

Arizona

1997

Issued December 1999

EC97TCF-AZ

1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

U.S. Department of Commerce
Economics and Statistics Administration
U.S. CENSUS BUREAU



ACKNOWLEDGMENTS

This report was prepared in the Service Sector Statistics Division under the direction of **Thomas E. Zabelsky**, Assistant Chief for Current Service and Transportation Programs. Planning, implementation, and compiling of this report were under the supervision of **John L. Fowler**, Chief, Commodity Flow Survey Branch, assisted by **Wanda Dougherty, Debra Corbett, Bruce Dembroski, Shirley Gray, Michael Jones, Stephanie Kelley, Mabel Ocasio, Bonnie Opalko, Joyce Price, Barbara Selinske, Eli Serrano,** and **Michael Sprung**. Sample design and statistical methodology were developed under the general direction of **Howard Hogan** and **Carl A. Konschnik**, former Assistant Chiefs, and **Ruth E. Detlefsen**, current Assistant Chief, Research and Methodology. Sample design and estimation were under the supervision of **Patrick Cantwell**, former Chief, and **Jock Black**, current Chief, Program Research and Development Branch, assisted by **William C. Davie Jr., David L. Kinyon, Jacklyn R. Jonas,** and **M. Cristina Cruz**. Frame construction, sample control, imputation, and quality control procedures were developed under the supervision of **Carol King**, Chief, Statistical Methods Branch, assisted by **James Hunt**.

The processing system and computer programs were developed and implemented by the OAO programming group, led by **Jacques Wilmore** and assisted by **Harold N. Bobbitt** and **Robert J. Jeffrey**. **Steve G. McCraith**, Chief, Quinquennial Surveys Branch, Economic Statistical Methods and Programming Division and **Joseph F. Keehan** provided general support.

Coordination of data collection efforts was under the direction of **Judith N. Petty**, Chief, National Processing Center, assisted by **Matthew Aulbach, Linda Broadus, Grant Goodwin, Carlene Bottorff, Teresa Branstetter,** and **Jack Miller**.

The staff of the Administrative and Customer Services Division, **Walter C. Odom**, Chief, performed planning, design, composition, editorial review, and printing planning and procurement for the publications, Internet products, and report forms. **Margaret A. Smith** provided publication coordination and editing.

We also acknowledge the contributions of the following Department of Transportation (DOT) representatives in the overall planning and design of the survey: **Rolf Schmitt**, Associate Director for Transportation Studies, Bureau of Transportation Statistics, assisted by **Susan Lapham, Russ Capelle, Ronald J. Duych,** and **Felix Ammah-Tagoe**.

The Oak Ridge National Laboratory's Center for Transportation Analysis, under the former and current direction of **Mike Bronzini** and **David Greene**, respectively, provided all mileage data for this report, using its transportation network modeling system, under the supervision of **Frank Southworth** and assisted by **Shih-Miao Chin, Bruce Peterson, Jane Rollow,** and **Angela Gibson**.

Special acknowledgment is also due to the many businesses whose cooperation was essential to the publication of these data.

Arizona 1997

EC97TCF-AZ

Issued December 1999

1997 Economic Census *Transportation* 1997 Commodity Flow Survey



**U.S. Department of
Transportation**
Rodney E. Slater,
Secretary
Mortimer L. Downey,
Deputy Secretary

**BUREAU OF TRANSPORTATION
STATISTICS**
Dr. Ashish Sen,
Director
Rick Kowalewski,
Deputy Director
Rolf R. Schmitt,
Associate Director for
Transportation Studies



U.S. Department of Commerce
William M. Daley,
Secretary
Robert L. Mallett,
Deputy Secretary

**Economics
and Statistics
Administration**
Robert J. Shapiro,
Under Secretary for
Economic Affairs

U.S. CENSUS BUREAU
Kenneth Prewitt,
Director



**Economics
and Statistics
Administration**

Robert J. Shapiro,
Under Secretary
for Economic Affairs



U.S. CENSUS BUREAU

Kenneth Prewitt,
Director

William G. Barron,
Deputy Director

Paula J. Schneider,
Principal Associate Director
for Programs

Frederick T. Knickerbocker,
Associate Director
for Economic Programs

Thomas L. Mesenbourg,
Assistant Director
for Economic Programs

Carole A. Ambler,
Chief, Service Sector
Statistics Division



**BUREAU OF TRANSPORTATION
STATISTICS**

Dr. Ashish Sen,
Director

Rick Kowalewski,
Deputy Director

Rolf R. Schmitt,
Associate Director for
Transportation Studies

CONTENTS

Introduction to the Economic Census	1
1997 Commodity Flow Survey	3

TABLES

1a. Shipment Characteristics by Mode of Transportation for State of Origin: 1997	9
1b. Shipment Characteristics by Mode of Transportation for State of Origin: 1997 and 1993	9
1c. Shipment Characteristics by Mode of Transportation for State of Origin: Percent of Total for 1997 and 1993	10
2. Shipment Characteristics by Total Modal Activity for State of Origin: 1997	10
3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997	11
4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997	14
5. Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997	17
6. Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997	18
7. Shipment Characteristics by State of Destination for State of Origin: 1997	33
8. Inbound Shipment Characteristics by State of Origin for State of Destination: 1997	34

APPENDIXES

A. Comparability With the 1993 Commodity Flow Survey	A-1
B. Reliability of the Estimates	B-1
C. Sample Design, Data Collection, and Estimation	C-1
D. Standard Classification of Transported Goods Code Information	D-1
E. Sample Report Forms and Instructions	E-1

Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

The economic census is the major source of facts about the structure and functioning of the Nation's economy. It provides essential information for government, business, industry, and the general public. Title 13 of the United States Code (Sections 131, 191, and 224) directs the Census Bureau to take the economic census every 5 years, covering years ending in 2 and 7.

The economic census furnishes an important part of the framework for such composite measures as the gross domestic product estimates, input/output measures, production and price indexes, and other statistical series that measure short-term changes in economic conditions. Specific uses of economic census data include the following:

- Policymaking agencies of the Federal Government use the data to monitor economic activity and assess the effectiveness of policies.
- State and local governments use the data to assess business activities and tax bases within their jurisdictions and to develop programs to attract business.
- Trade associations study trends in their own and competing industries, which allows them to keep their members informed of market changes.
- Individual businesses use the data to locate potential markets and to analyze their own production and sales performance relative to industry or area averages.

BASIS OF REPORTING

The economic census is conducted on an establishment basis. A company operating at more than one location is required to file a separate report for each store, factory, shop, or other location. Each establishment is assigned a separate industry classification based on its primary activity and not that of its parent company.

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

All results of the 1997 Economic Census are available on the Census Bureau Internet site (www.census.gov) and on compact discs (CD-ROM) for sale by the Census Bureau. Unlike previous censuses, only selected highlights are

published in printed reports. For more information, including a description of electronic and printed reports being issued, see the Internet site, or write to U.S. Census Bureau, Washington, DC 20233-8300, or call Customer Services at 301-457-4100.

HISTORICAL INFORMATION

The economic census has been taken as an integrated program at 5-year intervals since 1967 and before that for 1954, 1958, and 1963. Prior to that time, individual components of the economic census were taken separately at varying intervals.

The economic census traces its beginnings to the 1810 Decennial Census, when questions on manufacturing were included with those for population. Coverage of economic activities was expanded for the 1840 Decennial Census and subsequent censuses to include mining and some commercial activities. The 1905 Manufactures Census was the first time a census was taken apart from the regular decennial population census. Censuses covering retail and wholesale trade and construction industries were added in 1930, as were some covering service trades in 1933. Censuses of construction, manufacturing, and the other business service censuses were suspended during World War II.

The 1954 Economic Census was the first census to be fully integrated: providing comparable census data across economic sectors, using consistent time periods, concepts, definitions, classifications, and reporting units. It was the first census to be taken by mail, using lists of firms provided by the administrative records of other Federal agencies. Since 1963, administrative records also have been used to provide basic statistics for very small firms, reducing or eliminating the need to send them census questionnaires.

The range of industries covered in the economic censuses expanded between 1967 and 1992. The census of construction industries began on a regular basis in 1967, and the scope of service industries, introduced in 1933, was broadened in 1967, 1977, and 1987. While a few transportation industries were covered as early as 1963, it was not until 1992 that the census broadened to include all of transportation, communications, and utilities. Also new for 1992 was coverage of financial, insurance, and real estate industries. With these additions, the economic census and the separate census of governments and census of agriculture collectively covered roughly 98 percent of all economic activity.

Printed statistical reports from the 1992 and earlier censuses provide historical figures for the study of long-term time series and are available in some large libraries. All of the census reports printed since 1967 are still available for sale on microfiche from the Census Bureau. CD-ROMs issued from the 1987 and 1992 Economic Censuses contain databases including nearly all data published in print, plus additional statistics, such as ZIP Code statistics, published only on CD-ROM.

SOURCES FOR MORE INFORMATION

More information about the scope, coverage, classification system, data items, and publications for each of the economic censuses and related surveys is published in the *Guide to the 1997 Economic Census and Related Statistics* at www.census.gov/econguide. More information on the methodology, procedures, and history of the censuses will be published in the *History of the 1997 Economic Census* at www.census.gov/econ/www/history.html.

1997 Commodity Flow Survey

GENERAL

The 1997 Commodity Flow Survey (CFS) is undertaken through a partnership between the Bureau of the Census, U.S. Department of Commerce, and the Bureau of Transportation Statistics, U.S. Department of Transportation. This survey produces data on the movement of goods in the United States. It provides information on commodities shipped, their value, weight, and mode of transportation, as well as the origin and destination of shipments of manufacturing, mining, wholesale, and selected retail establishments. The CFS was last conducted in 1993. See the Comparability With the 1993 Commodity Flow Survey table (Appendix A) for a comparison between the 1997 and 1993 surveys. The data from the CFS are used by public policy analysts and for transportation planning and decision-making to assess the demand for transportation facilities and services, energy use, and safety risk and environmental concerns.

This report presents data at the state level. Additional reports will include data for the United States, census regions, divisions, and selected metropolitan areas, as well as selected data on exports and hazardous material shipments.

INDUSTRY COVERAGE

The 1997 CFS covers business establishments in mining, manufacturing, wholesale trade, and selected retail industries. The survey also covers selected auxiliary establishments (e.g., warehouses) of in-scope multiunit and retail companies. The survey coverage excludes establishments classified as farms, forestry, fisheries, governments, construction, transportation, foreign establishments, services, and most establishments in retail.

The industries covered, as defined in the 1987 Standard Industrial Classification Manual (SIC), are listed in the following table:

SIC code	Title
10, ex. 108	Metal mining (excluding metal mining services)
12, ex. 124	Coal mining (excluding coal mining services)
13	Oil and gas extraction ¹
14, ex. 148	Mining and quarrying of nonmetallic minerals, except fuels (excluding nonmetallic minerals services)
20	Food and kindred products
21	Tobacco products
22	Textile mill products
23	Apparel and other finished products made from fabrics and similar materials
24	Lumber and wood products, except furniture
25	Furniture and fixtures
26	Paper and allied products
27, ex. 279	Printing, publishing, and allied industries (excluding service industries for the printing trade)
28	Chemicals and allied products
29	Petroleum refining and related industries
30	Rubber and miscellaneous plastics products
31	Leather and leather products
32	Stone, clay, glass, and concrete products
33	Primary metal industries
34	Fabricated metal products, except machinery and transportation equipment
35	Industrial and commercial machinery and computer equipment
36	Electronic and other electrical equipment and components, except computer equipment
37	Transportation equipment
38	Measuring, analyzing, and controlling instruments; photographic, medical and optical goods; watches and clocks
39	Miscellaneous manufacturing industries
50	Wholesale trade—durable goods
51	Wholesale trade—nondurable goods
596	Catalog and mail-order houses

¹We included establishments classified in SIC 13, Oil and Gas Extraction, in the initial coverage of the 1997 CFS. However, because of unresolved industry-wide reporting issues, we have removed shipments from these establishments from our 1997 CFS tabulations. The data collected from these establishments will be used as input to a special report at a later date.

Similarly, because establishments in SIC 13 are responsible for the overwhelming number of shipments classified in SCTG 16, Crude Petroleum, we have removed all shipments with SCTG 16 from the 1997 CFS publication results.

SHIPMENT COVERAGE

The CFS captures data on shipments originating from selected types of business establishments located in the 50 states and the District of Columbia. The data do not cover shipments originating from business establishments located in Puerto Rico and other U.S. possessions and territories. Shipments traversing the U.S. from a foreign location to another foreign location (e.g., from Canada to Mexico) are not included, nor are shipments from a foreign location to a U.S. location. Imported products are included in the CFS at the point that they left the importer's domestic location for shipment to another location. Shipments that are shipped through a foreign territory with both the origin and destination in the U.S. are included in the CFS data. The mileages calculated for these shipments exclude the international segments (e.g., shipments from New York to Michigan through Canada do not include any mileages for Canada). Export shipments are included, with the domestic destination defined as the port of exit from the U.S.

The "Industry Coverage" section of the text lists the SIC groups covered by the CFS. Other industry areas that are not covered, but may have significant shipping activity, include agriculture, government, and retail (other than warehouses and SIC 5961, Catalog and Mail-Order Houses). For agriculture specifically, this means that the CFS did not cover shipments of agricultural products from the farm site to the processing centers or terminal elevators (most likely short-distance local movements), but does cover the shipments of these products from the initial processing centers or terminal elevators onward.

MILEAGE CALCULATIONS

To compute shipment mileages for the 1997 CFS, The Center for Transportation Analysis (CTA) at Oak Ridge National Laboratory (ORNL) developed an integrated, intermodal transportation network modeling system. A secure data site was setup at ORNL to process census-supplied files containing data elements for individual CFS shipment records. Each record contained the ZIP Code of shipment origin and destination, and the mode or mode sequence reported. Each record also contained information on the type of commodity moved, its weight, dollar value and whether containerized or a hazardous material. Export shipments were also identified on the records, along with data on U.S. port of exit and foreign destination city and country. Encrypted data files were transmitted and returned from ORNL after processing, with turnaround of most files on a week-by-week basis. In this manner many shipment-specific data problems encountered by ORNL in their routing procedures were reported back to census in a timely fashion, allowing census to call back some shippers and thereby confirm, correct, or recover missing or otherwise unusable data. The ORNL system computed mileages, by mode, for all single modes and for any reported

multimodal sequence. This was done for any origin-destination pair of domestic ZIP Code locations, and for any internal ZIP Code of origin, via U.S. export port, to foreign (export) destination. Mileages between origin-destination ZIP Code centroids were computed by finding the minimum impedance path over mathematical representations of the highway, rail, waterway, air, and pipeline networks and then summing the lengths of individual links on these paths. Impedance is computed as a weighted combination of distance, time, and cost factors.

The ORNL multimodal network database is composed of individual modal-specific networks representing each of the major transportation modes—highway, rail, waterway, air, and pipeline. The links of these specific modal networks are the representation of line-haul transportation facilities. The nodes represent intersections and interchanges, and the access points to the transportation network. To simulate local access, test links are created from each five-digit ZIP Code centroid to nearby nodes on the network. For the truck network, local access is assumed to exist everywhere. For the other modes this is not true. Before any test links are created for these modes, a search procedure is used to determine if and where such networks are most likely to provide access to the ZIP Code. For shipments involving more than one mode, such as truck-rail or rail-water shipments, intermodal transfer links are added to the network database for the purpose of connecting the individual modal networks together for routing purposes. An intermodal terminals database and a number of terminal transfer models were developed at ORNL to identify likely transfer points for different classes of freight. A measure of link impedance was calculated for each access, line-haul, and intermodal transfer link traversed by a shipment. These impedances were mode specific and are based on various link characteristics. For example, the set of link characteristics for the highway network included speed impacting factors, such as the presence of divided or undivided roadway, the degree of access control, rural or urban setting, type of pavement, number of lanes, degree of urban congestion, and length of the link. Link impedance measures are also assigned to the local access links. Intermodal transfer link impedances are estimated in terms of the time it takes to move goods through such a transfer. In the case of rail and air freight, intercarrier transfer penalties are also considered in order to obtain proper route selections. A minimum path algorithm is used to find the minimum impedance path between a shipment's origin ZIP Code centroid and destination ZIP Code centroid. The cumulative length of the local access plus line-haul links on this path provides the estimated shipment distance. When rail was involved these shipment distances may be averaged over more than one path between an origin-destination pair.

Mileage Data for Pipeline Shipments

In the tables, we do not show ton-miles or average miles per shipment for pipeline shipments. For most of these shipments, the respondents reported the shipment

destination as a pipeline facility on the main pipeline network. Therefore, for the majority of these shipments, the resulting mileage represented only the access distance through feeder pipelines to the main pipeline network, and not the actual distance through the main pipeline network. Pipeline shipments are included in the U.S. totals for ton-miles and average miles per shipment.

DISCLOSURE RULES

In accordance with Federal law governing Census Bureau reports, no data are published that would disclose the operations of an individual firm or establishment.

EXPLANATION OF TERMS

Average miles per shipment. For the 1993 CFS, we excluded shipments of STCC 27, Printed Matter, from our calculation of average miles per shipment. We made this decision after determining that respondents in the 1993 CFS shipping newspapers, magazines, catalogs, etc., had used widely varying definitions of the term “shipment.”

For the 1997 CFS, we made numerous efforts throughout our data collection and editing to produce consistent results from establishments shipping SCTG 29, Printed Products. As a result, we have included printed products in the average miles per shipment calculations for the 1997 CFS.

Commodity. Products that an establishment produces, sells, or distributes. This does not include items that are considered as excess or byproducts of the establishment’s operation. Respondents reported the description and the five-digit SCTG code for the major commodity contained in the shipment, defined as the commodity with the greatest weight in the total shipment.

Distance shipped. In some tables, shipment data are presented for various “distance shipped” intervals. Shipments were categorized into these “distance shipped” intervals based on the great circle distance between their origin and destination ZIP Code centroids. All other distance-related data in this and other tables (i.e., ton-miles and average miles per shipment) are based on the mileage calculations produced by Oak Ridge National Laboratories. (See the “Mileage Calculations” section for more details.)

Great circle distance. The shortest distance between two points on the earth’s surface.

Mode of transportation. The type of transportation used for moving the shipment to its domestic destination. For exports, the domestic destination was the port of exit.

Mode Definitions

In the instructions to the respondent, we defined the possible modes as follows:

1. **Parcel delivery/courier/U.S. Postal Service.** Delivery services, parcels, packages, and other small shipments that typically weigh less than 100 pounds. Includes bus parcel delivery service.
2. **Private truck.** Trucks operated by a temporary or permanent employee of an establishment or the buyer/receiver of the shipment.
3. **For-hire truck.** Trucks that carry freight for a fee collected from the shipper, recipient of the shipment, or an arranger of the transportation.
4. **Railroad.** Any common carrier or private railroad.
5. **Shallow draft vessels.** Barges, ships, or ferries operating primarily on rivers and canals; in harbors, the Great Lakes, the Saint Lawrence Seaway; the Intracoastal Waterway, the Inside Passage to Alaska, major bays and inlets; or in the ocean close to the shoreline.
6. **Deep draft vessel.** Barges, ships, or ferries operating primarily in the open ocean. Shipping on the Great Lakes and the Saint Lawrence Seaway is classified with shallow draft vessels.
7. **Pipeline.** Movements of oil, petroleum, gas, slurry, etc., through pipelines that extend to other establishments or locations beyond the shipper’s establishment. Aqueducts for the movement of water are not included.
8. **Air.** Commercial or private aircraft, and all air service for shipments that typically weigh more than 100 pounds. Includes air freight and air express.
9. **Other mode.** Any mode not listed above.
10. **Unknown.** The shipment was not carried by a parcel delivery/courier/U.S. Postal Service, and the respondent could not determine what mode of transportation was used.

In the tables, we have used additional terms for mode, which we define as follows:

1. **Air (includes truck and air).** Shipments that used air or a combination of truck and air.
2. **Single modes.** Shipments using only one of the above-listed modes, except parcel or other and unknown.
3. **Multiple modes.** Parcel, U.S. Postal Service or courier shipments or shipments for which two or more of the following modes of transportation were used:
 - Private truck
 - For-hire truck
 - Rail
 - Shallow draft vessel
 - Deep draft vessel
 - Pipeline

We did not allow for multiple modes in combination with “parcel, U.S. Postal Service or courier,” “unknown,” or “other.” By their nature, these shipments may already include various kinds of multiple-mode activity. For example, if the respondent reported a shipment’s mode of transportation as parcel and air, we treated the shipment as parcel only.

4. **Other multiple modes.** Shipments using any other mode combinations not specifically listed in the tables.
5. **Other and unknown modes.** Shipments for which modes were not reported, or were reported by the respondent as “Other” or “Unknown.”
6. **Truck.** Shipments using for-hire truck only, private truck only, or a combination of for-hire truck and private truck.
7. **Water.** Shipments using shallow draft vessel only, deep draft vessel only, or Great Lakes vessel only. Combinations of these modes, such as shallow draft vessel and Great Lakes vessel are included as “Other multiple modes.”
8. **Great Lakes.** In the tables in this publication, “Great Lakes” appears as a single mode. ORNL’s transportation network and mileage calculation system allowed for separate mileage calculations for Great Lakes between the origin and destination ZIP Codes (see the “Mileage Calculations” section for more details).

