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1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

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Economics and Statistics Administration
U.S. CENSUS BUREAU



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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	214 397	100.0	397 287	100.0	57 188	100.0	519
Single modes	167 304	78.0	389 467	98.0	52 358	91.6	139
Truck ¹	154 035	71.8	307 514	77.4	30 361	53.1	121
For-hire truck	58 718	27.4	159 482	40.1	21 861	38.2	446
Private truck	92 621	43.2	139 509	35.1	7 569	13.2	67
Rail	5 678	2.6	77 311	19.5	19 822	34.7	468
Water	1 001	.5	S	S	S	S	179
Shallow draft	188	—	186	—	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	202
Air (includes truck and air)	6 405	3.0	S	S	S	S	950
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	36 673	17.1	4 760	1.2	3 967	6.9	1 030
Parcel, U.S. Postal Service or courier	35 413	16.5	699	.2	576	1.0	1 029
Truck and rail	415	.2	1 278	.3	754	1.3	746
Truck and water	808	.4	1 975	.5	1 655	2.9	3 961
Rail and water	S	S	S	S	S	S	3 959
Other multiple modes	S	S	S	S	S	S	489
Other and unknown modes	10 419	4.9	3 060	.8	863	1.5	133

— 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	214 397	172 045	24.6	397 287	345 980	14.8	57 188	66 006	-13.4	519	472	9.9
Single modes	167 304	145 833	14.7	389 467	331 726	17.4	52 358	58 092	-9.9	139	145	-4.7
Truck ¹	154 035	133 567	15.3	307 514	234 577	31.1	30 361	27 720	9.5	121	118	2.1
For-hire truck	58 718	60 805	-3.4	159 482	105 708	50.9	21 861	19 896	9.9	446	472	-5.5
Private truck	92 621	72 299	28.1	139 509	128 711	8.4	7 569	7 743	-2.3	67	55	22.2
Rail	5 678	5 024	13.0	77 311	78 556	-1.6	19 822	19 971	-.7	468	670	-30.1
Water	1 001	1 484	-32.5	S	S	S	S	S	S	179	518	-65.5
Shallow draft	188	S	S	186	S	S	S	141	S	S	S	S
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	S	1 258	S	S	S	S	S	S	S	202	1 479	-86.3
Air (includes truck and air)	6 405	5 581	14.8	S	50	S	S	70	S	950	1 318	-27.9
Pipeline ²	S	S	S	S	S	S	S	S	S	S	S	S
Multiple modes	36 673	18 882	94.2	4 760	1 736	174.2	3 967	1 185	234.8	1 030	1 024	.6
Parcel, U.S. Postal Service or courier	35 413	18 645	89.9	699	530	32.0	576	394	46.1	1 029	1 024	.5
Truck and rail	415	202	105.4	1 278	1 106	15.5	754	482	56.6	746	443	68.4
Truck and water	808	29	S	1 975	S	S	1 655	S	S	3 961	2 169	82.6
Rail and water	S	—	S	S	S	S	S	—	S	3 959	—	S
Other multiple modes	S	S	S	S	S	S	S	S	S	489	4 074	-88.0
Other and unknown modes	10 419	7 329	42.2	3 060	12 518	-75.6	863	6 730	-87.2	133	122	8.8

— 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 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	78.0	84.8	98.0	95.9	91.6	88.0
Truck ¹	71.8	77.6	77.4	67.8	53.1	42.0
For-hire truck	27.4	35.3	40.1	30.6	38.2	30.1
Private truck	43.2	42.0	35.1	37.2	13.2	11.7
Rail	2.6	2.9	19.5	22.7	34.7	30.3
Water .....	.5	.9	S	S	S	S
Shallow draft	—	S	—	S	S	.2
Great Lakes	—	—	—	—	—	—
Deep draft	S	.7	S	S	S	S
Air (includes truck and air)	3.0	3.2	S	—	S	.1
Pipeline ²	S	S	S	S	S	S
Multiple modes	17.1	11.0	1.2	.5	6.9	1.8
Parcel, U.S. Postal Service or courier	16.5	10.8	.2	.2	1.0	.6
Truck and rail .....	.2	.1	.3	.3	1.3	.7
Truck and water .....	.4	—	.5	S	2.9	S
Rail and water	S	—	—	—	S	—
Other multiple modes	S	S	S	S	S	S
Other and unknown modes	4.9	4.3	.8	3.6	1.5	10.2

— 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	57 188	100.0	513
Truck	30 440	53.2	119
Rail	21 186	37.0	488
Shallow draft	S	S	S
Great Lakes	—	—	—
Deep draft	3 485	6.1	3 147
Air	S	S	899
Parcel, U.S. Postal Service or courier	576	1.0	1 029
Pipeline	S	S	S
Other and unknown modes	863	1.5	133

— 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	214 397	100.0	397 287	100.0	57 188	100.0
Less than 50 miles	88 810	41.4	256 002	64.4	6 622	11.6
50 to 99 miles	19 092	8.9	61 062	15.4	5 373	9.4
100 to 249 miles	31 798	14.8	38 100	9.6	7 456	13.0
250 to 499 miles	12 385	5.8	16 826	4.2	7 285	12.7
500 to 749 miles	12 121	5.7	8 821	2.2	7 153	12.5
750 to 999 miles	17 167	8.0	7 164	1.8	8 028	14.0
1,000 to 1,499 miles	22 215	10.4	7 793	2.0	11 366	19.9
1,500 to 1,999 miles	2 616	1.2	601	.2	1 339	2.3
2,000 miles or more	8 191	3.8	918	.2	2 567	4.5
Single modes	167 304	100.0	389 467	100.0	52 358	100.0
Less than 50 miles	77 592	46.4	253 723	65.1	6 587	12.6
50 to 99 miles	16 980	10.1	60 786	15.6	5 348	10.2
100 to 249 miles	27 079	16.2	37 687	9.7	7 363	14.1
250 to 499 miles	9 433	5.6	15 330	3.9	6 630	12.7
500 to 749 miles	8 017	4.8	8 477	2.2	6 871	13.1
750 to 999 miles	10 398	6.2	5 545	1.4	6 173	11.8
1,000 to 1,499 miles	12 606	7.5	6 593	1.7	9 967	19.0
1,500 to 1,999 miles	1 370	.8	529	.1	1 183	2.3
2,000 miles or more	3 830	2.3	798	.2	2 237	4.3
Truck¹	154 035	100.0	307 514	100.0	30 361	100.0
Less than 50 miles	75 098	48.8	199 733	65.0	4 478	14.7
50 to 99 miles	16 577	10.8	58 408	19.0	5 014	16.5
100 to 249 miles	26 300	17.1	30 028	9.8	5 457	18.0
250 to 499 miles	8 080	5.2	8 536	2.8	3 525	11.6
500 to 749 miles	6 151	4.0	4 337	1.4	3 171	10.4
750 to 999 miles	8 922	5.8	2 866	.9	2 982	9.8
1,000 to 1,499 miles	9 213	6.0	2 826	.9	3 755	12.4
1,500 to 1,999 miles	851	.6	228	—	475	1.6
2,000 miles or more	2 843	1.8	553	.2	1 504	5.0
For-hire truck	58 718	100.0	159 482	100.0	21 861	100.0
Less than 50 miles	16 434	28.0	86 552	54.3	2 228	10.2
50 to 99 miles	3 760	6.4	39 387	24.7	3 368	15.4
100 to 249 miles	8 895	15.1	17 618	11.0	3 264	14.9
250 to 499 miles	6 266	10.7	6 465	4.1	2 676	12.2
500 to 749 miles	5 392	9.2	3 890	2.4	2 858	13.1
750 to 999 miles	8 046	13.7	2 577	1.6	2 679	12.3
1,000 to 1,499 miles	7 177	12.2	2 323	1.5	3 083	14.1
1,500 to 1,999 miles	740	1.3	185	.1	379	1.7
2,000 miles or more	2 009	3.4	487	.3	1 324	6.1
Private truck	92 621	100.0	139 509	100.0	7 569	100.0
Less than 50 miles	57 207	61.8	108 661	77.9	2 170	28.7
50 to 99 miles	12 585	13.6	17 897	12.8	1 520	20.1
100 to 249 miles	16 821	18.2	9 965	7.1	1 769	23.4
250 to 499 miles	1 706	1.8	1 871	1.3	772	10.2
500 to 749 miles	667	.7	315	.2	220	2.9
750 to 999 miles	768	.8	250	.2	263	3.5
1,000 to 1,499 miles	1 951	2.1	450	.3	603	8.0
1,500 to 1,999 miles	93	.1	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Rail	5 678	100.0	77 311	100.0	19 822	100.0
Less than 50 miles	1 928	33.9	51 697	66.9	2 085	10.5
50 to 99 miles	49	.9	S	S	S	S
100 to 249 miles	329	5.8	S	S	S	S
250 to 499 miles	1 009	17.8	6 744	8.7	3 077	15.5
500 to 749 miles	787	13.9	2 390	3.1	2 050	10.3
750 to 999 miles	601	10.6	2 602	3.4	3 104	15.7
1,000 to 1,499 miles	683	12.0	3 614	4.7	5 978	30.2
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	235	.3	704	3.6
Water	1 001	100.0	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
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	—	—	—	—	—	—
Shallow draft	188	100.0	186	100.0	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
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	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
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	—	—	—	—	—	—
Air (includes truck and air)	6 405	100.0	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	218	3.4	3	1.8	—	.1
100 to 249 miles	418	6.5	4	1.8	1	.4
250 to 499 miles	309	4.8	3	1.5	2	.7
500 to 749 miles	698	10.9	5	2.4	4	1.3
750 to 999 miles	846	13.2	7	3.7	8	2.8
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	446	7.0	S	S	S	S
2,000 miles or more	760	11.9	10	5.4	29	9.9
Pipeline²	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	S	S	S	S
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	—	—	—	—	—	—
Multiple modes	36 673	100.0	4 760	100.0	3 967	100.0
Less than 50 miles	5 143	14.0	S	S	S	S
50 to 99 miles	1 749	4.8	52	1.1	5	.1
100 to 249 miles	3 587	9.8	191	4.0	50	1.3
250 to 499 miles	2 697	7.4	1 378	29.0	605	15.3
500 to 749 miles	3 858	10.5	278	5.8	233	5.9
750 to 999 miles	6 300	17.2	1 356	28.5	1 572	39.6
1,000 to 1,499 miles	8 320	22.7	1 064	22.4	1 218	30.7
1,500 to 1,999 miles	1 193	3.3	53	1.1	115	2.9
2,000 miles or more	3 826	10.4	55	1.2	162	4.1
Parcel, U.S. Postal Service or courier	35 413	100.0	699	100.0	576	100.0
Less than 50 miles	5 102	14.4	133	19.1	3	.5
50 to 99 miles	1 748	4.9	42	6.0	4	.7
100 to 249 miles	3 522	9.9	91	13.1	19	3.3
250 to 499 miles	2 308	6.5	56	8.0	25	4.4
500 to 749 miles	3 806	10.7	64	9.1	48	8.4
750 to 999 miles	6 057	17.1	119	17.1	125	21.8
1,000 to 1,499 miles	7 913	22.3	124	17.7	168	29.1
1,500 to 1,999 miles	1 165	3.3	22	3.1	45	7.9
2,000 miles or more	3 792	10.7	49	7.0	138	24.0
Truck and rail	415	100.0	1 278	100.0	754	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	53	12.9	68	5.3	18	2.3
250 to 499 miles	97	23.3	S	S	S	S
500 to 749 miles	47	11.4	181	14.2	165	21.8
750 to 999 miles	89	21.5	137	10.8	174	23.0
1,000 to 1,499 miles	36	8.8	S	S	S	S
1,500 to 1,999 miles	29	6.9	31	2.4	70	9.2
2,000 miles or more	S	S	6	.4	16	2.1
Truck and water	808	100.0	1 975	100.0	1 655	100.0
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	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

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	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
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	10 419	100.0	3 060	100.0	863	100.0
Less than 50 miles	6 076	58.3	1 946	63.6	28	3.3
50 to 99 miles	363	3.5	223	7.3	20	2.3
100 to 249 miles	S	S	223	7.3	43	5.0
250 to 499 miles	255	2.4	118	3.8	49	5.7
500 to 749 miles	247	2.4	66	2.2	48	5.6
750 to 999 miles	469	4.5	264	8.6	283	32.8
1,000 to 1,499 miles	S	S	137	4.5	181	21.0
1,500 to 1,999 miles	53	.5	S	S	S	S
2,000 miles or more	536	5.1	S	S	S	S

