
Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

**U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013**

or visit:

**Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC**

**Orders may also be placed by calling (202) 512-6000
or by using fax number (202) 512-6061, or TDD (202) 512-2537.**

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

<http://www.gao.gov>

**United States
General Accounting Office
Washington, D.C. 20548-0001**

**Bulk Rate
Postage & Fees Paid
GAO
Permit No. G100**

**Official Business
Penalty for Private Use \$300**

Address Correction Requested



United States
General Accounting Office
Washington, D.C. 20548

159984

Resources, Community, and
Economic Development Division

B-279200

February 27, 1998

The Honorable Richard Hugh Baker
House of Representatives

Subject: Surface Transportation: Improvements in the Bureau of
Transportation Statistics' Commodity Flow Survey

Dear Mr. Baker:

The Bureau of Transportation Statistics cosponsors the Commodity Flow Survey with the Bureau of Census. This survey collects data on the transportation methods (e.g., trucks, railroads, vessels) businesses use to move commodities throughout the United States. Because the survey is administered by the Census Bureau as part of the economic census that is conducted every 5 years, businesses are required to complete it. You expressed concern that this mandatory survey imposes a reporting burden on the private sector, particularly small businesses. This report provides information on (1) the data the survey collects and the requirements the survey places on respondents; (2) actions the Bureau of Transportation Statistics and the Census Bureau have taken and plan to take to reduce the survey's reporting burden; and (3) public and private sector organizations' uses for the information that is reported from the survey.

In summary, we found the following:

- The Commodity Flow Survey obtains information on the type of commodities shipped, the mode of transport used, and the origin and destination of the goods. The Census Bureau estimates that the survey imposed 805,000 hours of work on the 100,000 businesses that participated in the 1997 survey.
- Between the 1993 and 1997 surveys, the Bureau of Transportation Statistics and the Census Bureau changed the survey to reduce the overall reporting burden on the private sector. For example, the agencies reduced by one-half the number of businesses sampled, reduced the information collected in the survey, and shortened its completion time. As a result, Census officials estimated that businesses spent 59 percent less time completing the 1997 survey than the 1993 survey. Although officials from both agencies are

GAO/RCED-98-90R BTS' Commodity Flow Survey

159984

considering changes in future surveys to reduce the burden on respondents further, they stated that the survey will remain mandatory.

- The Bureau of Transportation Statistics has limited data on the use of the information reported from the survey. However, anecdotal information suggests that the survey provides federal, state, and local officials, as well as private organizations, with data for transportation planning and research activities. For example, state and local transportation planners have incorporated commodity flow data, along with other data, into planning models and have emphasized the need for additional data for freight transportation planning. Only recently have users had easy access to commodity flow data—as the Census Bureau released the information from the 1993 survey in a CD-ROM format in February 1997.

BACKGROUND

Between 1963 and 1977, the Census Bureau collected information on the types of commodities transported throughout the United States through a survey of American businesses, as part of the agency's economic census of the United States.¹ However, according to Bureau of Transportation Statistics (BTS) and Census officials, because of problems with the reliability of data gathered in the surveys of the late 1970s and the costs associated with correcting these problems, the Census Bureau last published the survey for 1977. The Census Bureau conducted a smaller commodity transportation survey in 1983 but did not release the results because of data reliability problems.

In 1991, a Transportation Research Board² (TRB) committee issued a report that identified the lack of commodity flow data as one of the greatest gaps in the Department of Transportation's data programs.³ In that same year, the Congress passed the Intermodal Surface Transportation Efficiency Act, which created BTS within the Department and directed the new agency to compile commodity and traffic flow data. BTS addressed this requirement, in part, by instituting the Commodity Flow Survey and arranging with the Census Bureau to conduct the survey as part of the economic census. Because BTS was organized in late 1992, BTS and the Census Bureau actually conducted the first Commodity Flow Survey in 1993, 1 year later than the economic census. BTS

¹Section 131 of title 13 of the U.S. Code requires the Census Bureau to conduct an economic census every 5 years.

²The Transportation Research Board is an independent adviser to the federal government.

³Data for Decisions, Requirements for National Transportation Policy Making, Transportation Research Board, National Research Council, Special Report 234.

and the Census Bureau conducted the second Commodity Flow Survey in 1997, as part of the economic census, and the next survey will be conducted in 2002.

In 1995 and 1996, BTS and Census issued a series of reports that catalogued the movement of goods from state to state. In February 1997, BTS released a CD-ROM version of the results of the 1993 survey, which, according to BTS officials, will make it easier for users to access and analyze the data. Because the survey is part of the economic census, the Census Bureau maintains respondents' confidentiality and discloses the data in an aggregated form, not by individual respondent or shipment.