Other Definitions and Terms

Shipment. A shipment (or delivery) is an individual movement of commodities from an establishment to a customer or to another location of the originating company (including a warehouse, distribution center, retail or wholesale outlet). A shipment uses one or more modes of transportation including parcel delivery, U.S. Postal Service, courier, private truck, for-hire truck, rail, water, pipeline, air, and other modes.

Standard Classification of Transported Goods

(SCTG). The commodities shown in this report are classified using the SCTG coding system. The SCTG coding system was developed jointly by agencies of the United States and Canadian governments based on the Harmonized System to address statistical needs in regard to products transported.

Ton-miles. The weight times the mileage for a shipment. The respondents reported shipment weight in pounds, as described below. Mileage was calculated as the distance between the shipment origin and destination ZIP Codes. For shipments by truck, rail, or shallow draft vessels, the mileage excludes international segments. For example, mileages from Alaska to the continental United States

exclude any mileages through Canada (see the “Mileage Calculations” section for more details). Aggregated pound-miles were converted to ton-miles. The ton-miles data are displayed in millions.

Tons shipped. The total weight of the entire shipment. Respondents reported the weight in pounds. Aggregated pounds were converted to short-tons (2,000 pounds). The tons data are displayed in thousands.

Total modal activity. The overall activity (e.g., ton-miles) of a specific mode of transportation, whether used in a single-mode shipment, or as part of a multiple-mode shipment. For example, the total modal activity for private truck is the total ton-miles carried by private truck in single-mode shipments, combined with the total ton-miles carried by private truck in all multiple-mode shipments that include private truck (private truck and for-hire truck, private truck and rail, private truck and air, etc.)

Value of shipments. The dollar value of the entire shipment. This was defined as the net selling value, f.o.b. plant, exclusive of freight charges and excise taxes. The value data are displayed in millions of dollars.

ABBREVIATIONS AND SYMBOLS

The following abbreviations and symbols are used in the tables for this publication:

D	Denotes figures withheld to avoid disclosing data for individual companies.
–	Represents zero or less than 1 unit of measure.
S	Data do not meet publication standards due to high sampling variability or other reasons.
CFS	Commodity Flow Survey.
lb	Pounds.
n.e.c.	Not elsewhere classified.
NA	Not applicable.
n.o.s.	Not otherwise specified.

OTHER TRANSPORTATION DATA

Users of transportation data may be especially interested in the following reports:

Economic Census: Transportation Sector covers establishments that provide passenger and freight transportation to the general public, government, or other businesses.

Published data include kind of business, geographic location, total operating revenue, annual and first quarter payroll, and number of employees for pay period including March 12.

Vehicle Inventory and Use Survey covers state and U.S. level statistics on the physical and operational characteristics of the Nation’s truck, van, minivan, and sport utility vehicle population. Some of the types of data collected

include number of vehicles, major use, body type, annual miles, model year, vehicle size, fuel type, operator classification, engine size, range of operation, weeks operated, products carried, and hazardous materials carried. This survey shows comparative statistics reflecting percent changes in number of vehicles between 1997 and 1992 for most characteristics.

Transportation Annual Survey covers firms with paid employees that provide commercial motor freight transportation and public warehousing services. Data collected include operating revenue and operating revenue by

source, total expenses and expenses percentage of motor carrier freight revenue by commodity type, size of shipments handled, length of haul, and vehicle fleet inventory.

All results of the 1997 Economic Census are available on the Census Bureau Internet site <http://www.census.gov> and on compact discs (CD-ROM).

For more information on any Census Bureau product, including a description of electronic and printed reports being issued, see the web site or call Customer Services at 301-457-4100.

Table 1a. Shipment Characteristics by Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	86 256	100.0	121 647	100.0	17 282	100.0	657
Single modes	64 187	74.4	120 273	98.9	16 208	93.8	177
Truck ¹	49 199	57.0	96 068	79.0	10 648	61.6	111
For-hire truck	26 659	30.9	31 578	26.0	7 524	43.5	486
Private truck	22 402	26.0	64 189	52.8	3 075	17.8	42
Rail	3 580	4.2	18 843	15.5	4 039	23.4	695
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	11 299	13.1	64	—	96	.6	1 549
Pipeline ²	110	.1	5 298	4.4	S	S	S
Multiple modes	20 319	23.6	S	S	498	2.9	1 271
Parcel, U.S. Postal Service or courier	20 162	23.4	223	.2	268	1.5	1 271
Truck and rail	S	S	S	S	S	S	743
Truck and water	7	—	13	—	41	.2	3 133
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	3
Other and unknown modes	1 749	2.0	819	.7	S	S	127

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 1b. Shipment Characteristics by Mode of Transportation for State of Origin: 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value			Tons			Ton-miles			Average miles per shipment		
	1997 (million dollars)	1993 (million dollars)	Percent change	1997 (thousands)	1993 (thousands)	Percent change	1997 (millions)	1993 (millions)	Percent change	1997	1993	Percent change
All modes	86 256	68 566	25.8	121 647	84 036	44.8	17 282	15 552	11.1	657	479	37.2
Single modes	64 187	59 436	8.0	120 273	74 514	61.4	16 208	12 028	34.8	177	308	-42.6
Truck ¹	49 199	49 716	-1.0	96 068	55 083	74.4	10 648	7 429	43.3	111	111	-.1
For-hire truck	26 659	31 484	-15.3	31 578	22 736	38.9	7 524	5 583	34.8	486	534	-8.9
Private truck	22 402	18 011	24.4	64 189	32 115	99.9	3 075	1 833	67.7	42	41	1.2
Rail	3 580	3 262	9.8	18 843	19 357	-2.7	4 039	4 505	-10.4	695	654	6.3
Water	—	—	—	—	—	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—	—	—	—	—	—
Air (includes truck and air)	11 299	6 458	75.0	64	74	-13.3	96	93	3.3	1 549	1 521	1.9
Pipeline ²	110	S	S	5 298	S	S	S	S	S	S	S	S
Multiple modes	20 319	6 823	197.8	S	S	S	498	S	S	1 271	787	61.4
Parcel, U.S. Postal Service or courier	20 162	5 072	297.5	223	126	76.2	268	93	187.1	1 271	787	61.5
Truck and rail	S	S	S	S	S	S	S	S	S	743	701	6.0
Truck and water	7	9	-27.4	13	S	S	41	S	S	3 133	2 644	18.5
Rail and water	—	—	—	—	—	—	—	—	—	—	—	—
Other multiple modes	S	—	S	S	—	S	S	—	S	3	—	S
Other and unknown modes	1 749	2 307	-24.2	819	8 316	-90.2	S	2 800	S	127	709	-82.0

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 1c. Shipment Characteristics by Mode of Transportation for State of Origin: Percent of Total for 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	74.4	86.7	98.9	88.7	93.8	77.3
Truck ¹	57.0	72.5	79.0	65.5	61.6	47.8
For-hire truck	30.9	45.9	26.0	27.1	43.5	35.9
Private truck	26.0	26.3	52.8	38.2	17.8	11.8
Rail	4.2	4.8	15.5	23.0	23.4	29.0
Water	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Air (includes truck and air)	13.1	9.4	—	—	.6	.6
Pipeline ²1	S	4.4	S	S	S
Multiple modes	23.6	10.0	S	S	2.9	S
Parcel, U.S. Postal Service or courier	23.4	7.4	.2	.2	1.5	.6
Truck and rail	S	S	S	S	S	S
Truck and water	—	—	—	S	.2	S
Rail and water	—	—	—	—	—	—
Other multiple modes	S	—	S	—	S	—
Other and unknown modes	2.0	3.4	.7	9.9	S	18.0

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 2. Shipment Characteristics by Total Modal Activity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation ¹	Ton-miles		Average miles per shipment
	Number (millions)	Percent	
Total	17 282	100.0	642
Truck	10 680	61.8	108
Rail	4 205	24.3	696
Shallow draft	—	—	—
Great Lakes	—	—	—
Deep draft	35	.2	2 687
Air	93	.5	1 496
Parcel, U.S. Postal Service or courier	268	1.5	1 271
Pipeline	S	S	S
Other and unknown modes	S	S	127

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹Data represent activity for a given mode across single and multiple mode shipments. For example, "Truck" ton-miles includes total ton-miles for shipments moving by truck only plus ton-miles for truck segments only of multiple mode shipments.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
All modes	86 256	100.0	121 647	100.0	17 282	100.0
Less than 50 miles	24 217	28.1	77 494	63.7	1 628	9.4
50 to 99 miles	3 339	3.9	18 808	15.5	1 793	10.4
100 to 249 miles	6 996	8.1	9 449	7.8	1 734	10.0
250 to 499 miles	13 401	15.5	9 767	8.0	3 330	19.3
500 to 749 miles	7 958	9.2	1 886	1.6	1 643	9.5
750 to 999 miles	4 544	5.3	1 168	1.0	1 282	7.4
1,000 to 1,499 miles	11 241	13.0	1 510	1.2	2 388	13.8
1,500 to 1,999 miles	6 689	7.8	1 157	1.0	2 415	14.0
2,000 miles or more	7 869	9.1	S	S	S	S
Single modes	64 187	100.0	120 273	100.0	16 208	100.0
Less than 50 miles	21 145	32.9	77 041	64.1	1 616	10.0
50 to 99 miles	3 027	4.7	18 759	15.6	1 789	11.0
100 to 249 miles	6 259	9.8	9 398	7.8	1 725	10.6
250 to 499 miles	10 338	16.1	9 536	7.9	3 240	20.0
500 to 749 miles	6 063	9.4	1 688	1.4	1 444	8.9
750 to 999 miles	2 342	3.6	1 129	.9	1 233	7.6
1,000 to 1,499 miles	7 589	11.8	1 319	1.1	2 054	12.7
1,500 to 1,999 miles	4 083	6.4	1 067	.9	2 226	13.7
2,000 miles or more	3 339	5.2	S	S	S	S
Truck¹	49 199	100.0	96 068	100.0	10 648	100.0
Less than 50 miles	20 646	42.0	69 696	72.5	1 606	15.1
50 to 99 miles	2 208	4.5	10 143	10.6	1 031	9.7
100 to 249 miles	5 651	11.5	8 901	9.3	1 623	15.2
250 to 499 miles	7 306	14.9	3 649	3.8	1 524	14.3
500 to 749 miles	3 827	7.8	1 154	1.2	882	8.3
750 to 999 miles	1 786	3.6	715	.7	755	7.1
1,000 to 1,499 miles	3 693	7.5	927	1.0	1 447	13.6
1,500 to 1,999 miles	2 893	5.9	S	S	S	S
2,000 miles or more	1 188	2.4	97	.1	239	2.2
For-hire truck	26 659	100.0	31 578	100.0	7 524	100.0
Less than 50 miles	4 359	16.4	17 301	54.8	420	5.6
50 to 99 miles	810	3.0	4 545	14.4	498	6.6
100 to 249 miles	2 255	8.5	3 318	10.5	654	8.7
250 to 499 miles	6 067	22.8	2 873	9.1	1 234	16.4
500 to 749 miles	3 740	14.0	1 080	3.4	824	11.0
750 to 999 miles	1 751	6.6	687	2.2	723	9.6
1,000 to 1,499 miles	3 643	13.7	895	2.8	1 398	18.6
1,500 to 1,999 miles	2 849	10.7	S	S	S	S
2,000 miles or more	1 185	4.4	97	.3	239	3.2
Private truck	22 402	100.0	64 189	100.0	3 075	100.0
Less than 50 miles	16 219	72.4	52 162	81.3	1 179	38.3
50 to 99 miles	1 397	6.2	5 594	8.7	532	17.3
100 to 249 miles	3 390	15.1	5 574	8.7	967	31.4
250 to 499 miles	1 196	5.3	749	1.2	279	9.1
500 to 749 miles	74	.3	54	—	41	1.3
750 to 999 miles	33	.1	26	—	29	.9
1,000 to 1,499 miles	47	.2	S	S	S	S
1,500 to 1,999 miles	S	S	4	—	8	.3
2,000 miles or more	S	S	S	S	S	S
Rail	3 580	100.0	18 843	100.0	4 039	100.0
Less than 50 miles	494	13.8	S	S	10	.3
50 to 99 miles	779	21.8	8 617	45.7	758	18.8
100 to 249 miles	S	S	498	2.6	102	2.5
250 to 499 miles	266	7.4	593	3.1	284	7.0
500 to 749 miles	640	17.9	529	2.8	558	13.8
750 to 999 miles	S	S	410	2.2	474	11.7
1,000 to 1,499 miles	313	8.7	372	2.0	573	14.2
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	11 299	100.0	64	100.0	96	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	40	.4	—	.3	—	—
100 to 249 miles	S	S	S	S	—	—
250 to 499 miles	2 663	23.6	16	24.3	7	7.2
500 to 749 miles	S	S	5	7.7	4	4.6
750 to 999 miles	521	4.6	3	5.0	4	4.6
1,000 to 1,499 miles	3 583	31.7	20	31.1	34	35.7
1,500 to 1,999 miles	1 163	10.3	9	14.2	18	18.9
2,000 miles or more	S	S	11	17.1	28	28.9
Pipeline²	110	100.0	5 298	100.0	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	104	95.0	5 279	99.6	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	20 319	100.0	S	S	498	100.0
Less than 50 miles	2 191	10.8	S	S	S	S
50 to 99 miles	265	1.3	9	1.7	1	.2
100 to 249 miles	647	3.2	23	4.2	4	.9
250 to 499 miles	2 932	14.4	37	6.6	16	3.2
500 to 749 miles	1 780	8.8	S	S	S	S
750 to 999 miles	S	S	16	2.9	18	3.7
1,000 to 1,499 miles	3 511	17.3	34	6.2	53	10.6
1,500 to 1,999 miles	2 532	12.5	47	8.4	99	19.9
2,000 miles or more	4 430	21.8	56	10.1	148	29.6
Parcel, U.S. Postal Service or courier	20 162	100.0	223	100.0	268	100.0
Less than 50 miles	2 169	10.8	24	11.0	1	.2
50 to 99 miles	265	1.3	9	4.2	1	.3
100 to 249 miles	644	3.2	22	10.1	4	1.5
250 to 499 miles	2 921	14.5	29	13.0	12	4.4
500 to 749 miles	1 776	8.8	14	6.5	11	4.1
750 to 999 miles	S	S	16	7.2	18	6.8
1,000 to 1,499 miles	3 448	17.1	32	14.2	48	18.1
1,500 to 1,999 miles	2 485	12.3	32	14.4	66	24.7
2,000 miles or more	4 423	21.9	S	S	S	S
Truck and rail	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Truck and water	7	100.0	13	100.0	41	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	7	100.0	13	100.0	41	100.0

See footnotes at end of table.

Table 3. Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Multiple modes—Con.						
Rail and water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	1 749	100.0	819	100.0	S	S
Less than 50 miles	882	50.4	258	31.5	3	.5
50 to 99 miles	46	2.7	S	S	S	.6
100 to 249 miles	S	S	27	3.3	5	.8
250 to 499 miles	130	7.5	S	S	S	.6
500 to 749 miles	S	S	61	7.4	49	8.5
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	141	8.1	S	S	S	S
1,500 to 1,999 miles	75	4.3	S	S	S	S
2,000 miles or more	100	5.7	15	1.9	39	6.8

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	86 256	100.0	121 647	100.0	17 282	100.0	657
Less than 50 lb	20 577	23.9	187	.2	120	.7	889
50 to 99 lb	5 524	6.4	131	.1	50	.3	379
100 to 499 lb	13 712	15.9	925	.8	221	1.3	244
500 to 749 lb	3 771	4.4	514	.4	111	.6	218
750 to 999 lb	2 366	2.7	425	.3	72	.4	167
1,000 to 9,999 lb	15 064	17.5	7 213	5.9	1 421	8.2	191
10,000 to 49,999 lb	18 014	20.9	60 746	49.9	7 991	46.2	143
50,000 to 99,999 lb	3 418	4.0	21 814	17.9	1 497	8.7	68
100,000 lb or more	3 809	4.4	29 693	24.4	5 798	33.6	356
Single modes	64 187	100.0	120 273	100.0	16 208	100.0	177
Less than 50 lb	6 686	10.4	81	—	13	—	218
50 to 99 lb	2 434	3.8	86	—	11	—	130
100 to 499 lb	10 703	16.7	814	.7	132	.8	155
500 to 749 lb	2 767	4.3	479	.4	75	.5	157
750 to 999 lb	2 318	3.6	409	.3	70	.4	169
1,000 to 9,999 lb	14 497	22.6	7 016	5.8	1 241	7.7	173
10,000 to 49,999 lb	17 626	27.5	60 156	50.0	7 553	46.6	134
50,000 to 99,999 lb	3 391	5.3	21 718	18.1	1 486	9.2	68
100,000 lb or more	3 766	5.9	29 514	24.5	5 627	34.7	344
Truck¹	49 199	100.0	96 068	100.0	10 648	100.0	111
Less than 50 lb	2 366	4.8	76	—	6	—	63
50 to 99 lb	1 392	2.8	83	—	7	—	86
100 to 499 lb	7 454	15.1	805	.8	122	1.1	143
500 to 749 lb	2 450	5.0	472	.5	69	.7	148
750 to 999 lb	1 795	3.6	407	.4	68	.6	165
1,000 to 9,999 lb	12 694	25.8	6 999	7.3	1 212	11.4	169
10,000 to 49,999 lb	17 499	35.6	60 093	62.6	7 491	70.4	133
50,000 to 99,999 lb	3 352	6.8	21 662	22.5	1 440	13.5	67
100,000 lb or more	198	.4	5 470	5.7	232	2.2	S
For-hire truck	26 659	100.0	31 578	100.0	7 524	100.0	486
Less than 50 lb	582	2.2	8	—	3	—	474
50 to 99 lb	588	2.2	13	—	5	—	374
100 to 499 lb	4 596	17.2	133	.4	89	1.2	613
500 to 749 lb	833	3.1	60	.2	50	.7	846
750 to 999 lb	S	S	51	.2	39	.5	770
1,000 to 9,999 lb	5 334	20.0	1 531	4.8	858	11.4	597
10,000 to 49,999 lb	12 199	45.8	19 184	60.8	5 504	73.2	340
50,000 to 99,999 lb	1 498	5.6	9 173	29.0	876	11.6	94
100,000 lb or more	106	.4	1 425	4.5	S	S	S
Private truck	22 402	100.0	64 189	100.0	3 075	100.0	42
Less than 50 lb	1 782	8.0	68	.1	2	—	27
50 to 99 lb	799	3.6	70	.1	2	—	35
100 to 499 lb	2 848	12.7	671	1.0	32	1.1	48
500 to 749 lb	1 609	7.2	410	.6	19	.6	46
750 to 999 lb	873	3.9	356	.6	29	.9	80
1,000 to 9,999 lb	7 274	32.5	5 367	8.4	341	11.1	64
10,000 to 49,999 lb	5 272	23.5	40 746	63.5	1 951	63.5	47
50,000 to 99,999 lb	1 853	8.3	12 457	19.4	563	18.3	47
100,000 lb or more	92	.4	4 044	6.3	135	4.4	S
Rail	3 580	100.0	18 843	100.0	4 039	100.0	695
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	1 479
100 to 499 lb	S	S	S	S	S	S	431
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	S	S	S	S	S	S	2 795
1,000 to 9,999 lb	S	S	S	S	S	S	881
10,000 to 49,999 lb	S	S	S	S	S	S	778
50,000 to 99,999 lb	S	S	S	S	S	S	1 277
100,000 lb or more	3 463	96.7	18 760	99.6	3 961	98.1	711
Water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

See footnotes at end of table.

Table 4. Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	11 299	100.0	64	100.0	96	100.0	1 549
Less than 50 lb	4 320	38.2	5	8.2	8	8.2	1 583
50 to 99 lb	1 041	9.2	3	4.1	4	4.1	1 497
100 to 499 lb	3 249	28.8	8	13.1	10	10.4	1 237
500 to 749 lb	S	S	S	S	5	5.6	806
750 to 999 lb	S	S	2	2.9	2	1.8	920
1,000 to 9,999 lb	S	S	17	26.2	28	29.1	1 705
10,000 to 49,999 lb	S	S	16	25.3	28	29.5	1 594
50,000 to 99,999 lb	S	S	S	S	S	S	1 341
100,000 lb or more	S	S	S	S	S	S	1 745
Pipeline²	110	100.0	5 298	100.0	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	—	—	—	—	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	104	95.0	5 279	99.6	S	S	S
Multiple modes	20 319	100.0	S	S	498	100.0	1 271
Less than 50 lb	13 383	65.9	95	17.0	105	21.1	1 281
50 to 99 lb	2 905	14.3	37	6.6	38	7.6	1 038
100 to 499 lb	2 713	13.4	69	12.5	88	17.6	1 211
500 to 749 lb	S	S	21	3.8	S	S	1 727
750 to 999 lb	S	S	1	.2	2	.3	1 230
1,000 to 9,999 lb	S	S	3	.5	3	.7	1 008
10,000 to 49,999 lb	S	S	S	S	80	16.0	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	1 097
Parcel, U.S. Postal Service or courier	20 162	100.0	223	100.0	268	100.0	1 271
Less than 50 lb	13 382	66.4	95	42.5	105	39.3	1 281
50 to 99 lb	2 905	14.4	37	16.4	38	14.2	1 037
100 to 499 lb	2 712	13.5	69	31.1	88	32.7	1 211
500 to 749 lb	S	S	21	9.3	S	S	1 721
750 to 999 lb	S	S	S	S	S	S	1 254
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	743
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	2 671
100 to 499 lb	S	S	S	S	S	S	1 073
500 to 749 lb	S	S	S	S	S	S	2 200
750 to 999 lb	S	S	S	S	S	S	1 176
1,000 to 9,999 lb	S	S	2	.5	S	S	1 478
10,000 to 49,999 lb	S	S	S	S	42	22.0	S
50,000 to 99,999 lb	S	S	S	S	S	S	49
100,000 lb or more	S	S	S	S	S	S	1 097
Truck and water	7	100.0	13	100.0	41	100.0	3 133
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	S	S	S	S	S	S	2 993
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	3 092
10,000 to 49,999 lb	6	88.3	12	92.4	38	92.7	3 210
50,000 to 99,999 lb	S	S	S	S	S	S	3 052
100,000 lb or more	—	—	—	—	—	—	—

See footnotes at end of table.