— 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	214 397	100.0	397 287	100.0	57 188	100.0	519
Less than 50 lb	37 239	17.4	811	.2	365	.6	678
50 to 99 lb	10 406	4.9	602	.2	145	.3	246
100 to 499 lb	26 036	12.1	3 708	.9	594	1.0	171
500 to 749 lb	7 436	3.5	1 708	.4	254	.4	150
750 to 999 lb	5 199	2.4	1 426	.4	211	.4	148
1,000 to 9,999 lb	43 544	20.3	20 205	5.1	3 120	5.5	147
10,000 to 49,999 lb	59 546	27.8	162 149	40.8	19 643	34.3	121
50,000 to 99,999 lb	15 456	7.2	97 350	24.5	6 884	12.0	71
100,000 lb or more	9 534	4.4	109 329	27.5	25 973	45.4	373
Single modes	167 304	100.0	389 467	100.0	52 358	100.0	139
Less than 50 lb	9 893	5.9	427	.1	50	.1	153
50 to 99 lb	5 837	3.5	461	.1	48	—	106
100 to 499 lb	20 081	12.0	3 346	.9	438	.8	128
500 to 749 lb	6 388	3.8	1 613	.4	225	.4	141
750 to 999 lb	4 789	2.9	1 383	.4	199	.4	144
1,000 to 9,999 lb	39 496	23.6	19 435	5.0	2 951	5.6	144
10,000 to 49,999 lb	57 120	34.1	160 408	41.2	18 805	35.9	117
50,000 to 99,999 lb	15 095	9.0	96 773	24.8	6 622	12.6	69
100,000 lb or more	8 606	5.1	105 622	27.1	23 019	44.0	371
Truck¹	154 035	100.0	307 514	100.0	30 361	100.0	121
Less than 50 lb	7 874	5.1	419	.1	40	.1	122
50 to 99 lb	5 037	3.3	458	.1	44	.1	98
100 to 499 lb	18 528	12.0	3 332	1.1	418	1.4	122
500 to 749 lb	6 213	4.0	1 606	.5	214	.7	134
750 to 999 lb	4 617	3.0	1 379	.4	192	.6	139
1,000 to 9,999 lb	38 856	25.2	19 408	6.3	2 915	9.6	142
10,000 to 49,999 lb	55 476	36.0	160 002	52.0	18 563	61.1	115
50,000 to 99,999 lb	15 032	9.8	96 518	31.4	6 497	21.4	68
100,000 lb or more	2 401	1.6	24 393	7.9	1 478	4.9	72
For-hire truck	58 718	100.0	159 482	100.0	21 861	100.0	446
Less than 50 lb	1 561	2.7	39	—	23	.1	570
50 to 99 lb	794	1.4	45	—	25	.1	543
100 to 499 lb	5 498	9.4	421	.3	271	1.2	636
500 to 749 lb	2 140	3.6	223	.1	138	.6	617
750 to 999 lb	2 056	3.5	190	.1	134	.6	699
1,000 to 9,999 lb	14 666	25.0	3 285	2.1	1 731	7.9	540
10,000 to 49,999 lb	24 738	42.1	79 839	50.1	13 674	62.5	188
50,000 to 99,999 lb	6 398	10.9	64 013	40.1	4 700	21.5	75
100,000 lb or more	868	1.5	11 427	7.2	1 165	5.3	S
Private truck	92 621	100.0	139 509	100.0	7 569	100.0	67
Less than 50 lb	6 260	6.8	378	.3	18	.2	81
50 to 99 lb	4 225	4.6	411	.3	19	.3	48
100 to 499 lb	12 911	13.9	2 863	2.1	143	1.9	50
500 to 749 lb	3 998	4.3	1 341	1.0	73	1.0	55
750 to 999 lb	2 469	2.7	1 141	.8	53	.7	47
1,000 to 9,999 lb	23 544	25.4	15 292	11.0	1 096	14.5	67
10,000 to 49,999 lb	29 633	32.0	76 178	54.6	4 221	55.8	57
50,000 to 99,999 lb	8 537	9.2	31 345	22.5	1 677	22.2	54
100,000 lb or more	1 044	1.1	10 560	7.6	269	3.6	S
Rail	5 678	100.0	77 311	100.0	19 822	100.0	468
Less than 50 lb	S	—	S	S	S	S	409
50 to 99 lb	S	S	S	S	S	S	350
100 to 499 lb	S	S	S	S	S	S	1 253
500 to 749 lb	S	S	S	S	S	S	1 253
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	5	—	4	—	S
10,000 to 49,999 lb	325	5.7	379	.5	221	1.1	596
50,000 to 99,999 lb	59	1.0	218	.3	89	.4	394
100,000 lb or more	5 227	92.0	76 710	99.2	19 508	98.4	461
Water	1 001	100.0	S	S	S	S	179
Less than 50 lb	S	S	S	S	S	S	36
50 to 99 lb	S	S	S	S	S	S	46
100 to 499 lb	S	S	S	S	S	S	33
500 to 749 lb	S	S	S	S	S	S	46
750 to 999 lb	S	S	S	S	S	S	26
1,000 to 9,999 lb	S	S	S	S	S	S	237
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	121
100,000 lb or more	S	S	S	S	S	S	670
Shallow draft	188	100.0	186	100.0	S	S	S
Less than 50 lb	S	S	S	S	S	S	4
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	6
500 to 749 lb	S	S	S	S	S	S	5
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	121
100,000 lb or more	S	S	S	S	S	S	171

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	\$	\$	\$	\$	\$	\$	202
Less than 50 lb	\$	\$	\$	\$	\$	\$	41
50 to 99 lb	\$	\$	\$	\$	\$	\$	46
100 to 499 lb	\$	\$	\$	\$	\$	\$	40
500 to 749 lb	\$	\$	\$	\$	\$	\$	67
750 to 999 lb	\$	\$	\$	\$	\$	\$	26
1,000 to 9,999 lb	\$	\$	\$	\$	\$	\$	279
10,000 to 49,999 lb	\$	\$	\$	\$	\$	\$	92
50,000 to 99,999 lb	\$	\$	\$	\$	\$	\$	\$
100,000 lb or more	\$	\$	\$	\$	\$	\$	\$
Air (includes truck and air)	6 405	100.0	\$	\$	\$	\$	950
Less than 50 lb	2 015	31.5	8	4.3	10	3.3	904
50 to 99 lb	800	12.5	3	1.4	4	1.3	1 403
100 to 499 lb	1 549	24.2	14	7.2	20	6.7	1 309
500 to 749 lb	168	2.6	7	3.5	11	3.7	1 579
750 to 999 lb	\$	\$	\$	\$	\$	\$	1 889
1,000 to 9,999 lb	\$	\$	19	9.6	32	11.0	1 740
10,000 to 49,999 lb	\$	\$	\$	\$	\$	\$	1 607
50,000 to 99,999 lb	\$	\$	\$	\$	\$	\$	1 473
100,000 lb or more	\$	\$	\$	\$	\$	\$	1 514
Pipeline²	\$	\$	\$	\$	\$	\$	\$
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	\$	\$	\$	\$	\$	\$	\$
Multiple modes	36 673	100.0	4 760	100.0	3 967	100.0	1 030
Less than 50 lb	25 626	69.9	341	7.2	311	7.8	1 040
50 to 99 lb	3 907	10.7	109	2.3	93	2.4	847
100 to 499 lb	4 764	13.0	194	4.1	144	3.6	795
500 to 749 lb	726	2.0	35	.7	23	.6	649
750 to 999 lb	267	.7	20	.4	10	.2	487
1,000 to 9,999 lb	\$	\$	\$	\$	\$	\$	398
10,000 to 49,999 lb	324	.9	501	10.5	390	9.8	761
50,000 to 99,999 lb	19	—	199	4.2	\$	\$	839
100,000 lb or more	873	2.4	3 350	70.4	2 817	71.0	476
Parcel, U.S. Postal Service or courier	35 413	100.0	699	100.0	576	100.0	1 029
Less than 50 lb	25 626	72.4	341	48.7	311	53.9	1 040
50 to 99 lb	3 907	11.0	109	15.6	93	16.2	847
100 to 499 lb	4 757	13.4	193	27.6	140	24.3	770
500 to 749 lb	726	2.0	35	5.1	23	4.0	649
750 to 999 lb	266	.8	20	2.8	\$	\$	452
1,000 to 9,999 lb	\$	\$	\$	\$	—	—	\$
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	415	100.0	1 278	100.0	754	100.0	746
Less than 50 lb	\$	\$	\$	\$	\$	\$	33
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	\$	\$	\$	\$	\$	\$	398
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	\$	\$	6	.4	3	.4	493
10,000 to 49,999 lb	309	74.3	463	36.2	376	49.8	813
50,000 to 99,999 lb	19	4.5	199	15.6	\$	\$	839
100,000 lb or more	\$	\$	\$	\$	\$	\$	460
Truck and water	808	100.0	1 975	100.0	1 655	100.0	3 961
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	\$	\$	\$	\$	\$	\$	5 461
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	\$	\$	\$	\$	\$	\$	7 014
1,000 to 9,999 lb	\$	\$	\$	\$	\$	\$	714
10,000 to 49,999 lb	\$	\$	\$	\$	\$	\$	287
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	781	96.7	1 932	97.8	1 633	98.7	814

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	S	S	S	S	S	S	3 959
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	S	S	S	S	S	S	7 000
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	1 214
Other multiple modes	S	S	S	S	S	S	489
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	S	S	S	S	S	S	489
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	10 419	100.0	3 060	100.0	863	100.0	133
Less than 50 lb	1 721	16.5	43	1.4	5	.5	140
50 to 99 lb	662	6.4	32	1.0	4	.4	109
100 to 499 lb	1 191	11.4	168	5.5	11	1.3	76
500 to 749 lb	322	3.1	60	2.0	5	.6	S
750 to 999 lb	144	1.4	23	.7	2	.2	84
1,000 to 9,999 lb	3 881	37.3	759	24.8	163	18.9	206
10,000 to 49,999 lb	2 101	20.2	1 241	40.5	447	51.8	378
50,000 to 99,999 lb	342	3.3	378	12.4	S	S	S
100,000 lb or more	55	.5	357	11.7	S	S	435

— 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	214 397	100.0	397 287	100.0	57 188	100.0	519
01	Live animals and live fish	S	S	S	S	S	S	1 244
02	Cereal grains	S	S	S	S	S	S	S
03	Other agricultural products	3 756	1.8	5 351	1.3	1 918	3.4	674
04	Animal feed and products of animal origin, n.e.c.	741	.3	3 867	1.0	930	1.6	100
05	Meat, fish, seafood, and their preparations	5 331	2.5	1 936	.5	643	1.1	138
06	Milled grain products and preparations, and bakery products	2 878	1.3	2 249	.6	364	.6	60
07	Other prepared foodstuffs and fats and oils	13 587	6.3	19 139	4.8	6 278	11.0	S
08	Alcoholic beverages	5 071	2.4	4 548	1.1	517	.9	34
09	Tobacco products	965	.5	44	—	19	—	1 250
10	Monumental or building stone	S	S	S	S	S	S	123
11	Natural sands	317	.1	24 867	6.3	1 303	2.3	S
12	Gravel and crushed stone	404	.2	65 662	16.5	5 595	9.8	54
13	Nonmetallic minerals n.e.c.	610	.3	16 361	4.1	2 167	3.8	99
14	Metallic ores and concentrates	S	S	304	—	127	.2	S
15	Coal	—	—	—	—	—	—	—
17	Gasoline and aviation turbine fuel	8 565	4.0	35 034	8.8	1 826	3.2	57
18	Fuel oils	2 393	1.1	11 829	3.0	445	.8	27
19	Coal and petroleum products, n.e.c.	695	.3	3 090	.8	128	.2	66
20	Basic chemicals	1 583	.7	3 222	.8	950	1.7	317
21	Pharmaceutical products	11 756	5.5	S	S	227	.4	1 069
22	Fertilizers	4 680	2.2	57 280	14.4	9 544	16.7	104
23	Chemical products and preparations, n.e.c.	4 286	2.0	2 572	.6	1 094	1.9	628
24	Plastics and rubber	6 385	3.0	2 206	.6	776	1.4	261
25	Logs and other wood in the rough	388	.2	S	S	S	S	74
26	Wood products	3 901	1.8	7 277	1.8	1 930	3.4	346
27	Pulp, newsprint, paper, and paperboard	2 574	1.2	3 849	1.0	2 343	4.1	185
28	Paper or paperboard articles	2 510	1.2	2 034	.5	583	1.0	181
29	Printed products	8 222	3.8	4 400	1.1	506	.9	630
30	Textiles, leather, and articles of textiles or leather	7 484	3.5	787	.2	408	.7	909
31	Nonmetallic mineral products	4 623	2.2	52 858	13.3	4 100	7.2	172
32	Base metal in primary or semifinished forms and in finished basic shapes	3 309	1.5	3 234	.8	925	1.6	149
33	Articles of base metal	5 830	2.7	2 546	.6	905	1.6	271
34	Machinery	10 580	4.9	813	.2	275	.5	191
35	Electronic and other electrical equipment and components and office equipment	32 902	15.3	929	.2	318	.6	597
36	Motorized and other vehicles (including parts)	5 224	2.4	1 021	.3	271	.5	68
37	Transportation equipment, n.e.c.	4 503	2.1	122	—	85	.1	633
38	Precision instruments and apparatus	7 950	3.7	105	—	90	.2	927
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	2 484	1.2	417	.1	123	.2	288
40	Miscellaneous manufactured products	17 319	8.1	4 027	1.0	895	1.6	846
41	Waste and scrap	1 209	.6	5 851	1.5	1 713	3.0	164
43	Mixed freight	17 422	8.1	7 632	1.9	918	1.6	145
--	Commodity unknown	968	.5	974	.2	172	.3	324

— 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	214 397	100.0	397 287	100.0	57 188	100.0	519
Single modes	167 304	78.0	389 467	98.0	52 358	91.6	139
Truck ¹	154 035	71.8	307 514	77.4	30 361	53.1	121
For-hire truck	58 718	27.4	159 482	40.1	21 861	38.2	446
Private truck	92 621	43.2	139 509	35.1	7 569	13.2	67
Rail	5 678	2.6	77 311	19.5	19 822	34.7	468
Water	1 001	.5	S	S	S	S	179
Shallow draft	188	—	186	—	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	202
Air (includes truck and air)	6 405	3.0	S	S	S	S	950
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	36 673	17.1	4 760	1.2	3 967	6.9	1 030
Parcel, U.S. Postal Service or courier	35 413	16.5	699	.2	576	1.0	1 029
Truck and rail	415	.2	1 278	.3	754	1.3	746
Truck and water	808	.4	1 975	.5	1 655	2.9	3 961
Rail and water	S	S	S	S	S	S	3 959
Other multiple modes	S	S	S	S	S	S	489
Other and unknown modes	10 419	4.9	3 060	.8	863	1.5	133
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	1 244
Single modes	S	S	S	S	S	S	1 232
Truck ¹	S	S	S	S	S	S	1 232
For-hire truck	S	S	S	S	S	S	1 232
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	S	S	S	S	S	S	1 269
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	60
For-hire truck	78	10.7	625	17.9	S	S	102
Private truck	S	S	S	S	S	S	S
Rail	S	S	S	S	S	S	1 832
Water	S	S	S	S	S	S	1 009
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 009
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	64
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	64
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	11

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	3 756	100.0	5 351	100.0	1 918	100.0	674
Single modes	3 527	93.9	5 235	97.8	1 844	96.2	258
Truck ¹	3 507	93.4	5 231	97.7	1 836	95.7	248
For-hire truck	1 206	32.1	1 726	32.3	1 346	70.2	1 012
Private truck	2 174	57.9	3 284	61.4	368	19.2	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	20	.5	4	—	8	.4	1 705
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	160	4.2	39	.7	45	2.3	1 173
Parcel, U.S. Postal Service or courier	160	4.2	39	.7	45	2.3	1 173
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	70	1.9	78	1.5	S	S	196
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	741	100.0	3 867	100.0	930	100.0	100
Single modes	714	96.3	3 739	96.7	890	95.7	101
Truck ¹	618	83.4	3 137	81.1	526	56.6	92
For-hire truck	181	24.4	1 451	37.5	395	42.4	286
Private truck	437	59.0	1 686	43.6	131	14.1	50
Rail	95	12.9	601	15.6	364	39.2	668
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	488
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	692
Truck and rail	S	S	S	S	S	S	325
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	2	.2	8	.2	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	5 331	100.0	1 936	100.0	643	100.0	138
Single modes	5 179	97.1	1 893	97.8	637	99.1	132
Truck ¹	5 029	94.3	1 881	97.2	626	97.4	126
For-hire truck	2 155	40.4	687	35.5	413	64.3	514
Private truck	2 534	47.5	1 044	53.9	118	18.4	55
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	92
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	92
Air (includes truck and air)	S	S	S	S	S	S	2 382
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	940
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	940
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	152	2.9	43	2.2	6	.9	217

