

Tennessee

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EC97TCF-TN

1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

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



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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	165 771	100.0	208 604	100.0	39 798	100.0	377
Single modes	146 341	88.3	202 335	97.0	36 954	92.9	229
Truck ¹	140 445	84.7	187 925	90.1	28 592	71.8	178
For-hire truck	96 194	58.0	77 577	37.2	20 771	52.2	476
Private truck	42 787	25.8	107 951	51.7	7 581	19.0	69
Rail	4 171	2.5	12 113	5.8	7 622	19.2	893
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	10
Air (includes truck and air)	1 402	.8	31	—	31	—	1 035
Pipeline ²	207	.1	613	.3	S	S	S
Multiple modes	13 167	7.9	2 759	1.3	1 592	4.0	601
Parcel, U.S. Postal Service or courier	11 032	6.7	570	.3	320	.8	600
Truck and rail	1 960	1.2	S	S	1 114	2.8	1 051
Truck and water	77	—	S	S	154	.4	2 471
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	706
Other and unknown modes	6 263	3.8	3 510	1.7	1 251	3.1	99

— 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	165 771	170 002	-2.5	208 604	174 542	19.5	39 798	41 510	-4.1	377	341	10.8
Single modes	146 341	151 228	-3.2	202 335	170 920	18.4	36 954	40 200	-8.1	229	183	25.3
Truck ¹	140 445	142 756	-1.6	187 925	155 212	21.1	28 592	30 758	-7.0	178	157	13.6
For-hire truck	96 194	93 852	2.5	77 577	62 942	23.3	20 771	17 641	17.7	476	486	-2.0
Private truck	42 787	48 321	-11.5	107 951	91 746	17.7	7 581	13 007	-41.7	69	68	.6
Rail	4 171	5 501	-24.2	12 113	11 946	1.4	7 622	7 059	8.0	893	1 014	-11.8
Water	S	801	S	S	3 718	S	S	2 313	S	S	657	S
Shallow draft	S	728	S	S	3 576	S	S	2 021	S	S	603	S
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	S	S	S	10	3 030	-99.7
Air (includes truck and air)	1 402	2 171	-35.4	31	45	-31.9	31	70	-55.6	1 035	1 168	-11.4
Pipeline ²	207	—	S	613	—	S	S	S	S	S	S	S
Multiple modes	13 167	11 994	9.8	2 759	971	184.1	1 592	862	84.8	601	568	5.7
Parcel, U.S. Postal Service or courier	11 032	11 263	-2.0	570	443	28.8	320	260	22.8	600	567	5.8
Truck and rail	1 960	646	203.4	S	230	S	1 114	335	232.9	1 051	2 229	-52.9
Truck and water	77	66	16.9	S	210	S	154	180	-14.3	2 471	979	152.4
Rail and water	—	S	S	—	S	S	—	S	S	—	435	-100.0
Other multiple modes	S	S	S	S	S	S	S	S	S	706	1 063	-33.6
Other and unknown modes	6 263	6 780	-7.6	3 510	2 651	32.4	1 251	448	179.2	99	165	-40.4

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

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

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

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

²CFS data for pipeline exclude most shipments of crude oil. See "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	88.3	89.0	97.0	97.9	92.9	96.8
Truck ¹	84.7	84.0	90.1	88.9	71.8	74.1
For-hire truck	58.0	55.2	37.2	36.1	52.2	42.5
Private truck	25.8	28.4	51.7	52.6	19.0	31.3
Rail	2.5	3.2	5.8	6.8	19.2	17.0
Water	S	.5	S	2.1	S	5.6
Shallow draft	S	.4	S	2.0	S	4.9
Great Lakes	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Air (includes truck and air) .....	.8	1.3	—	—	—	.2
Pipeline ² .....	.1	—	.3	—	S	S
Multiple modes	7.9	7.1	1.3	.6	4.0	2.1
Parcel, U.S. Postal Service or courier	6.7	6.6	.3	.3	.8	.6
Truck and rail	1.2	.4	S	.1	2.8	.8
Truck and water	—	—	S	.1	.4	.4
Rail and water	—	S	—	S	—	S
Other multiple modes	S	S	S	S	S	S
Other and unknown modes	3.8	4.0	1.7	1.5	3.1	1.1

— 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. 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	39 798	100.0	366
Truck	28 640	72.0	173
Rail	8 700	21.9	927
Shallow draft	S	S	S
Great Lakes	—	—	—
Deep draft	S	S	4 088
Air	29	—	956
Parcel, U.S. Postal Service or courier	320	.8	600
Pipeline	S	S	S
Other and unknown modes	1 251	3.1	99

