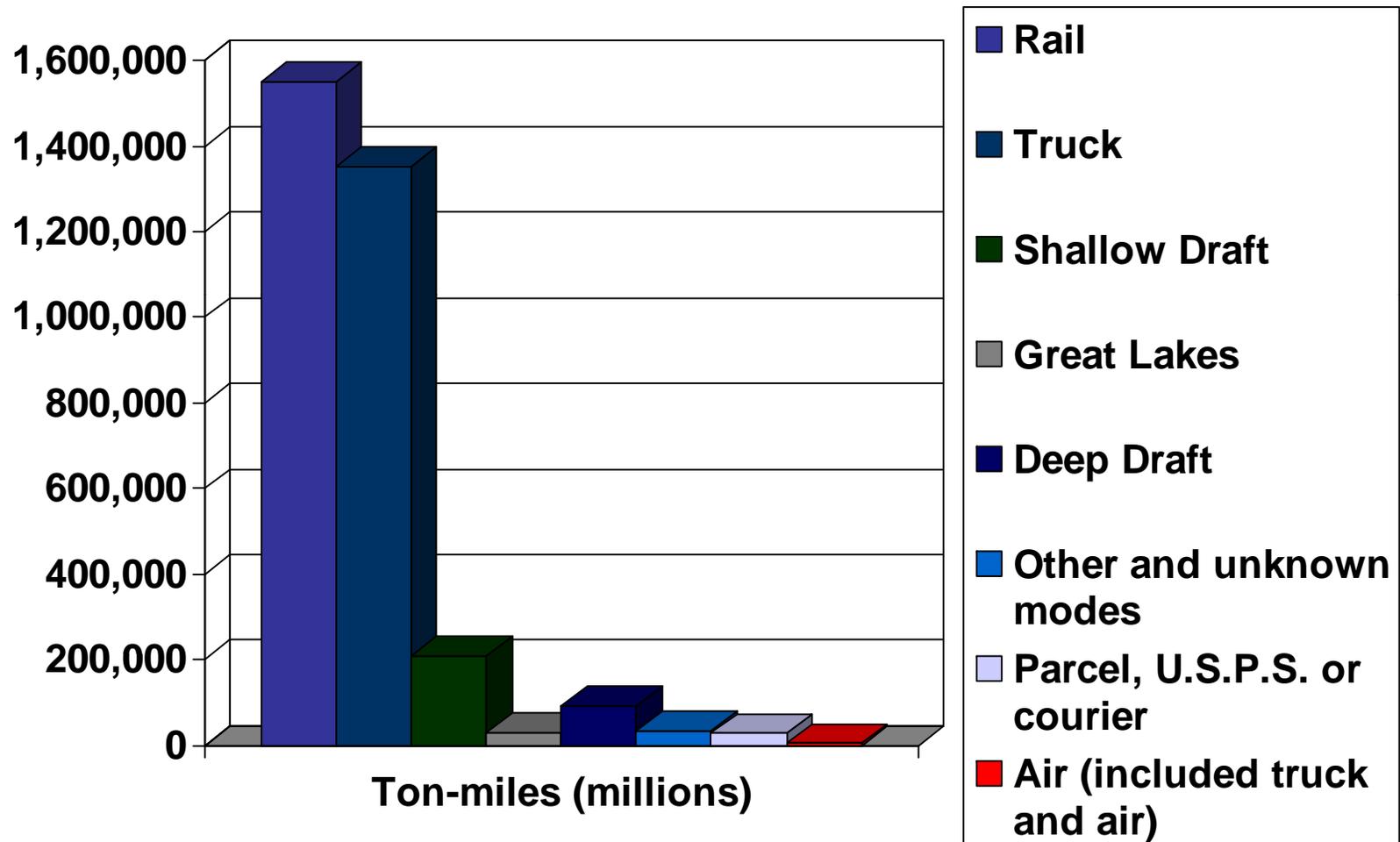


Key Highlights of 2007 CFS Results

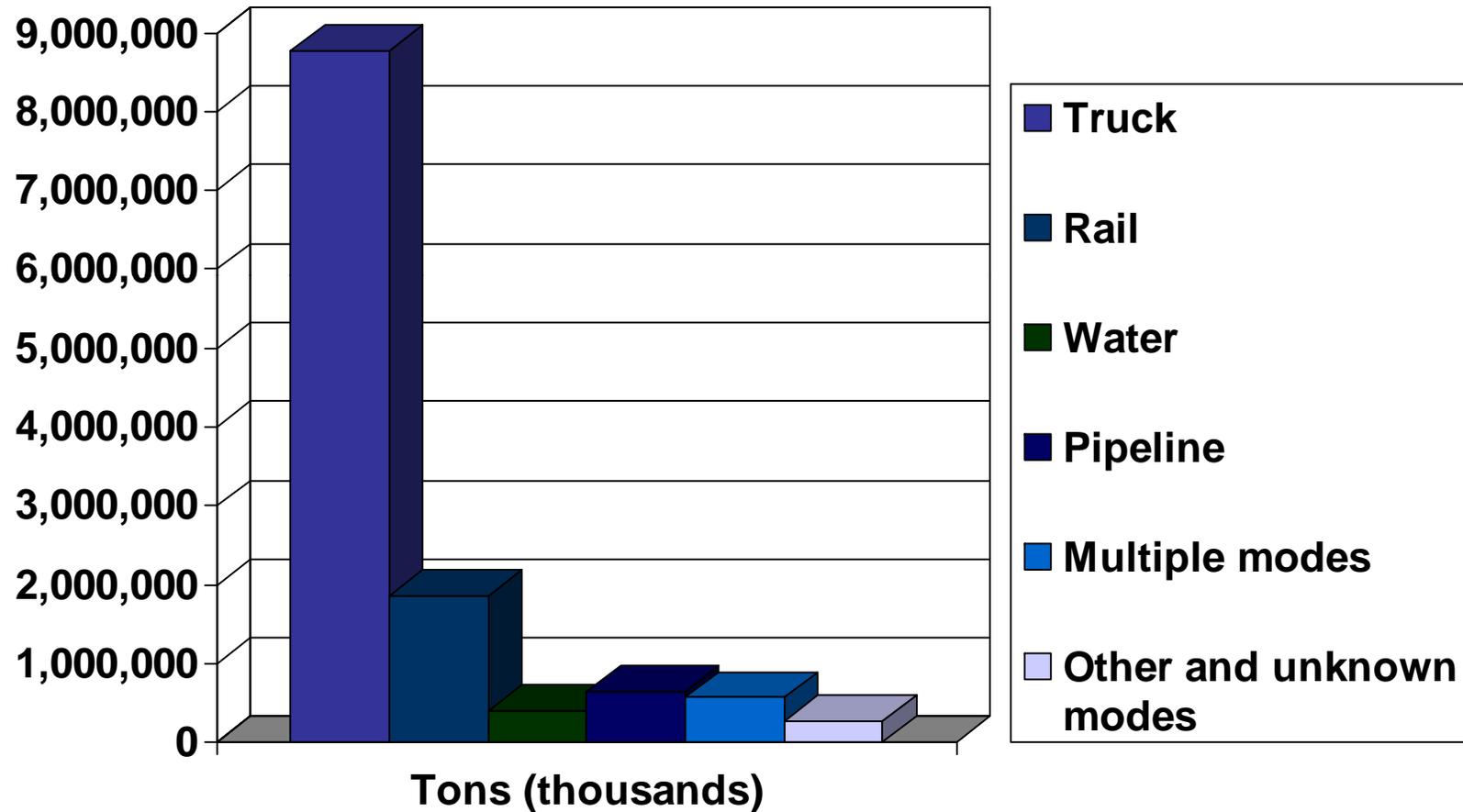
- American businesses shipped 12.5 billion tons of goods in 2007, valued at \$11.7 trillion, totaling 3.3 trillion ton-miles.
- Trucking continues to dominate the movement of freight, accounting for 71% of the value (\$8.3 trillion), 70% of weight (8.8 billion tons), and 39% of the ton-miles (1.3 trillion ton-miles) of the nation's total freight shipment.
