TRB Commodity Flow Survey Conference

July 8–9, 2005
Boston Seaport Hotel & World Trade Center

Organized by
Transportation Research Board
Freight Data Committee and Travel Survey Methods Committee

Supported by
Bureau of Transportation Statistics

Cosponsored by
Federal Highway Administration
U.S. Census Bureau
American Association of State Highway and Transportation Officials
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WELCOME

The Commodity Flow Survey (CFS) Conference provides a forum for current and potential users to understand how the national data set is being used and to explore the freight data methodological issues that affect the next CFS, scheduled for 2007. The conference convenes six months after the release of detailed CFS data and coincides with planning for the 2007 CFS. Bringing together a diverse set of users in an interactive format will provide a dialogue that can improve the use of current data and that will generate suggestions for improving future freight data sets.

The conference provides a unique opportunity for transportation professionals from government, academia, and consulting to

- Gain a more comprehensive understanding of the users and uses of CFS data,
- Review the 2002 CFS and obtain feedback from conference participants,
- Explore how data from other sources have been or could be used to supplement the CFS,
- Present the proposed initiatives for the 2007 CFS, and
- Offer suggestions for improving the quality and usefulness of 2007 CFS data.

Thank you for your participation in this important event.

—Arnim Meyburg

Ask the Experts

Friday, July 8

Do you have technical questions for the experts of the CFS? Census Bureau and BTS staff will be stationed at a table in the poster area to answer your questions. Staff will be available on Friday during the following times:

<table>
<thead>
<tr>
<th>Time</th>
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<tr>
<td>10:00 a.m.–10:30 a.m.</td>
<td>Break</td>
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<tr>
<td>10:30 a.m.–11:15 a.m.</td>
<td>Applications Poster Session</td>
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<tr>
<td>12:00 p.m.–1:00 p.m.</td>
<td>Lunch</td>
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<td>2:30 p.m.–3:00 p.m.</td>
<td>Break</td>
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COMMODITY FLOW SURVEY CONFERENCE

Agenda

FRIDAY, JULY 8, 2005

8:00 a.m.–8:30 a.m.
Continental Breakfast

8:30 a.m.–9:15 a.m.
What the CFS Is Designed to Do—Cityview 2
Arnim Meyburg, Cornell University, presiding

Welcome and Conference Objectives
Arnim Meyburg, Cornell University

How CFS Fits in the World of Freight Data
Eric C. Peterson, Deputy Administrator, Research and Innovative Technology Administration (RITA), U.S. Department of Transportation
The RITA Deputy Administrator explains how the CFS fits with other data programs to provide a comprehensive picture of freight transportation and why this comprehensive picture is important for decision makers. The evolution of needs for the CFS since the 1960s and the efforts to meet those needs will be summarized; the legislative mandates for the CFS will be highlighted. The presentation concludes with a look at U.S. DOT’s expectations for the next CFS and for related freight data programs.

9:15 a.m.–10:00 a.m.
User Applications Overview—Cityview 2
Three experienced freight data users will synthesize three groups of CFS user applications. All the applications will be highlighted in the poster session that follows.
Rolf Schmitt, Federal Highway Administration (FHWA), presiding

National Transportation Applications
T. Randall Curlee, Oak Ridge National Laboratory

Applying the CFS to State and Local Transportation Issues
Mark Berndt, Wilbur Smith Associates

Uses of the CFS Beyond Transportation
Michael S. Bronzini, George Mason University

10:00 a.m.–10:30 a.m.
Break
10:30 a.m.–11:15 a.m.
Applications Poster Session—Cityview 1

National Transportation Applications:

- The Freight Analysis Framework and the CFS  
  Rolf Schmitt, FHWA

- How the CFS Is Used in the TRANSEARCH Freight Flow Data Base  
  Paul Ciannavei, Reebie Associates

- Modal Choice in Product Shipments: Analysis of the Census  
  Ki Young Park, Argonne National Laboratory  
  Gale Boyd, Argonne National Laboratory

Applying the CFS to State and Local Transportation Issues:

- Synthesize Truck Origin–Destination Table for Local Transportation Analysis Zones: A Knox County Case Study  
  Shih-Miao Chin, Oak Ridge National Laboratory

- Using National Commodity Flow Information to Study the Interactions Between Heavy Trucks and Passenger Cars Under Traffic Incidents or Emergency Conditions: A Case Study  
  Shih-Miao Chin, Oak Ridge National Laboratory

- Using CFS Data to Guide Regional Transportation Policy and Investment  
  Scott Drumm, Port of Portland

- Using the CFS to Estimate Freight Flows on an Urban Highway Network  
  Peter Gordon, University of Southern California

Uses of the CFS Beyond Transportation:

- Economic Geography of Food Distribution in the United States  
  Patrick Canning, U.S. Department of Agriculture

- Estimating Regional Trade Models in the Presence of Missing Data  
  Richard Chard, Bureau of Economic Analysis (BEA)

- Enhancing Interdependency Analysis with the CFS  
  Kenneth Crowther, University of Virginia

- Benchmarking the CFS to Waybill Data  
  Scott Dennis, BTS

- Improving Estimation Process for Shipment Distances in the 2007 CFS: A Multimodal Approach and Integrated Interface  
  Stephen Lewis, BTS

- Why Regional Data Is Not Sufficient and Potential Solutions  
  Karen White, FHWA
11:15 a.m.–12:00 noon

**CFS 2007 Design—Cityview 2**
The session summarizes the planning for the 2007 CFS.

*Frank Southworth, Oak Ridge National Laboratory, presiding*

**Bureau of Transportation Statistics Planning for the 2007 CFS**

*Mary Hutzler, Bureau of Transportation Statistics (BTS)*

**Census Bureau CFS 2007 Planning Issues**

*Thomas L. Mesenbourg, Bureau of the Census*

**Summary Remarks and Introduction to the Workshops**

*Arnim Meyburg, Cornell University*

12:00 noon–1:00 p.m.

**Lunch—Cityview 1**

1:00 p.m.–2:30 p.m.

**Breakout Workshops**

**Scope of the Commodity Flow Survey—Federal Complex**
The scope of the CFS determines the industry sectors to be surveyed from the universe of domestic establishments that ship freight. The 2007 CFS will survey approximately 100,000 establishments from a sample of about 800,000. Participants will consider issues associated with obtaining comprehensive coverage from industry sectors within the sample, ensuring that CFS data are accurate and complete.

*Benjamin J. Ritchey, Battelle, facilitator*

*Catherine T. Lawson, State University of New York, Albany, recorder*

**Resource Paper**

*Ron Duych, BTS*

**Discussion Questions**

- What gaps in the scope and industry coverage of the CFS are the most necessary to address in the 2007 CFS?
- Are there certain CFS commodity groups where industry coverage is not comprehensive in the North American Industry Classification System (NAICS) coding scheme?
- How can the lack of comprehensive coverage in certain CFS commodity groups covered by the CFS be identified and addressed?
- When does it become feasible to accept less than complete industry coverage in a CFS Standard Classification of Transported Goods (SCTG) commodity group?
- Have changes in supply chain logistics affected the desirable scope of the CFS, especially in the role of third-party logistics providers and auxiliaries?
- Are there any CFS commodity groups or industries that could be dropped or modified from the 2007 CFS?
- Are there any industries that have been traditionally excluded from the scope of the CFS that should be considered for inclusion in 2007?
CFS Data Comparability Across Years and with Other Data Sources—Back Bay Complex

Many changes in the first three CFSs have affected users’ ability to determine trends. In addition, several other data sources have supplemented information provided by the CFS. Participants will discuss potential changes to the 2007 CFS design, the possible impacts that these changes may have on trend analysis, and ways in which the data series can be preserved. Participants also will explore other supplementary freight data sources that provide a more complete picture of commodity flows and will consider issues of data comparability.

Michael Bronzini, George Mason University, facilitator
Jonette Kreideweis, Minnesota Department of Transportation, recorder

Resource Paper
Frank Southworth, Oak Ridge National Laboratory

Discussion Questions
• What are the biggest CFS gaps that need to be filled in with other data sources?
• What other data sources can we use to fill these gaps?
  – How can we use these sources to fill in missing data cells, and add spatial and/or commodity detail?
  – How compatible are these datasets across commodities, regions, and modes of transportation?
  – What data modeling techniques are available for merging data sets?
  – Can we use these techniques to combine CFS data from the 1993, 1997, and 2002 surveys (to fill in missing data cells)?
• How consistent are the CFS results over the 1993, 1997, and 2002 surveys? (Every version of the CFS has changed—in geography, industry and commodity coding, modal detail, etc.)
  – How reliable is a CFS trend analysis?
    i. How important is this?
    ii. What error level is acceptable?
  – Would a continuously sampled CFS help?
• Can a redesigned CFS capture more information?