Table 4. **Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	3
Less than 50 lb	S	S	S	S	S	S	3
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	1 749	100.0	819	100.0	S	S	127
Less than 50 lb	508	29.1	11	1.4	1	2	103
50 to 99 lb	185	10.6	8	1.0	S	S	89
100 to 499 lb	296	16.9	42	5.1	1	2	S
500 to 749 lb	43	2.5	14	1.7	S	S	47
750 to 999 lb	23	1.3	15	1.8	—	—	19
1,000 to 9,999 lb	370	21.2	194	23.7	S	S	765
10,000 to 49,999 lb	268	15.3	444	54.3	S	S	810
50,000 to 99,999 lb	S	S	40	4.9	S	S	187
100,000 lb or more	S	S	S	S	S	S	638

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "Mileage Calculations" section for details of CFS coverage.

Table 5. Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code	Commodity description	Value		Tons		Ton-miles		Average miles per shipment
		Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
	All commodities	86 256	100.0	121 647	100.0	17 282	100.0	657
01	Live animals and live fish	—	—	—	—	—	—	—
02	Cereal grains	S	S	S	S	S	S	S
03	Other agricultural products	S	S	S	S	S	S	369
04	Animal feed and products of animal origin, n.e.c.	530	.6	S	S	261	1.5	S
05	Meat, fish, seafood, and their preparations	836	1.0	349	.3	117	.7	S
06	Milled grain products and preparations, and bakery products	1 062	1.2	625	.5	125	.7	297
07	Other prepared foodstuffs and fats and oils	3 997	4.6	6 439	5.3	722	4.2	109
08	Alcoholic beverages	1 403	1.6	1 090	.9	43	.3	41
09	Tobacco products	84	.1	S	S	S	S	77
10	Monumental or building stone	4	—	21	—	S	S	S
11	Natural sands	45	—	8 432	6.9	306	1.8	S
12	Gravel and crushed stone	S	S	S	S	S	S	44
13	Nonmetallic minerals n.e.c.	10	—	69	—	7	—	66
14	Metallic ores and concentrates	2 075	2.4	9 078	7.5	471	2.7	149
15	Coal	282	.3	13 010	10.7	2 091	12.1	S
17	Gasoline and aviation turbine fuel	1 945	2.3	5 615	4.6	S	S	93
18	Fuel oils	578	.7	2 407	2.0	235	1.4	82
19	Coal and petroleum products, n.e.c.	209	.2	1 340	1.1	106	.6	95
20	Basic chemicals	673	.8	5 020	4.1	S	S	115
21	Pharmaceutical products	1 682	1.9	91	—	136	.8	253
22	Fertilizers	85	.1	426	.4	60	.3	101
23	Chemical products and preparations, n.e.c.	2 798	3.2	S	S	S	S	548
24	Plastics and rubber	1 789	2.1	454	.4	164	.9	425
25	Logs and other wood in the rough	S	S	S	S	S	S	209
26	Wood products	971	1.1	1 526	1.3	154	.9	48
27	Pulp, newsprint, paper, and paperboard	583	.7	599	.5	307	1.8	S
28	Paper or paperboard articles	521	.6	434	.4	72	.4	116
29	Printed products	1 365	1.6	468	.4	81	.5	825
30	Textiles, leather, and articles of textiles or leather	1 657	1.9	184	.2	S	S	1 497
31	Nonmetallic mineral products	1 256	1.5	19 452	16.0	1 481	8.6	170
32	Base metal in primary or semifinished forms and in finished basic shapes	4 744	5.5	3 090	2.5	2 072	12.0	226
33	Articles of base metal	1 832	2.1	772	.6	179	1.0	350
34	Machinery	3 810	4.4	381	.3	S	S	399
35	Electronic and other electrical equipment and components and office equipment	27 628	32.0	359	.3	297	1.7	1 144
36	Motorized and other vehicles (including parts)	4 297	5.0	S	S	S	S	117
37	Transportation equipment, n.e.c.	4 147	4.8	32	—	33	.2	458
38	Precision instruments and apparatus	2 490	2.9	27	—	S	S	863
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	1 870	2.2	387	.3	221	1.3	116
40	Miscellaneous manufactured products	4 373	5.1	580	.5	155	.9	900
41	Waste and scrap	75	—	344	.3	S	S	533
43	Mixed freight	2 244	2.6	1 084	.9	114	.7	S
--	Commodity unknown	283	.3	S	S	S	S	527

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

Note: Data exclude shipments of SCTG 16, Crude Petroleum. See the section "Industry Coverage" for additional information.

Table 6. Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
ALL COMMODITIES							
Total	86 256	100.0	121 647	100.0	17 282	100.0	657
Single modes	64 187	74.4	120 273	98.9	16 208	93.8	177
Truck ¹	49 199	57.0	96 068	79.0	10 648	61.6	111
For-hire truck	26 659	30.9	31 578	26.0	7 524	43.5	486
Private truck	22 402	26.0	64 189	52.8	3 075	17.8	42
Rail	3 580	4.2	18 843	15.5	4 039	23.4	695
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	11 299	13.1	64	—	96	.6	1 549
Pipeline ²	110	.1	5 298	4.4	S	S	S
Multiple modes	20 319	23.6	S	S	498	2.9	1 271
Parcel, U.S. Postal Service or courier	20 162	23.4	223	.2	268	1.5	1 271
Truck and rail	S	S	S	S	S	S	743
Truck and water	7	—	13	—	41	.2	3 133
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	3
Other and unknown modes	1 749	2.0	819	.7	S	S	127
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	—	—	—	—	—	—	—
Single modes	—	—	—	—	—	—	—
Truck ¹	—	—	—	—	—	—	—
For-hire truck	—	—	—	—	—	—	—
Private truck	—	—	—	—	—	—	—
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck ¹	S	S	S	S	S	S	33
For-hire truck	S	S	S	S	S	S	32
Private truck	S	S	S	S	S	S	33
Rail	S	S	S	S	S	S	1 342
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	59

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	\$	\$	\$	\$	\$	\$	369
Single modes	\$	\$	\$	\$	\$	\$	446
Truck ¹	\$	\$	\$	\$	\$	\$	446
For-hire truck	\$	\$	\$	\$	\$	\$	539
Private truck	203	12.1	161	5.8	\$	\$	78
Rail	\$	\$	\$	\$	\$	\$	467
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	1 149
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	1 145
Truck and rail	\$	\$	\$	\$	\$	\$	1 779
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	\$
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	530	100.0	\$	\$	261	100.0	\$
Single modes	477	90.1	\$	\$	210	80.4	\$
Truck ¹	476	89.9	\$	\$	203	78.0	\$
For-hire truck	348	65.7	\$	\$	179	68.7	240
Private truck	\$	\$	\$	\$	\$	\$	\$
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	\$	\$	\$	\$	\$	\$	3 917
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	3 201
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	\$	\$	\$	\$	\$	\$	3 201
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	475
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	836	100.0	349	100.0	117	100.0	\$
Single modes	834	99.8	349	99.8	117	100.0	\$
Truck ¹	834	99.8	349	99.8	117	100.0	\$
For-hire truck	591	70.7	274	78.3	111	95.3	317
Private truck	243	29.1	75	21.5	5	4.7	\$
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	13

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	1 062	100.0	625	100.0	125	100.0	297
Single modes	1 046	98.4	622	99.6	122	97.2	S
Truck ¹	1 040	97.9	602	96.5	122	97.2	S
For-hire truck	S	S	S	S	100	79.6	432
Private truck	S	S	348	55.8	22	17.6	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	1 305
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 304
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	3 050
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	1 515
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	3 997	100.0	6 439	100.0	722	100.0	109
Single modes	3 987	99.7	6 432	99.9	717	99.3	73
Truck ¹	3 985	99.7	6 432	99.9	716	99.2	71
For-hire truck	1 541	38.5	1 244	19.3	509	70.4	307
Private truck	2 443	61.1	5 187	80.6	207	28.7	60
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 899
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	1	—	1	—	950
Parcel, U.S. Postal Service or courier	S	S	1	—	1	—	950
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	957
SCTG 08, ALCOHOLIC BEVERAGES							
Total	1 403	100.0	1 090	100.0	43	100.0	41
Single modes	1 395	99.4	1 081	99.1	43	99.8	42
Truck ¹	1 395	99.4	1 081	99.1	43	99.8	42
For-hire truck	S	S	S	S	S	S	766
Private truck	1 316	93.8	1 056	96.9	32	74.1	35
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	18

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 09, TOBACCO PRODUCTS							
Total	84	100.0	S	S	S	S	77
Single modes	84	100.0	S	S	S	S	77
Truck ¹	84	100.0	S	S	S	S	77
For-hire truck	—	—	—	—	—	—	—
Private truck	84	100.0	S	S	S	S	77
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	4	100.0	21	100.0	S	S	S
Single modes	3	89.1	18	88.5	S	S	S
Truck ¹	3	89.1	18	88.5	S	S	S
For-hire truck	S	S	S	S	S	S	247
Private truck	S	S	10	46.9	S	S	6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	6
SCTG 11, NATURAL SANDS							
Total	45	100.0	8 432	100.0	306	100.0	S
Single modes	45	100.0	8 432	100.0	306	100.0	S
Truck ¹	45	100.0	8 430	100.0	303	99.1	S
For-hire truck	32	70.6	5 907	70.1	146	47.8	27
Private truck	13	29.3	2 523	29.9	157	51.3	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	997
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	\$	\$	\$	\$	\$	\$	44
Single modes	\$	\$	\$	\$	\$	\$	44
Truck ¹	\$	\$	\$	\$	\$	\$	44
For-hire truck	38	16.3	4 915	16.3	271	19.8	\$
Private truck	\$	\$	\$	\$	\$	\$	42
Rail	\$	\$	\$	\$	\$	\$	703
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	49
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	\$	\$	\$	\$	\$	\$	49
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	2
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	10	100.0	69	100.0	7	100.0	66
Single modes	10	100.0	69	100.0	7	100.0	66
Truck ¹	10	100.0	69	100.0	7	100.0	66
For-hire truck	\$	\$	44	63.7	6	89.5	85
Private truck	\$	\$	\$	\$	\$	\$	54
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	2 075	100.0	9 078	100.0	471	100.0	149
Single modes	2 071	99.8	9 078	100.0	471	100.0	158
Truck ¹	729	35.1	828	9.1	146	31.1	163
For-hire truck	687	33.1	755	8.3	133	28.2	167
Private truck	\$	\$	\$	\$	\$	\$	136
Rail	1 343	64.7	8 250	90.9	324	68.9	\$
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	90
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	90
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 15, COAL							
Total	282	100.0	13 010	100.0	2 091	100.0	S
Single modes	282	100.0	13 010	100.0	2 091	100.0	S
Truck ¹	S	S	S	S	S	S	12
For-hire truck	S	S	S	S	S	S	21
Private truck	S	S	S	S	S	S	2
Rail	176	62.5	7 727	59.4	665	31.8	86
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	104	36.9	5 279	40.6	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	1 945	100.0	5 615	100.0	S	S	93
Single modes	1 944	99.9	5 611	99.9	S	S	93
Truck ¹	1 944	99.9	5 611	99.9	S	S	93
For-hire truck	S	S	S	S	71	15.2	S
Private truck	1 453	74.7	4 165	74.2	S	S	100
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	67
SCTG 18, FUEL OILS							
Total	578	100.0	2 407	100.0	235	100.0	82
Single modes	577	99.8	2 401	99.7	235	99.8	83
Truck ¹	576	99.7	2 400	99.7	235	99.8	84
For-hire truck	82	14.3	325	13.5	S	S	89
Private truck	494	85.5	2 075	86.2	210	89.2	84
Rail	S	S	S	S	S	S	24
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	27

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	209	100.0	1 340	100.0	106	100.0	95
Single modes	194	93.0	1 325	98.9	103	97.2	105
Truck ¹	194	93.0	1 325	98.9	103	97.2	105
For-hire truck	50	24.0	629	46.9	S	S	148
Private truck	S	S	S	S	40	37.6	103
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	48
SCTG 20, BASIC CHEMICALS							
Total	673	100.0	5 020	100.0	S	S	115
Single modes	662	98.4	4 884	97.3	S	S	97
Truck ¹	459	68.2	3 646	72.6	417	24.6	73
For-hire truck	137	20.4	2 658	52.9	385	22.8	S
Private truck	321	47.8	S	S	S	S	36
Rail	203	30.2	1 238	24.7	S	S	917
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	918
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	565
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	466
Truck and rail	S	S	S	S	S	S	1 335
Truck and water	S	S	S	S	S	S	3 228
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	10
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	1 682	100.0	91	100.0	136	100.0	253
Single modes	829	49.3	86	94.8	135	99.4	377
Truck ¹	797	47.4	86	94.6	S	S	164
For-hire truck	639	38.0	78	85.9	S	S	S
Private truck	158	9.4	S	S	S	S	77
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 274
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	851	50.6	5	5.2	1	.6	S
Parcel, U.S. Postal Service or courier	851	50.6	5	5.2	1	.6	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	14

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 22, FERTILIZERS							
Total	85	100.0	426	100.0	60	100.0	101
Single modes	82	97.1	423	99.3	60	99.4	106
Truck ¹	82	97.1	423	99.3	60	99.4	106
For-hire truck	S	S	159	37.3	S	S	429
Private truck	53	62.9	264	62.1	10	16.3	32
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	43
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	2 798	100.0	S	S	S	S	548
Single modes	2 684	95.9	S	S	S	S	242
Truck ¹	2 682	95.8	S	S	S	S	186
For-hire truck	1 678	60.0	S	S	152	68.9	836
Private truck	S	S	S	S	S	S	46
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	3	.1	S	S	S	S	1 675
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	93	3.3	S	S	S	S	872
Parcel, U.S. Postal Service or courier	93	3.3	S	S	S	S	872
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	4	.6	—	—	S
SCTG 24, PLASTICS AND RUBBER							
Total	1 789	100.0	454	100.0	164	100.0	425
Single modes	1 355	75.7	443	97.7	157	95.8	145
Truck ¹	1 315	73.5	442	97.3	154	94.2	115
For-hire truck	815	45.5	224	49.3	131	79.9	511
Private truck	450	25.2	126	27.7	13	7.9	31
Rail	S	S	S	S	S	S	1 418
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	29	1.6	1	.2	1	.9	1 499
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	6	1.3	6	4.0	986
Parcel, U.S. Postal Service or courier	S	S	6	1.3	6	4.0	986
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	—	.2	150

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	\$	\$	\$	\$	\$	\$	209
Single modes	\$	\$	\$	\$	\$	\$	209
Truck ¹	\$	\$	\$	\$	\$	\$	209
For-hire truck	\$	\$	\$	\$	\$	\$	233
Private truck	\$	\$	\$	\$	\$	\$	116
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 26, WOOD PRODUCTS							
Total	971	100.0	1 526	100.0	154	100.0	48
Single modes	956	98.5	1 504	98.5	153	99.7	52
Truck ¹	955	98.4	1 492	97.7	153	99.5	49
For-hire truck	229	23.6	443	29.0	99	64.2	173
Private truck	720	74.1	1 034	67.8	42	27.2	33
Rail	\$	\$	\$	\$	\$	\$	36
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	\$	\$	\$	\$	\$	\$	1 884
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	—	—	\$	\$	\$	\$	\$
Parcel, U.S. Postal Service or courier	—	—	\$	\$	\$	\$	\$
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	\$
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	583	100.0	599	100.0	307	100.0	\$
Single modes	540	92.6	586	97.9	307	99.9	\$
Truck ¹	469	80.5	424	70.8	178	58.0	\$
For-hire truck	260	44.6	279	46.6	128	41.8	264
Private truck	209	35.9	145	24.1	\$	\$	\$
Rail	\$	\$	\$	\$	\$	\$	871
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	\$	\$	\$	\$	\$	\$	404
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	\$
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	\$
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	16

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	521	100.0	434	100.0	72	100.0	116
Single modes	482	92.4	419	96.5	66	92.1	82
Truck ¹	481	92.4	419	96.5	66	92.1	73
For-hire truck	189	36.2	218	50.3	53	73.2	192
Private truck	292	56.0	201	46.2	14	18.8	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 361
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	1	.9	353
Parcel, U.S. Postal Service or courier	S	S	S	S	1	.9	353
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 29, PRINTED PRODUCTS							
Total	1 365	100.0	468	100.0	81	100.0	825
Single modes	943	69.0	450	96.1	63	77.5	117
Truck ¹	928	68.0	449	95.8	61	75.1	94
For-hire truck	196	14.3	46	9.8	29	35.6	333
Private truck	732	53.6	403	86.0	32	39.5	67
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 142
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	372	27.2	14	3.1	S	S	1 428
Parcel, U.S. Postal Service or courier	372	27.2	14	3.1	S	S	1 428
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	51	3.7	4	.8	S	S	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	1 657	100.0	184	100.0	S	S	1 497
Single modes	941	56.8	169	91.5	S	S	301
Truck ¹	935	56.4	169	91.4	S	S	277
For-hire truck	635	38.3	105	56.9	S	S	969
Private truck	293	17.7	62	33.7	10	9.0	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	7	.4	—	—	—	.2	1 325
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	681	41.1	15	7.9	20	18.2	1 592
Parcel, U.S. Postal Service or courier	681	41.1	15	7.9	20	18.2	1 592
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	35	2.1	1	.6	1	.8	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	1 256	100.0	19 452	100.0	1 481	100.0	170
Single modes	1 194	95.0	19 079	98.1	1 090	73.6	55
Truck ¹	1 156	92.0	18 806	96.7	877	59.2	42
For-hire truck	398	31.7	3 926	20.2	497	33.6	189
Private truck	758	60.3	14 880	76.5	380	25.7	24
Rail	12	.9	250	1.3	S	S	818
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	26	2.1	23	.1	29	1.9	807
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 163
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 156
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	3 104
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	1 180
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	4 744	100.0	3 090	100.0	2 072	100.0	226
Single modes	4 564	96.2	2 986	96.6	2 028	97.9	189
Truck ¹	2 869	60.5	2 101	68.0	796	38.4	151
For-hire truck	2 471	52.1	1 646	53.3	773	37.3	406
Private truck	382	8.1	450	14.6	20	1.0	28
Rail	1 673	35.3	S	S	S	S	1 349
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 749
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	628
Parcel, U.S. Postal Service or courier	S	S	1	—	1	—	628
Truck and rail	S	S	S	S	S	S	582
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	40	1.9	S
SCTG 33, ARTICLES OF BASE METAL							
Total	1 832	100.0	772	100.0	179	100.0	350
Single modes	1 389	75.8	661	85.7	101	56.4	S
Truck ¹	1 372	74.9	657	85.1	94	52.4	S
For-hire truck	595	32.5	180	23.3	78	43.6	847
Private truck	773	42.2	S	S	16	8.7	26
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 528
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	204	11.2	6	.8	6	3.2	770
Parcel, U.S. Postal Service or courier	204	11.1	6	.8	6	3.1	770
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	2 993
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	239	13.1	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 34, MACHINERY							
Total	3 810	100.0	381	100.0	S	S	399
Single modes	3 335	87.5	364	95.5	S	S	425
Truck ¹	3 006	78.9	361	94.7	S	S	227
For-hire truck	1 487	39.0	192	50.4	S	S	1 099
Private truck	1 518	39.8	169	44.3	16	7.4	45
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	3	.8	4	2.0	1 636
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	312	8.2	8	2.0	5	2.2	430
Parcel, U.S. Postal Service or courier	312	8.2	8	2.0	5	2.2	430
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	163	4.3	10	2.5	2	.8	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	27 628	100.0	359	100.0	297	100.0	1 144
Single modes	13 139	47.6	248	69.0	139	46.9	524
Truck ¹	5 632	20.4	236	65.8	121	40.9	180
For-hire truck	4 437	16.1	150	41.8	113	37.9	398
Private truck	1 193	4.3	86	23.9	S	S	43
Rail	S	S	S	S	S	S	1 592
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	7 500	27.1	11	3.1	17	5.7	1 602
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	14 046	50.8	99	27.4	151	51.0	1 398
Parcel, U.S. Postal Service or courier	14 045	50.8	98	27.4	151	50.9	1 398
Truck and rail	S	S	S	S	S	S	2 030
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	443	1.6	13	3.5	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	4 297	100.0	S	S	S	S	117
Single modes	3 930	91.4	S	S	S	S	77
Truck ¹	3 848	89.5	S	S	S	S	75
For-hire truck	S	S	S	S	S	S	817
Private truck	561	13.0	53	10.6	5	.9	20
Rail	S	S	S	S	S	S	362
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 350
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	232	5.4	14	2.8	S	S	344
Parcel, U.S. Postal Service or courier	120	2.8	6	1.3	1	.2	345
Truck and rail	S	S	S	S	S	S	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	3
Other and unknown modes	136	3.2	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	4 147	100.0	32	100.0	33	100.0	458
Single modes	3 044	73.4	23	71.5	28	85.6	902
Truck ¹	1 848	44.6	21	65.3	25	76.1	526
For-hire truck	1 162	28.0	20	62.7	25	76.0	699
Private truck	S	S	1	2.6	—	—	50
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	1 196	28.8	2	6.2	3	9.5	1 415
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 038	25.0	S	S	S	S	437
Parcel, U.S. Postal Service or courier	1 038	25.0	S	S	S	S	437
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	2 490	100.0	27	100.0	S	S	863
Single modes	1 593	64.0	24	88.2	S	S	S
Truck ¹	639	25.7	23	84.6	S	S	S
For-hire truck	387	15.5	S	S	S	S	731
Private truck	252	10.1	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	954	38.3	1	3.7	S	S	1 372
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	830	33.3	3	11.4	4	16.6	1 370
Parcel, U.S. Postal Service or courier	830	33.3	3	11.4	4	16.6	1 370
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	681
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	1 870	100.0	387	100.0	221	100.0	116
Single modes	1 783	95.3	366	94.7	190	85.9	84
Truck ¹	1 783	95.3	366	94.7	190	85.9	84
For-hire truck	443	23.7	129	33.3	177	80.4	720
Private truck	S	S	S	S	S	S	29
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	906
Parcel, U.S. Postal Service or courier	10	.6	1	.2	1	.4	856
Truck and rail	S	S	S	S	S	S	2 299
Truck and water	S	S	S	S	S	S	3 052
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	59	3.2	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	4 373	100.0	580	100.0	155	100.0	900
Single modes	3 301	75.5	548	94.4	113	72.8	166
Truck ¹	2 227	50.9	546	94.1	112	72.1	129
For-hire truck	1 387	31.7	337	58.0	92	59.4	883
Private truck	799	18.3	205	35.2	S	S	26
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 521
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 009	23.1	30	5.1	S	S	1 342
Parcel, U.S. Postal Service or courier	1 008	23.1	30	5.1	S	S	1 342
Truck and rail	S	S	S	S	S	S	2 817
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	63	1.4	3	.4	S	S	376
SCTG 41, WASTE AND SCRAP							
Total	75	100.0	344	100.0	S	S	533
Single modes	74	97.8	S	S	S	S	534
Truck ¹	63	84.1	222	64.5	110	42.1	442
For-hire truck	53	70.5	185	53.7	103	39.4	659
Private truck	S	S	S	S	S	S	97
Rail	S	S	S	S	S	S	1 282
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	474
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	474
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	320
SCTG 43, MIXED FREIGHT							
Total	2 244	100.0	1 084	100.0	114	100.0	S
Single modes	2 225	99.1	1 079	99.5	114	99.9	S
Truck ¹	2 221	99.0	1 079	99.5	113	99.9	56
For-hire truck	S	S	S	S	S	S	S
Private truck	2 184	97.3	998	92.0	96	84.4	55
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	384
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 329
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 329
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