THE COMMODITY FLOW SURVEY COLLECTS DATA ON
THE MOVEMENT OF GOODS THROUGH THE UNITED STATES

The Commodity Flow Survey collects data on the flow of goods by mode of transport within the United States. The information collected includes the value and weight of the shipment, the type of commodity shipped, the mode of transport (such as truck, rail, or vessel), and the shipment's origin and destination. If the commodity is an export, the data include the city and country of destination and the mode of export. The survey also records whether the commodity is shipped in containers and whether it includes hazardous materials. According to BTS and Census Bureau officials, no other national survey collects this type of commodity flow information across all transportation methods.

The Census Bureau mails the surveys to a sample of businesses in selected industries. In the 1997 survey, this sample included about 100,000 businesses engaged in manufacturing, mining, wholesale trade, and selected retail industries. The survey requires businesses typically to select 20 to 40 shipments and collect data on each, during four 1-week reporting periods over the course of a year. No business is required to report on more than 40 shipments for each 1-week reporting period. The Census Bureau estimates that an average respondent would require about 2 hours of work each reporting period to complete the survey—for a total of 8 hours overall. According to a Census official, the preliminary response rate for the 1997 survey was 71 percent.

By law, the businesses that receive the survey must complete it.⁴ However, Census Bureau officials stated that they prefer to use persuasion, rather than enforcement, to obtain responses. For example, if a business does not respond, the Census Bureau sends it a follow-up mailing. The letter reinforces the mandatory nature of the survey, but in most cases the Census Bureau takes no

⁴Section 224 of title 13 of the U.S. Code provides that a business that neglects or refuses to answer questions on a census questionnaire shall be fined not more than \$500 and that a business that willfully provides a false answer shall be fined not more than \$10,000.

further action if the business still does not respond. However, the Census Bureau may call the largest businesses that do not respond to encourage participation and improve data accuracy. Census officials encourage the businesses to respond but do not emphasize the penalties provided for by law. In addition, the Census Bureau maintains a toll-free hotline to assist respondents in completing the survey. The Census Bureau hopes to increase the response rate through good "customer service" and making reporting easier for businesses. Census officials stated that the mandatory status of the survey is important because companies often have policies that permit responses only to federally mandated surveys. In addition, the Census Bureau's previous experience shows that the mandatory nature of the survey increases the response rate. The Census Bureau has not sought penalties against any business that has not responded to the Commodity Flow Survey.

BTS AND CENSUS REDUCED THE REPORTING BURDEN
AND ARE CONSIDERING FURTHER REDUCTIONS

BTS and the Census Bureau introduced a number of changes in the 1997 Commodity Flow Survey intended to reduce respondents' reporting burden. The changes were designed both to reduce the survey's overall burden on the private sector by limiting the sample size and the burden on individual respondents by requiring less and simplified reporting. As a result of these changes, the Census Bureau estimates that the time businesses spent completing the survey dropped 59 percent, from about 1,943,000 hours in 1993 to about 805,000 hours in 1997. During this period, the Census Bureau estimated that the average time needed for an individual business to respond dropped 17 percent, from 2.4 hours to 2 hours, during each of the four reporting weeks.

To reduce the survey's overall burden on businesses, BTS and the Census Bureau reduced the number of firms in the sample by half, from 200,000 in 1993 to about 100,000 in 1997. In addition, although Census does not specifically define businesses as large or small, in 1993 the sample included 90,811 businesses with payrolls less than \$500,000 or 46.1 percent of the sample; but in 1997, the sample included 31,550 similar firms, or 30.7 percent of the sample.

The reduction in reporting burden for individual businesses was accomplished in a number of ways. First, BTS and the Census Bureau reduced the reporting periods from the 2 weeks required in the 1993 survey to the 1 week required in the 1997 survey. According to a Census official, the change simplified reporting for some businesses, namely, those with 40 shipments per week or fewer, because they could then report all their shipments instead of selecting a sample. In 1993, businesses with relatively few shipments found it easier to report all of them, rather than drawing a sample. Second, BTS and the Census Bureau reduced the maximum number of shipments sampled each period from 50 to 40. According to the Census Bureau, in 1993, more businesses than expected found

it necessary to collect data on the maximum 50 shipments. Third, BTS and Census provided 1997 respondents with fewer commodity codes—codes that describe the goods that are shipped.⁵ Because the codes used in the 1993 survey were difficult for many respondents to apply, the number of codes was reduced from more than 1,200 to fewer than 500.⁶ Census officials stated that in 1993, many of the questions respondents asked concerned the correct commodity codes to use when completing the survey. Finally, Census simplified and clarified the instructions to respondents. For example, Census included simplified instructions showing how to complete sections of the survey and graphics on how to select a sample of shipments.

BTS and Census officials are considering a number of ways to reduce further the reporting burden, especially for small businesses, including (1) further reducing the overall sample size, (2) not selecting small businesses that reported in the previous survey, (3) eliminating the smallest shippers, and (4) accepting electronically completed surveys. However, both BTS and Census officials stated that businesses receiving future surveys will still be required to complete them.