2:30 p.m.–3:00 p.m.
Break
3:00 p.m.–4:30 p.m.
Breakout Workshops

Shipment Characteristics—Federal Complex

Shipment characteristics of great interest to many analysts include shipping cost, time sensitivity of shipment, type of containerization, type of conveyance, piece count, size, empty shipment moves, treatment of multicommodity shipments, and value. Participants will discuss how this information could be used and whether the same or a modified list of characteristics should be collected in the 2007 CFS.
Arnim Meyburg, Cornell University, facilitator
Robert Costello, American Trucking Associations, Inc., recorder

Resource Paper
Bruce Lambert, U.S. Army Corps of Engineers
Discussion Questions

- What shipment characteristics are most important to policy makers, planners, or power users (ranging from the uninformed to the informed)?
  - Are these characteristics linked to other economic databases to assess economic relationships?
  - What characteristics are reported most often in various documents (trade journals and publications, economic research, regulatory analysis, and planning documents)? Can the report be constructed to capture these linkages?
  - Are these terms relevant for use in the industries actually being surveyed?
  - Can some analysis and findings be presented to showcase applications? Should these be included in the website and on the distribution CD?

- Generating results: can the information be presented in a meaningful manner to diverse audiences?
  - How is the average mile per shipment calibrated by mode and destination? Can this be linked to other research areas?
  - Which of the reported shipment characteristics are the most useful? Which are the least useful?
  - Does the reporting format present shipping characteristics in a relevant manner?

- Data inputs and coding: how are these calculated and coded? What are the review checks and balances?
  - What other shipment characteristics are reported, by mode, for other federal databases? What are the coverages or linkages between such sets?
  - Should the survey actually report shipments and not gross totals (the over forty rule)? Some assumptions are made when the form is completed and when it is coded.
  - Any statistical checks on Item G—the monthly value of shipments?

- Are respondents to the CFS likely to be able to answer questions about the missing shipment characteristics?

Special Measurement Issues: Intermodal Shipments and Third Parties

—Back Bay Complex

Intermodal shipments and shipments by third parties were difficult to measure from the 2002 CFS. Participants will review the magnitude of the misclassified or missed shipments, definitional problems in distinguishing a shipment by multiple modes versus multiple shipments by single modes, ways to include third parties without double counting, and ways to measure containerization or other aspects of intermodal movements.

Paul Bingham, Global Insight, Inc., facilitator
Mark Lepofsky, Battelle, recorder

Resource Paper

Rolf Schmitt, Federal Highway Administration

Discussion Questions

- How serious are the deficiencies in data covering third-parties (brokers, warehouses, and others) who arrange for shipments in the CFS?
  - How important are these deficiencies?
  - How can the actions of these third-parties be captured?
- How do the representation of third-parties in the North American Industrial Classification System and the nature of shipping documents reduce or exacerbate the problems of double counting individual shipments in the CFS?
• What is the appropriate definition of an intermodal shipment? How serious are the deficiencies in data covering intermodal movements in the CFS?
• How should containerized shipments be addressed? What do we need to know about containerized shipments?
• Are there greater or less problems when international shipments are involved?
• How serious are the deficiencies in data covering pipelines in the CFS?
• Are there efficient ways to improve the coverage of these areas in CFS for 2007?
• Is a change in scope or a completely separate survey needed?
• Can we get at intermodal shipments and third-parties by changing the way in which the questions are asked more effectively than by changing the CFS scope?

5:00 p.m.–6:00 p.m.
Reception—Flagship

SATURDAY, JULY 9, 2005

8:00 a.m.–8:30 a.m.
Continental Breakfast

8:30 a.m.–10:00 a.m.
Reports from Breakout Workshops—Waterfront 2
Arnim Meyburg, Cornell University, presiding

Scope of the Commodity Flow Survey
Benjamin J. Ritchey, Battelle

CFS Data Comparability Across Years and with Other Data Sources
Michael Bronzini, George Mason University

Shipment Characteristics
Arnim Meyburg, Cornell University

Special Measurement Issues: Intermodal Shipments and Third Parties
Paul Bingham, Global Insight, Inc.

10:00 a.m.–10:30 a.m.
Break

10:30 a.m.–12:00 noon
Breakout Workshops

Improving CFS Data Products—North End Complex
The CFS has a diverse customer base, from sophisticated analysts to inexperienced one-time users. Participants will discuss the development of data products and dissemination tools that meet the needs of the principal data users, including approaches for improving the utility and accessibility of CFS data products, customer services, and methods of dissemination for the 2007 survey.
Thomas Zabelsky, Bureau of the Census, facilitator
Ronald Tweedie, Consultant, recorder

Resource Paper
Nathan Erlbaum, New York State Department of Transportation
Jose Holguin-Veras, Rensselaer Polytechnic Institute
Discussion Questions

- What are the most important changes that would improve the current CFS data products?
- How would you prioritize geographic detail, commodity detail, modal detail, and industry detail in future CFS data products? What is the minimum acceptable level of detail of these for commodity flows?
- What sorts of “value added” or interpretive analyses, if any, would you like to see accompany the release of the CFS data?
- Users have urged the Census Bureau to produce a public-use micro data file. The law requires confidentiality of the data collected. To produce such a product, the Census Bureau would have to strip some data from the individual records in order to maintain confidentiality. To do so, they would use top code, additional noise, or a combination of some or all of these. Is there a preference? Do alternatives exist?