— 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	165 771	100.0	208 604	100.0	39 798	100.0
Less than 50 miles	34 189	20.6	118 790	56.9	2 098	5.3
50 to 99 miles	11 796	7.1	24 107	11.6	2 276	5.7
100 to 249 miles	28 055	16.9	25 694	12.3	5 825	14.6
250 to 499 miles	43 577	26.3	22 035	10.6	10 248	25.7
500 to 749 miles	24 081	14.5	10 893	5.2	8 372	21.0
750 to 999 miles	9 204	5.6	3 594	1.7	3 810	9.6
1,000 to 1,499 miles	3 637	2.2	959	.5	1 368	3.4
1,500 to 1,999 miles	9 839	5.9	2 175	1.0	4 801	12.1
2,000 miles or more	1 394	.8	357	.2	1 000	2.5
Single modes	146 341	100.0	202 335	100.0	36 954	100.0
Less than 50 miles	29 683	20.3	116 660	57.7	2 021	5.5
50 to 99 miles	10 945	7.5	23 906	11.8	2 254	6.1
100 to 249 miles	25 247	17.3	25 040	12.4	5 602	15.2
250 to 499 miles	38 762	26.5	20 041	9.9	9 374	25.4
500 to 749 miles	20 874	14.3	10 183	5.0	7 824	21.2
750 to 999 miles	7 812	5.3	3 398	1.7	3 600	9.7
1,000 to 1,499 miles	3 150	2.2	873	.4	1 242	3.4
1,500 to 1,999 miles	8 773	6.0	1 951	1.0	4 275	11.6
2,000 miles or more	1 095	.7	282	.1	761	2.1
Truck¹	140 445	100.0	187 925	100.0	28 592	100.0
Less than 50 miles	29 356	20.9	114 896	61.1	1 991	7.0
50 to 99 miles	10 848	7.7	22 820	12.1	2 122	7.4
100 to 249 miles	24 653	17.6	21 903	11.7	4 700	16.4
250 to 499 miles	37 293	26.6	15 616	8.3	7 060	24.7
500 to 749 miles	19 398	13.8	7 873	4.2	5 815	20.3
750 to 999 miles	7 229	5.1	2 465	1.3	2 507	8.8
1,000 to 1,499 miles	2 951	2.1	769	.4	1 076	3.8
1,500 to 1,999 miles	7 886	5.6	1 402	.7	2 871	10.0
2,000 miles or more	831	.6	180	.1	451	1.6
For-hire truck	96 194	100.0	77 577	100.0	20 771	100.0
Less than 50 miles	7 703	8.0	34 446	44.4	682	3.3
50 to 99 miles	4 649	4.8	8 374	10.8	794	3.8
100 to 249 miles	16 715	17.4	11 575	14.9	2 428	11.7
250 to 499 miles	32 750	34.0	12 031	15.5	5 620	27.1
500 to 749 miles	17 315	18.0	6 877	8.9	5 086	24.5
750 to 999 miles	6 323	6.6	2 159	2.8	2 199	10.6
1,000 to 1,499 miles	2 757	2.9	698	.9	975	4.7
1,500 to 1,999 miles	7 221	7.5	1 248	1.6	2 561	12.3
2,000 miles or more	762	.8	170	.2	425	2.0
Private truck	42 787	100.0	107 951	100.0	7 581	100.0
Less than 50 miles	21 287	49.8	79 496	73.6	1 290	17.0
50 to 99 miles	6 053	14.1	13 362	12.4	1 244	16.4
100 to 249 miles	7 789	18.2	10 080	9.3	2 227	29.4
250 to 499 miles	4 265	10.0	3 542	3.3	1 419	18.7
500 to 749 miles	1 816	4.2	949	.9	694	9.2
750 to 999 miles	777	1.8	301	.3	302	4.0
1,000 to 1,499 miles	182	.4	71	—	99	1.3
1,500 to 1,999 miles	596	1.4	146	.1	292	3.9
2,000 miles or more	22	—	S	S	S	S
Rail	4 171	100.0	12 113	100.0	7 622	100.0
Less than 50 miles	109	2.6	625	5.2	20	.3
50 to 99 miles	62	1.5	645	5.3	67	.9
100 to 249 miles	443	10.6	3 118	25.7	894	11.7
250 to 499 miles	1 039	24.9	4 255	35.1	2 189	28.7
500 to 749 miles	1 105	26.5	1 793	14.8	1 496	19.6
750 to 999 miles	384	9.2	930	7.7	1 091	14.3
1,000 to 1,499 miles	97	2.3	100	.8	160	2.1
1,500 to 1,999 miles	735	17.6	546	4.5	1 399	18.4
2,000 miles or more	S	S	S	S	S	S
Water	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	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow 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	—	—	—	—	—	—
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	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	1 402	100.0	31	100.0	31	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	20	1.4	1	3.5	—	1.5
100 to 249 miles	149	10.6	6	18.7	2	7.5
250 to 499 miles	402	28.6	7	21.7	5	15.1
500 to 749 miles	313	22.3	7	22.4	6	20.0
750 to 999 miles	199	14.2	3	9.1	3	9.7
1,000 to 1,499 miles	102	7.3	4	14.2	7	20.9
1,500 to 1,999 miles	152	10.9	2	7.6	5	16.2
2,000 miles or more	66	4.7	1	2.9	3	9.1
Pipeline²	207	100.0	613	100.0	S	S
Less than 50 miles	207	100.0	613	100.0	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	13 167	100.0	2 759	100.0	1 592	100.0
Less than 50 miles	1 103	8.4	S	S	S	S
50 to 99 miles	708	5.4	91	3.3	12	.7
100 to 249 miles	2 129	16.2	S	S	S	S
250 to 499 miles	3 947	30.0	411	14.9	225	14.1
500 to 749 miles	2 361	17.9	387	14.0	314	19.7
750 to 999 miles	1 204	9.1	106	3.9	122	7.6
1,000 to 1,499 miles	450	3.4	S	S	S	S
1,500 to 1,999 miles	994	7.6	205	7.4	486	30.5
2,000 miles or more	271	2.1	S	S	S	S
Parcel, U.S. Postal Service or courier	11 032	100.0	570	100.0	320	100.0
Less than 50 miles	1 093	9.9	S	S	S	S
50 to 99 miles	671	6.1	29	5.2	3	.9
100 to 249 miles	1 941	17.6	91	16.0	19	6.0
250 to 499 miles	2 791	25.3	117	20.5	55	17.1
500 to 749 miles	2 051	18.6	95	16.6	68	21.3
750 to 999 miles	1 132	10.3	40	7.1	41	12.8
1,000 to 1,499 miles	384	3.5	14	2.4	20	6.2
1,500 to 1,999 miles	734	6.6	26	4.6	55	17.1
2,000 miles or more	236	2.1	S	S	S	S
Truck and rail	1 960	100.0	S	S	1 114	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	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	72	3.7	66	3.4	81	7.3
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	261	13.3	178	9.1	431	38.7
2,000 miles or more	S	S	S	S	S	S
Truck and water	77	100.0	S	S	154	100.0
Less than 50 miles	—	—	—	—	—	—
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	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	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
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	6 263	100.0	3 510	100.0	1 251	100.0
Less than 50 miles	3 403	54.3	1 129	32.2	17	1.4
50 to 99 miles	143	2.3	110	3.1	10	.8
100 to 249 miles	679	10.8	192	5.5	39	3.1
250 to 499 miles	869	13.9	1 582	45.1	649	51.8
500 to 749 miles	846	13.5	324	9.2	233	18.7
750 to 999 miles	187	3.0	89	2.5	87	7.0
1,000 to 1,499 miles	37	.6	20	.6	26	2.1
1,500 to 1,999 miles	71	1.1	19	.6	40	3.2
2,000 miles or more	28	.4	45	1.3	150	12.0