Table 6. **Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
COMMODITY UNKNOWN							
Total	283	100.0	S	S	S	S	527
Single modes	217	76.8	S	S	S	S	S
Truck ¹	172	60.8	S	S	S	S	75
For-hire truck	S	S	S	S	S	S	300
Private truck	75	26.3	S	S	S	S	S
Rail	S	S	S	S	S	S	2 390
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 608
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 038
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 038
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	4

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

¹"Truck" as a single mode includes shipments which went by private truck only, for-hire truck only, or a combination of private truck and for-hire truck.

²CFS data for pipeline exclude most shipments of crude oil. See "About the Data" section for details of CFS coverage.

Note: Data exclude shipments of SCTG 16, Crude Petroleum. See the section "Industry Coverage" for additional information.

Table 7. Shipment Characteristics by State of Destination for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

State of destination	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	86 256	100.0	121 647	100.0	17 282	100.0
NEW ENGLAND STATES						
Connecticut	S	S	S	S	S	S
Maine	S	S	2	—	6	—
Massachusetts	1 205	1.4	15	—	39	.2
New Hampshire	63	—	2	—	5	—
Rhode Island	S	S	1	—	3	—
Vermont	5	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	801	.9	40	—	96	.6
New York	3 158	3.7	64	—	154	.9
Pennsylvania	S	S	42	—	97	.6
EAST NORTH CENTRAL STATES						
Illinois	S	S	S	S	S	S
Indiana	826	1.0	253	.2	454	2.6
Michigan	792	.9	S	S	S	S
Ohio	1 049	1.2	96	—	190	1.1
Wisconsin	S	S	S	S	S	S
WEST NORTH CENTRAL STATES						
Iowa	262	.3	45	—	73	.4
Kansas	253	.3	S	S	S	S
Minnesota	450	.5	42	—	76	.4
Missouri	1 055	1.2	127	.1	170	1.0
Nebraska	39	—	S	S	S	S
North Dakota	S	S	S	S	S	S
South Dakota	S	S	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	10	—	S	S	S	S
District of Columbia	6	—	S	S	S	S
Florida	1 613	1.9	S	S	S	S
Georgia	670	.8	S	S	S	S
Maryland	342	.4	S	S	S	S
North Carolina	494	.6	76	—	162	.9
South Carolina	163	.2	S	S	S	S
Virginia	776	.9	41	—	91	.5
West Virginia	93	.1	S	S	S	S
EAST SOUTH CENTRAL STATES						
Alabama	S	S	24	—	41	.2
Kentucky	233	.3	S	S	S	S
Mississippi	217	.3	S	S	S	S
Tennessee	1 080	1.3	58	—	102	.6
WEST SOUTH CENTRAL STATES						
Arkansas	287	.3	S	S	S	S
Louisiana	208	.2	17	—	25	.1
Oklahoma	170	.2	33	—	33	.2
Texas	6 399	7.4	2 242	1.8	1 856	10.7
MOUNTAIN STATES						
Arizona	32 386	37.5	104 382	85.8	4 945	28.6
Colorado	738	.9	191	.2	150	.9
Idaho	S	S	S	S	S	S
Montana	S	S	S	S	S	S
Nevada	1 859	2.2	6 447	5.3	1 994	11.5
New Mexico	1 720	2.0	1 242	1.0	299	1.7
Utah	1 166	1.4	496	.4	420	2.4
Wyoming	S	S	S	S	S	S
PACIFIC STATES						
Alaska	22	—	S	S	S	S
California	14 616	16.9	3 517	2.9	1 726	10.0
Hawaii	S	S	12	—	42	.2
Oregon	465	.5	101	—	139	.8
Washington	1 595	1.8	114	—	172	1.0

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

Table 8. Inbound Shipment Characteristics by State of Origin for State of Destination: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text. Detail may not add to total because of rounding]

State of origin	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	96 362	100.0	145 476	100.0	33 495	100.0
NEW ENGLAND STATES						
Connecticut	1 435	1.5	18	—	46	.1
Maine	80	—	7	—	19	—
Massachusetts	1 335	1.4	44	—	115	.3
New Hampshire	348	.4	18	—	48	.1
Rhode Island	39	—	2	—	4	—
Vermont	42	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	1 835	1.9	417	.3	1 042	3.1
New York	2 285	2.4	193	.1	466	1.4
Pennsylvania	1 257	1.3	219	.2	491	1.5
EAST NORTH CENTRAL STATES						
Illinois	2 321	2.4	630	.4	1 117	3.3
Indiana	904	.9	250	.2	459	1.4
Michigan	2 118	2.2	269	.2	558	1.7
Ohio	1 346	1.4	405	.3	782	2.3
Wisconsin	845	.9	221	.2	412	1.2
WEST NORTH CENTRAL STATES						
Iowa	612	.6	633	.4	1 072	3.2
Kansas	945	1.0	498	.3	638	1.9
Minnesota	944	1.0	365	.3	699	2.1
Missouri	1 262	1.3	354	.2	495	1.5
Nebraska	379	.4	121	—	159	.5
North Dakota	25	—	S	S	S	S
South Dakota	S	S	29	—	43	.1
SOUTH ATLANTIC STATES						
Delaware	31	—	S	S	S	S
District of Columbia	S	S	S	S	S	S
Florida	892	.9	91	—	198	.6
Georgia	1 111	1.2	311	.2	577	1.7
Maryland	S	.6	S	.6	S	S
North Carolina	1 266	1.3	170	.1	360	1.1
South Carolina	720	.7	58	—	120	.4
Virginia	425	.4	44	—	99	.3
West Virginia	62	—	36	—	77	.2
EAST SOUTH CENTRAL STATES						
Alabama	274	.3	89	—	157	.5
Kentucky	467	.5	149	.1	267	.8
Mississippi	267	.3	112	—	181	.5
Tennessee	999	1.0	247	.2	427	1.3
WEST SOUTH CENTRAL STATES						
Arkansas	766	.8	268	.2	395	1.2
Louisiana	454	.5	S	S	S	S
Oklahoma	407	.4	478	.3	599	1.8
Texas	4 387	4.6	2 272	1.6	2 098	6.3
MOUNTAIN STATES						
Arizona	32 386	33.6	104 382	71.8	4 945	14.8
Colorado	1 291	1.3	626	.4	552	1.6
Idaho	453	.5	320	.2	412	1.2
Montana	121	.1	S	S	S	S
Nevada	598	.6	1 012	.7	271	.8
New Mexico	1 207	1.3	16 991	11.7	4 089	12.2
Utah	909	.9	660	.5	386	1.2
Wyoming	84	—	433	.3	494	1.5
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	20 425	21.2	9 520	6.5	4 322	12.9
Hawaii	7	—	1	—	6	—
Oregon	866	.9	802	.6	1 051	3.1
Washington	S	S	632	.4	975	2.9

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons. Some unpublished estimates can be derived from other data published in this table. However, figures obtained in this manner are subject to these same limitations.

Appendix A.

Comparability With the 1993 Commodity Flow Survey

The Commodity Flow Survey (CFS) restores a data program on commodity flows that the Census Bureau conducted as a part of its 5-year economic census program from 1963 through 1977. The CFS was first conducted in

1993. For the 1997 CFS, the Census Bureau incorporated improvements identified from the evaluation of previous surveys and additional research. The following table shows a comparison of the 1993 and 1997 surveys.

Item	1993	1997
1. Industry coverage	Manufacturers (minor exceptions) Mining (except mining services and oil and gas extraction) All wholesale Video tape distributors Catalog mail-order houses Auxiliaries (e.g., warehouses)	Manufacturers (minor exceptions) Mining (except mining services) All wholesale Catalog mail-order houses Auxiliaries (e.g., warehouses)
2. Commodity classification system	Standard Transportation Commodity Classification (STCC), developed by the American Association of Railroads (AAR).	Standard Classification of Transported Goods (SCTG).
3. Sample size	Approximately 200,000 establishments were selected from a universe of about 800,000 in-scope establishments on the 1992 Standard Statistical Establishment List (SSEL).	Approximately 100,000 establishments were selected from a universe of about 800,000 in-scope establishments on the 1995 Standard Statistical Establishment List (SSEL).
4. Survey methodology	Respondents took a sample of their individual outbound shipments for a 2-week period during each of the four calendar quarters of 1993. Respondents reported key characteristics for each sampled shipment.	Respondents took a sample of their individual outbound shipments for a 1-week period during each of the four calendar quarters of 1997. Respondents reported key characteristics for each sampled shipment.
5. Reported mode of transportation	Rail For-hire truck Private truck Air Inland water and/or Great Lakes Deep sea water Pipeline Parcel, U.S. Postal Service, or courier Other Unknown	Rail For-hire truck Private truck Air Shallow draft vessel Deep draft vessel Pipeline Parcel, U.S. Postal Service, or courier Other Unknown

Item	1993	1997
6. Data items requested on questionnaire	<p>For each shipment:</p> <p>Total value</p> <p>Total weight</p> <p>Major commodity (STCC)</p> <p>All modes of transportation</p> <p>Multiple origins (respondents specifically requested to report all shipment origins for the sampled establishment and report the appropriate origin for each shipment; assumed to always be the mailing address if no other origins listed).</p> <p>Destination</p> <p>Containerized (Y/N)</p> <p>Hazardous material (Y/N)</p> <p>Export (Y/N)</p> <p>If export, mode of export, foreign country, and city of destination.</p>	<p>For each shipment:</p> <p>Total value</p> <p>Total weight</p> <p>Major commodity (SCTG)</p> <p>All modes of transportation</p> <p>Single origin (assumed to be the mailing address unless the respondent provided a different physical location address).</p> <p>Destination</p> <p>Containerized (Y/N)</p> <p>Hazardous material (UN/NA codes)</p> <p>Export (Y/N)</p> <p>If export, mode of export, foreign country, and city of destination.</p>

Appendix B. Reliability of the Estimates

An estimate based on a sample survey potentially contains two types of errors—sampling and nonsampling. Sampling error occurs because characteristics differ among sampling units and because only a subset of the entire population is measured in a sample survey. Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate. The accuracy of a survey result may be affected by these two types of errors.

Sampling and nonsampling errors are often measured by the quantities, bias and variance. The bias of an estimator of an unknown population value is the difference, averaged over all possible samples of the same size and design, between the estimator and the unknown population value. Any systematic error, or inaccuracy that affects all samples of a specified design in a similar way, may bias the resulting estimates. Variance is the squared difference, averaged over all possible samples of the same size and design, between an estimator and its average value. Descriptions of sampling and nonsampling errors for the 1997 Commodity Flow Survey (CFS) are provided in the following sections.

SAMPLING ERROR

Because the estimates are based on a sample, exact agreement with the results that would be obtained from a complete enumeration of all the shipments made in 1997 from all establishments included on the CFS sampling frame is not expected. However, because probability sampling was used at each stage of selection, it is possible to estimate the sampling variability of the survey estimates. For CFS estimates, sampling variability arises from each of the three stages of sampling. (See Appendix C for a description of the sample design.)

The particular sample used in this survey is one of a large number of samples of the same size and design that could have been selected. If all possible samples had been surveyed, under the same conditions, an estimate of an unknown population value could have been obtained from each sample. The estimates obtained from these samples give rise to a distribution of estimates for the unknown population value. A statistical measure of the variability among these estimates is the standard error, which can be approximated from any one sample. The coefficient of variation (or relative standard error) of an estimate is the standard error of the estimate divided by the estimate. Measures of sampling variability, such as the standard error or coefficient of variation, are estimated from the

sample and are also subject to sampling variability. (Technically, we should refer to the estimated standard error or the estimated coefficient of variation of an estimator. However, we have omitted this detail for the sake of brevity.) It is important to note that the standard error and coefficient of variation only measure sampling variability. They do not measure any biases in the estimates. All coefficients of variation are expressed as percents. Standard errors for the corresponding percentage estimates are also provided.

An estimate of an unknown population value and its approximate standard error can be used to construct a confidence interval. A confidence interval is a range about a given estimator that has a specified probability, or confidence, of containing the unknown population value. If, for each possible sample, an estimate of an unknown population value and the estimate's approximate standard error were obtained, then:

1. For approximately 90 percent of the possible samples, the interval from 1.65 standard errors below to 1.65 standard errors above the estimate would include the unknown population value.
2. For approximately 95 percent of the possible samples, the interval from two standard errors below to two standard errors above the estimate would include the unknown population value.

NONSAMPLING ERROR

Nonsampling error encompasses all other factors that contribute to the total error of a sample survey estimate and may also occur in censuses. It is often helpful to think of nonsampling error as arising from deficiencies or mistakes in the survey process. In the CFS, nonsampling error can be attributed to many sources: (1) nonresponse, (2) response errors, (3) differences in the interpretation of the questions, (4) mistakes in coding or keying the data obtained, and (5) other errors of collection, response, coverage, and processing. Although no direct measurement of the potential biases because of nonsampling error has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize its influence.

A potentially large source of bias in the estimates is due to nonresponse. Nonresponse is defined as the inability to obtain all the intended measurements or responses from all the selected establishments. Four levels of nonresponse can occur in the CFS: item, shipment, quarter (reporting week), and establishment. Item nonresponse

occurs either when a question is unanswered or the response to the question fails computer or analyst edits. Item nonresponse is corrected by imputation. (Imputation is the procedure by which a missing value is replaced by a predicted value obtained from an appropriate model.) Shipment, quarter, and establishment nonresponse are used to describe the inability to obtain sufficient information about a sampled shipment, quarter, or establishment, respectively, that prevents it from contributing to tabulations. Shipment and quarter nonresponse are corrected during the estimation procedure by reweighting. Reweighting allocates characteristics to the nonrespondents in proportion to the characteristics observed for the respondents. The amount of bias introduced by this nonresponse adjustment procedure depends on the extent to which the nonrespondents differ, characteristically, from the respondents. Establishment nonresponse is corrected during the estimation procedure by the SIC-level adjustment weight. (See Appendix C for a description of the estimation procedure.) In most cases of establishment nonresponse, none of the four questionnaires have been

returned to the Census Bureau, after several attempts to elicit a response. Approximately 67 percent of the sampled establishments provided at least one quarter of data that contributed to tabulations.

Some possible sources of bias that are attributed to respondent-conducted sampling include misunderstanding the definition of a shipment, constructing an incomplete frame of shipments from which to sample, ordering the shipment sampling frame by selected shipment characteristics, and selecting shipment records by a method other than the one specified in the questionnaire's instructions. We often contacted respondents who reported shipments having atypically large value or weight when compared to the rest of their reported shipments. Upon contact, if we are able to collect information on all of a given respondent's large shipments made either for a particular reporting week or for the entire quarter, then we identify these large shipments as certainty shipments. (See Appendix C for a description of how certainty shipments are used in the estimation process.)

Table B–1a. Measures of Reliability for Shipment Characteristics by Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	10.0	—	13.4	—	13.1	—	12.1
Single modes	9.3	4.3	13.5	.4	13.2	1.8	13.5
Truck	6.9	4.9	18.7	4.7	15.1	2.7	10.0
For-hire truck	9.9	2.9	8.8	2.8	19.8	4.1	10.1
Private truck	6.0	2.8	24.9	4.5	24.4	2.7	10.3
Rail	33.6	.9	31.8	5.6	26.9	4.8	20.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	28.8	2.7	17.1	—	16.9	.1	2.5
Pipeline	37.7	—	40.6	2.3	S	S	S
Multiple modes	29.0	4.3	S	S	35.1	.7	6.9
Parcel, U.S. Postal Service or courier	29.3	4.4	18.5	—	28.4	.4	6.9
Truck and rail	S	S	S	S	S	S	42.4
Truck and water	34.8	—	40.0	—	40.3	—	18.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	17.3	.3	38.0	.3	S	S	36.3

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–1b. Measures of Reliability for Shipment Characteristics by Mode of Transportation for State of Origin: 1997 and 1993

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value			Tons			Ton-miles			Average miles per shipment		
	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change	Coefficient of variation of number		Standard error of percent change	Coefficient of variation		Standard error of percent change
	1997	1993		1997	1993		1997	1993		1997	1993	
All modes	10.0	9.1	16.9	13.4	9.4	23.6	13.1	9.8	18.2	12.1	12.9	24.2
Single modes	9.3	8.6	13.6	13.5	11.9	29.0	13.2	12.7	24.7	13.5	19.1	13.4
Truck	6.9	9.6	11.7	18.7	12.8	39.5	15.1	7.1	23.9	10.0	7.1	12.3
For-hire truck	9.9	16.0	15.9	8.8	13.3	22.1	19.8	8.6	29.1	10.1	6.9	11.1
Private truck	6.0	7.1	11.5	24.9	15.0	58.1	24.4	9.3	43.8	10.3	7.8	13.0
Rail	33.6	16.4	41.0	31.8	28.8	41.8	26.9	28.5	35.1	20.5	12.3	25.4
Water	—	—	—	—	—	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—	—	—	—	—	—
Air (includes truck and air)	28.8	16.4	57.9	17.1	46.9	43.3	16.9	37.1	42.1	2.5	3.0	4.0
Pipeline	37.7	S	S	40.6	S	S	S	S	S	S	S	S
Multiple modes	29.0	21.8	108.0	S	S	S	35.1	S	S	6.9	9.9	19.4
Parcel, U.S. Postal Service or courier	29.3	9.3	122.3	18.5	11.5	38.3	28.4	7.6	84.5	6.9	9.9	19.5
Truck and rail	S	S	S	S	S	S	S	S	S	42.4	35.1	58.4
Truck and water	34.8	41.0	39.1	40.0	S	S	40.3	S	S	18.3	12.5	26.3
Rail and water	—	—	—	—	—	—	—	—	—	—	—	—
Other multiple modes	S	—	S	S	—	S	S	—	S	31.6	—	S
Other and unknown modes ...	17.3	19.9	20.0	38.0	33.1	5.0	S	34.9	S	36.3	22.3	7.6