- Industries in the manufacturing sector contributed 45% of the value (\$5.2 trillion) and 38% of the weight (4.8 billion tons) of all transported goods.
- The top commodities by total value were electronic and office equipment (\$1 trillion). By weight, gravel and crushed stone represented the largest tonnage (2 billion tons). Coal was the top commodity by ton-miles in 2007 with 836 billion ton miles.
- Since 2002, the value of shipments increased 39%, tonnage increased 8%, and ton-miles increased 7%.



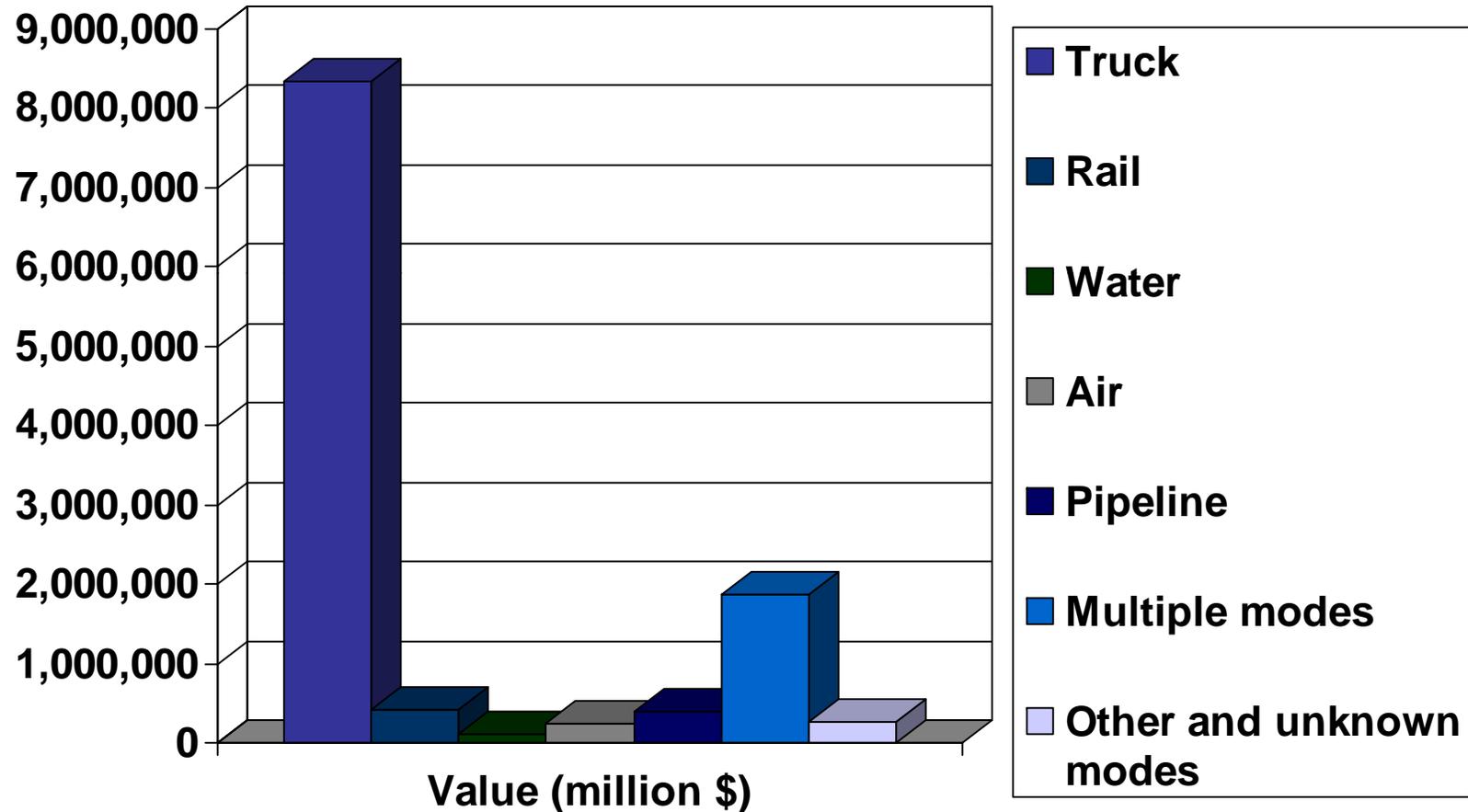
2007 CFS: Ton-miles by Total Modal Activity