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

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

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

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

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

Table 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	165 771	100.0	208 604	100.0	39 798	100.0	377
Less than 50 lb	11 504	6.9	354	.2	142	.4	468
50 to 99 lb	4 046	2.4	324	.2	88	.2	276
100 to 499 lb	13 489	8.1	2 053	1.0	518	1.3	249
500 to 749 lb	4 464	2.7	1 013	.5	213	.5	213
750 to 999 lb	3 425	2.1	827	.4	194	.5	234
1,000 to 9,999 lb	42 529	25.7	13 865	6.6	3 668	9.2	249
10,000 to 49,999 lb	75 399	45.5	116 750	56.0	21 101	53.0	198
50,000 to 99,999 lb	5 434	3.3	38 462	18.4	3 131	7.9	77
100,000 lb or more	5 480	3.3	34 954	16.8	10 742	27.0	455
Single modes	146 341	100.0	202 335	100.0	36 954	100.0	229
Less than 50 lb	4 319	3.0	157	—	32	—	277
50 to 99 lb	2 116	1.4	226	.1	33	—	146
100 to 499 lb	11 165	7.6	1 753	.9	378	1.0	201
500 to 749 lb	4 246	2.9	976	.5	202	.5	210
750 to 999 lb	3 151	2.2	792	.4	179	.5	225
1,000 to 9,999 lb	39 125	26.7	12 986	6.4	3 490	9.4	253
10,000 to 49,999 lb	71 979	49.2	114 778	56.7	19 755	53.5	190
50,000 to 99,999 lb	5 153	3.5	38 114	18.8	2 951	8.0	75
100,000 lb or more	5 088	3.5	32 553	16.1	9 934	26.9	449
Truck¹	140 445	100.0	187 925	100.0	28 592	100.0	178
Less than 50 lb	3 578	2.5	149	—	24	—	147
50 to 99 lb	1 957	1.4	224	.1	30	.1	134
100 to 499 lb	10 863	7.7	1 746	.9	371	1.3	197
500 to 749 lb	4 234	3.0	975	.5	200	.7	209
750 to 999 lb	3 119	2.2	790	.4	176	.6	221
1,000 to 9,999 lb	38 957	27.7	12 964	6.9	3 473	12.1	253
10,000 to 49,999 lb	71 088	50.6	113 717	60.5	18 751	65.6	183
50,000 to 99,999 lb	5 056	3.6	37 724	20.1	2 785	9.7	72
100,000 lb or more	1 593	1.1	19 637	10.4	2 783	9.7	194
For-hire truck	96 194	100.0	77 577	100.0	20 771	100.0	476
Less than 50 lb	903	.9	31	—	17	—	427
50 to 99 lb	606	.6	32	—	20	.1	616
100 to 499 lb	5 770	6.0	492	.6	278	1.3	568
500 to 749 lb	2 240	2.3	246	.3	141	.7	579
750 to 999 lb	1 589	1.7	212	.3	127	.6	592
1,000 to 9,999 lb	25 752	26.8	4 953	6.4	2 580	12.4	534
10,000 to 49,999 lb	56 192	58.4	46 072	59.4	13 944	67.1	341
50,000 to 99,999 lb	2 020	2.1	13 053	16.8	1 283	6.2	93
100,000 lb or more	1 123	1.2	S	S	2 381	11.5	320
Private truck	42 787	100.0	107 951	100.0	7 581	100.0	69
Less than 50 lb	2 661	6.2	117	.1	7	—	61
50 to 99 lb	1 341	3.1	190	.2	10	.1	52
100 to 499 lb	4 765	11.1	1 223	1.1	89	1.2	67
500 to 749 lb	1 931	4.5	725	.7	58	.8	79
750 to 999 lb	1 510	3.5	571	.5	48	.6	85
1,000 to 9,999 lb	12 787	29.9	7 935	7.4	877	11.6	99
10,000 to 49,999 lb	14 324	33.5	66 222	61.3	4 650	61.3	75
50,000 to 99,999 lb	3 002	7.0	24 637	22.8	1 498	19.8	61
100,000 lb or more	467	1.1	6 330	5.9	345	4.5	56
Rail	4 171	100.0	12 113	100.0	7 622	100.0	893
Less than 50 lb	S	S	S	S	S	S	467
50 to 99 lb	S	S	S	S	S	S	1 216
100 to 499 lb	S	S	S	S	S	S	1 547
500 to 749 lb	S	S	S	S	S	S	1 509
750 to 999 lb	6	.1	1	—	S	S	2 013
1,000 to 9,999 lb	47	1.1	8	—	8	.1	1 116
10,000 to 49,999 lb	824	19.7	559	4.6	S	S	1 763
50,000 to 99,999 lb	92	2.2	351	2.9	166	2.2	452
100,000 lb or more	3 199	76.7	11 193	92.4	6 451	84.6	625
Water	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	7
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	97
500 to 749 lb	S	S	S	S	S	S	97
750 to 999 lb	S	S	S	S	S	S	15
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	9
100,000 lb or more	S	S	S	S	S	S	635
Shallow draft	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	5
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	97
500 to 749 lb	S	S	S	S	S	S	97
750 to 999 lb	S	S	S	S	S	S	15
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	9
100,000 lb or more	S	S	S	S	S	S	635