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-1c. **Standard Error of Percentage for Shipment Characteristics by Mode of Transportation for State of Origin: Percent of Total for 1997 and 1993**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	—	—	—	—	—	—
Single modes	4.3	1.4	.4	4.0	1.8	6.0
Truck	4.9	2.0	4.7	3.8	2.7	3.9
For-hire truck	2.9	3.7	2.8	1.8	4.1	3.4
Private truck	2.8	3.2	4.5	3.4	2.7	1.2
Rail9	1.0	5.6	5.7	4.8	5.5
Water	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Air (includes truck and air)	2.7	1.3	—	—	.1	.2
Pipeline	—	S	2.3	S	S	S
Multiple modes	4.3	1.3	S	S	.7	S
Parcel, U.S. Postal Service or courier	4.4	.7	—	—	.4	—
Truck and rail	S	S	S	S	S	S
Truck and water	—	—	—	S	—	S
Rail and water	—	—	—	—	—	—
Other multiple modes	S	—	S	—	S	—
Other and unknown modes3	.6	.3	4.0	S	5.8

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-2. **Measures of Reliability for Shipment Characteristics by Total Modal Activity for the State of Origin: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation	Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	
Total	13.1	—	11.9
Truck	15.1	2.7	9.3
Rail	27.6	4.9	16.6
Shallow draft	—	—	—
Great Lakes	—	—	—
Deep draft	41.1	—	18.3
Air	16.9	.1	2.6
Parcel, U.S. Postal Service or courier	28.4	.4	6.9
Pipeline	S	S	S
Other and unknown modes	S	S	36.3

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
All modes	10.0	—	13.4	—	13.1	—
Less than 50 miles	5.2	2.8	20.1	4.3	29.5	1.8
50 to 99 miles	10.0	.3	21.8	4.0	21.1	3.5
100 to 249 miles	18.3	1.5	21.1	1.5	22.2	1.5
250 to 499 miles	16.0	1.2	27.1	3.0	25.0	4.2
500 to 749 miles	20.1	1.1	21.1	.4	24.6	1.3
750 to 999 miles	27.8	1.0	27.3	.3	26.3	1.3
1,000 to 1,499 miles	16.1	1.4	25.7	.4	27.3	3.4
1,500 to 1,999 miles	10.2	.8	39.9	.5	38.7	3.2
2,000 miles or more	31.8	1.9	S	S	S	S
Single modes	9.3	—	13.5	—	13.2	—
Less than 50 miles	6.6	2.5	20.3	4.3	29.7	1.8
50 to 99 miles	10.8	.4	21.8	4.1	21.1	3.6
100 to 249 miles	19.9	1.7	21.1	1.5	22.2	1.6
250 to 499 miles	18.9	1.7	27.4	3.0	25.5	4.3
500 to 749 miles	22.2	1.3	17.9	.3	20.3	.9
750 to 999 miles	22.5	.8	28.5	.3	27.7	1.5
1,000 to 1,499 miles	18.3	1.7	21.6	.3	21.8	3.0
1,500 to 1,999 miles	9.9	.8	42.2	.5	41.1	3.3
2,000 miles or more	37.6	1.5	S	S	S	S
Truck	6.9	—	18.7	—	15.1	—
Less than 50 miles	6.5	1.8	23.1	4.2	30.0	3.2
50 to 99 miles	12.7	.6	27.1	2.6	27.4	2.2
100 to 249 miles	22.5	1.9	21.3	1.7	22.2	2.4
250 to 499 miles	16.9	1.9	20.2	1.1	23.1	1.5
500 to 749 miles	18.5	1.3	15.0	.2	14.7	.6
750 to 999 miles	29.5	.9	41.9	.4	40.6	1.4
1,000 to 1,499 miles	35.6	2.0	27.2	.3	29.0	3.5
1,500 to 1,999 miles	13.0	1.1	S	S	S	S
2,000 miles or more	41.8	.8	19.6	—	19.7	.9
For-hire truck	9.9	—	8.8	—	19.8	—
Less than 50 miles	14.8	1.3	12.4	4.5	22.8	1.4
50 to 99 miles	12.4	.4	26.0	2.5	27.9	2.1
100 to 249 miles	27.8	1.8	16.1	1.6	19.6	2.0
250 to 499 miles	18.0	3.0	25.6	2.3	28.8	1.4
500 to 749 miles	18.2	2.0	14.8	.4	14.4	1.2
750 to 999 miles	30.1	1.7	42.7	.9	41.4	1.5
1,000 to 1,499 miles	36.1	3.5	28.5	.8	30.2	4.2
1,500 to 1,999 miles	13.0	2.1	S	S	S	S
2,000 miles or more	41.9	1.5	19.6	—	19.7	1.4
Private truck	6.0	—	24.9	—	24.4	—
Less than 50 miles	7.4	3.8	28.8	5.6	36.7	5.2
50 to 99 miles	15.8	.8	30.2	3.0	30.5	2.9
100 to 249 miles	21.7	2.7	30.1	2.5	31.1	3.9
250 to 499 miles	31.2	1.2	28.9	.5	26.7	2.3
500 to 749 miles	41.2	.2	42.1	—	42.4	1.0
750 to 999 miles	39.1	—	37.8	—	37.3	.5
1,000 to 1,499 miles	45.2	.1	S	S	S	S
1,500 to 1,999 miles	S	S	46.3	—	48.6	.3
2,000 miles or more	S	S	S	S	S	S
Rail	33.6	—	31.8	—	26.9	—
Less than 50 miles	38.3	6.0	S	S	33.4	.2
50 to 99 miles	36.2	5.7	37.6	10.6	36.5	10.1
100 to 249 miles	S	S	37.3	1.5	35.1	.8
250 to 499 miles	36.9	8.6	19.0	8.1	17.5	8.7
500 to 749 miles	34.8	6.5	43.3	3.5	43.3	3.3
750 to 999 miles	S	S	46.6	2.2	46.5	4.8
1,000 to 1,499 miles	39.2	4.4	45.0	2.8	40.7	7.2
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

Table B-3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	28.8	—	17.1	—	16.9	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	49.6	.5	45.3	.2	41.5	—
100 to 249 miles	S	S	S	S	46.8	—
250 to 499 miles	33.9	5.0	37.5	4.7	37.0	2.1
500 to 749 miles	S	S	30.7	2.2	29.8	1.2
750 to 999 miles	22.7	1.7	44.9	1.5	45.1	2.0
1,000 to 1,499 miles	28.0	5.3	31.8	5.3	32.1	6.8
1,500 to 1,999 miles	32.1	2.4	21.6	3.0	22.7	3.5
2,000 miles or more	S	S	30.5	3.6	33.9	5.3
Pipeline	37.7	—	40.6	—	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	40.9	14.2	40.8	14.9	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	29.0	—	S	S	35.1	—
Less than 50 miles	24.4	2.5	S	S	S	S
50 to 99 miles	20.6	.6	27.7	1.6	25.0	.1
100 to 249 miles	15.0	.8	22.5	3.0	22.7	.6
250 to 499 miles	40.3	3.3	20.6	3.8	22.9	2.2
500 to 749 miles	29.2	2.1	S	S	S	S
750 to 999 miles	S	S	30.6	.8	31.3	.7
1,000 to 1,499 miles	39.9	2.4	18.2	3.1	17.7	3.6
1,500 to 1,999 miles	18.9	2.7	34.1	5.4	33.9	7.2
2,000 miles or more	45.4	3.6	47.5	4.4	45.0	5.9
Parcel, U.S. Postal Service or courier	29.3	—	18.5	—	28.4	—
Less than 50 miles	24.6	2.5	11.4	1.5	15.2	—
50 to 99 miles	20.6	.7	27.7	1.4	25.0	.2
100 to 249 miles	14.7	.8	22.9	3.5	23.0	1.0
250 to 499 miles	40.5	3.4	24.2	1.8	24.9	1.0
500 to 749 miles	29.3	2.2	17.3	1.2	17.0	.9
750 to 999 miles	S	S	30.7	1.7	31.5	1.6
1,000 to 1,499 miles	41.0	2.0	19.5	1.4	18.9	2.0
1,500 to 1,999 miles	19.9	2.7	27.7	3.0	26.6	4.8
2,000 miles or more	45.4	3.6	S	S	S	S
Truck and rail	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Truck and water	34.8	—	40.0	—	40.3	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	34.8	—	40.0	—	40.3	—

See footnotes at end of table.

Table B-3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	17.3	—	38.0	—	S	S
Less than 50 miles	17.3	7.2	23.1	10.0	15.3	1.0
50 to 99 miles	44.3	1.0	S	S	S	S
100 to 249 miles	S	S	41.9	2.0	45.9	1.1
250 to 499 miles	28.2	2.4	S	S	S	S
500 to 749 miles	S	S	45.9	4.0	45.8	7.5
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	33.7	2.2	S	S	S	S
1,500 to 1,999 miles	37.9	1.1	S	S	S	S
2,000 miles or more	43.0	1.2	36.4	.5	35.5	4.5

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	10.0	—	13.4	—	13.1	—	12.1
Less than 50 lb	23.3	3.5	8.9	—	16.0	.1	11.1
50 to 99 lb	22.3	.9	6.4	—	18.7	—	16.4
100 to 499 lb	15.7	1.4	9.8	—	15.7	.3	20.9
500 to 749 lb	20.8	.6	13.3	—	24.0	.2	34.0
750 to 999 lb	30.8	.6	12.2	—	18.7	.2	15.3
1,000 to 9,999 lb	3.8	1.6	8.6	.7	19.1	1.4	15.6
10,000 to 49,999 lb	14.2	3.4	21.3	3.7	19.1	3.6	19.2
50,000 to 99,999 lb	18.7	.6	23.4	2.5	19.3	1.3	8.9
100,000 lb or more	29.8	.8	17.3	4.7	16.4	3.0	20.1
Single modes	9.3	—	13.5	—	13.2	—	13.5
Less than 50 lb	20.9	1.7	12.2	—	14.0	—	27.9
50 to 99 lb	18.6	.7	7.3	—	11.3	—	14.6
100 to 499 lb	18.7	1.6	11.3	—	11.6	.2	14.1
500 to 749 lb	17.7	.7	15.0	—	20.2	.2	16.2
750 to 999 lb	31.5	.7	12.9	—	19.3	.2	15.7
1,000 to 9,999 lb	3.3	1.7	9.3	.7	17.0	1.1	12.6
10,000 to 49,999 lb	14.6	3.6	21.4	3.7	19.2	3.4	19.7
50,000 to 99,999 lb	18.6	.6	23.4	2.5	19.5	1.4	9.0
100,000 lb or more	30.2	1.0	17.6	4.7	15.1	2.8	20.3
Truck	6.9	—	18.7	—	15.1	—	10.0
Less than 50 lb	9.7	.4	13.3	—	16.1	—	26.6
50 to 99 lb	19.1	.6	7.7	—	15.9	—	15.3
100 to 499 lb	14.9	1.7	11.4	.2	12.7	.3	14.9
500 to 749 lb	20.5	.8	14.8	.1	21.7	.3	16.9
750 to 999 lb	28.6	.9	13.0	.1	20.0	.3	15.2
1,000 to 9,999 lb	5.2	2.5	9.3	1.0	17.1	1.5	12.6
10,000 to 49,999 lb	14.8	3.3	21.5	2.3	19.1	3.1	19.7
50,000 to 99,999 lb	18.9	1.1	23.4	2.6	20.3	2.3	8.5
100,000 lb or more	21.3	.1	26.1	1.4	29.8	.7	S
For-hire truck	9.9	—	8.8	—	19.8	—	10.1
Less than 50 lb	20.8	.6	22.0	—	21.6	—	17.4
50 to 99 lb	38.8	.8	20.3	—	25.5	—	23.0
100 to 499 lb	26.0	3.7	10.6	—	17.0	.3	13.6
500 to 749 lb	18.1	.8	14.8	—	25.8	.3	11.1
750 to 999 lb	S	S	19.9	—	23.9	.2	16.3
1,000 to 9,999 lb	12.9	3.3	29.5	1.4	24.0	1.6	12.3
10,000 to 49,999 lb	17.1	4.3	10.8	2.8	24.7	3.3	15.0
50,000 to 99,999 lb	22.4	1.1	15.6	3.1	14.6	2.5	12.0
100,000 lb or more	45.2	.2	33.3	1.9	S	S	S
Private truck	6.0	—	24.9	—	24.4	—	10.3
Less than 50 lb	10.2	.8	14.9	—	18.1	—	14.1
50 to 99 lb	16.6	.6	8.9	—	7.5	—	8.6
100 to 499 lb	17.4	1.7	13.4	.3	12.8	.3	11.5
500 to 749 lb	29.2	1.8	16.1	.2	17.3	.2	10.2
750 to 999 lb	16.8	.7	14.3	.1	19.9	.4	14.7
1,000 to 9,999 lb	7.6	3.0	11.3	1.3	10.0	2.4	10.8
10,000 to 49,999 lb	15.1	2.8	29.2	3.5	29.4	3.4	18.0
50,000 to 99,999 lb	24.7	1.6	30.9	3.1	32.8	2.7	12.7
100,000 lb or more	32.1	.1	40.2	2.3	44.5	1.5	S
Rail	33.6	—	31.8	—	26.9	—	20.5
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	29.9
500 to 749 lb	S	S	S	S	S	S	S
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	S	S	S	S	S	S	32.0
10,000 to 49,999 lb	S	S	S	S	S	S	35.7
50,000 to 99,999 lb	S	S	S	S	S	S	26.8
100,000 lb or more	33.8	1.6	31.9	.9	27.7	2.1	20.2
Water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

See footnote at end of table.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	28.8	—	17.1	—	16.9	—	2.5
Less than 50 lb	30.7	6.3	16.9	4.4	19.2	4.9	2.5
50 to 99 lb	30.3	1.4	21.6	1.2	23.6	1.3	6.2
100 to 499 lb	33.6	5.4	17.9	3.9	11.8	2.8	7.8
500 to 749 lb	S	S	S	S	32.5	3.0	44.0
750 to 999 lb	S	S	37.9	1.0	42.2	.6	24.3
1,000 to 9,999 lb	S	S	28.2	3.6	29.1	5.5	4.8
10,000 to 49,999 lb	S	S	36.7	7.4	45.4	8.9	23.7
50,000 to 99,999 lb	S	S	S	S	S	S	29.8
100,000 lb or more	S	S	S	S	S	S	31.6
Pipeline	37.7	—	40.6	—	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	—	—	—	—	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	40.9	14.2	40.8	14.9	S	S	S
Multiple modes	29.0	—	S	S	35.1	—	6.9
Less than 50 lb	32.7	4.6	14.6	7.4	17.4	7.4	7.2
50 to 99 lb	28.3	3.0	17.0	2.8	23.9	3.5	9.9
100 to 499 lb	19.1	2.6	23.0	4.0	42.7	3.6	14.3
500 to 749 lb	S	S	45.9	2.1	S	S	18.0
750 to 999 lb	S	S	38.4	.4	45.7	.6	23.7
1,000 to 9,999 lb	S	S	34.3	.5	49.0	.8	34.4
10,000 to 49,999 lb	S	S	S	S	38.6	6.4	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	30.2
Parcel, U.S. Postal Service or courier	29.3	—	18.5	—	28.4	—	6.9
Less than 50 lb	32.7	4.4	14.6	2.8	17.4	5.8	7.2
50 to 99 lb	28.3	3.0	17.0	1.7	24.0	3.2	10.0
100 to 499 lb	19.1	2.7	23.0	1.9	42.8	4.2	14.3
500 to 749 lb	S	S	46.4	2.7	S	S	18.3
750 to 999 lb	S	S	S	S	S	S	25.7
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	42.4
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	31.8
1,000 to 9,999 lb	S	S	49.6	1.9	S	S	29.9
10,000 to 49,999 lb	S	S	S	S	46.0	17.4	S
50,000 to 99,999 lb	S	S	S	S	S	S	31.6
100,000 lb or more	S	S	S	S	S	S	30.2
Truck and water	34.8	—	40.0	—	40.3	—	18.3
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	29.8
10,000 to 49,999 lb	42.3	16.3	44.9	16.9	44.9	17.0	25.8
50,000 to 99,999 lb	S	S	S	S	S	S	31.6
100,000 lb or more	—	—	—	—	—	—	—

See footnote at end of table.

Table B-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	17.3	—	38.0	—	S	S	36.3
Less than 50 lb	30.5	4.8	17.7	.9	40.5	.3	29.9
50 to 99 lb	49.6	2.7	29.4	.8	S	S	29.4
100 to 499 lb	24.8	2.8	32.6	3.6	25.4	4	S
500 to 749 lb	49.0	1.2	27.2	.9	S	S	24.8
750 to 999 lb	48.9	.6	34.6	.9	37.8	.1	38.7
1,000 to 9,999 lb	22.4	6.7	33.1	5.4	S	S	19.3
10,000 to 49,999 lb	35.8	5.0	45.9	8.4	S	S	19.1
50,000 to 99,999 lb	S	S	38.8	2.6	S	S	31.7
100,000 lb or more	S	S	S	S	S	S	31.0

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–5. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code	Commodity description	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
		Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
	All commodities	10.0	—	13.4	—	13.1	—	12.1
01	Live animals and live fish	—	—	—	—	—	—	—
02	Cereal grains	S	S	S	S	S	S	S
03	Other agricultural products	S	S	S	S	S	S	29.7
04	Animal feed and products of animal origin, n.e.c.	37.3	.2	S	S	33.7	.6	S
05	Meat, fish, seafood, and their preparations	25.8	.2	29.9	.1	34.4	.2	S
06	Milled grain products and preparations, and bakery products	42.4	.8	29.8	.3	29.7	.3	37.0
07	Other prepared foodstuffs and fats and oils	14.0	.7	24.9	1.2	14.4	1.0	44.4
08	Alcoholic beverages	14.6	.3	18.9	.2	36.5	.1	12.9
09	Tobacco products	46.3	—	S	S	S	S	26.1
10	Monumental or building stone	30.3	—	28.1	—	S	S	S
11	Natural sands	27.0	—	26.4	1.7	38.0	.5	S
12	Gravel and crushed stone	S	S	S	S	S	S	21.8
13	Nonmetallic minerals n.e.c.	45.0	—	48.0	—	45.7	—	30.0
14	Metallic ores and concentrates	21.7	.5	37.2	3.0	16.6	.5	47.8
15	Coal	20.2	.1	19.9	2.9	21.9	3.3	S
17	Gasoline and aviation turbine fuel	33.3	.5	29.4	1.3	S	S	17.3
18	Fuel oils	31.3	.2	32.5	.7	40.0	.4	9.7
19	Coal and petroleum products, n.e.c.	42.2	.1	26.5	.5	31.6	.3	15.4
20	Basic chemicals	23.0	.2	32.9	1.5	S	S	46.3
21	Pharmaceutical products	19.0	.4	44.1	—	49.1	.4	18.6
22	Fertilizers	27.8	—	28.8	.1	47.9	.3	26.3
23	Chemical products and preparations, n.e.c.	39.6	1.3	S	S	S	S	27.4
24	Plastics and rubber	24.9	.7	19.3	—	14.8	.2	19.3
25	Logs and other wood in the rough	S	S	S	S	S	S	27.6
26	Wood products	13.0	.2	12.4	.3	24.2	.3	14.4
27	Pulp, newsprint, paper, and paperboard	34.0	.2	29.4	.2	38.2	.9	S
28	Paper or paperboard articles	13.0	.1	9.8	—	22.5	.2	16.5
29	Printed products	22.5	.3	44.8	.1	24.3	.1	22.1
30	Textiles, leather, and articles of textiles or leather	27.5	.8	30.6	—	S	S	13.8
31	Nonmetallic mineral products	12.1	.2	23.7	3.3	26.4	2.0	40.9
32	Base metal in primary or semifinished forms and in finished basic shapes	23.2	.8	22.1	.4	44.3	3.4	28.3
33	Articles of base metal	17.5	.5	44.4	.4	34.6	.7	33.6
34	Machinery	22.2	1.6	34.1	.1	S	S	14.5
35	Electronic and other electrical equipment and components and office equipment	24.9	5.0	16.2	—	25.6	.5	13.7
36	Motorized and other vehicles (including parts)	42.7	2.3	S	S	S	S	36.5
37	Transportation equipment, n.e.c.	25.6	1.3	27.1	—	28.2	—	39.3
38	Precision instruments and apparatus	32.0	1.3	40.1	—	S	S	20.4
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	47.6	1.1	47.7	.2	31.7	.4	23.1
40	Miscellaneous manufactured products	24.7	.8	22.2	.1	17.1	.1	16.7
41	Waste and scrap	30.8	—	49.9	.1	S	S	37.6
43	Mixed freight	21.1	.7	21.4	.2	22.6	.2	S
—	Commodity unknown	23.1	—	S	S	S	S	24.4