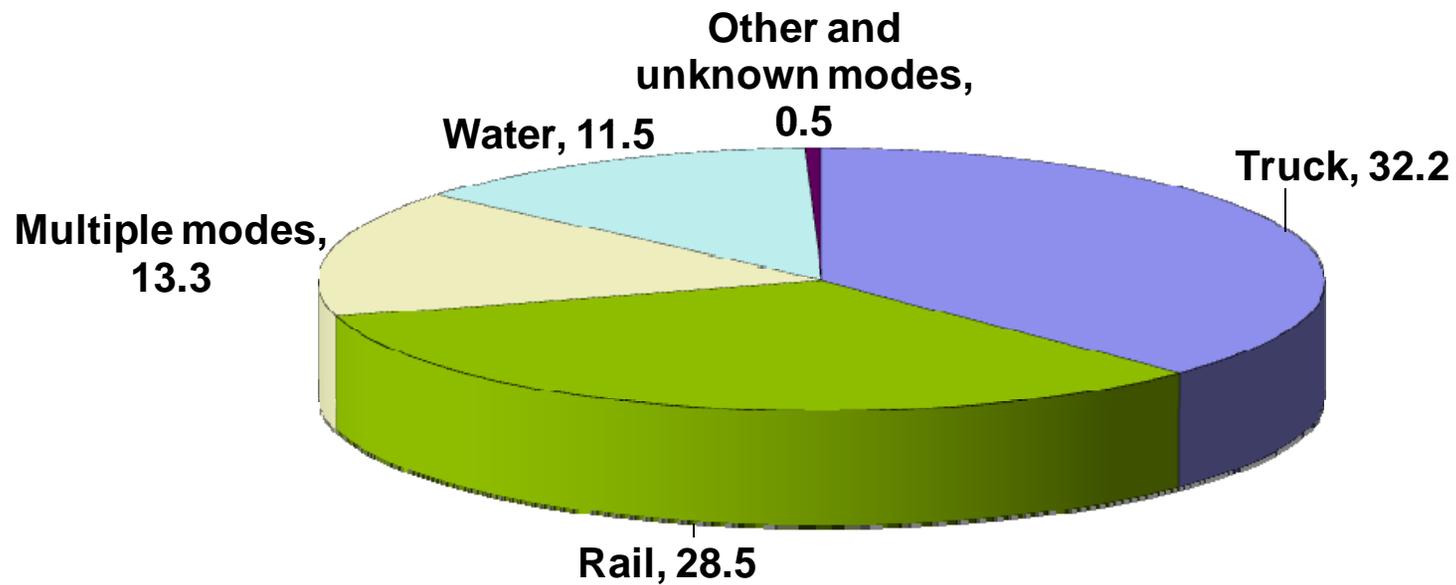
2007 CFS: Tons by Mode of Transportation for the U.S.



2007 CFS: Value by Mode of Transportation for the U.S.



Results: Ton-miles of Hazardous Material by Mode



Note: Data suppressed for Pipeline and Air



2007 CFS Key Enhancements and Improvements

Apparent Improvements for 2007 CFS

- Data Dissemination: American Fact Finder (AFF) and Data by type of Industry (NAICS)
- Expanded coverage of Freight gateways – growing ports and border crossing
- Expanded coverage for hazardous materials
- Third Party Logistics questions on the fourth quarter questionnaire
- Pre-canvass for improving CFS frame
- Increased sample size and improved sample design
- Noise added in an effort to publish a greater number of data cells

Non Apparent Improvements for 2007 CFS

- Dedicated BTS staff in involvement in planning and operations of 2007 CFS
- Developed GeoMiler, a GIS software routing tool
- Improved data quality by correcting problematic shipments more consistently and systematically
- Expanded editing process
- Joint Investigative Teams (BTS-Census)
- Lessons learned documented from 2002 CFS, used in planning for the 2007 CFS



CFS Improvements from 2002 CFS

- Scope and Coverage:
 - Returned shipping establishments 'lost' due to the SIC to NAICS conversion
 - Improved efficiency of coverage of auxiliaries
 - Expanded coverage and over sampling of hazardous materials – fuel oil dealers, hydrogen – HM certainties
 - Expanded geographic coverage to include 9 new major freight gateways (Ports and Border Crossing)
 - Gained more knowledge regarding Third Party Logistic providers (3PL)
- Questionnaire Design:
 - Conducted 3-stages of cognitive interviewing efforts
 - *Approximately 70 company interviews*
 - Conducted November 2005 – August 2006
 - Improved questionnaire, instruction guide, form layout and commodity coding manual
 - Tested and added new survey content (intermodal shipment, and Third Party Logistics usage on fourth quarter questionnaire)
 - Developed electronic reporting option



CFS Improvements from 2002 CFS (cont.)