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	S	S	S	S	S	S	10
Less than 50 lb	S	S	S	S	S	S	10
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	1 402	100.0	31	100.0	31	100.0	1 035
Less than 50 lb	740	52.8	8	24.6	8	26.2	1 029
50 to 99 lb	159	11.3	2	7.1	3	8.6	1 257
100 to 499 lb	299	21.3	6	20.5	7	21.4	1 095
500 to 749 lb	11	.8	1	2.8	1	4.5	1 655
750 to 999 lb	S	S	1	3.3	2	5.2	1 564
1,000 to 9,999 lb	S	S	8	25.5	8	24.3	1 030
10,000 to 49,999 lb	S	S	5	16.3	3	9.9	719
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Pipeline²	207	100.0	613	100.0	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	S	S	S	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	S
100,000 lb or more	200	96.3	S	S	S	S	S
Multiple modes	13 167	100.0	2 759	100.0	1 592	100.0	601
Less than 50 lb	6 788	51.6	179	6.5	109	6.8	602
50 to 99 lb	1 783	13.5	85	3.1	54	3.4	623
100 to 499 lb	2 048	15.6	258	9.3	135	8.5	554
500 to 749 lb	163	1.2	21	.8	8	.5	405
750 to 999 lb	235	1.8	25	.9	14	.9	542
1,000 to 9,999 lb	S	S	8	.3	10	.6	S
10,000 to 49,999 lb	1 957	14.9	1 053	38.2	1 031	64.8	1 068
50,000 to 99,999 lb	40	.3	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	11 032	100.0	570	100.0	320	100.0	600
Less than 50 lb	6 788	61.5	179	31.3	109	34.0	602
50 to 99 lb	1 783	16.2	85	14.9	54	16.8	623
100 to 499 lb	2 046	18.5	257	45.2	135	42.2	554
500 to 749 lb	163	1.5	21	3.7	8	2.6	400
750 to 999 lb	224	2.0	25	4.3	12	3.9	509
1,000 to 9,999 lb	29	.3	S	S	S	S	492
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	1 960	100.0	S	S	1 114	100.0	1 051
Less than 50 lb	S	S	S	S	S	S	1 293
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	685
500 to 749 lb	S	S	S	S	S	S	2 673
750 to 999 lb	S	S	1	—	S	S	2 056
1,000 to 9,999 lb	S	S	5	.3	7	.6	1 440
10,000 to 49,999 lb	1 853	94.5	1 033	52.6	1 015	91.2	1 056
50,000 to 99,999 lb	S	S	S	S	S	S	440
100,000 lb or more	S	S	S	S	S	S	66
Truck and water	77	100.0	S	S	154	100.0	2 471
Less than 50 lb	S	S	S	S	S	S	7 494
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	7 503
10,000 to 49,999 lb	S	S	S	S	S	S	2 053
50,000 to 99,999 lb	13	16.6	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	758

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	706
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	706
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	6 263	100.0	3 510	100.0	1 251	100.0	99
Less than 50 lb	397	6.3	19	.5	1	—	71
50 to 99 lb	146	2.3	13	.4	2	.1	127
100 to 499 lb	275	4.4	43	1.2	5	.4	129
500 to 749 lb	55	.9	16	.4	3	.2	168
750 to 999 lb	40	.6	10	.3	2	.1	157
1,000 to 9,999 lb	S	S	871	24.8	168	13.4	167
10,000 to 49,999 lb	1 463	23.4	919	26.2	315	25.1	330
50,000 to 99,999 lb	S	S	S	S	S	S	501
100,000 lb or more	S	S	S	S	623	49.7	1 014

— 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	165 771	100.0	208 604	100.0	39 798	100.0	377
01	Live animals and live fish	S	S	S	S	S	S	402
02	Cereal grains	219	.1	1 666	.8	311	.8	115
03	Other agricultural products	1 797	1.1	S	S	S	S	149
04	Animal feed and products of animal origin, n.e.c.	650	.4	2 919	1.4	S	S	60
05	Meat, fish, seafood, and their preparations	3 663	2.2	1 770	.8	566	1.4	115
06	Milled grain products and preparations, and bakery products	3 527	2.1	3 075	1.5	1 269	3.2	112
07	Other prepared foodstuffs and fats and oils	9 030	5.4	12 366	5.9	3 901	9.8	129
08	Alcoholic beverages	2 153	1.3	1 474	.7	623	1.6	39
09	Tobacco products	1 808	1.1	115	—	28	—	362
10	Monumental or building stone	S	S	277	.1	S	S	637
11	Natural sands	61	—	S	S	S	S	S
12	Gravel and crushed stone	407	.2	70 385	33.7	3 602	9.1	46
13	Nonmetallic minerals n.e.c.	108	—	554	.3	364	.9	507
14	Metallic ores and concentrates	477	.3	S	S	640	1.6	159
15	Coal	S	S	S	S	S	S	58
17	Gasoline and aviation turbine fuel	2 944	1.8	12 553	6.0	505	1.3	37
18	Fuel oils	930	.6	4 620	2.2	190	.5	26
19	Coal and petroleum products, n.e.c.	644	.4	2 551	1.2	S	S	108
20	Basic chemicals	3 577	2.2	3 773	1.8	1 354	3.4	347
21	Pharmaceutical products	5 455	3.3	S	S	46	.1	406
22	Fertilizers	304	.2	1 334	.6	299	.8	66
23	Chemical products and preparations, n.e.c.	3 482	2.1	1 142	.5	457	1.1	222
24	Plastics and rubber	9 947	6.0	2 886	1.4	1 674	4.2	253
25	Logs and other wood in the rough	S	S	S	S	S	S	141
26	Wood products	2 840	1.7	4 939	2.4	896	2.3	116
27	Pulp, newsprint, paper, and paperboard	2 599	1.6	4 867	2.3	3 100	7.8	156
28	Paper or paperboard articles	2 685	1.6	2 044	1.0	616	1.5	377
29	Printed products	9 152	5.5	2 317	1.1	882	2.2	483
30	Textiles, leather, and articles of textiles or leather	15 340	9.3	1 629	.8	1 086	2.7	740
31	Nonmetallic mineral products	3 386	2.0	26 986	12.9	2 205	5.5	124
32	Base metal in primary or semifinished forms and in finished basic shapes	7 008	4.2	6 746	3.2	2 557	6.4	214
33	Articles of base metal	5 865	3.5	2 321	1.1	1 037	2.6	473
34	Machinery	15 692	9.5	2 154	1.0	1 217	3.1	315
35	Electronic and other electrical equipment and components and office equipment	11 771	7.1	1 502	.7	875	2.2	476
36	Motorized and other vehicles (including parts)	14 354	8.7	2 868	1.4	1 177	3.0	235
37	Transportation equipment, n.e.c.	1 605	1.0	94	—	76	.2	931
38	Precision instruments and apparatus	2 412	1.5	55	—	36	—	610
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	3 178	1.9	773	.4	434	1.1	367
40	Miscellaneous manufactured products	7 885	4.8	1 784	.9	938	2.4	672
41	Waste and scrap	967	.6	6 481	3.1	1 388	3.5	159
43	Mixed freight	6 436	3.9	1 644	.8	550	1.4	128
--	Commodity unknown	S	S	S	S	S	S	336