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-6. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
ALL COMMODITIES							
Total	10.0	—	13.4	—	13.1	—	12.1
Single modes	9.3	4.3	13.5	.4	13.2	1.8	13.5
Truck	6.9	4.9	18.7	4.7	15.1	2.7	10.0
For-hire truck	9.9	2.9	8.8	2.8	19.8	4.1	10.1
Private truck	6.0	2.8	24.9	4.5	24.4	2.7	10.3
Rail	33.6	.9	31.8	5.6	26.9	4.8	20.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	28.8	2.7	17.1	—	16.9	.1	2.5
Pipeline	37.7	—	40.6	2.3	S	S	S
Multiple modes	29.0	4.3	S	S	35.1	.7	6.9
Parcel, U.S. Postal Service or courier	29.3	4.4	18.5	—	28.4	.4	6.9
Truck and rail	S	S	S	S	S	S	42.4
Truck and water	34.8	—	40.0	—	40.3	—	18.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	17.3	.3	38.0	.3	S	S	36.3
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	—	—	—	—	—	—	—
Single modes	—	—	—	—	—	—	—
Truck	—	—	—	—	—	—	—
For-hire truck	—	—	—	—	—	—	—
Private truck	—	—	—	—	—	—	—
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck	S	S	S	S	S	S	28.2
For-hire truck	S	S	S	S	S	S	32.8
Private truck	S	S	S	S	S	S	26.4
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	\$	\$	\$	\$	\$	\$	29.7
Single modes	\$	\$	\$	\$	\$	\$	27.8
Truck	\$	\$	\$	\$	\$	\$	27.8
For-hire truck	\$	\$	\$	\$	\$	\$	27.4
Private truck	36.5	15.3	28.7	14.7	\$	\$	40.8
Rail	\$	\$	\$	\$	\$	\$	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	28.9
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	29.2
Truck and rail	\$	\$	\$	\$	\$	\$	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	\$
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	37.3	—	\$	\$	33.7	—	\$
Single modes	41.7	7.1	\$	\$	38.6	8.6	\$
Truck	41.6	7.1	\$	\$	37.8	8.6	\$
For-hire truck	36.5	7.8	\$	\$	40.3	9.4	45.1
Private truck	\$	\$	\$	\$	\$	\$	\$
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	\$	\$	\$	\$	\$	\$	31.6
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	27.9
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	\$	\$	\$	\$	\$	\$	27.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	31.2
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	25.8	—	29.9	—	34.4	—	\$
Single modes	25.8	.2	30.0	.3	34.4	—	\$
Truck	25.8	.2	30.0	.3	34.4	—	\$
For-hire truck	37.7	13.9	38.5	14.5	36.1	17.3	24.3
Private truck	36.8	13.8	28.5	14.3	37.9	17.3	\$
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	\$	\$	\$
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	31.6

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	42.4	—	29.8	—	29.7	—	37.0
Single modes	43.3	3.5	30.0	1.6	31.0	4.1	S
Truck	43.7	4.2	31.5	3.5	31.0	4.1	S
For-hire truck	S	S	S	S	37.7	14.4	29.9
Private truck	S	S	36.8	12.4	36.6	14.4	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	32.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	14.0	—	24.9	—	14.4	—	44.4
Single modes	14.1	.1	25.0	.2	14.5	.5	41.6
Truck	14.1	.2	25.0	.2	14.5	.5	43.0
For-hire truck	32.6	8.2	32.3	9.6	22.2	7.7	37.6
Private truck	16.5	8.1	27.8	9.5	26.8	7.4	33.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	39.8	—	37.1	—	24.2
Parcel, U.S. Postal Service or courier	S	S	39.8	—	37.1	—	24.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	44.8
SCTG 08, ALCOHOLIC BEVERAGES							
Total	14.6	—	18.9	—	36.5	—	12.9
Single modes	14.7	.5	19.1	.9	36.6	.7	12.8
Truck	14.7	.5	19.1	.9	36.6	.7	12.8
For-hire truck	S	S	S	S	S	S	32.2
Private truck	11.7	3.0	18.9	1.6	28.3	8.8	8.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 09, TOBACCO PRODUCTS							
Total	46.3	—	S	S	S	S	26.1
Single modes	46.3	—	S	S	S	S	26.1
Truck	46.3	—	S	S	S	S	26.1
For-hire truck	—	—	—	—	—	—	—
Private truck	46.3	—	S	S	S	S	26.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	30.3	—	28.1	—	S	S	S
Single modes	34.4	7.5	32.1	7.7	S	S	S
Truck	34.4	7.5	32.1	7.7	S	S	S
For-hire truck	S	S	S	S	S	S	35.8
Private truck	S	S	50.0	11.6	S	S	26.2
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 11, NATURAL SANDS							
Total	27.0	—	26.4	—	38.0	—	S
Single modes	27.0	—	26.4	—	38.0	—	S
Truck	27.0	7.3	26.4	4.9	38.5	7.2	S
For-hire truck	29.0	11.8	30.3	12.7	34.0	13.4	30.2
Private truck	36.6	10.2	37.7	10.7	48.9	12.6	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	S	S	S	S	S	S	21.8
Single modes	S	S	S	S	S	S	21.9
Truck	S	S	S	S	S	S	22.0
For-hire truck	30.9	7.3	27.8	6.3	42.8	6.4	S
Private truck	S	S	S	S	S	S	16.1
Rail	S	S	S	S	S	S	30.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	45.0	—	48.0	—	45.7	—	30.0
Single modes	45.0	—	48.0	—	45.7	—	30.0
Truck	45.0	—	48.0	—	45.7	—	30.0
For-hire truck	S	S	44.5	15.1	48.0	19.0	37.1
Private truck	S	S	S	S	S	S	29.6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	21.7	—	37.2	—	16.6	—	47.8
Single modes	21.6	—	37.2	—	16.6	—	44.2
Truck	35.0	11.2	23.9	13.5	26.4	10.4	14.7
For-hire truck	37.3	11.8	29.1	13.7	31.6	11.2	19.9
Private truck	S	S	S	S	S	S	27.3
Rail	32.0	11.2	42.5	13.5	26.4	10.4	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—

See footnote at end of table.

Table B–6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 15, COAL							
Total	20.2	—	19.9	—	21.9	—	S
Single modes	20.2	—	19.9	—	21.9	—	S
Truck	S	S	S	S	S	S	31.6
For-hire truck	S	S	S	S	S	S	31.6
Private truck	S	S	S	S	S	S	31.6
Rail	42.5	16.7	43.1	16.4	43.1	16.2	25.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	40.9	15.9	40.8	15.8	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	33.3	—	29.4	—	S	S	17.3
Single modes	33.4	—	29.4	.1	S	S	17.3
Truck	33.4	—	29.4	.1	S	S	17.3
For-hire truck	S	S	S	S	40.0	7.6	S
Private truck	37.3	6.4	32.9	6.1	S	S	16.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 18, FUEL OILS							
Total	31.3	—	32.5	—	40.0	—	9.7
Single modes	31.4	.4	32.6	.6	40.1	.4	9.7
Truck	31.3	.4	32.6	.6	40.1	.4	9.6
For-hire truck	28.7	10.7	31.3	9.8	S	S	26.5
Private truck	35.8	10.8	36.7	10.1	45.6	9.5	8.9
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	33.8

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	42.2	—	26.5	—	31.6	—	15.4
Single modes	44.0	4.8	27.0	1.9	32.7	3.8	16.3
Truck	44.0	4.8	27.0	1.9	32.7	3.8	16.3
For-hire truck	48.2	12.2	35.7	14.0	S	S	43.5
Private truck	S	S	S	S	45.8	15.5	20.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	32.6
SCTG 20, BASIC CHEMICALS							
Total	23.0	—	32.9	—	S	S	46.3
Single modes	23.1	.8	32.5	1.3	S	S	27.5
Truck	31.4	11.5	35.2	10.8	34.9	15.0	48.6
For-hire truck	30.7	8.2	46.8	11.9	38.5	9.4	S
Private truck	39.9	11.0	S	S	S	S	24.9
Rail	35.0	11.7	39.0	11.1	S	S	31.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	28.7
Truck and rail	S	S	S	S	S	S	30.6
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	27.4
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	19.0	—	44.1	—	49.1	—	18.6
Single modes	25.9	9.7	45.4	10.6	49.3	18.9	28.1
Truck	27.8	10.5	45.5	11.0	S	S	34.0
For-hire truck	32.3	9.8	44.7	10.9	S	S	S
Private truck	33.7	2.9	S	S	S	S	36.9
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	28.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	23.8	9.7	35.8	10.5	25.5	18.9	S
Parcel, U.S. Postal Service or courier	23.8	9.7	35.8	10.5	25.5	18.9	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	34.5

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	27.8	—	28.8	—	47.9	—	26.3
Single modes	29.3	7.3	29.2	5.0	48.3	9.6	26.5
Truck	29.3	7.3	29.2	5.0	48.3	9.6	26.5
For-hire truck	S	S	45.4	9.6	S	S	31.0
Private truck	24.5	8.5	27.2	8.3	34.6	15.3	12.9
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.8
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	39.6	—	S	S	S	S	27.4
Single modes	41.5	7.1	S	S	S	S	37.5
Truck	41.6	7.3	S	S	S	S	46.1
For-hire truck	40.4	9.7	S	S	43.6	8.6	21.3
Private truck	S	S	S	S	S	S	33.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	47.7	.5	S	S	S	S	23.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	45.6	6.6	S	S	S	S	24.3
Parcel, U.S. Postal Service or courier	45.6	6.6	S	S	S	S	24.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	39.1	1.3	38.9	.2	S
SCTG 24, PLASTICS AND RUBBER							
Total	24.9	—	19.3	—	14.8	—	19.3
Single modes	15.6	4.5	19.8	.7	15.8	1.3	27.0
Truck	15.9	4.3	19.9	.7	16.2	1.6	18.6
For-hire truck	24.8	4.1	12.2	8.5	21.9	8.2	18.4
Private truck	10.1	4.5	19.5	5.9	48.9	3.4	44.0
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	27.7	.8	26.6	.1	32.0	.4	14.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	15.3	.3	26.7	1.3	15.8
Parcel, U.S. Postal Service or courier	S	S	15.3	.3	26.7	1.3	15.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	45.5	.1	39.2

See footnote at end of table.

Table B–6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	S	S	S	S	S	S	27.6
Single modes	S	S	S	S	S	S	27.6
Truck	S	S	S	S	S	S	27.6
For-hire truck	S	S	S	S	S	S	28.3
Private truck	S	S	S	S	S	S	28.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 26, WOOD PRODUCTS							
Total	13.0	—	12.4	—	24.2	—	14.4
Single modes	13.2	.8	12.8	1.4	24.2	.5	13.4
Truck	13.2	.8	12.7	1.6	24.3	.6	13.4
For-hire truck	20.1	5.4	25.0	5.9	30.0	8.2	46.9
Private truck	16.7	5.3	17.1	6.0	26.7	7.3	17.8
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.4	—	S	S	S	S	S
Parcel, U.S. Postal Service or courier	38.4	—	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	34.0	—	29.4	—	38.2	—	S
Single modes	30.2	10.0	29.8	10.4	38.3	10.6	S
Truck	33.8	9.7	24.8	10.8	34.5	12.2	S
For-hire truck	35.7	11.4	27.8	11.9	31.3	11.6	29.3
Private truck	41.5	12.8	40.3	14.6	S	S	S
Rail	S	S	S	S	S	S	28.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	25.7

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	13.0	—	9.8	—	22.5	—	16.5
Single modes	9.7	3.3	8.9	1.8	19.1	2.9	27.5
Truck	9.7	3.3	8.9	1.8	19.1	2.9	33.2
For-hire truck	14.8	7.5	15.6	7.5	25.0	8.4	10.0
Private truck	16.0	7.4	16.7	7.5	36.1	8.7	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	23.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	44.6	.3	38.7
Parcel, U.S. Postal Service or courier	S	S	S	S	44.6	.3	38.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 29, PRINTED PRODUCTS							
Total	22.5	—	44.8	—	24.3	—	22.1
Single modes	25.3	9.6	46.6	8.7	35.0	13.2	38.0
Truck	25.3	9.4	46.8	8.7	35.3	12.8	48.8
For-hire truck	38.6	6.0	42.7	8.3	42.1	11.7	48.2
Private truck	24.1	9.5	47.8	12.9	45.5	11.5	29.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	17.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	49.9	9.9	45.6	8.5	S	S	14.5
Parcel, U.S. Postal Service or courier	49.9	9.9	45.6	8.5	S	S	14.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	31.7	2.6	34.6	1.7	S	S	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	27.5	—	30.6	—	S	S	13.8
Single modes	35.2	9.4	33.4	8.6	S	S	45.2
Truck	35.3	9.3	33.4	8.7	S	S	48.3
For-hire truck	49.0	6.4	40.2	7.7	S	S	17.7
Private truck	35.4	6.1	39.7	6.7	41.7	8.5	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	43.8	.2	38.7	—	44.4	.1	20.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.1	9.3	25.5	8.0	33.4	10.6	13.5
Parcel, U.S. Postal Service or courier	32.1	9.3	25.5	8.0	33.4	10.6	13.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38.8	1.0	32.3	1.2	35.8	1.8	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	12.1	—	23.7	—	26.4	—	40.9
Single modes	10.8	2.1	23.7	.8	9.8	9.9	26.2
Truck	11.3	3.7	24.2	2.3	13.9	11.3	32.5
For-hire truck	22.5	6.0	24.1	4.4	20.2	8.0	24.6
Private truck	13.4	5.8	29.6	4.4	13.2	6.0	23.2
Rail	44.7	1.1	44.9	2.3	S	S	26.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	36.8	1.3	47.0	.1	43.0	1.0	27.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	24.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	24.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.3
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	23.2	—	22.1	—	44.3	—	28.3
Single modes	24.2	2.2	22.9	1.7	45.3	1.8	38.6
Truck	18.1	7.5	16.9	6.4	26.4	9.8	48.9
For-hire truck	21.5	6.4	21.1	6.8	27.3	9.5	32.9
Private truck	26.8	3.9	42.1	5.7	38.4	1.1	23.4
Rail	48.9	7.5	S	S	S	S	20.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	20.4
Parcel, U.S. Postal Service or courier	S	S	30.7	—	30.6	—	20.4
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	44.3	1.7	S
SCTG 33, ARTICLES OF BASE METAL							
Total	17.5	—	44.4	—	34.6	—	33.6
Single modes	18.0	4.3	44.0	2.6	16.5	9.1	S
Truck	18.4	4.2	44.2	3.5	16.5	10.0	S
For-hire truck	17.9	6.1	28.2	8.7	17.1	9.3	14.2
Private truck	32.1	7.6	S	S	33.6	5.4	34.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	17.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	47.2	4.4	38.3	1.1	32.8	1.8	14.8
Parcel, U.S. Postal Service or courier	47.3	4.4	38.6	1.1	34.6	1.8	14.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	37.6	4.2	S	S	S	S	S

See footnote at end of table.

Table B–6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	22.2	—	34.1	—	S	S	14.5
Single modes	23.3	4.3	35.6	5.5	S	S	17.2
Truck	26.4	6.6	36.0	5.6	S	S	27.5
For-hire truck	41.8	6.9	45.6	7.7	S	S	13.7
Private truck	17.9	6.6	32.5	8.7	40.8	6.8	21.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	24.4	.7	28.8	3.9	9.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	23.4	2.3	23.4	1.0	24.1	2.1	34.2
Parcel, U.S. Postal Service or courier	23.4	2.3	23.4	1.0	24.1	2.1	34.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	31.5	2.4	41.3	5.0	37.5	1.4	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	24.9	—	16.2	—	25.6	—	13.7
Single modes	26.7	8.6	14.4	5.6	11.8	9.3	22.5
Truck	18.9	5.9	15.6	6.4	14.5	8.5	22.5
For-hire truck	22.3	4.3	17.9	6.2	15.6	8.4	27.9
Private truck	34.4	2.6	37.3	6.8	S	S	21.5
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	34.5	6.5	20.2	1.7	23.0	3.0	5.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	41.5	8.7	38.5	5.9	46.3	9.6	9.6
Parcel, U.S. Postal Service or courier	41.5	8.7	38.6	5.9	46.5	9.6	9.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	33.8	.6	49.2	2.1	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	42.7	—	S	S	S	S	36.5
Single modes	46.6	4.4	S	S	S	S	32.8
Truck	47.2	4.3	S	S	S	S	31.7
For-hire truck	S	S	S	S	S	S	21.6
Private truck	28.8	12.2	34.3	13.6	41.8	10.6	45.7
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	37.4	2.8	34.7	4.3	S	S	18.7
Parcel, U.S. Postal Service or courier	23.0	3.2	40.1	3.3	31.9	6.7	18.9
Truck and rail	S	S	S	S	S	S	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	48.9	2.7	S	S	S	S	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	25.6	—	27.1	—	28.2	—	39.3
Single modes	25.4	6.8	27.2	9.8	30.7	8.0	8.8
Truck	29.1	8.1	29.0	11.5	33.5	12.8	19.3
For-hire truck	32.4	9.1	29.9	13.1	33.5	13.5	21.8
Private truck	S	S	37.7	9.5	25.5	1.6	36.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	32.7	7.7	34.3	8.5	35.4	11.0	10.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.8	6.6	S	S	S	S	45.9
Parcel, U.S. Postal Service or courier	29.8	6.6	S	S	S	S	45.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	32.0	—	40.1	—	S	S	20.4
Single modes	35.4	5.8	44.0	8.3	S	S	S
Truck	23.6	10.0	46.0	12.4	S	S	S
For-hire truck	28.5	9.1	S	S	S	S	22.0
Private truck	34.3	6.0	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	46.0	9.2	49.1	5.7	S	S	15.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.9	4.7	31.4	8.1	34.4	11.2	8.4
Parcel, U.S. Postal Service or courier	29.9	4.7	31.4	8.1	34.4	11.2	8.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	33.7
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	47.6	—	47.7	—	31.7	—	23.1
Single modes	47.9	1.9	47.8	1.5	28.1	3.8	31.7
Truck	47.9	1.9	47.8	1.5	28.1	3.8	31.7
For-hire truck	28.3	6.2	24.7	8.5	27.9	4.6	19.7
Private truck	S	S	S	S	S	S	23.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	38.1
Parcel, U.S. Postal Service or courier	46.9	.2	41.2	—	46.2	.1	32.2
Truck and rail	S	S	S	S	S	S	30.0
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	48.1	2.0	S	S	S	S	S

See footnote at end of table.

Table B–6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	24.7	—	22.2	—	17.1	—	16.7
Single modes	33.7	9.1	24.2	6.8	20.6	10.1	26.4
Truck	23.4	7.4	24.3	6.8	20.5	10.0	27.0
For-hire truck	30.3	3.7	34.3	7.8	22.2	9.3	17.5
Private truck	27.6	5.6	37.2	7.3	S	S	16.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	10.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	37.2	9.1	38.3	6.8	S	S	8.1
Parcel, U.S. Postal Service or courier	37.3	9.1	38.3	6.8	S	S	8.1
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	34.6	1.4	39.0	.3	S	S	47.4
SCTG 41, WASTE AND SCRAP							
Total	30.8	—	49.9	—	S	S	37.6
Single modes	30.9	.9	S	S	S	S	37.5
Truck	30.9	4.3	40.6	6.1	39.9	9.6	44.3
For-hire truck	32.0	6.3	43.0	7.3	40.6	9.9	31.3
Private truck	S	S	S	S	S	S	30.4
Rail	S	S	S	S	S	S	26.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	30.2
SCTG 43, MIXED FREIGHT							
Total	21.1	—	21.4	—	22.6	—	S
Single modes	20.8	.4	21.3	.2	22.7	—	S
Truck	20.9	10.4	21.3	10.5	22.7	10.5	27.9
For-hire truck	S	S	S	S	S	S	S
Private truck	20.4	10.3	18.6	10.1	26.8	11.4	28.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

Table B-6. **Measures of Reliability for Shipment Characteristics by Two-Digit Commodity and Mode of Transportation for State of Origin: 1997—Con.**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
COMMODITY UNKNOWN							
Total	23.1	—	S	S	S	S	24.4
Single modes	31.4	11.1	S	S	S	S	S
Truck	38.4	14.0	S	S	S	S	35.4
For-hire truck	S	S	S	S	S	S	31.1
Private truck	32.7	12.1	S	S	S	S	S
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	24.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	24.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	43.6

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B-7. **Measures of Reliability for Shipment Characteristics by State of Destination for State of Origin: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

State of destination	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	10.0	—	13.4	—	13.1	—
NEW ENGLAND STATES						
Connecticut	S	S	S	S	S	S
Maine	S	S	33.1	—	33.0	—
Massachusetts	35.0	.4	24.3	—	24.2	—
New Hampshire	25.4	—	33.1	—	33.1	—
Rhode Island	S	S	34.9	—	34.9	—
Vermont	32.1	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	32.7	.2	22.4	—	22.5	.2
New York	28.3	.8	34.8	—	34.6	.5
Pennsylvania	S	S	31.8	—	31.8	.3
EAST NORTH CENTRAL STATES						
Illinois	S	S	S	S	S	S
Indiana	29.4	.3	46.7	.1	46.9	.8
Michigan	25.1	.3	S	S	S	S
Ohio	24.0	.3	45.8	—	45.9	.4
Wisconsin	S	S	S	S	S	S
WEST NORTH CENTRAL STATES						
Iowa	24.0	—	37.5	—	38.6	.2
Kansas	34.3	.1	S	S	S	S
Minnesota	17.0	—	24.7	—	24.9	.2
Missouri	39.8	.6	28.6	—	28.9	.2
Nebraska	29.7	—	S	S	S	S
North Dakota	S	S	S	S	S	S
South Dakota	S	S	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	43.5	—	S	S	S	S
District of Columbia	44.1	—	S	S	S	S
Florida	32.9	.4	S	S	S	S
Georgia	20.1	.2	S	S	S	S
Maryland	24.0	.1	S	S	S	S
North Carolina	17.2	.1	25.6	—	25.5	.4
South Carolina	36.7	—	S	S	S	S
Virginia	27.3	.2	38.5	—	38.5	.4
West Virginia	45.4	—	S	S	S	S
EAST SOUTH CENTRAL STATES						
Alabama	S	S	31.5	—	31.5	—
Kentucky	26.9	.1	S	S	S	S
Mississippi	38.0	.1	S	S	S	S
Tennessee	29.6	.5	37.1	—	38.4	.2
WEST SOUTH CENTRAL STATES						
Arkansas	41.7	.1	S	S	S	S
Louisiana	40.6	—	32.7	—	32.5	—
Oklahoma	39.3	—	29.5	—	26.2	—
Texas	25.8	1.2	13.8	.3	17.7	2.5
MOUNTAIN STATES						
Arizona	3.6	3.5	16.1	3.9	19.1	4.7
Colorado	36.1	.2	22.6	—	22.7	.2
Idaho	S	S	S	S	S	S
Montana	S	S	S	S	S	S
Nevada	44.6	1.0	35.8	2.7	31.4	4.0
New Mexico	29.8	.4	35.4	.2	24.0	.4
Utah	34.8	.3	34.7	—	42.5	.7
Wyoming	S	S	S	S	S	S
PACIFIC STATES						
Alaska	28.5	—	S	S	S	S
California	19.3	1.7	22.3	.9	24.9	1.4
Hawaii	S	S	42.3	—	43.3	—
Oregon	33.4	.1	34.7	—	35.4	.3
Washington	22.5	.4	22.5	—	23.8	.3