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	2 878	100.0	2 249	100.0	364	100.0	60
Single modes	2 869	99.7	2 243	99.8	363	99.5	51
Truck ¹	2 867	99.6	2 229	99.1	353	96.9	49
For-hire truck	600	20.8	965	42.9	219	60.2	177
Private truck	2 264	78.7	1 262	56.1	133	36.5	39
Rail	S	S	S	S	S	S	636
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 196
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	637
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	637
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	930
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	13 587	100.0	19 139	100.0	6 278	100.0	S
Single modes	12 508	92.1	16 926	88.4	4 597	73.2	54
Truck ¹	12 018	88.5	15 727	82.2	3 594	57.2	54
For-hire truck	5 262	38.7	6 799	35.5	2 894	46.1	570
Private truck	6 075	44.7	8 165	42.7	669	10.7	32
Rail	S	S	S	S	S	S	733
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	200
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	831	6.1	1 913	10.0	1 632	26.0	849
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	849
Truck and rail	S	S	S	S	S	S	1 182
Truck and water	777	5.7	1 899	9.9	1 613	25.7	850
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	50	.8	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	5 071	100.0	4 548	100.0	517	100.0	34
Single modes	5 032	99.2	4 514	99.3	512	99.0	34
Truck ¹	4 941	97.4	4 409	97.0	478	92.4	34
For-hire truck	1 024	20.2	1 515	33.3	333	64.3	227
Private truck	3 916	77.2	2 894	63.6	145	28.1	32
Rail	S	S	S	S	S	S	327
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 534
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	69
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	323
Truck and water	S	S	S	S	S	S	28
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32	.6	S	S	1	.2	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 09, TOBACCO PRODUCTS							
Total	965	100.0	44	100.0	19	100.0	1 250
Single modes	724	75.0	38	85.5	12	62.7	362
Truck ¹	723	74.9	38	85.5	12	62.6	362
For-hire truck	238	24.6	13	28.5	11	58.0	1 192
Private truck	485	50.3	25	57.0	1	4.6	42
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	648
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	218	22.6	5	12.1	6	33.4	1 463
Parcel, U.S. Postal Service or courier	218	22.6	5	12.1	6	33.4	1 463
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	412
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	S	S	S	S	123
Single modes	S	S	S	S	S	S	95
Truck ¹	S	S	S	S	S	S	95
For-hire truck	S	S	S	S	S	S	228
Private truck	S	S	S	S	S	S	S
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	389
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	389
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	454
SCTG 11, NATURAL SANDS							
Total	317	100.0	24 867	100.0	1 303	100.0	S
Single modes	314	99.0	24 848	99.9	1 301	99.8	S
Truck ¹	267	84.3	24 655	99.1	1 125	86.4	S
For-hire truck	76	23.9	15 004	60.3	897	68.8	S
Private truck	S	S	9 041	36.4	191	14.6	16
Rail	S	S	S	S	S	S	847
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	978
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	978
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	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	404	100.0	65 662	100.0	5 595	100.0	54
Single modes	402	99.5	65 565	99.9	5 594	100.0	54
Truck ¹	341	84.3	52 473	79.9	2 313	41.3	42
For-hire truck	S	S	44 135	67.2	1 998	35.7	45
Private truck	67	16.5	8 176	12.5	286	5.1	30
Rail	S	S	S	S	S	S	257
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	222
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	10
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	610	100.0	16 361	100.0	2 167	100.0	99
Single modes	568	93.1	15 478	94.6	1 165	53.8	94
Truck ¹	S	S	3 018	18.4	276	12.7	82
For-hire truck	48	7.9	1 372	8.4	201	9.3	S
Private truck	S	S	1 593	9.7	S	S	67
Rail	276	45.2	12 341	75.4	711	32.8	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 371
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	594
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	598
Truck and rail	S	S	S	S	S	S	84
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	1 214
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	174
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	S	S	304	100.0	127	100.0	S
Single modes	S	S	303	99.8	127	99.9	S
Truck ¹	S	S	150	49.4	34	26.4	S
For-hire truck	S	S	14	4.6	14	11.2	1 274
Private truck	32	21.2	S	S	S	S	61
Rail	35	23.4	153	50.4	94	73.5	617
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	1	.7	—	—	S	S	970
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	93

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	-	-	-	-	-	-	-
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 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	8 565	100.0	35 034	100.0	1 826	100.0	57
Single modes	8 564	100.0	35 032	100.0	1 826	100.0	58
Truck ¹	8 564	100.0	35 032	100.0	1 826	100.0	58
For-hire truck	3 993	46.6	16 642	47.5	864	47.3	48
Private truck	3 737	43.6	14 578	41.6	465	25.5	33
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	3
SCTG 18, FUEL OILS							
Total	2 393	100.0	11 829	100.0	445	100.0	27
Single modes	2 382	99.5	11 792	99.7	445	100.0	28
Truck ¹	2 364	98.8	11 695	98.9	445	99.9	28
For-hire truck	691	28.9	3 382	28.6	126	28.3	42
Private truck	1 387	58.0	7 026	59.4	279	62.6	23
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	S	S	S	S	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	15

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	695	100.0	3 090	100.0	128	100.0	66
Single modes	674	97.1	3 068	99.3	126	98.6	51
Truck ¹	674	97.1	3 068	99.3	126	98.6	51
For-hire truck	S	S	629	20.3	34	26.3	S
Private truck	497	71.6	2 360	76.4	89	69.8	25
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	5	.7	S	S	S	S	555
Parcel, U.S. Postal Service or courier	4	.5	1	—	S	S	556
Truck and rail	S	S	S	S	S	S	200
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	15	2.2	18	.6	S	S	S
SCTG 20, BASIC CHEMICALS							
Total	1 583	100.0	3 222	100.0	950	100.0	317
Single modes	1 398	88.4	3 111	96.6	870	91.6	55
Truck ¹	1 071	67.7	2 443	75.8	416	43.8	52
For-hire truck	468	29.6	1 067	33.1	296	31.1	361
Private truck	603	38.1	1 376	42.7	120	12.6	36
Rail	326	20.6	669	20.8	455	47.8	716
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 935
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	121	7.6	76	2.4	74	7.8	1 379
Parcel, U.S. Postal Service or courier	72	4.5	3	—	S	S	1 380
Truck and rail	49	3.1	73	2.3	71	7.5	1 104
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	63	4.0	35	1.1	5	.6	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	11 756	100.0	S	S	227	100.0	1 069
Single modes	4 270	36.3	S	S	S	S	521
Truck ¹	4 119	35.0	S	S	S	S	526
For-hire truck	2 123	18.1	127	25.0	S	S	776
Private truck	1 996	17.0	S	S	S	S	382
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	2	.3	S	S	S
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	7 353	62.5	55	10.8	49	21.4	1 122
Parcel, U.S. Postal Service or courier	7 353	62.5	55	10.8	49	21.4	1 122
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	3	.7	S	S	1 271

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	4 680	100.0	57 280	100.0	9 544	100.0	104
Single modes	4 622	98.8	57 023	99.6	9 485	99.4	105
Truck ¹	1 531	32.7	10 883	19.0	622	6.5	78
For-hire truck	791	16.9	7 839	13.7	485	5.1	99
Private truck	570	12.2	1 983	3.5	136	1.4	75
Rail	2 670	57.0	44 073	76.9	8 840	92.6	711
Water	S	S	S	S	S	S	11
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	11
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	292
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	247
Truck and rail	S	S	S	S	S	S	1 216
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	4 286	100.0	2 572	100.0	1 094	100.0	628
Single modes	3 689	86.1	2 514	97.8	1 069	97.8	102
Truck ¹	3 607	84.2	2 094	81.4	455	41.6	99
For-hire truck	1 316	30.7	746	29.0	289	26.4	520
Private truck	2 291	53.5	1 348	52.4	166	15.2	38
Rail	S	S	420	16.3	614	56.2	1 381
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 567
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	24	1.0	20	1.8	1 366
Parcel, U.S. Postal Service or courier	S	S	21	.8	19	1.7	1 366
Truck and rail	S	S	S	S	S	S	368
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	134	3.1	33	1.3	S	S	S
SCTG 24, PLASTICS AND RUBBER							
Total	6 385	100.0	2 206	100.0	776	100.0	261
Single modes	5 432	85.1	2 071	93.9	724	93.2	120
Truck ¹	5 357	83.9	2 061	93.4	718	92.5	116
For-hire truck	2 297	36.0	878	39.8	582	75.0	544
Private truck	3 034	47.5	1 178	53.4	135	17.4	42
Rail	S	S	S	S	S	S	582
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	64	1.0	2	.1	2	.3	1 225
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	584	9.1	36	1.6	34	4.4	817
Parcel, U.S. Postal Service or courier	584	9.1	36	1.6	34	4.4	817
Truck and rail	S	S	S	S	S	S	149
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	370	5.8	100	4.5	19	2.4	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 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	388	100.0	S	S	S	S	74
Single modes	378	97.4	S	S	S	S	73
Truck ¹	378	97.4	S	S	S	S	73
For-hire truck	S	S	S	S	S	S	87
Private truck	165	42.4	9 605	28.8	S	S	41
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	375
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	375
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	51
SCTG 26, WOOD PRODUCTS							
Total	3 901	100.0	7 277	100.0	1 930	100.0	346
Single modes	3 653	93.7	6 887	94.6	1 650	85.5	134
Truck ¹	3 569	91.5	6 683	91.8	1 568	81.2	133
For-hire truck	S	S	4 645	63.8	S	S	374
Private truck	1 710	43.8	2 036	28.0	276	14.3	72
Rail	84	2.2	204	2.8	82	4.2	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 696
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	95	2.4	262	3.6	271	14.0	1 120
Parcel, U.S. Postal Service or courier	71	1.8	4	—	4	.2	1 121
Truck and rail	23	.6	258	3.5	267	13.8	1 036
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	127	1.8	9	.5	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	2 574	100.0	3 849	100.0	2 343	100.0	185
Single modes	2 430	94.4	3 701	96.2	2 234	95.3	99
Truck ¹	1 820	70.7	2 326	60.4	1 117	47.7	90
For-hire truck	989	38.4	1 717	44.6	1 069	45.6	371
Private truck	831	32.3	609	15.8	47	2.0	55
Rail	611	23.7	1 375	35.7	1 117	47.7	815
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	71	2.8	33	.9	S	S	922
Parcel, U.S. Postal Service or courier	50	1.9	6	.2	6	.3	919
Truck and rail	S	S	S	S	S	S	1 404
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	72	2.8	115	3.0	S	S	98

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	2 510	100.0	2 034	100.0	583	100.0	181
Single modes	2 354	93.8	1 994	98.1	571	98.0	103
Truck ¹	2 352	93.7	1 988	97.8	564	96.8	77
For-hire truck	1 240	49.4	1 197	58.9	451	77.4	315
Private truck	1 112	44.3	791	38.9	S	S	44
Rail	1	—	S	S	S	S	696
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 527
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	113	4.5	18	.9	11	1.9	521
Parcel, U.S. Postal Service or courier	102	4.0	11	.6	5	.8	520
Truck and rail	S	S	S	S	S	S	955
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43	1.7	S	S	1	.1	141
SCTG 29, PRINTED PRODUCTS							
Total	8 222	100.0	4 400	100.0	506	100.0	630
Single modes	6 034	73.4	3 977	90.4	436	86.2	87
Truck ¹	5 955	72.4	3 968	90.2	420	83.0	61
For-hire truck	2 988	36.3	S	S	356	70.3	306
Private truck	2 967	36.1	1 933	43.9	64	12.7	22
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	S	S	S	S	S	S	1 524
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 638	19.9	82	1.9	62	12.3	917
Parcel, U.S. Postal Service or courier	1 638	19.9	82	1.9	62	12.3	917
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	550	6.7	341	7.8	8	1.5	189
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	7 484	100.0	787	100.0	408	100.0	909
Single modes	5 012	67.0	655	83.2	334	82.1	596
Truck ¹	4 955	66.2	653	83.0	332	81.5	574
For-hire truck	3 118	41.7	425	54.0	297	72.8	945
Private truck	1 813	24.2	224	28.4	35	8.7	70
Rail	S	S	S	S	S	S	S
Water	S	S	S	S	S	S	1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	55	.7	2	.2	2	.6	1 371
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 152	28.7	88	11.2	71	17.5	1 041
Parcel, U.S. Postal Service or courier	2 109	28.2	71	9.0	64	15.7	1 041
Truck and rail	42	.6	17	2.1	7	1.8	483
Truck and water	S	S	S	S	S	S	6 982
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	321	4.3	44	5.6	2	.5	97

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	4 623	100.0	52 858	100.0	4 100	100.0	172
Single modes	4 398	95.1	52 338	99.0	3 977	97.0	77
Truck ¹	4 312	93.3	51 552	97.5	3 013	73.5	73
For-hire truck	1 727	37.4	11 050	20.9	1 581	38.6	278
Private truck	2 539	54.9	40 202	76.1	1 365	33.3	40
Rail	80	1.7	S	S	S	S	712
Water	S	S	S	S	S	S	9
Shallow draft	S	S	S	S	S	S	9
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 678
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	91	2.0	118	.2	47	1.1	1 002
Parcel, U.S. Postal Service or courier	66	1.4	7	—	7	.2	1 010
Truck and rail	10	.2	70	.1	25	.6	359
Truck and water	S	S	S	S	S	S	395
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	134	2.9	401	.8	75	1.8	67
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	3 309	100.0	3 234	100.0	925	100.0	149
Single modes	2 981	90.1	2 924	90.4	721	77.9	123
Truck ¹	2 931	88.6	2 794	86.4	637	68.8	120
For-hire truck	1 293	39.1	1 353	41.8	500	54.0	588
Private truck	1 635	49.4	1 440	44.5	137	14.8	55
Rail	S	S	S	S	S	S	678
Water	S	S	S	S	S	S	3
Shallow draft	S	S	S	S	S	S	3
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	7	.2	3	.1	S	S	1 622
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	79	2.4	4	.1	3	.3	684
Parcel, U.S. Postal Service or courier	79	2.4	4	.1	3	.3	684
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	250	7.6	306	9.5	201	21.8	S
SCTG 33, ARTICLES OF BASE METAL							
Total	5 830	100.0	2 546	100.0	905	100.0	271
Single modes	4 493	77.1	2 302	90.4	655	72.3	96
Truck ¹	4 359	74.8	2 125	83.5	538	59.5	88
For-hire truck	1 581	27.1	664	26.1	326	36.0	371
Private truck	2 778	47.6	1 461	57.4	212	23.5	46
Rail	S	S	S	S	S	S	414
Water	S	S	S	S	S	S	753
Shallow draft	S	S	S	S	S	S	312
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	4 956
Air (includes truck and air)	28	.5	S	S	S	S	1 221
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	989	17.0	38	1.5	40	4.4	681
Parcel, U.S. Postal Service or courier	975	16.7	33	1.3	27	3.0	680
Truck and rail	S	S	S	S	S	S	1 636
Truck and water	S	S	S	S	S	S	7 014
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	348	6.0	207	8.1	S	S	213