— 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	165 771	100.0	208 604	100.0	39 798	100.0	377
Single modes	146 341	88.3	202 335	97.0	36 954	92.9	229
Truck ¹	140 445	84.7	187 925	90.1	28 592	71.8	178
For-hire truck	96 194	58.0	77 577	37.2	20 771	52.2	476
Private truck	42 787	25.8	107 951	51.7	7 581	19.0	69
Rail	4 171	2.5	12 113	5.8	7 622	19.2	893
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	S	S	S	S	S	S	S
Deep draft	S	S	S	S	S	S	10
Air (includes truck and air)	1 402	.8	31	—	31	—	1 035
Pipeline ²	207	.1	613	.3	S	S	S
Multiple modes	13 167	7.9	2 759	1.3	1 592	4.0	601
Parcel, U.S. Postal Service or courier	11 032	6.7	570	.3	320	.8	600
Truck and rail	1 960	1.2	S	S	1 114	2.8	1 051
Truck and water	77	—	S	S	154	.4	2 471
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	706
Other and unknown modes	6 263	3.8	3 510	1.7	1 251	3.1	99
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	402
Single modes	S	S	S	S	S	S	384
Truck ¹	S	S	S	S	S	S	384
For-hire truck	S	S	S	S	S	S	630
Private truck	S	S	S	S	S	S	252
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	436
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	436
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	378
SCTG 02, CEREAL GRAINS							
Total	219	100.0	1 666	100.0	311	100.0	115
Single modes	172	78.8	1 411	84.7	209	67.2	112
Truck ¹	172	78.8	1 411	84.7	209	67.2	112
For-hire truck	S	S	S	S	S	S	S
Private truck	S	S	781	46.9	125	40.0	108
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	572
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	377
Truck and rail	S	S	S	S	S	S	963
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 03, OTHER AGRICULTURAL PRODUCTS							
Total	1 797	100.0	S	S	S	S	149
Single modes	1 523	84.8	S	S	S	S	S
Truck ¹	1 467	81.6	S	S	S	S	S
For-hire truck	963	53.6	S	S	S	S	502
Private truck	496	27.6	572	13.4	65	3.2	45
Rail	S	S	S	S	S	S	1 767
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	1 407
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 435
Truck and rail	S	S	S	S	S	S	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	650	100.0	2 919	100.0	S	S	60
Single modes	620	95.5	2 863	98.1	S	S	69
Truck ¹	492	75.7	1 928	66.1	363	34.2	64
For-hire truck	S	S	S	S	S	S	359
Private truck	306	47.1	1 370	46.9	193	18.2	53
Rail	S	S	424	14.5	S	S	408
Water	S	S	S	S	S	S	995
Shallow draft	S	S	S	S	S	S	995
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	432
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	196
Truck and rail	S	S	S	S	S	S	987
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	3 663	100.0	1 770	100.0	566	100.0	115
Single modes	3 616	98.7	1 738	98.2	556	98.2	114
Truck ¹	3 616	98.7	1 738	98.2	556	98.2	114
For-hire truck	S	S	631	35.6	306	54.1	518
Private truck	2 032	55.5	1 101	62.2	248	43.8	93
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	573
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	573
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	32	1.8	10	1.8	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	3 527	100.0	3 075	100.0	1 269	100.0	112
Single modes	3 509	99.5	3 063	99.6	1 265	99.7	107
Truck ¹	3 415	96.8	2 765	89.9	955	75.3	106
For-hire truck	1 235	35.0	1 089	35.4	425	33.5	376
Private truck	2 181	61.8	1 676	54.5	529	41.7	91
Rail	93	2.6	298	9.7	310	24.5	1 045
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	16	.5	11	.3	3	.3	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	9 030	100.0	12 366	100.0	3 901	100.0	129
Single modes	8 762	97.0	11 989	97.0	3 611	92.6	123
Truck ¹	8 238	91.2	10 520	85.1	2 227	57.1	117
For-hire truck	3 772	41.8	4 161	33.7	1 629	41.8	603
Private truck	4 274	47.3	5 755	46.5	531	13.6	51
Rail	520	5.8	1 466	11.9	1 384	35.5	1 550
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	563
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	245	2.7	S	S	279	7.1	S
Parcel, U.S. Postal Service or courier	S	S	S	S	—	—	S
Truck and rail	229	2.5	S	S	278	7.1	895
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	23	.3	20	.2	11	.3	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	2 153	100.0	1 474	100.0	623	100.0	39
Single modes	2 015	93.6	1 292	87.7	474	76.2	35
Truck ¹	2 015	93.6	1 292	87.7	474	76.2	35
For-hire truck	S	S	618	41.9	459	73.6	578
Private truck	1 125	52.3	675	45.8	S	S	26
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	1 022
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 192
Truck and rail	S	S	S	S	S	S	999
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	121

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	1 808	100.0	115	100.0	28	100.0	362
Single modes	1 782	98.6	114	98.7	28	98.3	347
Truck ¹	1 780	98.5	114	98.7	28	98.0	345
For-hire truck	1 295	71.6	40	34.7	18	62.2	545
Private truck	383	21.2	68	59.3	S	S	221
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 816
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	10	.5	1	.6	—	1.0	536
Parcel, U.S. Postal Service or courier	10	.5	1	.6	—	1.0	536
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	22
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	277	100.0	S	S	637
Single modes	S	S	258	92.9	127	94.3	644
Truck ¹	S	S	218	78.7	S	S	615
For-hire truck	S	S	176	63.4	S	S	807
Private truck	S	S	S	S	S	S	44
Rail	S	S	S	S	S	S	548
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	4 616
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	362
SCTG 11, NATURAL SANDS							
Total	61	100.0	S	S	S	S	S
Single modes	60	97.0	S	S	S	S	S
Truck ¹	51	83.2	1 525	71.4	S	S	S
For-hire truck	39	64.0	S	S	S	S	S
Private truck	12	19.2	945	44.2	S	S	23
Rail	S	S	S	S	S	S	S
Water	S	S	S	S	S	S	16
Shallow draft	S	S	S	S	S	S	16
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	2 770
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	2 770
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	13