- Sample Size and Design:
 - Increased sample size
 - 2002 CFS: 50,000
 - 2007 CFS: 100,000
 - Established national parameters
 - Conducted pre-canvass operation to improve sample efficiency of 85,000 establishments including targeted auxiliaries and 'likely' certainties
- Data Dissemination:
 - American Fact Finder (AFF)

2007 CFS will use AFF for the first time – greater flexibility with the CFS data and more control by the data user. Combining related tables into a single dataset, sorting rows, creating custom columns, downloading customized datasets, etc.
 - Summary Statistics
 - *Data table by type of industry, North American Industry Classification System (NAICS)*
 - *Third Party Logistic providers (3PL) Results*



CFS Improvements from 2002 CFS (cont.)

- Data Processing:
 - Improved Mileage Calculation of Shipment Distance
 - *Developed GeoMiler to fully utilize Geographic Information System (GIS) capability*
 - *Provided map-visualization features and streamlined the processing flow*
 - *Highway Routing: Selected Interstate/U.S. roadways first before state/county/local*
 - *Railway Routing: Calibrated route densities from a sample of 2005 rail waybills*
 - *Airway Routing: Calibrated 2005 air route information from RITA/BTS/Office of Airline Information*
 - *Routing of Export Shipments: Counted domestic mileage to the U.S. border for ALL modes of transportation*
 - *Multiple-Mode Routing: Added railway/highway drayage to/from waterside dock*
 - *Routing in Alaska: Expanded the network of mini-airports to accommodate short-hop flights by "bush" airplanes*
 - *Consistent and systematic approach in correcting problematic shipments*
 - Expanded Editing
 - Improved Variance Estimation Methodology



Future Efforts

- Improve all aspects of survey to better adapt the changing nature of transportation – the growing role of third party logistic providers (3PL, contracting out and consolidation of and establishment’s transportation needs)
- Provide for alternative reporting of shipment data via electronic means
- Reduce the cost of conducting CFS
- Improve all aspects of survey for better data reliability and accuracy through independent research efforts undertaken
 - Mileage calculation data processing detailed questionnaire research – non response study
 - SCTG two digits research – 41 commodity codes
- Update and improve commodity coding manual – SCTG to include emerging commodities such as bio fuels
- Update and improve GeoMiler software for mileage calculation data processing



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Commodity Flow Survey Data User's Workshop

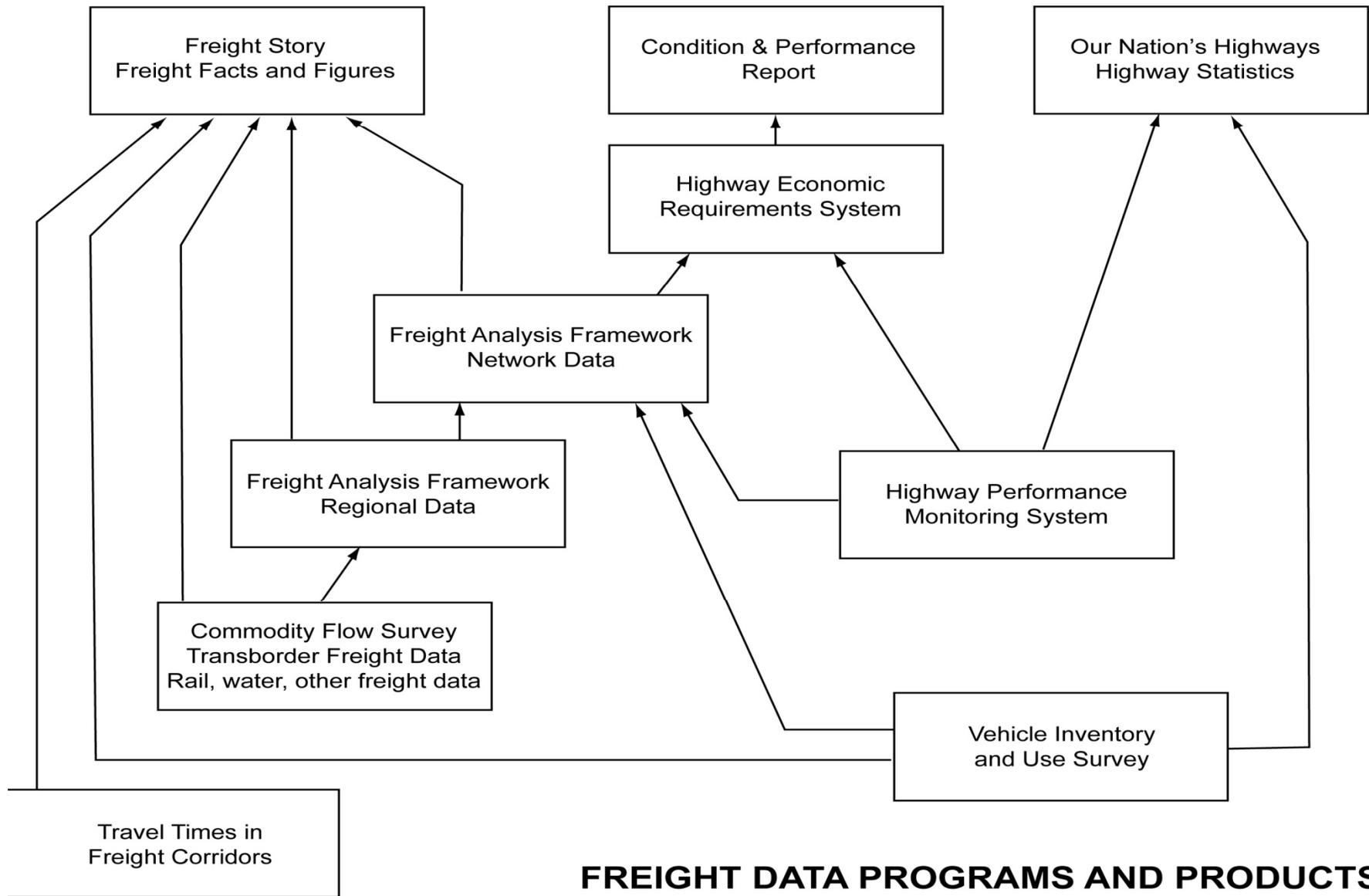
Transportation Research Board – Keck Center