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	10 580	100.0	813	100.0	275	100.0	191
Single modes	8 272	78.2	689	84.7	246	89.4	79
Truck ¹	7 888	74.6	672	82.7	232	84.5	61
For-hire truck	2 560	24.2	305	37.5	154	56.0	645
Private truck	5 241	49.5	363	44.7	S	S	21
Rail	S	S	S	S	S	S	410
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	299	2.8	3	.4	5	1.9	1 212
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 542	14.6	40	5.0	22	8.0	521
Parcel, U.S. Postal Service or courier	1 541	14.6	40	4.9	22	8.0	521
Truck and rail	S	S	S	S	S	S	417
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	765	7.2	84	10.3	7	2.6	29
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	32 902	100.0	929	100.0	318	100.0	597
Single modes	19 208	58.4	701	75.4	215	67.4	180
Truck ¹	15 808	48.0	676	72.8	188	58.9	137
For-hire truck	6 572	20.0	260	28.0	140	44.1	805
Private truck	9 219	28.0	411	44.3	47	14.8	S
Rail	S	S	S	S	S	S	1 314
Water	S	S	S	S	S	S	51
Shallow draft	S	S	S	S	S	S	17
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	58
Air (includes truck and air)	3 307	10.1	S	S	S	S	1 332
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	10 050	30.5	114	12.3	83	26.2	1 039
Parcel, U.S. Postal Service or courier	10 032	30.5	114	12.2	79	24.7	1 034
Truck and rail	S	S	S	S	S	S	3 066
Truck and water	S	S	S	S	S	S	7 894
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	3 644	11.1	115	12.3	S	S	75
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	5 224	100.0	1 021	100.0	271	100.0	68
Single modes	4 028	77.1	915	89.6	229	84.6	S
Truck ¹	3 966	75.9	911	89.2	226	83.2	S
For-hire truck	1 912	36.6	423	41.4	191	70.5	438
Private truck	2 054	39.3	488	47.8	34	12.7	S
Rail	S	S	S	S	S	S	1 084
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	2	.2	2	.6	557
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	398	7.6	17	1.7	8	2.9	390
Parcel, U.S. Postal Service or courier	397	7.6	17	1.6	6	2.4	390
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	7 000
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	798	15.3	89	8.8	34	12.5	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	4 503	100.0	122	100.0	85	100.0	633
Single modes	3 755	83.4	113	92.3	80	95.2	500
Truck ¹	2 914	64.7	108	88.2	72	84.8	S
For-hire truck	1 994	44.3	68	55.8	45	53.0	808
Private truck	920	20.4	40	32.4	27	31.7	S
Rail	S	S	S	S	S	S	3 522
Water	S	S	S	S	S	S	559
Shallow draft	S	S	S	S	S	S	391
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	595
Air (includes truck and air)	655	14.5	1	1.2	2	2.8	1 523
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	615	13.6	S	S	S	S	965
Parcel, U.S. Postal Service or courier	613	13.6	S	S	S	S	965
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	75
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	489
Other and unknown modes	S	S	S	S	S	S	206
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	7 950	100.0	105	100.0	90	100.0	927
Single modes	3 343	42.0	67	63.2	54	59.6	493
Truck ¹	2 319	29.2	61	58.2	49	54.4	423
For-hire truck	1 592	20.0	43	40.8	47	52.0	601
Private truck	698	8.8	18	17.2	S	S	304
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	2
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2
Air (includes truck and air)	1 023	12.9	5	5.1	5	5.2	541
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	4 323	54.4	36	34.5	35	39.2	1 007
Parcel, U.S. Postal Service or courier	4 323	54.4	36	34.5	35	39.2	1 007
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	285	3.6	2	2.2	1	1.2	671
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	2 484	100.0	417	100.0	123	100.0	288
Single modes	2 279	91.7	398	95.3	111	90.4	104
Truck ¹	2 279	91.7	398	95.3	111	90.3	104
For-hire truck	957	38.5	174	41.7	82	67.3	359
Private truck	1 318	53.1	223	53.4	28	22.9	43
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	680
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	158	6.4	15	3.6	11	9.4	806
Parcel, U.S. Postal Service or courier	139	5.6	10	2.4	10	7.9	807
Truck and rail	19	.8	5	1.2	2	1.5	359
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	47	1.9	5	1.1	S	S	28

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	17 319	100.0	4 027	100.0	895	100.0	846
Single modes	12 087	69.8	3 791	94.2	761	85.0	406
Truck ¹	11 507	66.4	3 786	94.0	752	84.0	369
For-hire truck	3 205	18.5	1 677	41.6	576	64.4	445
Private truck	S	S	2 109	52.4	176	19.6	352
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	5
Shallow draft	S	S	S	S	S	S	5
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	575	3.3	S	S	S	S	1 501
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 998	23.1	82	2.0	76	8.5	1 165
Parcel, U.S. Postal Service or courier	3 995	23.1	82	2.0	75	8.4	1 165
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	7 007
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 234	7.1	154	3.8	58	6.5	351
SCTG 41, WASTE AND SCRAP							
Total	1 209	100.0	5 851	100.0	1 713	100.0	164
Single modes	1 101	91.0	5 740	98.1	1 614	94.3	152
Truck ¹	851	70.3	4 299	73.5	1 005	58.7	126
For-hire truck	609	50.4	3 431	58.6	945	55.2	190
Private truck	241	19.9	867	14.8	60	3.5	S
Rail	222	18.4	1 178	20.1	S	S	491
Water	S	S	S	S	S	S	245
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	245
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	96	7.9	S	S	S	S	1 131
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 547
Truck and rail	92	7.6	70	1.2	78	4.5	1 110
Truck and water	S	S	S	S	S	S	610
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	18
SCTG 43, MIXED FREIGHT							
Total	17 422	100.0	7 632	100.0	918	100.0	145
Single modes	16 841	96.7	7 586	99.4	911	99.2	131
Truck ¹	16 841	96.7	7 586	99.4	911	99.2	131
For-hire truck	928	5.3	456	6.0	S	S	347
Private truck	15 912	91.3	7 130	93.4	798	87.0	121
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	10	.1	2	.2	284
Parcel, U.S. Postal Service or courier	S	S	10	.1	2	.2	284
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	968	100.0	974	100.0	172	100.0	324
Single modes	812	83.9	957	98.2	165	95.8	301
Truck ¹	803	83.0	910	93.4	116	67.3	271
For-hire truck	274	28.3	S	S	76	44.4	400
Private truck	529	54.7	371	38.0	39	22.9	226
Rail	S	S	S	S	S	S	1 033
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 118
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	417
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	417
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

— 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	214 397	100.0	397 287	100.0	57 188	100.0
NEW ENGLAND STATES						
Connecticut	892	.4	276	—	382	.7
Maine	216	.1	S	S	S	S
Massachusetts	1 614	.8	456	.1	637	1.1
New Hampshire	234	.1	26	—	35	—
Rhode Island	191	—	S	S	S	S
Vermont	54	—	22	—	30	—
MIDDLE ATLANTIC STATES						
New Jersey	4 053	1.9	613	.2	703	1.2
New York	5 228	2.4	2 715	.7	3 485	6.1
Pennsylvania	2 709	1.3	988	.2	1 083	1.9
EAST NORTH CENTRAL STATES						
Illinois	2 832	1.3	1 311	.3	1 502	2.6
Indiana	1 847	.9	733	.2	805	1.4
Michigan	1 860	.9	818	.2	1 147	2.0
Ohio	2 693	1.3	1 329	.3	1 432	2.5
Wisconsin	892	.4	309	—	418	.7
WEST NORTH CENTRAL STATES						
Iowa	484	.2	S	S	S	S
Kansas	1 058	.5	173	—	258	.5
Minnesota	1 336	.6	450	.1	783	1.4
Missouri	1 178	.5	621	.2	728	1.3
Nebraska	339	.2	S	S	S	S
North Dakota	66	—	7	—	15	—
South Dakota	134	—	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	S	S	62	—	57	.1
District of Columbia	92	—	8	—	7	—
Florida	137 910	64.3	339 957	85.6	19 903	34.8
Georgia	9 375	4.4	S	S	4 390	7.7
Maryland	1 935	.9	905	.2	894	1.6
North Carolina	3 446	1.6	2 171	.5	1 316	2.3
South Carolina	1 826	.9	1 636	.4	790	1.4
Virginia	2 365	1.1	993	.2	737	1.3
West Virginia	209	.1	103	—	98	.2
EAST SOUTH CENTRAL STATES						
Alabama	2 598	1.2	2 895	.7	1 173	2.1
Kentucky	1 100	.5	482	.1	427	.7
Mississippi	767	.4	499	.1	342	.6
Tennessee	2 475	1.2	1 169	.3	858	1.5
WEST SOUTH CENTRAL STATES						
Arkansas	537	.3	S	S	S	S
Louisiana	1 720	.8	S	S	S	S
Oklahoma	493	.2	133	—	S	S
Texas	6 284	2.9	2 641	.7	3 393	5.9
MOUNTAIN STATES						
Arizona	892	.4	91	—	198	.3
Colorado	751	.4	307	—	S	S
Idaho	111	—	14	—	36	—
Montana	190	—	16	—	42	—
Nevada	332	.2	15	—	41	—
New Mexico	182	—	8	—	14	—
Utah	281	.1	19	—	46	—
Wyoming	68	—	S	S	S	S
PACIFIC STATES						
Alaska	49	—	2	—	S	S
California	6 202	2.9	851	.2	2 268	4.0
Hawaii	94	—	4	—	24	—
Oregon	423	.2	42	—	127	.2
Washington	952	.4	101	—	328	.6

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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	305 943	100.0	465 063	100.0	133 202	100.0
NEW ENGLAND STATES						
Connecticut	2 053	.7	208	—	266	.2
Maine	443	.1	131	—	219	.2
Massachusetts	3 226	1.1	204	—	279	.2
New Hampshire	717	.2	55	—	78	—
Rhode Island	512	.2	30	—	40	—
Vermont	146	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	9 829	3.2	1 101	.2	1 264	.9
New York	6 502	2.1	916	.2	1 165	.9
Pennsylvania	6 831	2.2	S	S	S	S
EAST NORTH CENTRAL STATES						
Illinois	6 538	2.1	9 115	2.0	10 102	7.6
Indiana	4 920	1.6	874	.2	956	.7
Michigan	6 087	2.0	1 076	.2	1 369	1.0
Ohio	6 178	2.0	2 126	.5	2 319	1.7
Wisconsin	3 340	1.1	951	.2	1 405	1.1
WEST NORTH CENTRAL STATES						
Iowa	1 433	.5	469	.1	668	.5
Kansas	1 917	.6	1 813	.4	2 535	1.9
Minnesota	2 848	.9	571	.1	940	.7
Missouri	2 800	.9	1 059	.2	1 253	.9
Nebraska	1 376	.4	704	.2	1 011	.8
North Dakota	24	—	S	S	S	S
South Dakota	208	—	44	—	76	—
SOUTH ATLANTIC STATES						
Delaware	290	—	70	—	72	—
District of Columbia	S	S	S	S	S	S
Florida	137 910	45.1	339 957	73.1	19 903	14.9
Georgia	19 824	6.5	12 678	2.7	4 523	3.4
Maryland	1 189	.4	306	—	310	.2
North Carolina	9 273	3.0	2 731	.6	1 834	1.4
South Carolina	4 980	1.6	2 524	.5	1 253	.9
Virginia	3 124	1.0	3 128	.7	2 650	2.0
West Virginia	375	.1	2 000	.4	3 081	2.3
EAST SOUTH CENTRAL STATES						
Alabama	5 363	1.8	8 529	1.8	2 895	2.2
Kentucky	3 845	1.3	15 093	3.2	15 939	12.0
Mississippi	2 562	.8	6 525	1.4	3 028	2.3
Tennessee	4 051	1.3	1 984	.4	1 535	1.2
WEST SOUTH CENTRAL STATES						
Arkansas	1 149	.4	912	.2	948	.7
Louisiana	3 522	1.2	28 222	6.1	22 467	16.9
Oklahoma	1 420	.5	427	—	593	.4
Texas	10 257	3.4	9 591	2.1	9 187	6.9
MOUNTAIN STATES						
Arizona	1 613	.5	S	S	S	S
Colorado	1 569	.5	384	—	S	S
Idaho	S	S	108	—	303	.2
Montana	57	—	580	.1	1 470	1.1
Nevada	248	—	S	S	S	S
New Mexico	292	.1	99	—	199	.1
Utah	1 776	.6	74	—	184	.1
Wyoming	31	—	1 114	.2	2 511	1.9
PACIFIC STATES						
Alaska	S	S	—	—	—	—
California	17 755	5.8	1 620	.3	4 484	3.4
Hawaii	27	—	S	S	S	S
Oregon	876	.3	230	—	729	.5
Washington	S	S	178	—	564	.4

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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	6.2	—	9.9	—	10.4	—	5.4
Single modes	7.2	1.1	10.2	.3	11.6	1.5	14.1
Truck	6.8	1.1	12.7	3.7	10.4	2.1	16.2
For-hire truck	4.1	1.4	22.2	3.8	13.7	1.8	8.3
Private truck	11.0	2.2	8.7	4.2	7.9	1.5	29.2
Rail	13.9	.4	17.7	3.8	10.2	2.1	16.9
Water	46.3	.2	S	S	S	S	46.6
Shallow draft	48.5	—	48.6	—	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	48.6
Air (includes truck and air)	26.5	.5	S	S	S	S	12.2
Pipeline	S	S	S	S	S	S	S
Multiple modes	5.2	1.0	20.2	.3	22.7	1.7	3.9
Parcel, U.S. Postal Service or courier	5.6	1.1	7.0	—	7.9	.1	3.9
Truck and rail	14.2	—	30.8	.1	21.2	.4	9.8
Truck and water	42.5	.2	42.6	.2	46.1	1.3	28.0
Rail and water	S	S	S	S	S	S	30.8
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	10.8	.4	10.0	—	26.5	.3	18.7

— 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	6.2	3.0	8.5	9.9	8.4	14.9	10.4	17.3	17.5	5.4	12.4	14.9
Single modes	7.2	3.2	9.0	10.2	8.6	15.7	11.6	18.4	19.6	14.1	8.3	15.6
Truck	6.8	3.8	9.0	12.7	4.9	17.8	10.4	4.5	12.5	16.2	9.8	19.3
For-hire truck	4.1	5.6	6.7	22.2	7.8	35.5	13.7	6.0	16.4	8.3	8.6	11.3
Private truck	11.0	3.4	14.8	8.7	5.3	11.0	7.9	5.9	9.6	29.2	13.0	39.0
Rail	13.9	13.1	21.6	17.7	22.2	28.0	10.2	21.5	23.6	16.9	5.5	12.4
Water	46.3	38.3	40.5	S	S	S	S	S	S	46.6	44.3	22.2
Shallow draft	48.5	S	S	48.6	S	S	33.7	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	S	44.4	S	S	S	S	S	S	S	48.6	41.3	8.7
Air (includes truck and air)	26.5	13.3	34.0	S	18.8	S	S	17.6	S	12.2	3.6	9.2
Pipeline	S	S	S	S	S	S	S	S	S	S	S	S
Multiple modes	5.2	5.8	15.1	20.2	20.7	79.4	22.7	25.3	114.0	3.9	7.3	8.3
Parcel, U.S. Postal Service or courier	5.6	5.9	15.4	7.0	5.4	11.7	7.9	5.4	14.0	3.9	7.3	8.3
Truck and rail	14.2	18.2	47.4	30.8	35.4	54.2	21.2	34.3	63.2	9.8	20.1	37.6
Truck and water	42.5	36.0	S	42.6	S	S	46.1	S	S	28.0	36.4	83.8
Rail and water	S	—	S	S	—	S	S	—	S	30.8	—	S
Other multiple modes	S	S	S	S	S	S	S	S	S	31.6	31.6	5.4
Other and unknown modes	10.8	10.6	21.5	10.0	14.4	4.3	26.5	35.0	5.6	18.7	21.7	31.1