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	407	100.0	70 385	100.0	3 602	100.0	46
Single modes	406	100.0	70 352	100.0	3 601	100.0	46
Truck ¹	392	96.4	69 153	98.2	3 209	89.1	45
For-hire truck	122	30.1	18 624	26.5	604	16.8	28
Private truck	265	65.1	49 107	69.8	2 544	70.6	51
Rail	S	S	S	S	S	S	397
Water	S	S	S	S	S	S	12
Shallow draft	S	S	S	S	S	S	12
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	16
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	108	100.0	554	100.0	364	100.0	507
Single modes	95	88.2	519	93.6	325	89.5	176
Truck ¹	78	72.6	212	38.3	68	18.6	115
For-hire truck	59	55.0	144	26.1	63	17.4	414
Private truck	19	17.5	S	S	5	1.3	41
Rail	17	15.6	306	55.3	258	70.9	827
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	1 194
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 184
Truck and rail	S	S	S	S	S	S	1 711
Truck and water	S	S	S	S	S	S	691
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	599
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	477	100.0	S	S	640	100.0	159
Single modes	368	77.1	S	S	S	S	130
Truck ¹	360	75.6	S	S	S	S	130
For-hire truck	208	43.7	S	S	S	S	135
Private truck	152	31.9	259	6.6	29	4.6	108
Rail	S	S	S	S	S	S	2
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	73	15.3	S	S	S	S	610
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	606
Truck and rail	-	-	-	-	-	-	-
Truck and water	S	S	S	S	S	S	768
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	437

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	S	S	S	S	S	S	58
Single modes	S	S	S	S	S	S	58
Truck ¹	48	56.2	1 466	54.0	76	14.8	39
For-hire truck	48	56.1	1 465	54.0	76	14.8	38
Private truck	S	S	S	S	S	S	72
Rail	S	S	S	S	S	S	462
Water	S	S	S	S	S	S	146
Shallow draft	S	S	S	S	S	S	146
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	2 944	100.0	12 553	100.0	505	100.0	37
Single modes	2 937	99.8	12 522	99.8	502	99.5	37
Truck ¹	2 937	99.8	12 522	99.8	502	99.5	37
For-hire truck	452	15.3	2 158	17.2	107	21.2	49
Private truck	2 482	84.3	10 346	82.4	394	78.1	35
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	S	S	S	S	532
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	60
SCTG 18, FUEL OILS							
Total	930	100.0	4 620	100.0	190	100.0	26
Single modes	928	99.8	4 607	99.7	190	99.7	26
Truck ¹	914	98.3	4 510	97.6	181	95.0	26
For-hire truck	375	40.3	1 821	39.4	50	26.1	20
Private truck	532	57.2	2 658	57.5	130	68.3	30
Rail	S	S	S	S	S	S	94
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)	-	-	-	-	-	-	-
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	S	S	S	S	S	S	4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	4
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	19

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	644	100.0	2 551	100.0	S	S	108
Single modes	585	90.9	2 505	98.2	S	S	112
Truck ¹	585	90.9	2 505	98.2	S	S	112
For-hire truck	S	S	806	31.6	S	S	371
Private truck	342	53.1	S	S	S	S	40
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	11	1.6	S	S	S	S	333
Parcel, U.S. Postal Service or courier	11	1.6	S	S	S	S	333
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 20, BASIC CHEMICALS							
Total	3 577	100.0	3 773	100.0	1 354	100.0	347
Single modes	3 232	90.3	3 732	98.9	1 329	98.2	131
Truck ¹	2 401	67.1	2 149	56.9	646	47.7	108
For-hire truck	2 110	59.0	1 350	35.8	548	40.5	397
Private truck	291	8.1	798	21.2	98	7.2	38
Rail	656	18.3	1 131	30.0	679	50.2	610
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 204
Pipeline ²	146	4.1	S	S	S	S	S
Multiple modes	S	S	22	.6	15	1.1	580
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	580
Truck and rail	S	S	S	S	S	S	560
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	5 455	100.0	S	S	46	100.0	406
Single modes	4 641	85.1	S	S	40	85.3	238
Truck ¹	4 548	83.4	S	S	39	83.8	216
For-hire truck	2 071	38.0	49	9.1	25	54.7	S
Private truck	2 477	45.4	S	S	14	29.2	188
Rail	S	S	S	S	S	S	104
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	—	—	1	1.2	1 938
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	698	12.8	11	2.1	6	13.5	716
Parcel, U.S. Postal Service or courier	698	12.8	11	2.1	6	13.5	716
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 22, FERTILIZERS							
Total	304	100.0	1 334	100.0	299	100.0	66
Single modes	304	99.9	1 334	100.0	299	100.0	66
Truck ¹	263	86.6	1 066	79.9	138	46.1	59
For-hire truck	65	21.3	149	11.2	54	17.9	345
Private truck	196	64.6	909	68.1	84	28.2	42
Rail	S	S	S	S	S	S	591
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	205
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	205
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	56
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	3 482	100.0	1 142	100.0	457	100.0	222
Single modes	3 105	89.2	1 043	91.3	395	86.3	186
Truck ¹	3 016	86.6	1 007	88.1	362	79.2	182
For-hire truck	1 948	55.9	653	57.1	310	67.8	543
Private truck	1 068	30.7	354	31.0	52	11.5	36
Rail	86	2.5	S	S	S	S	785
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 241
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	219	6.3	S	S	S	S	426
Parcel, U.S. Postal Service or courier	140	4.0	8	.7	4	.8	422
Truck and rail	S	S	S	S	S	S	893
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	465
SCTG 24, PLASTICS AND RUBBER							
Total	9 947	100.0	2 886	100.0	1 674	100.0	253
Single modes	8 680	87.3	2 774	96.1	1 603	95.8	213
Truck ¹	8 201	82.5	2 526	87.5	1 401	83.7	209
For-hire truck	6 543	65.8	1 940	67.2	1 268	75.8	521
Private truck	1 658	16.7	586	20.3	133	7.9	67
Rail	457	4.6	246	8.5	201	12.0	955
Water	S	S	S	S	S	S	757
Shallow draft	S	S	S	S	S	S	757
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	1	—	S	S	873
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	91	3.1	58	3.5	404
Parcel, U.S. Postal Service or courier	229	2.3	11	.4	6	.3	403
Truck and rail	S	S	73	2.5	48	2.9	659
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	706
Other and unknown modes	59	.6	22	.8	12	.7	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	S	S	S	S	S	S	141
Single modes	98	61.4	S	S	S	S	S
Truck ¹	98	61.4	S	S	S	S	S
For-hire truck	S	S	S	S	S	S	206
Private truck	S	S	S	S	S	S	29
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 513
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	1 513
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 26, WOOD PRODUCTS							
Total	2 840	100.0	4 939	100.0	896	100.0	116
Single modes	2 755	97.0	4 818	97.5	819	91.5	89
Truck ¹	2 722	95.8	4 765	96.5	794	88.6	89
For-hire truck	1 157	40.8	1 771	35.8	538	60.0	353
Private truck	1 564	55.1	2 995	60.6	256	28.6	53
Rail	S	S	S	S	S	S	530
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	964
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	33	1.2	22	.4	S	S	638
Parcel, U.S. Postal Service or courier	11	.4	1	—	1	.1	637
Truck and rail	S	S	S	S	S	S	686
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	52	1.8	99	2.0	S	S	106
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	2 599	100.0	4 867	100.0	3 100	100.0	156
Single modes	2 475	95.2	4 755	97.7	2 970	95.8	137
Truck ¹	1 762	67.8	2 824	58.0	1 385	44.7	120
For-hire truck	1 304	50.2	2 380	48.9	1 330	42.9	390
Private truck	458	17.6	444	9.1	55	1.8	41
Rail	677	26.0	1 835	37.7	1 585	51.1	891
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	976
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	118	4.5	103	2.1	123	4.0	346
Parcel, U.S. Postal Service or courier	14	.5	3	—	1	—	304
Truck and rail	100	3.9	99	2.0	113	3.6	1 168
Truck and water	S	S	S	S	S	S	7 583
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 28, PAPER OR PAPERBOARD ARTICLES							
Total	2 685	100.0	2 044	100.0	616	100.0	377
Single modes	2 418	90.1	1 980	96.9	578	93.8	150
Truck ¹	2 399	89.3	1 976	96.7	570	92.6	105
For-hire truck	1 315	49.0	1 165	57.0	421	68.4	265
Private truck	1 084	40.4	811	39.7	S	S	67
Rail	S	S	S	S	S	S	2 211
Water	S	S	S	S	S	S	97
Shallow draft	S	S	S	S	S	S	97
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	8	.3	S	S	S	S	1 255
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	233	8.7	35	1.7	34	5.6	675
Parcel, U.S. Postal Service or courier	208	7.7	18	.9	9	1.5	674
Truck and rail	S	S	S	S	S	S	1 558
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	94
SCTG 29, PRINTED PRODUCTS							
Total	9 152	100.0	2 317	100.0	882	100.0	483
Single modes	6 689	73.1	1 695	73.2	766	86.8	405
Truck ¹	6 615	72.3	1 686	72.8	752	85.3	258
For-hire truck	5 067	55.4	1 144	49.4	711	80.7	595
Private truck	1 321	14.4	520	22.5	40	4.5	S
Rail	S	S	S	S	S	S	1 711
Water	S	S	S	S	S	S	10
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	10
Air (includes truck and air)	68	.7	5	.2	4	.4	809
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 754	19.2	214	9.2	100	11.4	528
Parcel, U.S. Postal Service or courier	1 724	18.8	198	8.6	75	8.5	528
Truck and rail	S	S	S	S	S	S	1 662
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	709	7.7	408	17.6	16	1.8	70
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	15 340	100.0	1 629	100.0	1 086	100.0	740
Single modes	13 611	88.7	1 521	93.3	1 031	94.9	649
Truck ¹	13 591	88.6	1 519	93.3	1 030	94.8	634
For-hire truck	11 335	73.9	1 231	75.5	971	89.4	766
Private truck	2 154	14.0	259	15.9	51	4.7	187
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	717
Shallow draft	S	S	S	S	S	S	717
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	18	.1	—	—	1	—	1 372
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 204	7.8	68	4.2	43	3.9	817
Parcel, U.S. Postal Service or courier	1 164	7.6	48	3.0	34	3.2	817
Truck and rail	40	.3	20	1.2	8	.8	426
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	40	2.5	12	1.1	130