Washington, DC

November 16, 2010



U.S. Department of Transportation
Research and Innovative Technology Administration



FREIGHT DATA PROGRAMS AND PRODUCTS



Bureau of Transportation Statistics
Office of Airline Information
Aviation Data Program Overview

Director, Anne Suissa
202-366-4373

Friday June 4, 2010

Mission

- OAI's Mission is governed by
 - Public Law,
 - *49 USC (United States Code) 329(b)*
 - *SAFETEA-LU*
 - *AIR-21*
 - *39 U.S.C. 5402(k)*
 - *Rural Service Improvement Act of 2002 (has to do with allocating mail tender and setting rates in AK)*
 - Treaty, Convention on International Civil Aviation, 1947 (ICAO)
 - Regulations, 14 CFR (Code of Federal Regulations)
- Aviation data collections began in the 1930's by the Civil Aviation Authority (CAA) at the direction of President Roosevelt and Congress.



OAI Services-Mandate

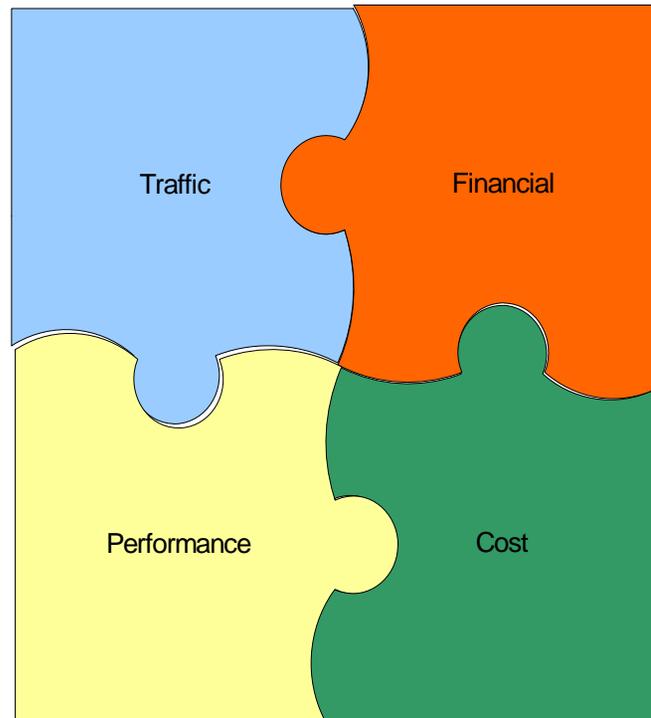
Collect, Validate, Compile & Disseminate

Traffic

- Passengers
- Freight/Mail
- Capacity
- Operational Statistics
 - Departures
 - Aircraft hours

Performance

- On-time arrivals
- Causes of Delay



Financial

- Balance Sheet
- Income Statement
- Operating Expenses
 - Employment
 - Fuel Cost and Consumption

Ticket Information Passenger Itinerary & Cost (O&D)

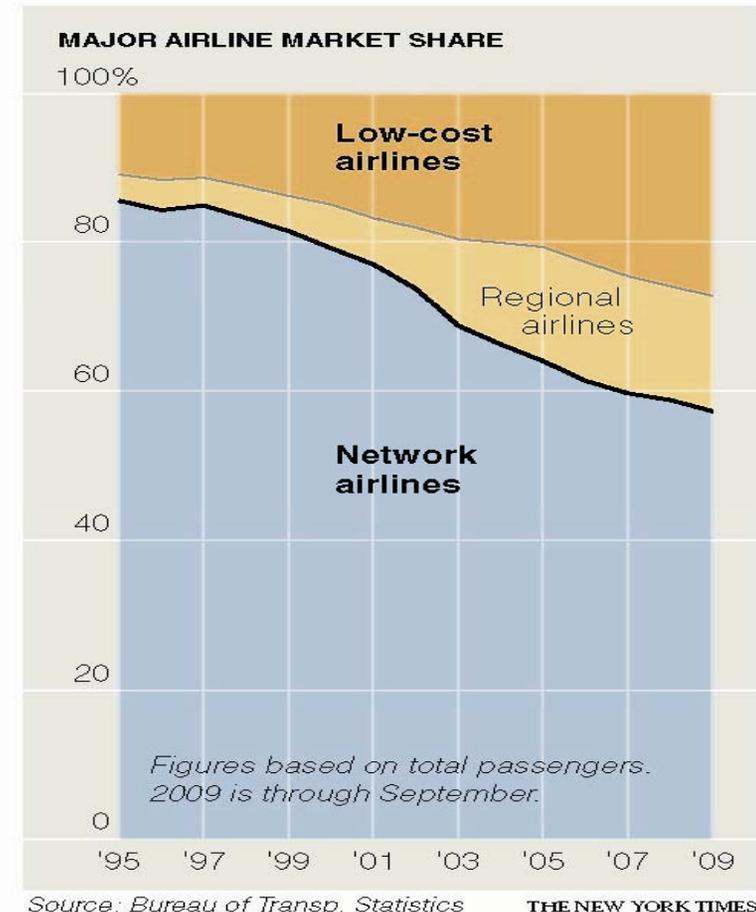
- Average Fare
- Market

Each quarter, BTS' Office of Airline Information processes, 380+ reporting air carriers, 1.3 GB+ of data, 3800+ filings/carrier submissions



BTS maintains extensive data on the airline industry

- BTS regularly collects a wide range of airline-related data used by USDOT, including the Office of Aviation Analysis, the Federal Aviation Administration (FAA), and the Office of the General Counsel. Stakeholders outside of the USDOT, such as Congress, the Department of Homeland Security, state and local governments, the air transportation industry, researchers, academia, and the public, also rely on BTS airline data products and reports.