— 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	1.1	.8	.3	.5	1.5	3.4
Truck	1.1	1.4	3.7	3.8	2.1	5.6
For-hire truck	1.4	1.3	3.8	1.9	1.8	4.3
Private truck	2.2	.9	4.2	3.0	1.5	1.5
Rail .....	.4	.5	3.8	3.5	2.1	3.9
Water .....	.2	.3	S	S	S	S
Shallow draft	—	S	—	S	S	.1
Great Lakes	—	—	—	—	—	—
Deep draft	S	.3	S	S	S	S
Air (includes truck and air) .....	.5	.4	S	—	S	—
Pipeline	S	S	S	S	S	S
Multiple modes	1.0	.6	.3	.1	1.7	.4
Parcel, U.S. Postal Service or courier	1.1	.6	—	—	.1	—
Truck and rail	—	—	.1	.1	.4	.4
Truck and water .....	.2	—	.2	S	1.3	S
Rail and water	S	—	S	—	S	—
Other multiple modes	S	S	S	S	S	S
Other and unknown modes .....	.4	.4	—	.6	.3	3.6

— 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-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	10.4	—	5.4
Truck	10.4	2.1	16.0
Rail	8.8	1.8	14.8
Shallow draft	S	S	S
Great Lakes	—	—	—
Deep draft	48.5	1.9	31.8
Air	S	S	12.5
Parcel, U.S. Postal Service or courier	7.9	.1	3.9
Pipeline	S	S	S
Other and unknown modes	26.5	.3	18.7

— 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	6.2	-	9.9	-	10.4	-
Less than 50 miles	4.5	1.7	6.7	2.4	7.7	.8
50 to 99 miles	10.1	.6	32.2	2.4	29.5	1.3
100 to 249 miles	22.2	1.9	11.2	.9	13.2	1.3
250 to 499 miles	7.3	.5	15.3	.7	14.6	1.8
500 to 749 miles	9.9	.5	23.6	.4	25.6	1.8
750 to 999 miles	8.0	.6	14.9	.2	15.2	2.0
1,000 to 1,499 miles	12.1	.8	7.3	.2	7.6	2.0
1,500 to 1,999 miles	8.6	.1	33.2	-	34.5	.4
2,000 miles or more	10.3	.5	17.1	-	17.4	.7
Single modes	7.2	-	10.2	-	11.6	-
Less than 50 miles	4.8	2.2	6.8	2.5	7.7	.9
50 to 99 miles	10.7	.6	32.4	2.4	29.7	1.3
100 to 249 miles	23.7	2.0	11.3	.9	13.3	1.6
250 to 499 miles	9.0	.5	14.9	.6	14.0	1.8
500 to 749 miles	12.9	.7	25.0	.4	27.1	2.0
750 to 999 miles	9.5	.6	15.4	.1	15.7	1.2
1,000 to 1,499 miles	18.7	.8	6.7	.2	8.5	2.1
1,500 to 1,999 miles	12.3	.1	37.3	-	38.6	.4
2,000 miles or more	20.4	.6	15.6	-	16.4	.6
Truck	6.8	-	12.7	-	10.4	-
Less than 50 miles	4.9	2.4	9.1	2.5	11.4	1.3
50 to 99 miles	11.1	.7	33.9	2.8	32.0	2.6
100 to 249 miles	24.4	2.3	12.7	.5	12.4	.7
250 to 499 miles	9.5	.5	14.0	.4	14.0	1.1
500 to 749 miles	11.8	.5	19.7	.3	19.0	1.7
750 to 999 miles	10.9	.6	10.5	.1	10.6	.8
1,000 to 1,499 miles	10.2	.5	8.9	.2	8.7	1.7
1,500 to 1,999 miles	7.4	-	15.2	-	15.6	.2
2,000 miles or more	24.1	.5	12.9	-	13.4	.9
For-hire truck	4.1	-	22.2	-	13.7	-
Less than 50 miles	7.6	1.4	16.3	3.7	17.4	1.4
50 to 99 miles	7.3	.5	49.8	3.9	47.3	3.2
100 to 249 miles	8.3	1.5	19.9	1.0	19.1	.9
250 to 499 miles	12.0	1.1	17.1	.9	17.0	1.4
500 to 749 miles	11.6	.8	18.9	.7	18.2	2.4
750 to 999 miles	11.6	1.2	11.7	.2	11.8	1.1
1,000 to 1,499 miles	5.8	.8	6.7	.4	6.3	2.1
1,500 to 1,999 miles	9.7	.1	12.3	-	12.4	.2
2,000 miles or more	10.8	.3	12.7	-	13.4	1.1
Private truck	11.0	-	8.7	-	7.9	-
Less than 50 miles	5.6	3.9	9.2	1.8	11.0	2.6
50 to 99 miles	15.8	1.0	14.8	1.2	14.1	1.8
100 to 249 miles	37.9	3.2	11.8	1.0	10.8	1.5
250 to 499 miles	12.9	.2	22.0	.5	24.0	1.9
500 to 749 miles	21.1	.2	21.2	-	21.4	.7
750 to 999 miles	11.2	.1	15.3	-	15.9	.6
1,000 to 1,499 miles	38.3	.5	32.5	.2	32.4	2.1
1,500 to 1,999 miles	34.5	-	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Rail	13.9	-	17.7	-	10.2	-
Less than 50 miles	20.4	5.2	17.0	3.0	15.9	1.3
50 to 99 miles	38.2	.3	S	S	S	S
100 to 249 miles	16.3	.9	S	S	S	S
250 to 499 miles	18.9	2.3	31.1	1.4	27.2	3.5
500 to 749 miles	31.5	3.5	26.1	1.1	25.8	2.6
750 to 999 miles	23.0	1.9	22.3	1.2	22.2	3.3
1,000 to 1,499 miles	21.7	4.0	17.5	1.7	18.4	5.8
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	42.9	.2	43.0	1.2
Water	46.3	-	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
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	-	-	-	-	-	-
Shallow draft	48.5	-	48.6	-	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
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	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
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	—	—	—	—	—	—
Air (includes truck and air)	26.5	—	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	49.8	2.6	38.4	3.5	39.6	.3
100 to 249 miles	16.3	1.6	20.3	2.2	23.4	.5
250 to 499 miles	36.8	2.3	33.6	1.5	42.7	.7
500 to 749 miles	40.8	4.2	27.6	3.9	25.2	2.8
750 to 999 miles	20.0	4.5	18.5	3.9	17.9	3.6
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	31.8	2.0	S	S	S	S
2,000 miles or more	22.0	2.7	30.9	5.1	28.4	10.2
Pipeline	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	S	S	S	S
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	—	—	—	—	—	—
Multiple modes	5.2	—	20.2	—	22.7	—
Less than 50 miles	15.5	1.9	S	S	S	S
50 to 99 miles	12.6	.6	14.7	.8	12.6	.1
100 to 249 miles	6.1	1.0	24.3	2.4	32.3	.8
250 to 499 miles	5.7	.4	43.4	8.1	43.1	5.9
500 to 749 miles	12.6	1.0	27.1	1.6	27.4	3.1
750 to 999 miles	7.3	.5	41.2	7.9	41.7	9.1
1,000 to 1,499 miles	10.4	1.9	48.4	7.4	46.6	7.8
1,500 to 1,999 miles	11.3	.3	28.3	.7	29.1	1.8
2,000 miles or more	9.2	.8	12.2	.6	11.8	2.3
Parcel, U.S. Postal Service or courier	5.6	—	7.0	—	7.9	—
Less than 50 miles	15.7	2.0	13.7	2.0	15.4	.1
50 to 99 miles	12.6	.6	9.1	.4	9.4	—
100 to 249 miles	6.5	1.1	7.7	1.5	8.2	.5
250 to 499 miles	7.2	.4	10.6	.5	11.7	.4
500 to 749 miles	12.4	1.0	8.2	.3	8.2	.2
750 to 999 miles	7.3	.5	12.0	1.2	12.0	1.3
1,000 to 1,499 miles	10.9	1.7	6.3	.9	6.2	1.4
1,500 to 1,999 miles	11.4	.3	20.1	.4	20.7	1.0
2,000 miles or more	9.5	.8	9.7	.5	9.9	1.2
Truck and rail	14.2	—	30.8	—	21.2	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	34.3	3.3	44.8	3.4	47.8	1.2
250 to 499 miles	25.4	5.3	S	S	S	S
500 to 749 miles	36.3	5.1	38.5	5.5	37.9	5.9
750 to 999 miles	38.5	6.4	30.2	4.7	32.4	6.7
1,000 to 1,499 miles	42.5	3.3	S	S	S	S
1,500 to 1,999 miles	39.9	3.6	48.6	2.7	48.4	5.4
2,000 miles or more	S	S	47.2	.5	46.0	1.5
Truck and water	42.5	—	42.6	—	46.1	—
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	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

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	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
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	10.8	—	10.0	—	26.5	—
Less than 50 miles	13.4	5.7	13.4	5.4	19.6	1.5
50 to 99 miles	18.3	.7	26.5	1.6	27.6	1.4
100 to 249 miles	S	S	29.0	1.4	24.3	3.4
250 to 499 miles	17.6	.5	35.4	1.3	35.0	1.3
500 to 749 miles	35.2	.9	31.6	.4	33.0	3.8
750 to 999 miles	21.0	1.2	32.8	2.7	33.1	6.2
1,000 to 1,499 miles	S	S	33.0	1.3	32.8	4.1
1,500 to 1,999 miles	24.1	.2	S	S	S	S
2,000 miles or more	40.9	2.3	S	S	S	S

— 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	6.2	—	9.9	—	10.4	—	5.4
Less than 50 lb	5.5	1.3	7.9	—	7.9	—	5.4
50 to 99 lb	15.3	.7	15.1	—	9.7	—	9.1
100 to 499 lb	5.9	.7	5.5	.1	10.1	.2	9.1
500 to 749 lb	4.9	.2	6.1	—	7.6	—	8.5
750 to 999 lb	9.3	.1	5.4	—	10.5	—	7.1
1,000 to 9,999 lb	2.0	.9	3.9	.5	5.5	.7	6.7
10,000 to 49,999 lb	18.3	2.9	9.7	2.8	11.1	2.2	5.0
50,000 to 99,999 lb	8.8	.6	26.0	3.4	26.5	1.6	8.5
100,000 lb or more	11.7	.5	11.9	3.6	12.0	2.4	15.4
Single modes	7.2	—	10.2	—	11.6	—	14.1
Less than 50 lb	6.4	.6	12.1	—	10.4	—	20.4
50 to 99 lb	19.3	.7	17.7	—	12.7	—	12.2
100 to 499 lb	7.5	1.0	6.0	—	12.5	.2	10.0
500 to 749 lb	4.9	.3	6.4	—	7.6	—	8.6
750 to 999 lb	10.3	.2	5.6	—	12.0	—	8.2
1,000 to 9,999 lb	2.3	1.3	3.8	.5	6.0	.8	6.8
10,000 to 49,999 lb	17.9	3.2	9.8	2.8	10.9	2.4	5.0
50,000 to 99,999 lb	9.1	.8	26.2	3.4	27.9	1.7	8.8
100,000 lb or more	12.6	.7	11.9	3.5	13.8	2.4	15.6
Truck	6.8	—	12.7	—	10.4	—	16.2
Less than 50 lb	8.6	.6	12.5	—	14.3	—	25.3
50 to 99 lb	22.1	.7	17.9	—	13.8	—	12.4
100 to 499 lb	8.5	1.1	6.1	.1	13.5	.3	10.4
500 to 749 lb	5.2	.3	6.4	—	8.3	—	9.3
750 to 999 lb	10.3	.2	5.5	—	13.0	.1	9.4
1,000 to 9,999 lb	1.8	1.5	3.8	.7	6.0	1.3	6.7
10,000 to 49,999 lb	16.8	3.2	9.8	2.8	10.8	2.9	4.9
50,000 to 99,999 lb	9.2	.9	26.3	3.6	28.5	3.0	8.7
100,000 lb or more	18.6	.3	12.0	1.0	20.6	1.3	12.2
For-hire truck	4.1	—	22.2	—	13.7	—	8.3
Less than 50 lb	17.4	.6	10.5	—	12.5	—	9.7
50 to 99 lb	21.4	.3	14.6	—	13.4	—	9.7
100 to 499 lb	8.7	.7	7.5	—	11.0	.2	7.8
500 to 749 lb	4.3	.2	8.6	—	9.0	.1	9.6
750 to 999 lb	24.1	.8	14.8	—	16.5	.1	6.8
1,000 to 9,999 lb	6.4	2.1	4.1	.5	7.6	1.5	4.0
10,000 to 49,999 lb	8.8	2.2	16.1	3.8	11.9	2.9	10.6
50,000 to 99,999 lb	11.1	.9	36.3	4.9	36.8	3.4	10.6
100,000 lb or more	17.4	.3	20.1	1.8	23.8	1.8	S
Private truck	11.0	—	8.7	—	7.9	—	29.2
Less than 50 lb	8.5	.9	14.0	—	24.5	—	39.2
50 to 99 lb	27.6	1.2	19.2	—	19.5	—	15.4
100 to 499 lb	13.3	1.8	7.2	.2	20.0	.5	13.2
500 to 749 lb	7.6	.6	7.3	.1	10.0	.2	11.5
750 to 999 lb	7.0	.3	6.7	.1	8.7	.1	6.6
1,000 to 9,999 lb	3.0	1.8	3.2	.9	8.3	1.1	8.4
10,000 to 49,999 lb	30.3	5.0	10.8	2.8	11.3	3.4	15.9
50,000 to 99,999 lb	16.4	1.3	16.4	2.2	14.9	2.5	8.8
100,000 lb or more	26.6	.4	22.5	1.9	22.6	.7	S
Rail	13.9	—	17.7	—	10.2	—	16.9
Less than 50 lb	45.5	—	S	S	S	S	49.5
50 to 99 lb	S	S	S	S	S	S	45.7
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	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	40.1	—	40.4	—	S
10,000 to 49,999 lb	40.9	1.5	25.3	.1	29.0	.3	17.9
50,000 to 99,999 lb	43.7	.7	33.6	.3	35.2	.2	44.9
100,000 lb or more	13.1	1.9	17.8	.3	10.5	.5	19.4
Water	46.3	—	S	S	S	S	46.6
Less than 50 lb	S	S	S	S	S	S	34.1
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	32.4
500 to 749 lb	S	S	S	S	S	S	31.4
750 to 999 lb	S	S	S	S	S	S	35.7
1,000 to 9,999 lb	S	S	S	S	S	S	36.6
10,000 to 49,999 lb	S	S	S	S	S	S	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	44.3
Shallow draft	48.5	—	48.6	—	S	S	S
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	S	S	S	S	S	S	30.3
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	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	37.9