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	3 386	100.0	26 986	100.0	2 205	100.0	124
Single modes	3 134	92.6	26 710	99.0	2 047	92.8	88
Truck ¹	3 036	89.7	25 888	95.9	1 761	79.9	85
For-hire truck	1 887	55.7	S	S	1 365	61.9	294
Private truck	1 148	33.9	15 208	56.4	397	18.0	37
Rail	86	2.5	605	2.2	273	12.4	612
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 026
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	73	2.2	S	S	S	S	568
Parcel, U.S. Postal Service or courier	S	S	S	S	2	—	563
Truck and rail	S	S	S	S	S	S	2 564
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	164
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	7 008	100.0	6 746	100.0	2 557	100.0	214
Single modes	6 711	95.8	6 437	95.4	2 440	95.4	189
Truck ¹	6 128	87.4	5 904	87.5	1 777	69.5	184
For-hire truck	4 524	64.6	4 177	61.9	1 567	61.3	396
Private truck	1 551	22.1	1 667	24.7	199	7.8	114
Rail	582	8.3	533	7.9	662	25.9	1 240
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 581
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	107	1.5	S	S	11	.4	360
Parcel, U.S. Postal Service or courier	95	1.4	7	.1	3	.1	361
Truck and rail	S	S	S	S	S	S	105
Truck and water	S	S	S	S	S	S	149
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	190	2.7	252	3.7	107	4.2	S
SCTG 33, ARTICLES OF BASE METAL							
Total	5 865	100.0	2 321	100.0	1 037	100.0	473
Single modes	5 045	86.0	2 200	94.8	991	95.6	259
Truck ¹	4 941	84.2	2 146	92.5	938	90.4	248
For-hire truck	3 654	62.3	1 505	64.8	832	80.2	642
Private truck	1 286	21.9	641	27.6	106	10.3	74
Rail	82	1.4	52	2.2	52	5.0	985
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)	S	S	S	S	S	S	1 044
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	678	11.6	36	1.5	26	2.5	681
Parcel, U.S. Postal Service or courier	672	11.5	32	1.4	18	1.8	680
Truck and rail	S	S	S	S	S	S	1 803
Truck and water	S	S	S	S	S	S	7 501
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	142	2.4	S	S	20	1.9	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 34, MACHINERY							
Total	15 692	100.0	2 154	100.0	1 217	100.0	315
Single modes	14 027	89.4	2 021	93.8	1 144	94.0	258
Truck ¹	13 796	87.9	2 002	92.9	1 116	91.7	205
For-hire truck	11 460	73.0	1 663	77.2	1 011	83.1	530
Private truck	2 336	14.9	338	15.7	104	8.6	61
Rail	115	.7	13	.6	23	1.9	1 799
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	117	.7	S	S	S	S	1 259
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 034	6.6	43	2.0	29	2.4	391
Parcel, U.S. Postal Service or courier	1 022	6.5	41	1.9	22	1.8	391
Truck and rail	S	S	S	S	S	S	646
Truck and water	S	S	S	S	S	S	7 689
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	631	4.0	91	4.2	43	3.6	188
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	11 771	100.0	1 502	100.0	875	100.0	476
Single modes	10 343	87.9	1 469	97.8	844	96.5	305
Truck ¹	9 975	84.7	1 433	95.4	765	87.5	254
For-hire truck	7 954	67.6	1 085	72.2	608	69.5	571
Private truck	1 413	12.0	266	17.7	87	10.0	40
Rail	188	1.6	33	2.2	76	8.7	2 186
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	3	.2	3	4	1 182
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 317	11.2	27	1.8	29	3.3	720
Parcel, U.S. Postal Service or courier	1 288	10.9	21	1.4	14	1.6	720
Truck and rail	S	S	S	S	S	S	2 695
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	110	.9	6	.4	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	14 354	100.0	2 868	100.0	1 177	100.0	235
Single modes	11 859	82.6	2 546	88.8	1 129	95.9	162
Truck ¹	11 795	82.2	2 534	88.4	1 111	94.4	146
For-hire truck	9 560	66.6	2 062	71.9	947	80.5	S
Private truck	2 196	15.3	465	16.2	161	13.7	93
Rail	S	S	S	S	S	S	2 086
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	47	.3	4	.1	4	4	1 003
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	422	2.9	26	.9	13	1.1	430
Parcel, U.S. Postal Service or courier	415	2.9	24	.8	12	1.0	430
Truck and rail	S	S	S	S	S	S	665
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	35	3.0	75