Monthly Air Carrier Submittals

Monthly Financial Reports

- P-1 a Interim Operations Report
- P-12A Fuel Costs and Consumption
- F-183 Extension of Credit to Political Candidates

Reporting Period

- due 30 days after
- due 20 days after

Monthly Traffic Reports

- T100 Traffic & Capacity by Nonstop
- Segment and On flight Market
- T100F - Traffic & Capacity by Nonstop
- Segment and On flight Market

- due 30 days after
- due 30 days after

Monthly OnTime Reports

- 234 OnTime performance
- 234-6 Mishandled Baggage Report

- due 15 days after
- due 15 days after

Monthly Schedule for Press Releases

- Monthly [Airline Traffic Data](#)
- Monthly [Passenger Airline Employment](#)
- Monthly Air Travel Consumer Report, Input On Time data



Quarterly Air Carrier Submittals

Quarterly Financial Reports Reporting Period

- A Certification due 40 days after
- B-1 Balance Sheet due 40 days after
- B-7 Airframe/Engine Acquisition/Retirement due 40 days after
- B-12 Cash Flow due 40 days after
- P-1.2 Income Statement due 40 days after
- P-2 Notes due 40 days after
- P-5.2 Aircraft Operating Expense due 40 days after
- P-6 Expenses by Objective Grouping due 40 days after
- P-7 Expenses by Functional Grouping due 40 days after

Quarterly Traffic Reports

- 251D Passengers Denied Boarding due 30 days after
- O&D Origin & Destination Survey due 45 days after

Quarterly Press Releases

- Quarterly [Airline Financial Data](#)
- Quarterly [Air Fares](#) (ATPI)



Semi-Annual and Annual Air Carrier Submittals

Semi-annual Financial Reports

- B-1.1 Balance Sheet
- P-1.1 Income Sheet
- P-5.1 Aircraft Operating Expense

Reporting Period

due 40 days after
due 40 days after
due 40 days after

Annual Financial Reports

- B-43 Airframe/Engine Inventory
- P-10 Employee Statistics
- AR-248 Annual Audit Report
- T-8 Report of All Cargo Operations
- 291A Domestic All Cargo Operations
- ICAO EF Group III & II selected financials

due March 30
due 40 days after
due when completed
due March 30
due March 30
due March 30

Annual Press Releases

- Annual Employment by Category



Stakeholders

- DOT Aviation and International Affairs
- Justice Department Anti-trust Division
- DOT IG
- DOT Counsel
- Federal Aviation Administration
- Congress
- General Accountability Office
- Council of Economic Advisors (EOP-CEA)
- Transportation Security Administration
- International Civil Aviation Organization (ICAO)
- Airlines
- Air Transport Association
- Aviation Consultants
- State and Local Governments
- Airport Authorities
- Academia
- Members of the general public



DOT Uses of the Airline Data

- Air Carrier “Fitness” Appraisals and Operating Authority Awards
- Mail ratemaking and mail tender allocations
- International negotiations of routes and services
- The Standard Industry Fare Level (SIFL)
- The Standard Foreign Fare and Rate Levels (SFFL)
- Consumer protection and information (Air Travel Consumer Report)
- Small community air service needs (Essential Air Service determinations for eligibility and subsidy)
- Air carrier and charter operator compliance with statutory regulations
- Allocation of airport improvement funds
- Forecasting of air traffic demand



Part 234 Airline Service Quality Performance

- Required for airlines with 1 percent or more of scheduled domestic passenger revenues, see 14 CFR . Others may voluntarily report
 - Collections began in 1987
 - Additional elements added in – 2003, 2008, 2010
- APRIL 2010 CONSUMER RULE
 - Fines can be levied for tarmac time of 3 hours or more
 - Fines can be levied when flight is chronically late for 4 consecutive months
 - Chronically late flights are defined as late or cancelled more than 50 percent of time.
 - Flights must be scheduled at least 10 times in the month
 - Flights operated within 30 minutes of each other in the same city pair can be combined in determining chronically late flights
 - Carrier must publish on-time data on their websites



Questions

- Contact us at
 - AirlineData@dot.gov
 - Director, Anne Suissa
202-366-4373
 - Customer Service Representative, Steve Anderson
 - 202-366-2876