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	S	S	S	S	S	S	48.6
Less than 50 lb	S	S	S	S	S	S	33.5
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	32.1
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	35.7
1,000 to 9,999 lb	S	S	S	S	S	S	33.3
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Air (includes truck and air)	26.5	—	S	S	S	S	12.2
Less than 50 lb	13.9	4.7	10.7	5.2	11.8	4.8	13.4
50 to 99 lb	22.9	3.4	11.2	1.6	13.3	1.9	7.6
100 to 499 lb	15.5	4.2	12.0	7.1	18.0	6.9	10.3
500 to 749 lb	27.3	1.3	34.9	2.6	39.5	2.7	12.2
750 to 999 lb	S	S	S	S	S	S	24.4
1,000 to 9,999 lb	S	S	28.9	5.0	30.2	8.1	12.0
10,000 to 49,999 lb	S	S	S	S	S	S	27.5
50,000 to 99,999 lb	S	S	S	S	S	S	30.2
100,000 lb or more	S	S	S	S	S	S	29.8
Pipeline	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	S
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	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Multiple modes	5.2	—	20.2	—	22.7	—	3.9
Less than 50 lb	7.3	2.8	8.0	4.9	9.8	5.5	4.0
50 to 99 lb	13.6	1.3	9.9	1.9	11.9	2.0	4.1
100 to 499 lb	12.2	1.5	8.2	2.5	8.1	2.0	6.8
500 to 749 lb	38.8	.7	21.2	.7	26.9	.5	19.3
750 to 999 lb	27.1	.2	35.8	.4	47.2	.1	19.4
1,000 to 9,999 lb	S	S	S	S	S	S	21.5
10,000 to 49,999 lb	19.7	.1	23.4	4.0	20.0	4.3	12.6
50,000 to 99,999 lb	32.8	—	45.5	2.5	S	S	21.9
100,000 lb or more	39.3	1.0	28.8	13.1	31.4	15.2	30.5
Parcel, U.S. Postal Service or courier	5.6	—	7.0	—	7.9	—	3.9
Less than 50 lb	7.3	2.3	8.0	1.9	9.8	2.4	4.0
50 to 99 lb	13.6	1.4	9.9	1.1	11.9	1.6	4.1
100 to 499 lb	12.2	1.7	8.3	1.3	9.3	1.5	7.0
500 to 749 lb	38.8	.7	21.2	.9	26.9	.9	19.3
750 to 999 lb	27.3	.2	36.0	1.0	S	S	20.6
1,000 to 9,999 lb	S	S	S	S	31.1	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	14.2	—	30.8	—	21.2	—	9.8
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	27.3	.5	26.7	.2	25.9
10,000 to 49,999 lb	18.3	8.1	23.6	14.3	19.7	13.2	10.8
50,000 to 99,999 lb	32.8	1.4	45.5	5.2	S	S	21.9
100,000 lb or more	S	S	S	S	S	S	29.4
Truck and water	42.5	—	42.6	—	46.1	—	28.0
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	28.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	S	S	S	S	S	S	31.3
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	44.7	19.6	43.9	18.7	47.0	18.6	24.4

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	S	S	S	S	S	S	30.8
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	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	29.8
Other multiple modes	S	S	S	S	S	S	31.6
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	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	10.8	—	10.0	—	26.5	—	18.7
Less than 50 lb	20.2	4.0	14.5	.3	15.8	.3	26.5
50 to 99 lb	29.4	1.4	10.6	.2	25.2	.3	21.5
100 to 499 lb	12.0	1.1	13.5	.6	22.5	.9	32.8
500 to 749 lb	13.0	.5	18.0	.5	21.3	.3	S
750 to 999 lb	27.5	.3	14.9	.1	18.0	.1	21.6
1,000 to 9,999 lb	18.3	4.7	12.3	5.2	19.1	4.9	11.0
10,000 to 49,999 lb	36.7	5.0	15.4	3.2	31.0	6.4	25.5
50,000 to 99,999 lb	29.7	1.1	33.3	3.2	S	S	S
100,000 lb or more	46.5	.2	31.3	3.2	S	S	27.8

— 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-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	6.2	—	9.9	—	10.4	—	5.4
01	Live animals and live fish	S	S	S	S	S	S	29.8
02	Cereal grains	S	S	S	S	S	S	S
03	Other agricultural products	15.7	.3	16.5	.3	27.5	1.3	14.6
04	Animal feed and products of animal origin, n.e.c.	24.1	—	21.8	.2	17.1	.3	27.5
05	Meat, fish, seafood, and their preparations	21.2	.5	17.5	—	34.5	.4	27.2
06	Milled grain products and preparations, and bakery products	21.2	.4	16.9	.1	26.5	.2	35.3
07	Other prepared foodstuffs and fats and oils	6.1	.6	10.5	.6	15.7	1.4	S
08	Alcoholic beverages	9.0	.2	13.6	.2	29.9	.4	7.0
09	Tobacco products	15.3	—	19.4	—	22.7	—	17.8
10	Monumental or building stone	S	S	S	S	S	S	26.2
11	Natural sands	39.5	—	30.2	1.8	30.2	.7	S
12	Gravel and crushed stone	33.2	—	22.6	3.1	35.4	3.3	19.4
13	Nonmetallic minerals n.e.c.	25.9	—	17.4	.9	24.7	1.1	18.7
14	Metallic ores and concentrates	S	S	24.4	—	36.0	.1	S
15	Coal	—	—	—	—	—	—	—
17	Gasoline and aviation turbine fuel	10.8	.5	11.6	1.1	28.8	.8	14.7
18	Fuel oils	19.1	.2	21.1	.8	29.1	.3	14.2
19	Coal and petroleum products, n.e.c.	27.1	—	35.6	.3	23.0	—	20.6
20	Basic chemicals	17.0	.1	14.5	—	21.5	.3	43.2
21	Pharmaceutical products	12.7	.7	S	S	46.8	.3	7.2
22	Fertilizers	11.3	.3	17.3	2.4	10.4	1.9	46.9
23	Chemical products and preparations, n.e.c.	11.8	.2	11.2	.1	25.3	.6	25.4
24	Plastics and rubber	12.9	.4	16.5	.1	14.2	.3	14.1
25	Logs and other wood in the rough	42.6	—	S	S	S	S	45.7
26	Wood products	24.4	.5	28.3	.5	40.3	1.1	20.9
27	Pulp, newsprint, paper, and paperboard	15.2	.2	21.5	.2	24.7	1.1	28.2
28	Paper or paperboard articles	9.5	.1	15.7	—	23.3	.2	16.8
29	Printed products	10.1	.3	26.0	.2	21.0	.2	16.2
30	Textiles, leather, and articles of textiles or leather	9.7	.3	19.8	—	28.1	.2	5.7
31	Nonmetallic mineral products	7.1	.2	10.8	1.4	17.3	1.4	21.4
32	Base metal in primary or semifinished forms and in finished basic shapes	6.6	.1	8.7	—	12.0	.2	18.8
33	Articles of base metal	6.6	.3	9.6	—	21.1	.3	17.3
34	Machinery	16.2	.8	9.5	—	22.4	.1	23.8
35	Electronic and other electrical equipment and components and office equipment	14.1	1.9	10.2	—	7.8	.1	10.7
36	Motorized and other vehicles (including parts)	9.0	.3	20.8	—	11.6	—	44.8
37	Transportation equipment, n.e.c.	17.3	.4	20.2	—	11.6	—	22.0
38	Precision instruments and apparatus	23.8	1.0	18.5	—	22.8	—	10.8
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	7.5	.1	13.1	—	29.8	—	34.3
40	Miscellaneous manufactured products	32.6	1.6	19.3	.3	13.0	.3	8.0
41	Waste and scrap	19.3	.1	34.2	.6	43.9	1.5	20.5
43	Mixed freight	38.0	2.4	42.0	1.1	36.3	.7	30.1
--	Commodity unknown	26.3	.1	35.7	—	29.2	.1	27.0

— 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-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	6.2	—	9.9	—	10.4	—	5.4
Single modes	7.2	1.1	10.2	.3	11.6	1.5	14.1
Truck	6.8	1.1	12.7	3.7	10.4	2.1	16.2
For-hire truck	4.1	1.4	22.2	3.8	13.7	1.8	8.3
Private truck	11.0	2.2	8.7	4.2	7.9	1.5	29.2
Rail	13.9	.4	17.7	3.8	10.2	2.1	16.9
Water	46.3	.2	S	S	S	S	46.6
Shallow draft	48.5	—	48.6	—	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	48.6
Air (includes truck and air)	26.5	.5	S	S	S	S	12.2
Pipeline	S	S	S	S	S	S	S
Multiple modes	5.2	1.0	20.2	.3	22.7	1.7	3.9
Parcel, U.S. Postal Service or courier	5.6	1.1	7.0	—	7.9	.1	3.9
Truck and rail	14.2	—	30.8	.1	21.2	.4	9.8
Truck and water	42.5	.2	42.6	.2	46.1	1.3	28.0
Rail and water	S	S	S	S	S	S	30.8
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	10.8	.4	10.0	—	26.5	.3	18.7
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	29.8
Single modes	S	S	S	S	S	S	31.6
Truck	S	S	S	S	S	S	31.6
For-hire truck	S	S	S	S	S	S	31.6
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	S	S	S	S	S	S	31.6
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	35.6
For-hire truck	42.4	16.8	42.3	16.5	S	S	20.6
Private truck	S	S	S	S	S	S	S
Rail	S	S	S	S	S	S	31.4
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
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	29.9

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	15.7	—	16.5	—	27.5	—	14.6
Single modes	16.4	1.4	16.9	.9	27.7	1.0	29.4
Truck	16.5	1.4	16.9	1.0	27.8	1.0	30.1
For-hire truck	17.9	5.2	20.0	8.8	28.1	6.8	4.2
Private truck	23.1	6.8	30.0	10.3	46.4	6.2	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	27.7	.2	23.6	—	23.8	.2	6.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.6	1.0	46.6	.3	48.7	1.0	11.6
Parcel, U.S. Postal Service or courier	29.6	1.0	46.6	.3	48.7	1.0	11.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43.4	1.3	25.2	1.0	S	S	31.7
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	24.1	—	21.8	—	17.1	—	27.5
Single modes	22.9	1.5	20.9	1.5	16.1	2.3	39.8
Truck	26.8	4.8	20.9	3.7	20.6	9.8	35.3
For-hire truck	20.2	6.5	24.8	5.9	28.4	9.2	20.6
Private truck	40.3	9.2	33.5	7.2	41.3	9.0	21.7
Rail	25.9	5.1	34.7	3.8	32.0	9.2	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	30.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.9
Truck and rail	S	S	S	S	S	S	39.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	35.2	.1	46.0	.2	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	21.2	—	17.5	—	34.5	—	27.2
Single modes	21.0	.9	17.5	.8	34.7	.4	28.6
Truck	21.2	1.8	17.6	1.0	34.5	1.0	26.4
For-hire truck	28.8	6.5	31.2	7.0	43.9	9.4	17.7
Private truck	23.2	8.3	16.8	7.2	27.4	9.8	26.5
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	28.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	29.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42.5	.9	43.3	.8	41.6	.4	40.7

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 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	21.2	—	16.9	—	26.5	—	35.3
Single modes	21.3	.3	16.9	.2	26.6	.7	39.6
Truck	21.3	.3	17.2	1.0	27.9	4.2	35.7
For-hire truck	29.4	3.2	24.6	7.0	45.3	10.4	42.9
Private truck	20.3	3.2	17.8	7.2	18.6	10.2	32.5
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	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	46.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	46.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	30.6
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	6.1	—	10.5	—	15.7	—	S
Single modes	6.0	3.1	11.9	5.0	19.4	9.7	17.8
Truck	5.8	3.2	11.6	5.1	12.0	9.7	17.4
For-hire truck	11.8	4.2	14.7	3.4	12.8	8.4	11.9
Private truck	9.2	4.8	13.3	4.6	22.2	2.5	17.5
Rail	S	S	S	S	S	S	15.9
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	40.8	2.4	44.6	4.3	47.0	9.8	14.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	20.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	45.1	2.4	45.1	4.3	47.8	9.8	26.4
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	47.2	.3	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	9.0	—	13.6	—	29.9	—	7.0
Single modes	9.1	.4	13.7	.7	29.7	.6	7.0
Truck	8.8	1.6	13.6	1.9	28.6	2.9	7.0
For-hire truck	29.9	5.0	23.6	5.8	32.7	10.2	18.4
Private truck	7.5	5.4	11.8	6.1	20.7	10.9	7.2
Rail	S	S	S	S	S	S	29.8
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	49.1
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	48.3	.4	S	S	47.5	.6	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 09, TOBACCO PRODUCTS							
Total	15.3	—	19.4	—	22.7	—	17.8
Single modes	18.2	6.3	21.4	3.8	29.4	9.6	27.2
Truck	18.2	6.2	21.4	3.8	29.4	9.6	27.2
For-hire truck	35.9	5.2	39.7	5.2	32.5	8.9	8.2
Private truck	18.1	5.9	18.2	4.9	35.9	3.4	25.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	32.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	33.3	6.7	32.7	4.2	32.5	10.0	16.1
Parcel, U.S. Postal Service or courier	33.3	6.7	32.7	4.2	32.5	10.0	16.1
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	41.6
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	S	S	S	S	26.2
Single modes	S	S	S	S	S	S	26.4
Truck	S	S	S	S	S	S	26.4
For-hire truck	S	S	S	S	S	S	29.1
Private truck	S	S	S	S	S	S	S
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	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	S	S	S	S	S	S	31.6
SCTG 11, NATURAL SANDS							
Total	39.5	—	30.2	—	30.2	—	S
Single modes	39.9	.8	30.2	.2	30.2	.2	S
Truck	46.9	8.8	30.4	3.2	32.9	8.2	S
For-hire truck	37.2	9.0	48.7	12.1	43.6	11.1	S
Private truck	S	S	49.0	10.6	37.5	8.8	40.1
Rail	S	S	S	S	S	S	27.7
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	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	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	33.2	—	22.6	—	35.4	—	19.4
Single modes	33.4	.4	22.6	.3	35.4	—	19.7
Truck	40.0	8.4	25.8	8.8	32.8	16.2	8.3
For-hire truck	S	S	31.0	8.9	38.2	13.1	8.3
Private truck	28.3	7.9	16.4	7.4	23.5	7.7	11.3
Rail	S	S	S	S	S	S	24.6
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	—	—	—	—	—	—	—
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	28.0
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	25.9	—	17.4	—	24.7	—	18.7
Single modes	28.5	8.9	20.9	11.9	23.7	15.5	15.2
Truck	S	S	32.0	7.1	31.6	5.0	47.4
For-hire truck	25.9	1.7	36.1	3.4	27.9	4.1	S
Private truck	S	S	35.0	4.0	S	S	25.9
Rail	28.2	13.9	27.9	13.7	27.7	14.5	S
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	28.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	29.8
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	32.4
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	S	S	24.4	—	36.0	—	S
Single modes	S	S	24.4	.3	36.0	—	S
Truck	S	S	43.7	15.2	26.5	18.6	S
For-hire truck	S	S	36.2	7.7	38.8	8.4	19.2
Private truck	38.3	16.6	S	S	S	S	44.4
Rail	47.2	13.2	46.7	15.7	47.0	19.2	26.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	46.7	2.2	48.1	1.2	S	S	27.6
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	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 15, COAL							
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 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	10.8	-	11.6	-	28.8	-	14.7
Single modes	10.8	-	11.6	-	28.8	-	14.3
Truck	10.8	-	11.6	-	28.8	-	14.3
For-hire truck	11.2	4.5	12.1	4.9	15.8	6.8	16.9
Private truck	12.6	4.0	15.3	4.4	15.1	5.2	13.8
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	30.3
SCTG 18, FUEL OILS							
Total	19.1	-	21.1	-	29.1	-	14.2
Single modes	19.3	.4	21.2	.3	29.1	-	14.1
Truck	19.2	.6	21.2	.6	29.1	-	14.1
For-hire truck	23.2	4.5	26.4	4.6	30.1	5.4	32.0
Private truck	20.1	5.1	22.3	5.4	32.4	5.8	18.8
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline	S	S	S	S	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	31.1