— Represents data cell equal to zero or less than 1 unit of measure.
D Denotes figures withheld to avoid disclosing data for individual companies.
S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Table B–8. **Measures of Reliability for Inbound Shipment Characteristics by State of Origin for State of Destination: 1997**

[For explanation of terms and meaning of abbreviations and symbols, see introductory text]

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	4.6	—	11.1	—	4.4	—
NEW ENGLAND STATES						
Connecticut	33.5	.6	22.4	—	22.4	—
Maine	27.2	—	32.7	—	32.9	—
Massachusetts	24.2	.3	19.6	—	19.5	—
New Hampshire	24.1	—	34.5	—	34.0	—
Rhode Island	30.5	—	25.8	—	26.0	—
Vermont	43.5	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	32.6	.6	46.2	.1	44.7	1.4
New York	32.7	.6	31.1	—	30.7	.4
Pennsylvania	24.1	.3	35.7	—	33.3	.5
EAST NORTH CENTRAL STATES						
Illinois	16.6	.3	26.8	.1	27.3	1.0
Indiana	10.9	.1	23.8	—	24.9	.4
Michigan	18.0	.5	13.2	—	13.2	.2
Ohio	11.4	.2	21.5	—	21.6	.5
Wisconsin	15.5	.1	36.0	—	34.3	.4
WEST NORTH CENTRAL STATES						
Iowa	30.2	.2	29.3	.1	30.5	1.0
Kansas	28.9	.3	35.0	.1	37.6	.6
Minnesota	9.9	.1	34.1	.2	32.8	.9
Missouri	18.7	.3	22.5	—	21.7	.3
Nebraska	23.3	.1	33.6	—	33.9	.2
North Dakota	33.3	—	S	S	S	S
South Dakota	S	S	45.0	—	45.0	—
SOUTH ATLANTIC STATES						
Delaware	40.9	—	S	S	S	S
District of Columbia	S	S	S	S	S	S
Florida	16.9	.2	27.1	—	27.6	.2
Georgia	18.6	.2	19.6	—	19.2	.3
Maryland	S	S	S	S	S	S
North Carolina	28.1	.4	24.9	—	24.7	.3
South Carolina	31.1	.2	22.4	—	21.8	—
Virginia	33.4	.1	20.3	—	20.2	—
West Virginia	35.5	—	45.4	—	45.9	.1
EAST SOUTH CENTRAL STATES						
Alabama	26.2	—	26.0	—	26.5	.1
Kentucky	33.6	.1	30.2	—	28.9	.2
Mississippi	15.5	—	18.8	—	20.7	.1
Tennessee	13.8	.1	16.4	—	17.6	.3
WEST SOUTH CENTRAL STATES						
Arkansas	31.8	.3	17.5	—	23.2	.3
Louisiana	20.4	.1	S	S	S	S
Oklahoma	21.8	.1	23.8	.1	24.4	.5
Texas	18.3	.8	9.9	.2	11.6	.7
MOUNTAIN STATES						
Arizona	3.6	1.8	16.1	3.8	19.1	2.7
Colorado	12.1	.2	22.8	—	27.8	.4
Idaho	23.2	.1	15.2	—	16.5	.2
Montana	22.3	—	S	S	S	S
Nevada	18.7	.1	40.0	.2	39.1	.3
New Mexico	24.5	.3	21.9	2.8	19.8	2.3
Utah	10.8	.1	20.5	.1	17.0	.2
Wyoming	37.7	—	47.4	.1	48.5	.6
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	13.7	1.9	16.2	1.0	13.0	1.3
Hawaii	42.9	—	41.9	—	42.3	—
Oregon	7.7	—	16.8	—	16.6	.6
Washington	S	S	18.1	—	17.1	.4

— Represents data cell equal to zero or less than 1 unit of measure.

D Denotes figures withheld to avoid disclosing data for individual companies.

S Data do not meet publication standards because of high sampling variability or other reasons.

Note: For description of development and uses of measures of reliability, see Appendix B, Reliability of the Estimates.

Appendix C.

Sample Design, Data Collection, and Estimation

INTRODUCTION

The primary goal for the 1997 Commodity Flow Survey (CFS) is to estimate shipping volumes (value, tons, and ton-miles) by commodity and mode of transportation at varying levels of geographic detail. A detailed description of the sample design for the 1997 CFS is provided below.

SAMPLE DESIGN

The sample for the 1997 CFS is selected using a stratified three-stage design in which the first-stage sampling units are establishments, the second-stage sampling units are groups of four 1-week periods (reporting weeks) within the survey year, and the third-stage sampling units are shipments.

First Stage

To create the first-stage sampling frame, we extracted a subset of establishment records from the 1995 Standard Statistical Establishment List (SSEL). The SSEL is a database, maintained by the Bureau of the Census, that contains a record for each establishment with employees. (An establishment is a single physical location where business transactions take place.) Establishments having nonzero payroll in 1994 and classified in the mining, manufacturing, wholesale, or selected retail industries, as defined by the 1987 Standard Industrial Classification (SIC) Manual, are included on the sampling frame. Auxiliary establishments (e.g. warehouses and central administrative offices) with shipping activity are also included. Auxiliary establishments are establishments that are primarily involved in rendering support services for other establishments within the same company, instead of for the public, government, or other business firms. All other establishments contained on the sampling frame are referred to as nonauxiliary establishments. For each establishment we extracted sales, payroll, number of employees, name and address information, as well as a primary identifier. We also computed a measure of size for each establishment. The measure of size for a particular establishment is designed to approximate the establishment's total value of shipments for 1994.

To reduce the amount of sampling variability and because estimates are desired for each commodity, we used a stratified design with a certainty component for each three-digit SIC. To accomplish this, each establishment on the sampling frame is classified into a three-digit

SIC grouping. For each group of establishments, a boundary (or cutoff) that divides the certainty establishments from the noncertainty establishments is determined using the Lavallee-Hidiroglou algorithm. If an establishment's measure of size is greater than the cutoff, the establishment is selected "with certainty". Establishments selected "with certainty" were assured of being selected and represented only themselves (i.e., have a selection probability of one and a sampling weight of one). No certainty cutoffs are set for auxiliary establishments because they only make up a small portion of the estimated total value of shipments for all establishments on the sampling frame.

Establishments not selected with certainty make up the noncertainty universe. We stratify the noncertainty universe by SIC recode, National Transportation Analysis Region (NTAR), and a flag used to differentiate auxiliary establishments from nonauxiliary establishments. Each SIC recode is constructed from a group of related three-digit SIC codes. The NTARs, developed by the Department of Transportation as combinations of Bureau of Economic Analysis (BEA) Areas, collectively provide a mutually exclusive and exhaustive coverage of the United States. Finally, the auxiliary stratification came about because establishments with different types of operation may have different shipping practices. We refer to a particular SIC recode-NTAR-auxiliary flag combination as a primary stratum.

We further stratify the noncertainty establishments within each primary stratum using the measure of size previously described. We refer to these measure-of-size strata as substrata of the primary strata. The measure of size stratification increases the efficiency of the sample design. The Dalenius-Hodges cumulative rule is used to set the substratum boundaries. We then use Neyman allocation to determine the sample size required within each substratum to meet a coefficient of variation constraint on the primary stratum total measure of size. Within each substratum, a simple random sample of establishments is selected without replacement.

To arrive at the final sample size, we allocated additional establishments to some of the strata so that the probability of selecting any establishment is no less than 1 in 100. In total, the first-stage sample comprises 102,739 establishments.

Second Stage

The frame for the second stage of sampling consists of 52 one-week reporting periods (reporting weeks) during the interval from December 29, 1996, to December 26,

1997. Each establishment selected for the 1997 CFS was systematically assigned to report for a group of four reporting weeks throughout the survey year. The four reporting weeks in a given group are separated by 12 weeks. For example, an establishment might be requested to report data for the 5th, 18th, 31st, and 44th weeks of the survey year.

Third Stage

For each of the four reporting weeks in which an establishment is asked to report, we request the respondent to construct a sampling frame that consists of all shipments made by their establishment in each particular reporting week. For any particular reporting week, if an establishment makes 40 or fewer shipments during that week, we ask the respondent to provide information about all of their establishment's shipments from that week, i.e., no sampling is required. For establishments making more than 40 shipments in a given reporting week, we ask the respondent to select a systematic sample of these shipments and to provide us with information only about the selected shipments. The size of a particular respondent's sample for a given reporting week should be between 20 and 40 shipments, depending on the total number of shipments the establishment made during that reporting week.

DATA COLLECTION

Each establishment selected into the CFS sample is mailed a questionnaire for each of its four reporting weeks. For a given establishment, we request the respondent to provide the following information about their establishment's shipments: domestic destination or port of exit, commodity, value, weight, mode(s) of transportation, the date on which the shipment was made, and an indication of whether the shipment was an export, hazardous material, or containerized. For shipments that include more than one commodity, respondents are instructed to report the commodity that makes up the greatest percentage of the shipment's weight. For exports, we also ask the respondent to provide the mode of export and the foreign destination city and country.

We used two versions of the questionnaire to collect data from the sampled establishments—the CFS-1000 and the CFS-2000. Each establishment received the CFS-1000 in each of its first three reporting weeks. However, for the fourth reporting week, a subsample of approximately 25,000 establishments received the CFS-2000, while the remaining establishments received the CFS-1000. The CFS-2000 requests the respondent to provide additional information about their establishment's access to on-site and off-site shipping facilities, as well as transportation equipment. See Appendix E for a copy of each questionnaire.

ESTIMATION

Each shipment has associated with it a single tabulation weight, that is used in computing all estimates to which

the shipment contributes. The tabulation weight is a product of seven different weights. A description of each weight follows.

CFS respondents provide data for a sample of shipments made by their respective establishments in the survey year. For each establishment, we produce an estimate of that establishment's total value of shipments for the entire survey year. To do this, we use four different weights, the shipment weight, the shipment nonresponse weight, the quarter weight, and the quarter nonresponse weight.

Like establishments, we identify shipments as either certainty or noncertainty. (See the Nonsampling Error section in Appendix B for a description of how certainty shipments are identified.) For noncertainty shipments, the shipment weight is defined as the ratio of the total number of noncertainty shipments (as reported by the respondent) made by an establishment in a reporting week to the number of sampled noncertainty shipments for the same week. This weight uses the data from the sampled shipments to represent all the establishment's shipments made in the reporting week. However, some respondents fail to provide sufficient information about a sampled shipment. For example, a respondent may not be able to provide value, weight, or a destination ZIP Code for some of the sampled shipments. If these data items cannot be imputed, then these shipments would not contribute to tabulations and are deemed "unusable." (A usable shipment is one that has valid entries for value, weight, and origin and destination ZIP Codes.) To account for these "unusable" shipments, we apply the shipment nonresponse weight. For noncertainty shipments from a particular establishment's reporting week, this weight is equal to the ratio of the number of sampled shipments for the reporting week to the number of "usable" shipments for the same week. The shipment weight and shipment nonresponse weight for certainty shipments from a particular establishment's reporting week are both equal to one.

The quarter weight inflates an establishment's estimate for a particular reporting week to an estimate for the corresponding quarter. For noncertainty shipments, the quarter weight is equal to 13. The quarter weight for most certainty shipments is also equal to 13. However, if a respondent is able to provide information about all large (or certainty) shipments made in the quarter containing the reporting week, then the quarter weight for each of these shipments would be one. For each establishment, the quarterly estimates are added to produce an estimate of the establishment's value of shipments for the entire survey year. Whenever an establishment does not provide the Census Bureau with a response for each of its four reporting weeks, we compute a quarter nonresponse weight. The quarter nonresponse weight for a particular establishment is defined as the ratio of the number of

quarters for which the establishment was in business in the survey year to the total number of quarters (reporting weeks) for which we received usable shipment data from the establishment.

Using these four component weights, we compute an estimate of each establishment's value of shipments for the entire survey year. We then multiply this estimate by a weight that adjusts the estimate using value of shipments and sales data obtained from other Census Bureau surveys and preliminary results of the 1997 Economic Census. This weight, called the establishment-level adjustment weight, attempts to correct for any sampling or nonsampling errors that occur during the sampling of shipments by the respondent.

The adjusted value of shipments estimate for an establishment is then weighted by the establishment weight. This weight is equal to the inverse of the establishment's probability of being selected into the sample.

A final adjustment weight, called the SIC-level adjustment weight, uses preliminary results of the 1997 Economic Census to account for establishments from which we did not receive a response (including establishments from which we did not receive any usable shipment data) and for changes in the population of establishments between the time the first-stage sampling frame was constructed (1995) and the year in which the data were collected (1997). Separate SIC-level adjustment weights are determined for nonauxiliary and auxiliary establishments.

Appendix D.

Standard Classification of Transported Goods Code Information

The commodities shown in this report are classified using the Standard Classification of Transported Goods (SCTG) coding system. The SCTG coding system was created jointly by agencies of the United States and Canadian governments based on the Harmonized System (HS) of product classification which is used worldwide. The purpose of the SCTG coding system was to specifically address statistical needs in regard to products transported.

In the past, Commodity Flow Survey (CFS) data have been collected and reported using product classifications found in the Standard Transportation Commodity Classification (STCC) system. These classifications were developed in the early 1960s by the American Association of Railroads (AAR) to analyze commodity movements by rail. The original purpose of the STCC was for identification of commodities for purposes of assigning rates for Interstate Commerce Commission (ICC) regulated rail carriers. The STCC continues to be used by the AAR as a tariff mechanism.

At the time that the Commodity Transportation Survey (CTS) (the CTS—the predecessor of the CFS) was first conducted in 1963, STCC codes were still useful for analyzing most important aspects of the U.S. transportation system. Since then, many changes have taken place that have gradually made the STCC code less useful for tracking domestic product movements across all modes (although

it remains perfectly functional for tracking rail-only movements). These include the deregulation of trucking, the enactment of North American Free Trade Agreement (NAFTA), changes in logistics practices, the emergence of plastics and composite materials to replace metals and glass, the obsolescence of many categories of wood products, and the very rapid recent development of high-tech electronic goods. Because the CFS is a shipper survey, the CFS collects information about shipments moving on all modes. As a consequence, STCC classifications frequently provide inadequate detail for identifying products that are significant for modes, such as truck and air. It is for these reasons that the Bureau of Transportation Statistics (BTS) has sponsored the development of a new product code to collect and report CFS data.

In 1997 the CFS provided respondents with a listing of SCTG codes and descriptions at the five-digit level to use in assigning a commodity code for each shipment. For shipments of more than one commodity, we instructed respondents to use the five-digit code for the major commodity, defined as the commodity of greatest total weight in the shipment.

Additional information on the SCTG system can be found on the Internet through the BTS web page at <http://www.bts.gov>. Comments or questions on the SCTG should be directed to [http://cfs@bts.gov](mailto:cfs@bts.gov).

Appendix E.

Sample Report Forms and Instructions

The sample report forms and instructions are shown on the following pages.

Note: The CFS-2000 was sent to a subsample of establishments to obtain additional information about the use of transportation equipment and facilities.

FORM **CFS-1000**
(11-1-96)**1997 COMMODITY FLOW SURVEY**
CENSUS OF TRANSPORTATIONU.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS**Reporting period:****Please return by:****RETURN TO****BUREAU OF THE CENSUS**
1201 East 10th Street
Jeffersonville IN 47132-0001

(Please correct any error in name, address, and ZIP Code)

BEFORE COMPLETING YOUR REPORT, please read the accompanying instruction guide. If book figures are not available for requested data, please provide estimates. If you have any questions, please call 1-800-772-7851.

Through this survey, we are requesting data on a representative sample of your outbound shipments, to help us produce key statistics used by transportation planners and managers. We greatly appreciate your assistance in this program.

Item A Is the establishment name shown in the mailing address correct?

- 1 ☐ Yes
- 2 ☐ No — Enter correct name. ↗

Item B Mark (X) the **ONE** box which best describes this establishment during the one-week period shown above.

- 1 ☐ In operation
- 2 ☐ Temporarily or seasonally inactive
- 3 ☐ Ceased operation — Give date →

Month	Day	Year

Item C Is this establishment's physical location the same as the address shown in the label? (PO boxes or rural routes are not physical locations.)

- 1 ☐ Yes
- 2 ☐ No — Enter physical location below. ↗

Number and street

City, town, village, etc.

State

ZIP Code

NOTE — The rest of this questionnaire requests information about shipments (or deliveries) from the establishment located at the address in the mailing label.

If you entered a different address in item C — Please complete the form for shipments originating from the location listed in item C.

Item D Please enter the **total number** of outbound shipments (or deliveries), including customer pick-up, for the one-week reporting period shown above. If book figures are not available, please provide your best estimate.

--

This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. Please see *Instruction Guide* for a definition of "shipment."**DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.****YOUR RESPONSE IS REQUIRED BY LAW.** Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by Census Bureau employees and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

Item E SAMPLING INSTRUCTIONS

Our goal in this section is to identify a sample of your shipments that you will provide data on. Through the use of a sample, we can avoid asking you for information on all of your shipments, while still obtaining statistically accurate information.

FINDING YOUR SELECTION RATE

If you reported 40 or fewer shipments in item D, please enter "1" as your selection rate in the box below, then go directly to item F and enter the information for each of your shipments.

If you reported 41 or more shipments in item D, we will now ask you to select and report on a sample of your shipments. Following the steps below will result in a sample of 20 to 40 shipments to report on in item F.

In the table at right, identify the selection rate that corresponds to the number you entered in item D, and enter it in the box below.

Please enter your selection rate. →

Number of shipments entered in item D	Selection rate
1— 40	1
41— 80	2
81— 100	3
101— 200	5
201— 400	10
401— 800	20
801— 1600	40
1601— 3200	80
3201— 6400	160
6401—12800	320
More than 12800	Call Census at 1-800-772-7851

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
0	123-5	4	26	4,235	140	3 5 1 2 0	Electrical transformers	
00	402H	4	26	125,300	626,500	1 7 1 0 0	Gasoline	1 2 0 3
1								
2								
3								
4								
5								
6								
7								
8								
9								

Mode of transport codes for columns (k) and (n)

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

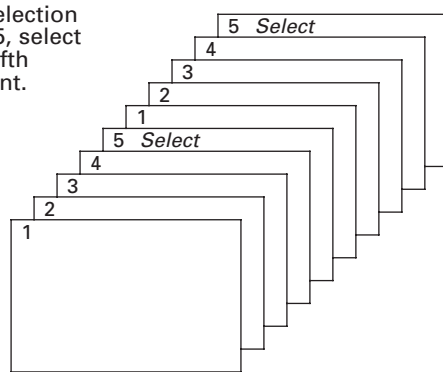
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

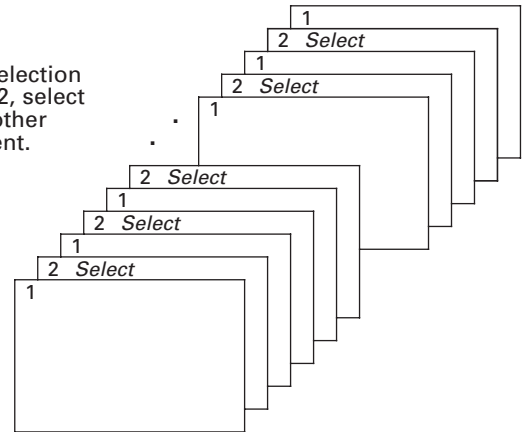
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment as 1 and continue until you reach the selection rate again. Select this shipment to report on in item F.
4. Repeat step 3 until you reach the last shipment for the one-week period. If the last shipment is counted as the selection rate, select this shipment to report on in item F. If the last shipment is not counted as the selection rate, do not report this shipment.

In the following examples, each rectangle represents one shipment.

If the selection rate is 5, select every fifth shipment.



If the selection rate is 2, select every other shipment.



Once you have selected your sample of shipments, please proceed to item F and enter the requested information for each selected shipment. Examples of completed lines for two shipments are provided on lines "0" and "00" below.

If you have difficulties constructing a file of shipments or have questions about how to select the sample of your shipments, please call our toll-free number for assistance: 1-800-772-7851.