Bureau of Transportation Statistics

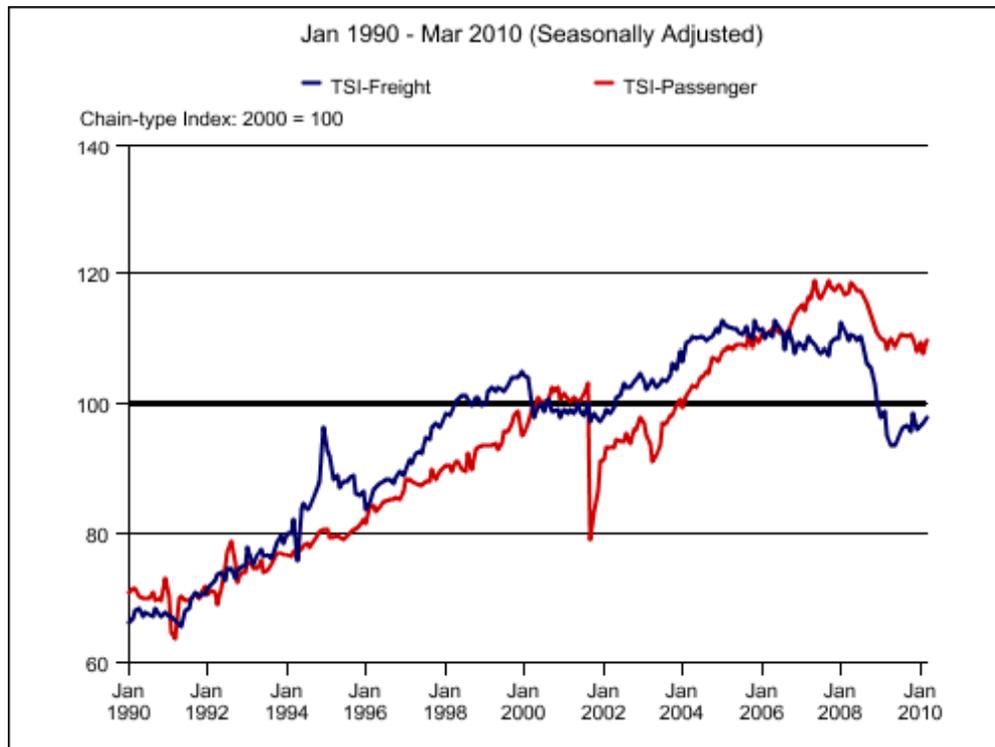
**TRANSPORTATION SERVICES INDEX
(TSI)**

Peg Young, Ph.D.
June 4, 2010



U.S. Department of Transportation
Research and Innovative Technology Administration

What is the Transportation Services Index (TSI)?



- The TSI is the broadest monthly measure of U.S. domestic transportation services.
- The TSI is a measure of the volume of services performed by the for-hire freight carriers and for-hire passenger carriers.
- The TSI reflects real monthly changes in freight and passenger transportation services.

▪ Taken from www.bts.gov



Origin of TSI

- BTS Research Grant (FY 2002)
 - “The Theoretical Development, Selection, and Testing of Economic Indicators for the Transportation Industry”
- Grant recipients: Economic researchers:
 - The State University of New York at Albany (Lahiri and Yao)
 - George Washington University (Stekler)
- BTS brought the research in-house, where its name was changed from the Transportation Services Output Index (TSOI) to the Transportation Services Index (TSI)



TSI Components for Passenger

- Air Revenue Passenger Miles
 - *Data from BTS / Office of Airline Information*
- National Transit Ridership
 - *Data from American Public Transportation Association*
- Rail Revenue Passenger Miles
 - *Data from Federal Rail Administration*
 - *Primarily AMTRAK and Alaska Railroad*



TSI Components for Freight

- Truck Tonnage
 - *Data from American Trucking Associations*
- Rail Carloads and Intermodals
 - *Data from Association of American Railroads*
 - Weekly Railroad Traffic
- Waterborne Commerce
 - *Data from Army Corps Of Engineers*
 - Inland Waterways Monthly Indicator
- Air Ton-Miles
 - *Data from BTS / Office of Airline Information*
- Gas and Petroleum Movement
 - *Data from Energy Information Administration*