Exploring Survey Methods to Enhance CFS Data Quality and Usefulness—

Beacon Hill Complex

Design of the 2007 CFS includes consideration of measurement issues, questionnaire design, sampling, and data collection methods—including new technologies, data processing, and methods documentation. Participants will build on discussions from previous conference sessions and on the currently proposed 2007 CFS design to explore additional methodological changes that would improve and enhance the next CFS. In addition, this session will operate as a “think tank” by stimulating creative thinking about future methodological considerations in the collection of commodity flow data in the CFS.

Joy Sharp, BTS, facilitator
Bruce Dembroski, U.S. Census Bureau, recorder

Resource Paper
Johanna Zmud, NuStats Partners, LP

Discussion Questions

- Is the current CFS questionnaire able to respond to industry changes and accurately capture the information of interest?
- Are there pre-existing issues with the design of the questionnaire that may result in poor quality of the information collected or unduly burden on the respondent?
- How might other anticipated changes (e.g., industry coverage) influence the design of the questionnaire?
- Are multiple data collection instruments needed to assist establishments with providing accurate shipment information?
- Are there other modes of data collection that should be explored? Web-based questionnaires have been effectively used in other establishment surveys and, in many cases, help to alleviate the burden placed on respondents. Is this a feasible option for the CFS?
- Are the accompanying respondent instructions adequate and comprehensive? How might they be improved?
- Are there changes that should be implemented in the response process to ensure questionnaire and survey materials reach the appropriate respondent(s) in the establishment?
• Although a mandatory survey, the CFS also suffers from lack of responses. What additional measures could be implemented to improve the overall response rate and reduce potential bias?
• The CFS is conducted every five years as part of the economic census. Should it be conducted more frequently? Should it move towards an annual or continuous collection? Should establishments continue to report quarterly throughout the year? Less? More? Or differentially according to industry category (or other characteristic)?

12:00 noon–1:00 p.m.
**Lunch**—*Waterfront 3*

1:00 p.m.–1:45 p.m.
**Reports from Products and Survey Methods Breakout Sessions**—*Waterfront 2*
*Arnim Meyburg, Cornell University, presiding*

**Improving CFS Data Products**
*Thomas Zabelsky, Bureau of the Census*

**Exploring Survey Methods to Enhance CFS Data Quality and Usefulness**
*Joy Sharp, BTS*

1:45 p.m.–2:45 p.m.
**Improving Use and Accessibility of 2002 CFS**—*Waterfront 2*
Two freight data experts synthesize suggestions from earlier sessions on improving the use and accessibility of 2002 CFS data and add their observations.
*Pat Hu, Oak Ridge National Laboratory, presiding*

**Observation Presentations**
*Scott Drumm, Port of Portland*
*Lisa Aultman-Hall, University of Connecticut*

2:45 p.m.–3:15 p.m.
**Break**

3:15 p.m.–4:45 p.m.
**Panel Discussion: Key Observations on Improving 2007 CFS**—*Waterfront 2*
This panel reviews the conference discussions and offers observations on the use of the 2002 CFS products and on potential improvements.
*Arnim Meyburg, Cornell University, presiding*

**Panelists:**
*Paul Bingham, Global Insight, Inc.*
*Joseph L. Schofer, Northwestern University*
*C. Michael Walton, University of Texas*
Mobile Phone Manners
As a courtesy to other attendees, please observe good mobile phone manners. When attending meetings and in the public areas adjacent to these activities, please turn off your cell phones and other wireless communications devices or use the silent notification options. Thank you for your cooperation.

Accessibility
TRB uses only facilities and vendors that comply with the Americans with Disabilities Act.

Upcoming TRB Events
See http://trb.org/calendar/ for more information

September 28, 2005
Vehicle Inventory and Use Survey
Data User Workshop
Washington, D.C.

November 1–3, 2005
6th National Conference on Transportation Asset Management: Making Asset Management Work in Your Organization
Kansas City, Missouri
http://www.trb.org/conferences/preservation-asset/

December 8–9, 2005
Data Requirements in Transportation Reauthorization Legislation: What Is Included and Impacts on the Data Community
Washington, D.C.

January 22–26, 2006
TRB 85th Annual Meeting
Washington, D.C.

June 4–7, 2006
North American Travel Monitoring Exposition and Conference (NATMEC)
Minneapolis, Minnesota
http://www.natmec.org

Spring–Fall 2006
Freight Demand Modeling: A Conference on Improving Analysis and Forecasting Tools for Public-Sector Decision Making
TBD

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