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below.	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)		
	City	State	ZIP Code			City	Country		
N	Los Angeles	C A	9 0 0 4 0	2, 4, 3	N				0
N	New York	N Y	1 0 4 5 4	5	Y	London	England	6	00
									1
									2
									3
									4
									5
									6
									7
									8
									9

5 — Shallow draft vessel

6 — Deep draft vessel

7 — Pipeline

8 — Air

9 — Other mode

0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

 Mode of transport codes
for columns (k) and (n)

1 — Parcel delivery, courier, or U.S.
Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued


Containerized? (Y/N)	U.S. destination (Complete for all shipments.) (j)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below. (k)	Export? (Y/N) (l)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	City	State	ZIP Code			City	Country		
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
35								
36								
37								
38								
39								
40								

Mode of transport codes for columns (k) and (n)


1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued
Item G
1. Do this establishment's outbound shipments leave more than one site within this physical location?

☐ Yes

☐ No

2. Are the records for outbound shipments from this location maintained in a number of separate files (e.g., separate files for each commodity, or for each shipping site) at this location?

☐ Yes

☐ No

If yes to item G1 or item G2:
3. Would it be easier to receive a separate questionnaire for each file or each shipment site?

☐ Yes

☐ No

Item H

Enter the total value of shipments for the one-week reporting period. This figure should represent all products leaving this establishment for the one-week period. An estimate is acceptable.

Total value in whole dollars

Item I

In the last three months did this location have any individual shipments with a value over \$2,000,000?

☐ Yes

☐ No

Item J
CERTIFICATION

Name of person to contact regarding this report — *Please print*

Telephone number — *Include area code*

Date

Signature

Title

1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**Reporting period:****Please return by:****RETURN TO****BUREAU OF THE CENSUS**
1201 East 10th Street
Jeffersonville IN 47132-0001

(Please correct any error in name, address, and ZIP Code)

BEFORE COMPLETING YOUR REPORT, please read the accompanying instruction guide. If book figures are not available for requested data, please provide estimates. If you have any questions, please call 1-800-772-7851.

Through this survey, we are requesting data on a representative sample of your outbound shipments, to help us produce key statistics used by transportation planners and managers. We greatly appreciate your assistance in this program.

Item A Is the establishment name shown in the mailing address correct?

- 1
- ☐
- Yes
-
- 2
- ☐
- No — Enter correct name. ↗

Item B Mark (X) the **ONE** box which best describes this establishment during the one-week period shown above.

- 1
- ☐
- In operation
-
- 2
- ☐
- Temporarily or seasonally inactive
-
- 3
- ☐
- Ceased operation — Give date —→

Month	Day	Year

Item C Is this establishment's physical location the same as the address shown in the label? (PO boxes or rural routes are not physical locations.)

- 1
- ☐
- Yes
-
- 2
- ☐
- No — Enter physical location below. ↗

Number and street

City, town, village, etc.

State

ZIP Code

NOTE — The rest of this questionnaire requests information about shipments (or deliveries) from the establishment located at the address in the mailing label.

If you entered a different address in item C — Please complete the form for shipments originating from the location listed in item C.

Item D Please enter the **total number** of outbound shipments (or deliveries), including customer pick-up, for the one-week reporting period shown above. If book figures are not available, please provide your best estimate.

--

This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. Please see Instruction Guide for a definition of "shipment."

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.**YOUR RESPONSE IS REQUIRED BY LAW.** Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by Census Bureau employees and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

Item E SAMPLING INSTRUCTIONS

Our goal in this section is to identify a sample of your shipments that you will provide data on. Through the use of a sample, we can avoid asking you for information on all of your shipments, while still obtaining statistically accurate information.

FINDING YOUR SELECTION RATE

If you reported 40 or fewer shipments in item D, please enter "1" as your selection rate in the box below, then go directly to item F and enter the information for each of your shipments.

If you reported 41 or more shipments in item D, we will now ask you to select and report on a sample of your shipments. Following the steps below will result in a sample of 20 to 40 shipments to report on in item F.

In the table at right, identify the selection rate that corresponds to the number you entered in item D, and enter it in the box below.

Please enter your selection rate. →

Number of shipments entered in item D	Selection rate
1— 40	1
41— 80	2
81— 100	3
101— 200	5
201— 400	10
401— 800	20
801— 1600	40
1601— 3200	80
3201— 6400	160
6401—12800	320
More than 12800	Call Census at 1-800-772-7851

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
0	123-5	4	26	4,235	140	3 5 1 2 0	Electrical transformers	
00	402H	4	26	125,300	626,500	1 7 1 0 0	Gasoline	1 2 0 3
1								
2								
3								
4								
5								
6								
7								
8								
9								

Mode of transport codes for columns (k) and (n)

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

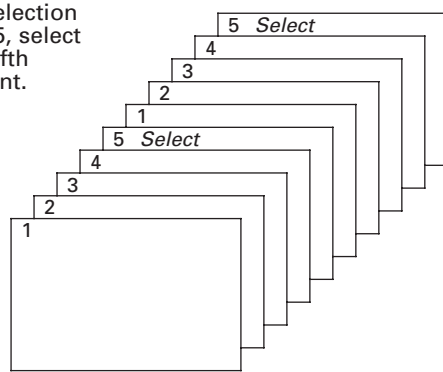
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

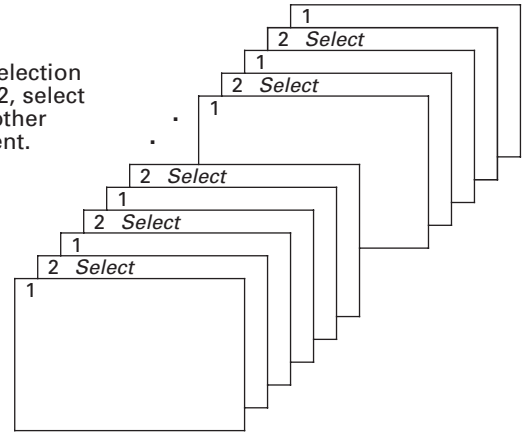
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment as 1 and continue until you reach the selection rate again. Select this shipment to report on in item F.
4. Repeat step 3 until you reach the last shipment for the one-week period. If the last shipment is counted as the selection rate, select this shipment to report on in item F. If the last shipment is not counted as the selection rate, do not report this shipment.

In the following examples, each rectangle represents one shipment.

If the selection rate is 5, select every fifth shipment.



If the selection rate is 2, select every other shipment.



Once you have selected your sample of shipments, please proceed to item F and enter the requested information for each selected shipment. Examples of completed lines for two shipments are provided on lines "0" and "00" below.

If you have difficulties constructing a file of shipments or have questions about how to select the sample of your shipments, please call our toll-free number for assistance: 1-800-772-7851.

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below.	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)		
	City	State	ZIP Code			City	Country		
N	Los Angeles	C A	9 0 0 4 0	2, 4, 3	N				0
N	New York	N Y	1 0 4 5 4	5	Y	London	England	6	00
									1
									2
									3
									4
									5
									6
									7
									8
									9

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
25								
26								
27								
28								
29								
30								
31								
32								
33								
34								

Mode of transport codes
for columns (k) and (n)



1 — Parcel delivery, courier, or U.S.
Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued



Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below. (k)	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	(j)					(m)			
(i)	City	State	ZIP Code			City	Country		
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
35								
36								
37								
38								
39								
40								

Mode of transport codes for columns (k) and (n)

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued
Item G Enter the total dollar value of **all** shipments for the one-week reporting period. This figure should represent all products leaving this establishment for the one-week period. An estimate is acceptable.

Total value in whole dollars

Item H In the last three months did this location have any individual shipments with a value over \$2,000,000?

☐ Yes

☐ No

Item I AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

In column (b), check "Yes" or "No" for each type of shipping facility to indicate whether or not this type of facility existed **on-site** during 1997. For each "Yes" in column (b), check "Yes" or "No" in column (c) to indicate whether or not you used the facility on your premises for **outbound shipments** during 1997.

Type of shipping facility (a)	Was a shipping facility of this type on your premises during 1997? (b)	Did you use this facility on your premises for outbound shipments during 1997? (c)
1. Rail siding	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
2. Dock on the Great Lakes	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
3. Dock on inland water	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
4. Dock on deep sea water	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
5. Airport/landing strip capable of handling your shipments	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No
6. Pipeline terminal	1 <input type="checkbox"/> Yes —→ 2 <input type="checkbox"/> No	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No

Containerized? (Y/N)	U.S. destination <i>(Complete for all shipments.)</i>			Mode(s) of transport to U.S. destination <i>Enter all that apply in order used. Use codes below.</i>	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)		
	City	State	ZIP Code			City	Country		
									35
									36
									37
									38
									39
									40

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item J **USE OF OFF-SITE SHIPPING FACILITIES**

In column (b), check "Yes" or "No" for each type of shipping facility to indicate whether or not you used an **off-site** facility of that type for **outbound shipments** during 1997. For each "Yes", enter the miles to that off-site facility in column (c), and the mode of transport used to reach that facility in column (d). The modes are listed below.

Type of shipping facility (a)	Did you use this type of off-site facility for outbound shipments during 1997? (b)	Distance to the off-site facility of this type that you used most in 1997 (Report in miles – estimates are acceptable) (c)	Mode of transport used to reach that facility (Enter a code from the list below) (d)
1. Rail siding	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
2. Dock on the Great Lakes	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
3. Dock on inland water	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
4. Dock on deep sea water	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
5. Airport/landing strip capable of handling your shipments	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		
6. Pipeline terminal	1 <input type="checkbox"/> Yes —————→ 2 <input type="checkbox"/> No		

1 – Trailer on Flat Car (TOFC)
2 – Private Truck

3 – For-Hire Truck
4 – Rail

5 – Water
6 – Pipeline

7 – Air
8 – Other

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

During 1997, did this location use any of the following types of equipment for outbound shipments? Please check "Yes" or "No." For rail cars reported in number 1 below, enter the approximate percentage of your total outbound rail shipments that used that type of rail car. These percentages should add to 100%. If you had no rail shipments, leave the percentages blank.

Equipment (a)	Was this type of equipment used for outbound shipments during 1993? (b)	Percentage of total rail shipments (c)
1. Rail cars that:	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
a. Your company owned/leased		
b. A common carrier owned/leased	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
c. Another party owned/leased (e.g. receiver)	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
2. Trucks with 6 or more tires or truck-tractors that:	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
a. Your company owned		
b. Your company leased, with driver	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
c. Your company leased, without driver	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
3. Truck trailers that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
4. Aircraft that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
5. Barges that your company owned or leased	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
6. Other equipment that your company owned or leased – <i>Specify</i> ↗	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	

Item L TRANSPORTATION DECISIONS

During 1997, who generally decided on the mode of transportation for your outbound shipments? *Check the appropriate box.*

1 ☐ Your company2 ☐ Receiver of shipment3 ☐ Other

Remarks

Item M CERTIFICATIONName of person to contact regarding this report – *Please print*Telephone number – *Include area code*

Date

Signature

Title

Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

You may use estimates if book figures are not readily available.

If you have questions about completing the survey, a Census Bureau representative will be glad to assist you. You can call us at 1-800-772-7851.

Some instructions are included on the questionnaire itself. However, due to space limitations, most of the instructions and definitions are included in separate reference materials. These include this instruction guide, and a listing of commodity codes to be used for classifying individual shipments in this survey.

PART I – GENERAL INFORMATION

Frequently Asked Questions About the Commodity Flow Survey (CFS)

Why are you conducting the CFS?

The CFS produces valuable measures of the demands on the nation's transportation system.

The results of the CFS are used by transportation policy makers to analyze future transportation needs.

Who reports in the CFS?

The CFS covers a sample of establishments in the mining, manufacturing, wholesale, and selected retail industries.

Why is my participation important?

Your establishment was selected as part of a sample designed to represent a wide range of industries and geographic regions.

Your report helps ensure quality results.

Is this survey mandatory?

Yes. The CFS is mandatory under the authority of Title 13, United States Code (USC).

Will my data be kept confidential?

Yes. The same law that requires your participation, Title 13, USC, also guarantees your data will be kept strictly confidential.

The reports you provide the Census Bureau cannot be used for purposes of taxation, regulation, or investigation.

Your report is used only to develop summary data that do not reveal the activities of individual firms or establishments.

How often must I report?

You will be sent four questionnaires in all: one during each quarter of 1997.

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

Please enter the information requested on your establishment's name, operational status, and physical location.

Item D

Enter in the space provided your total number of outbound shipments **for the one week reporting period** on the front of the questionnaire.

Please include in this count any materials picked up by the customer ("customer pick-up").

What we mean by a "shipment":

For the purposes of this survey, a shipment is a single movement of goods, commodities, products, etc. from your location to a customer or to another location of your company.

"Commodities" refer to items that your location produces, sells, or distributes, *not* to items that are considered by-products of your location's operation.

What we don't mean by a "shipment":

Do *not* include as shipments items such as inter-office memos, payroll checks, business correspondence, etc.

Do *not* include as shipments items such as refuse, scrap paper, waste, and recyclable materials **unless** your location is in the business of selling or providing these materials to others.

A special note about "shipments":

A full, or partial, truckload should be counted as a single shipment only if all the commodities on the truck are destined for one location.

If a truck makes multiple deliveries on a route, **please count each stop as one shipment.**

Item E: Sampling Instructions

If you reported 40 or fewer shipments in Item D, complete Item F (Shipment Characteristics) for all of your shipments covered by the one-week reporting period.

If you reported more than 40 shipments in Item D, follow the instructions in Item E in order to select a sample of shipments on which to report in Item F.

By asking you to select a sample of your shipments for the one-week reporting period, we avoid asking you for information on all your shipments, while still obtaining statistically accurate information.

Reminder: The files you are sampling from should reflect the full range of your location's shipping activities in terms of modes of transportation used, commodities shipped, and destinations.

We're here to answer your questions! If you have questions about the sampling process (or any part of the questionnaire) please call us at 1-800-772-7851.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

- **Shipment ID Number (column b)** – Enter the invoice number, shipment number, or some other unique identification number that your establishment could use to find this particular shipping document if questions arise regarding your report.
- **Shipment Date (column c)** – Enter the month and day of the shipment. If shipment date is not available, use the invoice/shipping document date. Use numbers only.
- **Shipment Value (column d)** – Enter the dollar value, in whole dollars, of the entire shipment. The value should not include freight charges or excise taxes (i.e., report the net selling value, f.o.b. plant). If the value is not readily available from your records, please estimate.
- **Shipment Weight (column e)** – Enter the weight of the total shipment in whole pounds. If weight is not readily available from your records, please estimate.
- **Commodity Code (column f)** – Please use the list of Standard Classification of Transported Goods (SCTG) Codes in the enclosed SCTG Manual to select the proper code. For shipments with more than one commodity, enter only the code for the commodity with the greatest weight.
- **Commodity Description (column g)** – Enter a brief description of the commodity shipped. For shipments with more than one commodity, describe only the commodity with the greatest weight. Do not use trade names, catalog numbers, or other codes not familiar to persons outside your business.

Item F SHIPMENT CHARACTERISTICS							
Line No.	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)
		Month	Day				
0	123-5	4	26	4,235	140	3 6 1 2 0	Electrical transformers
00	123-6	4	26	125,300	626,500	1 7 1 0 0	Gasoline
1							
2							
3							
4							

Mode of transport codes for columns (k) and (n) ▶

1 — Parcel delivery, courier, or U.S. Postal Service

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

- **For Hazardous Materials (column h)** – If shipment is a hazardous material, enter the 4-digit United Nations or North American number.
- **Containerized (column i)** – Indicate whether or not the shipment was containerized by entering "Y" or "N" (yes or no). Containerized means that the shipment **left your establishment** in an intermodal container or stackable tank without permanently attached wheels. These containers typically vary from 20 to 53 feet in length, and are carried on truck chassis, trains, and ships.
- **U.S. Destination: City, State, and ZIP Code (column j)** – For domestic shipments, enter the city, state, and 5-digit ZIP Code of the buyer/receiver as it appears on the shipping document. Use the **"ship to"** address. Use the two letter state abbreviation shown in Part IV.

For **export shipments**, report the U.S. **port of exit** as the destination city. The port of exit is the port or airport from which the shipment left the country. In case of land shipments into Mexico or Canada, it is the border crossing.
- **Mode(s) of Transport (column k)** – Enter the code(s) for **all** modes of transport used for the shipment to its U.S. destination (i.e., the destination reported in column j). Codes are located on the bottom of pages 2, 3, 4, and 5 of the questionnaire. Enter in the sequence used, all that apply. See Part III for definitions of each mode.

For Customer Pick-up: Report the mode(s) of transportation used, if known. Otherwise, report mode as "0" (unknown).

For Export Shipments: List only the mode(s) of transport used to reach the port, airport, or border crossing of exit.

If a hazardous material, enter the "UN" or "NA" number (h)	Containerized? (Y/N) (i)	U.S. destination (j)			Mode(s) of transport to U.S. destination Enter all that apply using codes shown below. (k)
		City	State	ZIP Code	
	N	Los Angeles	CA	90040	2, 4, 3
	N	New York	NY	10454	5

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

- **Export Shipment (column l)** – Indicate whether or not the shipment is intended for export outside of the United States, by entering a "Y" or "N" (yes or no). For purposes of this survey, shipments to Puerto Rico and U.S. territories and possessions are considered exports.
- **Foreign Destination: City and Country (column m)** – If the shipment is an export, enter the foreign city and country of destination. **For U.S. Destination (column j),** enter the U.S. port, airport, or border crossing of exit. **In column (k),** enter the mode of transport used to the U.S. destination.
- **Export Mode (column n)** – If the shipment is an export, enter the code for the mode of transport by which the shipment left the country. Codes are located at the bottom of pages 2, 3, 4, and 5 of the questionnaire.

Export? (Y/N) (l)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit. (m)		Export mode (n)	Line No. (o)
	City	Country		
N				0
Y	London	England	6	00
				1
				2
				3
				4
				5

Items G – I

Please enter the information requested.

Item J: Certification

Please enter the name and telephone number of the person to contact in the event that we have a question about your report.

PART III – MODE DEFINITIONS

Parcel delivery/Courier/U.S. Postal Service – Delivery services that carry letters, parcels, packages, and other small shipments that typically weigh less than 100 pounds. Includes bus parcel delivery service.

Private truck – Trucks operated by a temporary or permanent employee of this establishment or the buyer/receiver of the shipment.

For-hire truck – Trucks that carry freight for a fee collected from the shipper, recipient of the shipment, or an arranger of the transportation.

Railroad – Any common carrier or private railroad.

Shallow draft vessel – Barges, ships, or ferries operating primarily on rivers and canals; in harbors, the Great Lakes, the Saint Lawrence Seaway; the Intracoastal Waterway, the Inside Passage to Alaska, major bays and inlets; or in the ocean close to the shoreline.

Deep draft vessel – Barges, ships, or ferries operating primarily in the open ocean. Shipping on the Great Lakes and the Saint Lawrence Seaway is classified with shallow draft vessels.

Pipeline – Movements of oil, petroleum, gas, slurry, etc. through pipelines that extend to other establishments or locations beyond the shipper's establishment. Aqueducts for the movement of water are not included.

Air – Commercial or private aircraft, and all air service for shipments that typically weigh more than 100 pounds. Includes air freight and air express.

Other mode – Any mode not listed above.

Unknown – The shipment was not carried by a parcel delivery/courier/U.S. Postal service, and you cannot determine what mode of transportation is used.

Note: Commodities that are "shipped" under their own power, such as boats, barges, ferries, ships, aircraft, trucks, and trains **should be classified with the appropriate mode above.** Commodities shipped under their own power for which an appropriate mode is not listed (e.g., buses, recreational vehicles) should be listed as **"other" mode.**

PART IV -- STATE ABBREVIATION LIST

State	Abbrev.	State	Abbrev.
Alabama	AL	Montana	MT
Alaska	AK	Nebraska	NE
Arizona	AZ	Nevada	NV
Arkansas	AR	New Hampshire	NH
California	CA	New Jersey	NJ
Colorado	CO	New Mexico	NM
Connecticut	CT	New York	NY
Delaware	DE	North Carolina	NC
Dist. of Col.	DC	North Dakota	ND
Florida	FL	Ohio	OH
Georgia	GA	Oklahoma	OK
Hawaii	HI	Oregon	OR
Idaho	ID	Pennsylvania	PA
Illinois	IL	Rhode Island	RI
Indiana	IN	South Carolina	SC
Iowa	IA	South Dakota	SD
Kansas	KS	Tennessee	TN
Kentucky	KY	Texas	TX
Louisiana	LA	Utah	UT
Maine	ME	Vermont	VT
Maryland	MD	Virginia	VA
Massachusetts	MA	Washington	WA
Michigan	MI	West Virginia	WV
Minnesota	MN	Wisconsin	WI
Mississippi	MS	Wyoming	WY
Missouri	MO		

NOTICE - We estimate that it will take an average of 2 hours to complete this form. This includes time to read instructions, assemble and review information, and record answers on the form. If you have any comments regarding this estimate or any other aspect of this survey, send them to the Associate Director for Administration, Attn: Paperwork Reduction Project 0607-0189, Room 3104, Federal Building 3, Bureau of the Census, Washington, DC 20233-0001. Respondents are not required to respond to any information collection unless it displays a valid approval number in the top right corner on the front of the questionnaire.