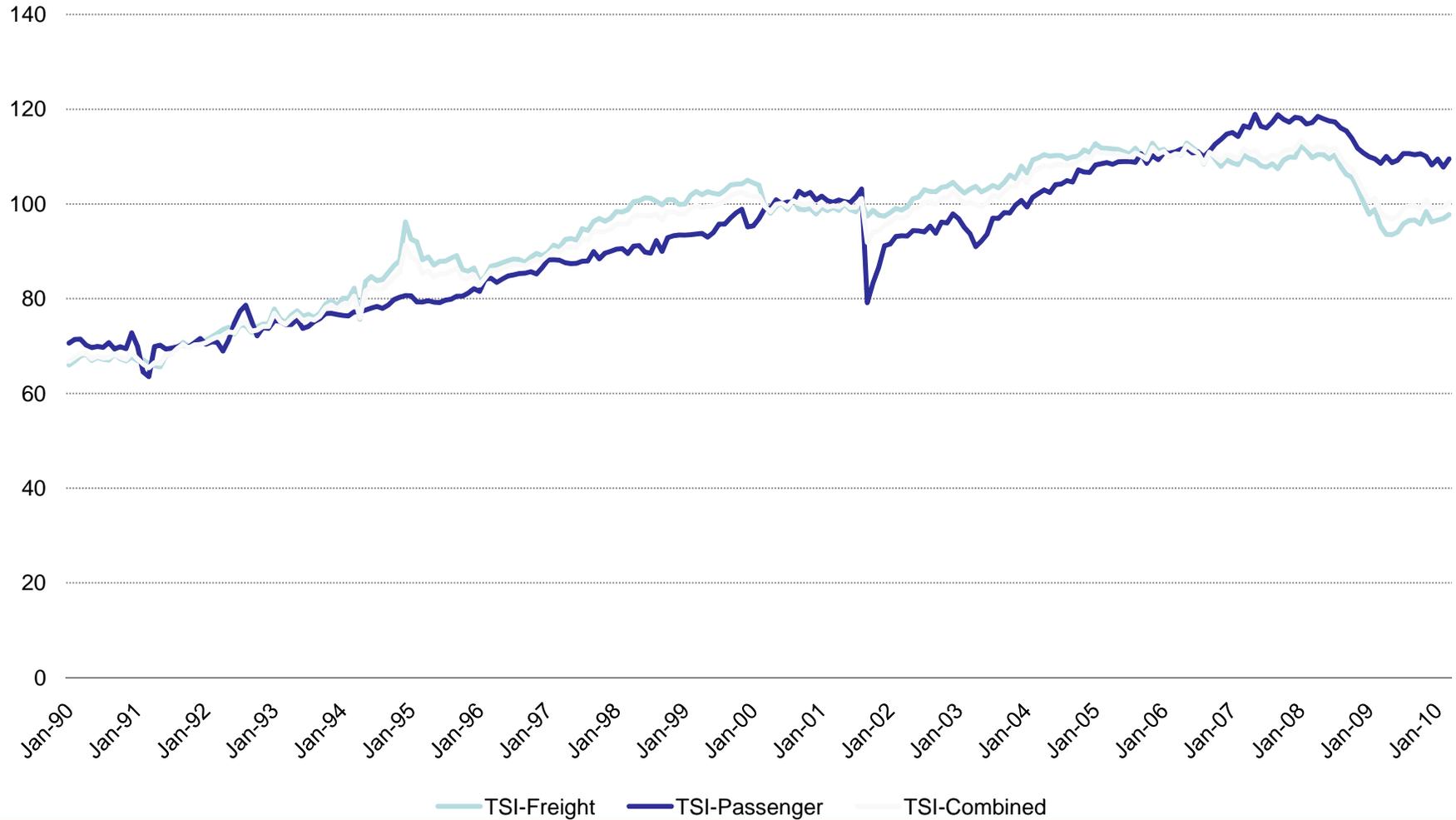


Calculation of TSI

- Seasonal Adjustment:
 - X12 method (Census procedure)
- Indexing
 - Base = 2000
- Weighting
 - Value-added GDP weights derived from BEA's Survey of Current Business
- Chaining



Transportation Services Index, January 1990 – March 2010



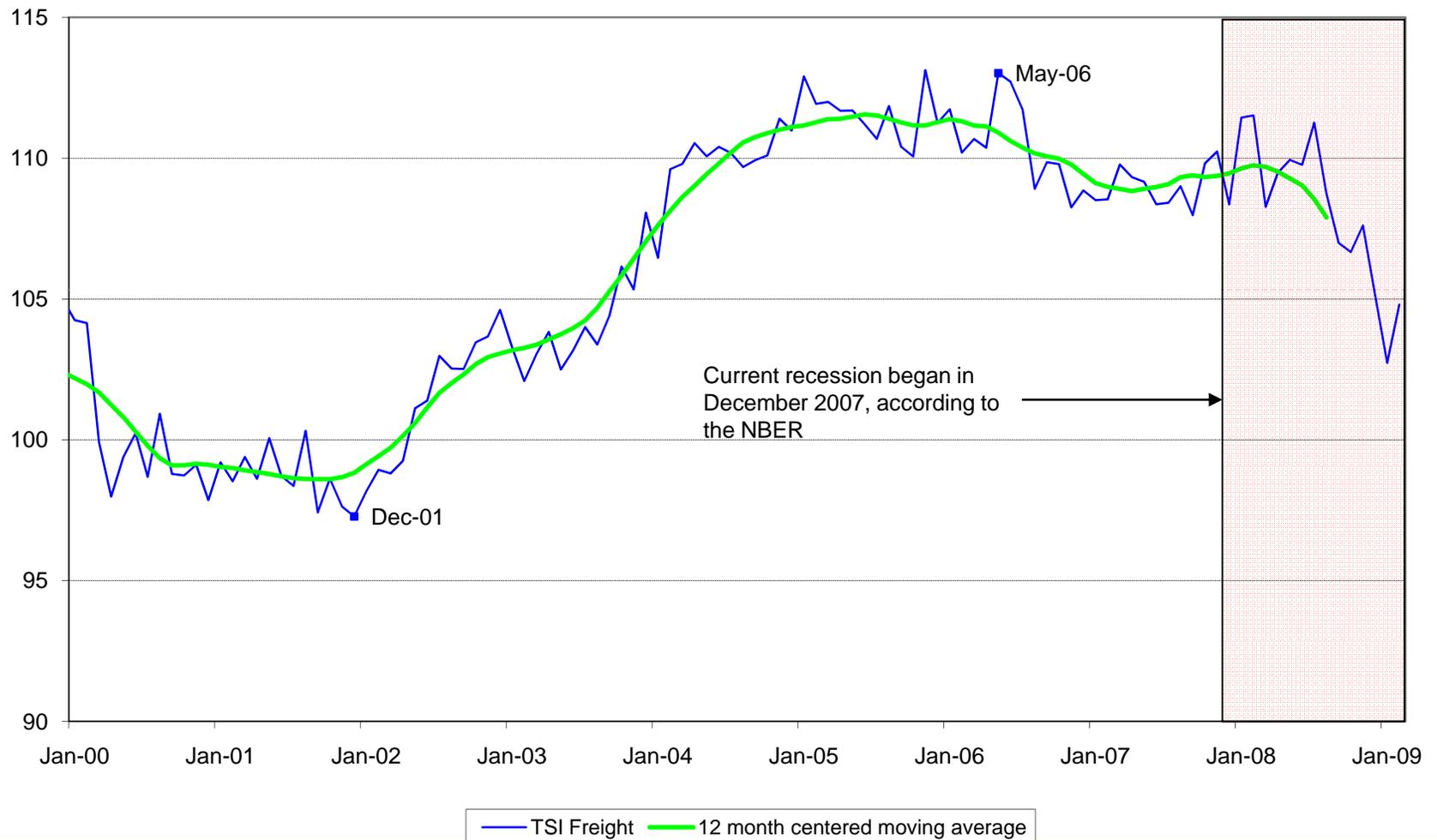
Does TSI Lead the Economy?

- Research on the history of the TSI (from 1979 to the present) shows that the freight component of the TSI demonstrates a strong leading relationship to the economy.
- When the accelerations and decelerations of the freight TSI are compared to the growth cycles of the economy, declines in the freight TSI lead decelerations in the growth cycle.
- Published results in:
 - Technical Report #2:
 - *Transportation Services Index and the Economy, December 2007*
 - Transportation Trends in Focus #2:
 - *The Freight Transportation Services Index as a Leading Economic Indicator, September 2009*



Recent Turning Point in Freight TSI

Index



Current research

- Updating turning points in Freight TSI
- Creating a Passenger TSI with highway VMT
- Comparing TSI to other measures
 - Transportation equipment index (data from Federal Reserve Board)
 - Transportation employment
- Updating Passenger TSI with Federal Transit Administration data



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BTS Program Resources

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