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	27.1	—	35.6	—	23.0	—	20.6
Single modes	28.2	2.0	35.9	.7	23.5	3.1	17.2
Truck	28.2	2.0	35.9	.7	23.5	3.1	17.2
For-hire truck	S	S	30.1	6.7	29.1	7.0	S
Private truck	31.1	6.5	45.6	7.0	27.1	7.5	41.0
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	48.2	.7	S	S	S	S	31.5
Parcel, U.S. Postal Service or courier	39.2	.4	44.3	—	S	S	31.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	48.5	1.5	45.5	.4	S	S	S
SCTG 20, BASIC CHEMICALS							
Total	17.0	—	14.5	—	21.5	—	43.2
Single modes	16.9	1.2	14.6	.6	22.1	2.9	42.1
Truck	15.5	5.3	13.4	5.4	13.7	10.6	39.7
For-hire truck	18.4	4.2	17.9	6.1	19.2	6.2	13.5
Private truck	21.4	6.6	17.7	8.4	20.6	10.9	8.4
Rail	37.0	5.3	36.9	5.3	33.6	10.7	23.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	25.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.5	1.6	34.9	.7	48.1	3.0	16.6
Parcel, U.S. Postal Service or courier	40.1	1.4	42.1	—	S	S	17.0
Truck and rail	38.9	.9	35.2	.7	49.7	2.9	33.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	25.2	1.4	22.9	.5	47.7	1.2	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	12.7	—	S	S	46.8	—	7.2
Single modes	18.6	7.5	S	S	S	S	25.1
Truck	18.7	7.2	S	S	S	S	26.3
For-hire truck	31.7	5.1	38.3	10.8	S	S	23.3
Private truck	23.0	5.5	S	S	S	S	33.2
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	48.3	.9	S	S	S
Pipeline	—	—	—	—	S	S	S
Multiple modes	18.3	7.3	12.8	6.5	16.0	13.0	6.3
Parcel, U.S. Postal Service or courier	18.3	7.3	12.8	6.5	16.0	13.0	6.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	44.6	.5	S	S	27.0

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	11.3	—	17.3	—	10.4	—	46.9
Single modes	11.6	1.1	17.5	1.2	10.7	.9	46.6
Truck	18.2	4.2	16.2	4.1	16.2	1.1	8.9
For-hire truck	15.7	2.8	19.9	3.1	23.2	1.1	11.7
Private truck	30.1	2.5	25.1	1.5	22.1	.4	14.2
Rail	17.1	6.6	21.8	7.6	11.0	1.4	20.3
Water	S	S	S	S	S	S	29.9
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	29.9
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	45.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	11.8	—	11.2	—	25.3	—	25.4
Single modes	8.5	4.1	11.3	.6	25.8	.9	38.7
Truck	8.2	4.0	13.4	5.9	15.7	13.7	40.1
For-hire truck	14.4	3.1	21.6	4.6	17.9	9.3	19.4
Private truck	11.0	4.8	12.2	5.5	16.3	5.5	26.8
Rail	S	S	39.8	5.9	45.9	14.0	21.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	32.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	32.4	.2	44.4	.7	16.5
Parcel, U.S. Postal Service or courier	S	S	30.8	.2	45.3	.7	16.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	46.2	.8	41.9	.6	S	S	S
SCTG 24, PLASTICS AND RUBBER							
Total	12.9	—	16.5	—	14.2	—	14.1
Single modes	14.8	2.6	17.8	2.2	15.0	1.6	18.0
Truck	14.9	2.4	17.8	2.3	14.9	1.6	18.2
For-hire truck	5.7	3.6	10.2	3.9	11.9	3.0	13.9
Private truck	24.4	5.0	24.8	4.9	34.9	3.3	17.2
Rail	S	S	S	S	S	S	28.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	46.8	.7	46.2	—	31.5	—	14.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	15.6	1.1	19.0	.3	19.4	1.0	8.5
Parcel, U.S. Postal Service or courier	15.6	1.1	19.1	.3	19.4	1.0	8.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	20.3	1.7	19.8	2.1	41.4	.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 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	42.6	—	S	S	S	S	45.7
Single modes	44.2	10.3	S	S	S	S	18.7
Truck	44.2	10.3	S	S	S	S	18.7
For-hire truck	S	S	S	S	S	S	26.3
Private truck	33.9	13.5	40.5	18.4	S	S	18.8
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	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 26, WOOD PRODUCTS							
Total	24.4	—	28.3	—	40.3	—	20.9
Single modes	26.5	2.9	29.9	2.9	46.6	7.8	16.3
Truck	27.4	2.9	30.8	3.1	49.5	7.4	16.5
For-hire truck	S	S	44.0	9.0	S	S	17.9
Private truck	8.5	7.7	14.9	8.7	25.9	7.0	8.7
Rail	31.5	.9	32.8	1.4	39.7	3.1	S
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	27.4	1.4	45.0	2.7	46.1	7.7	13.3
Parcel, U.S. Postal Service or courier	24.8	.9	29.4	—	26.6	.1	15.4
Truck and rail	44.7	.5	45.4	2.6	46.5	7.7	25.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	42.4	.8	44.0	.3	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	15.2	—	21.5	—	24.7	—	28.2
Single modes	15.0	1.1	21.4	.7	24.3	2.0	14.1
Truck	12.0	4.6	20.9	6.7	24.9	8.8	13.0
For-hire truck	21.8	6.2	27.4	7.5	25.9	6.8	18.3
Private truck	16.2	9.1	36.0	12.5	44.2	11.7	11.3
Rail	25.9	4.6	25.1	6.9	28.8	9.6	20.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.7	.7	49.4	.3	S	S	27.4
Parcel, U.S. Postal Service or courier	36.2	.5	27.2	.2	43.7	2.2	27.5
Truck and rail	S	S	S	S	S	S	28.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29.9	.8	39.3	.8	S	S	29.6

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 28, PAPER OR PAPERBOARD ARTICLES							
Total	9.5	—	15.7	—	23.3	—	16.8
Single modes	9.9	1.6	16.2	.9	24.0	1.5	14.9
Truck	9.9	1.6	16.3	.9	24.4	1.7	11.5
For-hire truck	10.2	4.4	9.5	3.9	15.8	4.9	15.3
Private truck	14.7	4.2	29.8	4.1	S	S	16.8
Rail	45.4	—	S	S	S	S	30.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	22.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.8	1.5	27.5	.4	41.1	1.4	21.6
Parcel, U.S. Postal Service or courier	34.6	1.4	29.0	.2	28.6	.5	21.7
Truck and rail	S	S	S	S	S	S	28.3
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	37.2	.8	S	S	46.6	.1	22.3
SCTG 29, PRINTED PRODUCTS							
Total	10.1	—	26.0	—	21.0	—	16.2
Single modes	11.0	4.5	28.5	5.8	22.7	5.0	30.9
Truck	10.7	4.4	28.4	5.8	22.6	5.0	34.9
For-hire truck	20.3	4.9	S	S	27.6	7.9	31.5
Private truck	13.0	6.1	24.7	8.0	24.3	5.1	35.1
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	9.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	28.9	4.0	20.1	1.2	29.1	4.4	10.1
Parcel, U.S. Postal Service or courier	28.9	4.0	20.1	1.2	29.1	4.4	10.1
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29.7	2.0	32.1	4.9	27.3	.7	49.6
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	9.7	—	19.8	—	28.1	—	5.7
Single modes	10.9	2.3	22.1	2.1	32.9	2.8	11.7
Truck	11.1	2.5	22.2	2.1	33.2	2.9	12.9
For-hire truck	13.9	2.6	34.8	6.4	38.0	5.8	9.3
Private truck	12.5	2.3	22.1	5.9	26.2	3.1	29.5
Rail	S	S	S	S	S	S	S
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	27.6	.3	29.2	.1	29.4	.3	6.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	11.1	2.4	16.0	1.5	14.7	2.7	5.7
Parcel, U.S. Postal Service or courier	11.6	2.6	17.7	1.4	17.2	3.0	5.7
Truck and rail	42.5	.4	46.1	1.1	44.6	1.3	37.1
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	37.1	1.7	48.2	2.2	30.2	.2	41.0

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	7.1	—	10.8	—	17.3	—	21.4
Single modes	7.2	1.1	10.9	.2	17.8	1.4	20.0
Truck	7.2	1.2	11.1	.9	12.4	7.0	19.6
For-hire truck	15.4	3.3	16.7	3.8	18.3	3.6	17.0
Private truck	6.7	3.8	14.7	4.0	19.4	6.0	17.0
Rail	30.7	.5	S	S	S	S	44.6
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	33.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	35.0	.6	48.4	—	44.8	.4	7.4
Parcel, U.S. Postal Service or courier	33.2	.5	29.1	—	27.7	—	7.6
Truck and rail	43.5	—	43.2	—	43.2	.3	25.8
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	23.5	.9	19.8	.2	48.5	1.3	31.5
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	6.6	—	8.7	—	12.0	—	18.8
Single modes	6.4	1.3	9.7	2.4	18.4	8.6	16.8
Truck	6.8	1.9	7.6	2.4	16.2	7.8	15.4
For-hire truck	12.7	4.1	21.2	6.0	23.8	8.5	13.9
Private truck	9.4	4.8	12.5	6.3	21.5	6.1	10.0
Rail	S	S	S	S	S	S	27.8
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	36.6	—	50.0	—	S	S	22.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.2	.7	35.3	—	45.9	.1	15.0
Parcel, U.S. Postal Service or courier	38.2	.7	35.3	—	45.9	.1	15.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	16.7	1.2	25.9	2.4	43.6	8.6	S
SCTG 33, ARTICLES OF BASE METAL							
Total	6.6	—	9.6	—	21.1	—	17.3
Single modes	6.3	2.6	10.8	3.3	11.9	6.7	16.8
Truck	7.3	2.4	12.9	4.6	13.3	7.8	18.0
For-hire truck	14.3	2.5	15.3	3.7	19.4	4.9	20.2
Private truck	9.7	4.3	19.3	5.9	21.7	6.6	9.7
Rail	S	S	S	S	S	S	32.5
Water	S	S	S	S	S	S	46.6
Shallow draft	S	S	S	S	S	S	29.0
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	36.1	.2	S	S	S	S	17.0
Pipeline	S	S	S	S	S	S	S
Multiple modes	20.0	2.6	20.8	.3	36.9	.7	13.3
Parcel, U.S. Postal Service or courier	19.9	2.6	15.1	.2	29.5	.7	13.3
Truck and rail	S	S	S	S	S	S	32.0
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	33.7	1.5	38.7	3.1	S	S	25.4

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	16.2	—	9.5	—	22.4	—	23.8
Single modes	20.4	4.2	10.3	4.1	24.2	2.6	29.9
Truck	20.0	3.9	10.4	4.2	23.7	2.5	29.9
For-hire truck	9.3	2.9	17.4	4.5	20.5	7.6	10.5
Private truck	29.2	5.9	16.2	5.7	S	S	21.1
Rail	S	S	S	S	S	S	26.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	31.7	.4	28.6	.1	33.0	.7	6.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	19.8	3.1	34.1	1.2	22.9	2.1	12.4
Parcel, U.S. Postal Service or courier	19.8	3.1	34.5	1.2	23.0	2.1	12.4
Truck and rail	S	S	S	S	S	S	30.3
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	35.6	2.1	41.2	3.8	41.7	1.1	31.7
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	14.1	—	10.2	—	7.8	—	10.7
Single modes	18.2	3.7	12.0	2.2	11.0	5.5	38.5
Truck	20.6	3.6	12.5	2.5	11.6	5.7	37.0
For-hire truck	16.0	2.4	14.6	4.8	15.6	6.5	13.3
Private truck	36.9	4.6	25.7	6.0	29.9	4.2	S
Rail	S	S	S	S	S	S	28.0
Water	S	S	S	S	S	S	30.7
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	41.3	2.8	S	S	S	S	4.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	12.3	3.8	15.8	1.8	15.7	2.8	5.2
Parcel, U.S. Postal Service or courier	12.3	3.8	16.0	1.8	16.6	2.9	5.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	22.6	1.6	12.0	1.5	S	S	32.5
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	9.0	—	20.8	—	11.6	—	44.8
Single modes	11.9	4.2	23.8	4.4	15.3	5.6	S
Truck	12.0	4.1	23.9	4.5	15.5	5.5	S
For-hire truck	15.2	4.1	17.5	5.7	18.8	5.4	11.0
Private truck	19.0	5.8	34.8	8.1	38.5	5.0	S
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	38.9	.1	47.4	.9	17.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	18.8	1.4	18.4	.4	28.3	1.1	16.4
Parcel, U.S. Postal Service or courier	18.8	1.4	18.4	.4	16.3	.5	16.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	31.6
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	19.2	3.6	18.5	4.2	34.5	5.1	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	17.3	—	20.2	—	11.6	—	22.0
Single modes	18.7	4.2	22.6	5.0	13.2	3.6	41.2
Truck	23.3	4.8	24.0	6.5	14.6	6.5	S
For-hire truck	33.2	7.0	27.9	9.7	19.9	10.4	19.1
Private truck	24.4	4.7	35.7	7.6	46.5	9.9	S
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.3
Shallow draft	S	S	S	S	S	S	32.1
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	35.4	3.9	22.0	.6	29.3	.9	6.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.1	3.9	S	S	S	S	11.8
Parcel, U.S. Postal Service or courier	25.1	3.9	S	S	S	S	11.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	S	S	S	S	S	S	34.2
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	23.8	—	18.5	—	22.8	—	10.8
Single modes	26.7	4.6	22.7	5.3	26.0	6.0	9.4
Truck	34.6	4.0	23.8	5.7	27.5	6.1	16.8
For-hire truck	47.3	3.5	30.9	5.8	29.3	6.8	30.7
Private truck	24.9	2.3	31.5	4.4	S	S	31.5
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	27.7	3.5	18.1	2.1	19.9	1.5	34.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	24.5	4.3	23.0	5.1	27.5	6.2	10.7
Parcel, U.S. Postal Service or courier	24.5	4.3	23.0	5.1	27.5	6.2	10.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	27.3	1.1	24.6	1.2	36.4	.5	28.7
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	7.5	—	13.1	—	29.8	—	34.3
Single modes	7.1	1.3	13.4	.8	31.8	2.9	28.7
Truck	7.1	1.3	13.4	.8	31.8	2.9	28.7
For-hire truck	16.1	4.5	21.8	3.9	44.2	6.6	19.1
Private truck	9.5	5.0	11.3	4.2	14.6	6.6	24.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.4	1.3	20.9	.8	36.4	2.9	19.8
Parcel, U.S. Postal Service or courier	29.5	1.3	26.3	.5	42.8	2.8	19.9
Truck and rail	39.2	.4	36.4	.7	37.4	.9	23.7
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	17.4	.3	19.5	.2	S	S	35.8