PUBLIC AND PRIVATE ORGANIZATIONS CITE THE VALUE OF THE SURVEY DATA

While TRB cited the need for commodity flow survey data in its report, BTS has limited data on who uses the survey results and for what purposes. For example, in 1997, BTS conducted a customer feedback survey of 22 users and found they were using the information for transportation planning and research purposes. In addition, because the 1993 survey information did not become available in an electronic (CD-ROM) format until February 1997, users only recently have had easy access to it. BTS and Census Bureau officials indicated a need to make the 1997 information available faster. They anticipate that the initial data from the 1997 survey will be available in late 1998 and that the full results will be available on CD-ROM in 1999.

While BTS does not have comprehensive data on the uses of information from the survey, a 1997 TRB conference⁷ on data needs for the future emphasized the

⁵The 1997 commodity codes were based on the Standard Classification of Transportable Goods, established by the Department of Transportation, Census Bureau, and Statistics Canada.

⁶The 1993 commodity codes were from an industry-based system, the Standard Transportation Commodity Classification.

⁷The conference was entitled "Information Needs to Support State and Local Transportation Decision Making into the 21st Century" (Irvine, California, March 2-5, 1997).

importance of the survey in providing baseline economic data. This conference, which included numerous representatives from federal, state, and local government organizations with responsibilities for transportation planning and analysis, developed strategies on how to better collect transportation data. The conference participants concluded that the survey information should be used more widely and that states and metropolitan planning organizations need to work with BTS to develop commodity flow data at the county level. This interest in more detailed data reflects a desire by state departments of transportation and metropolitan planning organizations to improve freight transportation planning.

Federal, state, and private organizations we contacted also demonstrated uses for the survey information. For example, the Federal Railroad Administration, in the report U.S. Industry Trade & Outlook '98, used commodity flow data to describe railroads' transport of coal, chemicals, farm products, and other commodities. The state of Indiana used these data to develop a planning model that will allow the state to evaluate alternatives for investing in its rail infrastructure. Officials from the Chemical Manufacturers Association and chemical industry stated that the 1997 data will allow better analysis of accident rates in transporting chemicals. While the Department of Transportation records the number of such accidents, no data describing all shipments of chemicals have previously been available. Commodity data will help the industry focus attention on the routes with the highest accident rates.

AGENCY COMMENTS

We provided copies of a draft of this report to the Bureau of Transportation Statistics (BTS) and the Census Bureau for their review and comment. The Bureau of Transportation Statistics concurred with the findings of the report, emphasizing that it will continue to seek efficiencies in the survey process and the means to ensure that any burden from the process is minimized. The Census Bureau stated the draft report was factual and accurately reflected its experiences with the Commodity Flow Survey. It also provided several clarifications of the survey process, which we incorporated into the report, as appropriate.

SCOPE AND METHODOLOGY

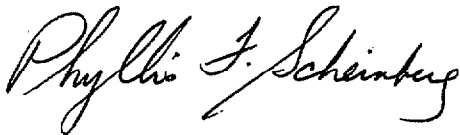
To find out what data the Commodity Flow Survey collects and what burdens it imposes on respondents, we reviewed survey forms and related documentation. We also discussed with Census officials the policy for following up with those surveyed. To determine what steps have been taken to reduce the burden imposed by the survey, we reviewed documents from BTS and Census and interviewed officials at these two agencies and the Office of Management and Budget (OMB). We also reviewed Census documents submitted to OMB to comply with the Paperwork Reduction Act. To determine how survey

B-279200

information is used, we analyzed information provided by BTS, reviewed documents by TRB, and interviewed federal and private sector transportation officials responsible for transportation planning and analysis. We conducted our review from November 1997 through February 1998 in accordance with generally accepted government auditing standards.

Major contributors to this report were Richard Calhoon, Joseph Christoff, Robert Ciszewski, and Lynn Musser. Please call me at (202) 512-3650 if you or your staff have any questions.

Sincerely yours,

A handwritten signature in cursive script that reads "Phyllis F. Scheinberg".

Phyllis F. Scheinberg
Associate Director,
Transportation Issues

(348060)

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are \$2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. VISA and MasterCard credit cards are accepted, also. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

**U.S. General Accounting Office
P.O. Box 37050
Washington, DC 20013**

or visit:

**Room 1100
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC**

**Orders may also be placed by calling (202) 512-6000
or by using fax number (202) 512-6061, or TDD (202) 512-2537.**

Each day, GAO issues a list of newly available reports and testimony. To receive facsimile copies of the daily list or any list from the past 30 days, please call (202) 512-6000 using a touchtone phone. A recorded menu will provide information on how to obtain these lists.

For information on how to access GAO reports on the INTERNET, send an e-mail message with "info" in the body to:

info@www.gao.gov

or visit GAO's World Wide Web Home Page at:

<http://www.gao.gov>

**United States
General Accounting Office
Washington, D.C. 20548-0001**

**Official Business
Penalty for Private Use \$300**

<p>Bulk Rate Postage & Fees Paid GAO Permit No. G100</p>

Address Correction Requested