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 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	32.6	—	19.3	—	13.0	—	8.0
Single modes	41.4	4.0	20.3	2.2	16.1	4.1	21.0
Truck	41.5	3.9	20.4	2.2	16.3	4.5	24.1
For-hire truck	11.1	4.5	29.1	8.1	17.2	5.4	15.8
Private truck	S	S	24.0	8.6	36.0	4.7	32.0
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	45.3	.8	S	S	S	S	10.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	11.4	3.8	17.5	.9	17.0	2.5	5.3
Parcel, U.S. Postal Service or courier	11.4	3.8	17.5	.9	17.1	2.4	5.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	29.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	34.6	1.1	37.0	1.8	48.5	2.9	25.3
SCTG 41, WASTE AND SCRAP							
Total	19.3	—	34.2	—	43.9	—	20.5
Single modes	18.2	2.7	34.8	1.0	46.4	3.5	19.7
Truck	17.1	6.3	36.3	6.0	44.3	9.6	20.3
For-hire truck	24.6	7.2	39.3	7.4	44.8	8.4	20.4
Private truck	39.1	9.2	31.8	5.4	40.5	3.9	S
Rail	35.7	4.7	39.3	5.2	S	S	23.9
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	42.5	2.5	S	S	S	S	23.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	41.2	2.4	45.7	.6	46.6	3.4	23.6
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	31.6
SCTG 43, MIXED FREIGHT							
Total	38.0	—	42.0	—	36.3	—	30.1
Single modes	38.6	2.7	42.2	.3	36.2	.2	33.3
Truck	38.6	2.7	42.2	.3	36.2	.2	33.3
For-hire truck	33.5	1.8	26.0	4.4	S	S	30.4
Private truck	39.1	3.3	43.8	4.6	36.3	4.3	29.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	37.8	.2	35.7	.1	46.2
Parcel, U.S. Postal Service or courier	S	S	37.8	.2	35.7	.1	46.2
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	26.3	—	35.7	—	29.2	—	27.0
Single modes	29.3	7.3	36.4	3.2	30.2	4.4	32.6
Truck	29.8	8.9	39.0	7.6	24.7	11.7	26.9
For-hire truck	41.5	10.9	S	S	35.3	12.0	23.6
Private truck	40.0	10.1	37.2	12.0	31.2	11.4	35.3
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	28.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	33.7
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	33.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

— 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	6.2	—	9.9	—	10.4	—
NEW ENGLAND STATES						
Connecticut	18.1	—	43.0	—	46.5	.3
Maine	27.1	—	S	S	S	S
Massachusetts	8.6	—	16.9	—	16.6	.2
New Hampshire	29.0	—	19.7	—	20.0	—
Rhode Island	26.2	—	S	S	S	S
Vermont	17.4	—	43.6	—	40.5	—
MIDDLE ATLANTIC STATES						
New Jersey	34.9	.4	12.1	—	11.6	.2
New York	15.9	.2	19.3	.1	17.5	.9
Pennsylvania	12.7	.2	18.6	—	18.8	.3
EAST NORTH CENTRAL STATES						
Illinois	12.6	.2	19.1	—	19.5	.5
Indiana	26.1	.3	20.1	—	21.1	.2
Michigan	10.4	—	20.6	—	22.5	.6
Ohio	9.6	.1	20.1	—	21.4	.5
Wisconsin	9.9	—	20.7	—	22.4	.2
WEST NORTH CENTRAL STATES						
Iowa	14.0	—	S	S	S	S
Kansas	27.7	.1	33.9	—	36.1	.3
Minnesota	24.8	.2	32.2	—	32.5	.5
Missouri	12.7	—	21.2	—	22.9	.5
Nebraska	24.9	—	S	S	S	S
North Dakota	34.9	—	21.4	—	22.8	—
South Dakota	39.1	—	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	S	S	42.2	—	43.2	—
District of Columbia	25.0	—	41.5	—	41.2	—
Florida	7.3	1.4	7.1	2.2	11.0	2.8
Georgia	19.2	.7	S	S	29.4	1.2
Maryland	31.1	.2	35.4	—	35.9	.5
North Carolina	19.5	.3	22.9	.1	20.7	.4
South Carolina	11.9	.1	13.1	—	13.8	.2
Virginia	15.0	.2	49.8	.1	44.2	.5
West Virginia	20.4	—	28.3	—	28.9	—
EAST SOUTH CENTRAL STATES						
Alabama	8.5	.1	15.8	—	16.4	.3
Kentucky	16.5	—	17.8	—	19.0	.2
Mississippi	30.0	.1	22.1	—	28.6	.2
Tennessee	10.4	.1	12.9	—	15.1	.3
WEST SOUTH CENTRAL STATES						
Arkansas	10.7	—	S	S	S	S
Louisiana	23.5	.2	S	S	S	S
Oklahoma	21.6	—	48.2	—	S	S
Texas	15.9	.5	26.9	.1	28.7	1.6
MOUNTAIN STATES						
Arizona	16.9	—	27.1	—	27.6	—
Colorado	11.4	—	48.3	—	S	S
Idaho	19.5	—	47.1	—	46.1	—
Montana	43.1	—	41.6	—	42.1	—
Nevada	20.6	—	27.6	—	31.3	—
New Mexico	27.5	—	20.4	—	19.3	—
Utah	12.6	—	18.5	—	18.5	—
Wyoming	48.4	—	S	S	S	S
PACIFIC STATES						
Alaska	46.7	—	43.8	—	S	S
California	14.1	.5	16.2	—	17.1	.6
Hawaii	20.0	—	41.6	—	41.9	—
Oregon	17.7	—	27.8	—	27.4	—
Washington	29.7	.1	34.0	—	35.0	.2

— 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	3.5	—	5.8	—	10.5	—
NEW ENGLAND STATES						
Connecticut	11.6	—	25.2	—	25.1	—
Maine	32.1	—	18.9	—	20.1	—
Massachusetts	26.6	.3	17.8	—	16.9	—
New Hampshire	32.5	—	28.7	—	29.6	—
Rhode Island	46.3	—	26.1	—	25.5	—
Vermont	25.7	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	25.4	.8	13.8	—	13.9	.2
New York	9.2	.2	8.7	—	8.2	.2
Pennsylvania	17.8	.4	S	S	S	S
EAST NORTH CENTRAL STATES						
Illinois	5.5	.1	22.3	.4	21.3	1.8
Indiana	24.9	.4	14.5	—	15.5	.2
Michigan	15.9	.2	16.6	—	17.0	.2
Ohio	6.2	.1	14.3	—	14.8	.4
Wisconsin	11.1	.1	18.0	—	20.0	.2
WEST NORTH CENTRAL STATES						
Iowa	12.2	—	15.7	—	17.3	—
Kansas	26.7	.2	39.3	.1	36.7	.5
Minnesota	15.2	.2	37.4	—	37.7	.2
Missouri	18.0	.1	13.6	—	13.2	.1
Nebraska	27.6	.1	35.4	—	31.2	.2
North Dakota	24.8	—	S	S	S	S
South Dakota	30.8	—	31.2	—	31.3	—
SOUTH ATLANTIC STATES						
Delaware	33.6	—	24.6	—	24.8	—
District of Columbia	S	S	S	S	S	S
Florida	7.3	1.6	7.1	2.9	11.0	2.7
Georgia	10.7	.7	5.6	.2	5.4	.5
Maryland	19.3	—	36.4	—	37.2	—
North Carolina	19.7	.7	8.6	—	9.1	.2
South Carolina	25.8	.5	17.9	.1	20.8	.2
Virginia	12.3	.2	28.2	.2	30.4	.7
West Virginia	21.3	—	28.2	.1	30.7	.7
EAST SOUTH CENTRAL STATES						
Alabama	5.5	.1	15.9	.3	13.6	.2
Kentucky	18.0	.2	38.1	1.3	43.0	4.9
Mississippi	24.5	.2	45.1	.7	42.3	.9
Tennessee	4.9	—	9.7	—	9.7	.1
WEST SOUTH CENTRAL STATES						
Arkansas	6.3	—	19.0	—	19.5	.2
Louisiana	16.7	.2	39.0	2.0	41.0	4.6
Oklahoma	23.9	.1	40.7	—	41.3	.3
Texas	9.1	.3	26.2	.6	25.1	2.0
MOUNTAIN STATES						
Arizona	32.9	.2	S	S	S	S
Colorado	17.3	—	49.9	—	S	S
Idaho	S	S	35.7	—	35.1	—
Montana	17.5	—	36.0	—	35.6	.4
Nevada	28.3	—	S	S	S	S
New Mexico	25.9	—	45.5	—	48.3	.1
Utah	14.0	.1	24.9	—	25.2	—
Wyoming	29.7	—	39.7	.1	39.8	.8
PACIFIC STATES						
Alaska	S	S	37.9	—	36.4	—
California	11.3	.6	10.7	—	11.4	.4
Hawaii	33.4	—	S	S	S	S
Oregon	12.6	—	32.7	—	32.2	.1
Washington	S	S	12.2	—	12.3	—

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

**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 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.

<div style="border: 1px solid black; width: 100%; height: 100%;"></div>	This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. <i>Please see Instruction Guide for a definition of "shipment."</i>
---	---

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

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

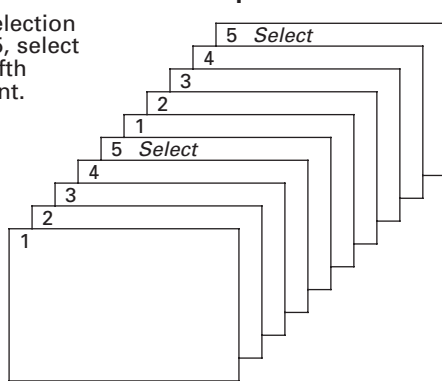
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

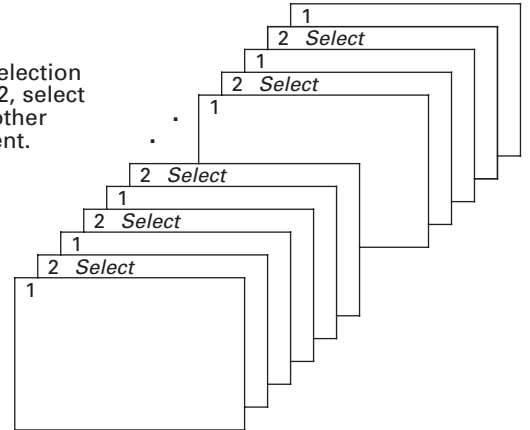
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment 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 <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 <i>(for export shipments only)</i> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)			(m)		(n)	(o)
	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 7 — Pipeline 9 — Other mode
6 — Deep draft vessel 8 — Air 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 <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 <i>(for export shipments only)</i>		Export mode	Line No.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
									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 — <i>Please print</i>	Telephone number — <i>Include area code</i>	Date
Signature	Title	

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			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.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
									35
									36
									37
									38
									39
									40

5 — Shallow draft vessel **7** — Pipeline **9** — Other mode
6 — Deep draft vessel **8** — Air **0** — Unknown

Remarks

THANK YOU FOR COMPLETING YOUR REPORT

**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. <i>Please see Instruction Guide for a definition of "shipment."</i>
--	---

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.

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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						| | | |		| | | |

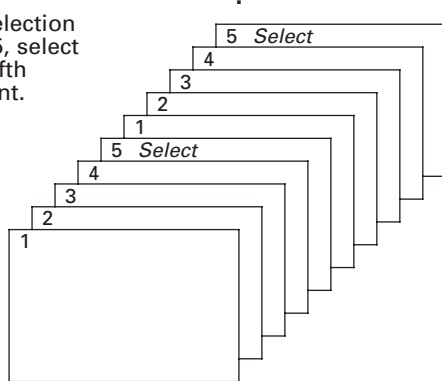
Mode of transport codes for columns (k) and (n) 1 — Parcel delivery, courier, or U.S. Postal Service 2 — Private truck 3 — For-hire truck 4 — Railroad Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

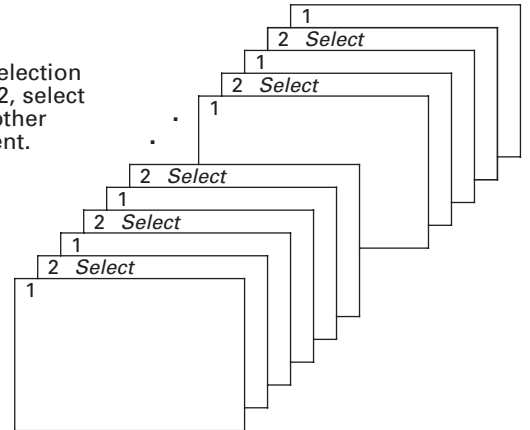
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment 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 <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 <i>(for export shipments only)</i> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)			(m)		(n)	(o)
	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 7 — Pipeline 9 — Other mode
 6 — Deep draft vessel 8 — Air 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								
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19								
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21								
22								
23								
24								
25								
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28								
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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 <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 <i>(for export shipments only)</i> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
									10
									11
									12
									13
									14
									15
									16
									17
									18
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									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
 4 — Railroad *Continued* →
- 3 — For-hire truck

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 (Complete for all shipments.)			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.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
									35
									36
									37
									38
									39
									40

5 — Shallow draft vessel **7** — Pipeline **9** — Other mode
6 — Deep draft vessel **8** — Air **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) **3** – For-Hire Truck **5** – Water **7** – Air
2 – Private Truck **4** – Rail **6** – Pipeline **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: a. Your company owned/leased	1 <input type="checkbox"/> Yes → 2 <input type="checkbox"/> No	
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: a. Your company owned	1 <input type="checkbox"/> Yes 2 <input type="checkbox"/> No	
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 – Specify ↴	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 company 2 Receiver of shipment 3 Other

Remarks

Item M CERTIFICATION

Name of person to contact regarding this report – <i>Please print</i>	Telephone number – <i>Include area code</i>	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	Shipment date		Shipment value (excluding shipping costs) in whole dollars	Shipment weight in pounds	Commodity code from SCTG Manual	Commodity description
		Month	Day				
(a)	(b)	(c)	(c)	(d)	(e)	(f)	(g)
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 →
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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 <i>Enter all that apply using codes shown below.</i> (k)
		City	State	ZIP Code	
	N	Los Angeles	C A	9 | 0 | 0 | 4 | 0	2, 4, 3
| | | |	N	New York	N Y	1 | 0 | 4 | 5 | 4	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.