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	1 605	100.0	94	100.0	76	100.0	931
Single modes	1 382	86.1	87	92.7	71	93.0	912
Truck ¹	1 155	72.0	85	91.1	70	91.3	758
For-hire truck	624	38.9	48	51.1	41	54.4	940
Private truck	474	29.6	34	36.4	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	227	14.1	S	S	1	1.6	1 317
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	21	1.3	—	.1	—	.1	1 094
Parcel, U.S. Postal Service or courier	21	1.3	—	.1	—	.1	1 094
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	202	12.6	7	7.2	5	6.9	609
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	2 412	100.0	55	100.0	36	100.0	610
Single modes	894	37.0	15	27.6	7	18.7	660
Truck ¹	427	17.7	15	26.3	6	16.7	412
For-hire truck	215	8.9	7	12.8	5	14.6	926
Private truck	212	8.8	S	S	S	S	143
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	466	19.3	1	1.3	1	2.0	1 045
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 335	55.3	16	28.1	11	30.1	607
Parcel, U.S. Postal Service or courier	1 335	55.3	16	28.1	11	30.1	607
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	406
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	3 178	100.0	773	100.0	434	100.0	367
Single modes	3 059	96.3	755	97.6	417	96.0	375
Truck ¹	3 042	95.7	752	97.3	412	94.8	368
For-hire truck	1 972	62.1	502	64.9	320	73.8	746
Private truck	1 047	33.0	248	32.0	90	20.8	S
Rail	15	.5	2	.3	5	1.2	2 253
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	—	—	—	—	1 196
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	19	.6	3	.3	2	.4	636
Parcel, U.S. Postal Service or courier	19	.6	3	.3	1	.3	631
Truck and rail	S	S	S	S	S	S	2 394
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	16	2.0	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	7 885	100.0	1 784	100.0	938	100.0	672
Single modes	6 298	79.9	1 657	92.9	812	86.6	552
Truck ¹	6 165	78.2	1 647	92.3	800	85.3	256
For-hire truck	4 102	52.0	1 088	61.0	559	59.6	715
Private truck	2 052	26.0	552	30.9	240	25.6	85
Rail	S	S	S	S	S	S	943
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	2	.1	3	.3	1 260
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 479	18.8	111	6.2	120	12.8	744
Parcel, U.S. Postal Service or courier	1 409	17.9	98	5.5	S	S	744
Truck and rail	S	S	S	S	S	S	2 716
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	108	1.4	16	.9	6	.6	250
SCTG 41, WASTE AND SCRAP							
Total	967	100.0	6 481	100.0	1 388	100.0	159
Single modes	960	99.3	6 440	99.4	1 386	99.8	159
Truck ¹	674	69.7	3 942	60.8	560	40.4	139
For-hire truck	439	45.4	2 418	37.3	483	34.8	216
Private truck	235	24.3	1 524	23.5	77	5.6	57
Rail	242	25.0	2 275	35.1	707	50.9	281
Water	S	S	S	S	S	S	735
Shallow draft	S	S	S	S	S	S	735
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	219
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	219
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	194
SCTG 43, MIXED FREIGHT							
Total	6 436	100.0	1 644	100.0	550	100.0	128
Single modes	6 330	98.4	1 601	97.4	494	89.8	102
Truck ¹	6 330	98.4	1 601	97.4	494	89.8	102
For-hire truck	4 647	72.2	1 095	66.6	424	77.2	362
Private truck	1 683	26.2	506	30.8	69	12.6	56
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	693
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	683
Truck and rail	S	S	S	S	S	S	1 529
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	S	S	S	S	S	S	336
Single modes	422	57.3	S	S	S	S	212
Truck ¹	402	54.6	S	S	S	S	175
For-hire truck	S	S	S	S	22	8.5	263
Private truck	74	10.1	S	S	S	S	76
Rail	S	S	S	S	S	S	623
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	—	—	882
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	440
Parcel, U.S. Postal Service or courier	97	13.1	S	S	S	S	412
Truck and rail	S	S	S	S	S	S	861
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	165 771	100.0	208 604	100.0	39 798	100.0
NEW ENGLAND STATES						
Connecticut	467	.3	190	—	197	.5
Maine	282	.2	79	—	102	.3
Massachusetts	1 346	.8	333	.2	371	.9
New Hampshire	263	.2	55	—	61	.2
Rhode Island	195	.1	46	—	49	.1
Vermont	68	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	3 114	1.9	1 216	.6	1 140	2.9
New York	2 843	1.7	836	.4	793	2.0
Pennsylvania	4 331	2.6	1 732	.8	1 328	3.3
EAST NORTH CENTRAL STATES						
Illinois	5 221	3.1	2 504	1.2	1 262	3.2
Indiana	3 169	1.9	1 585	.8	636	1.6
Michigan	5 194	3.1	1 844	.9	1 149	2.9
Ohio	S	S	2 867	1.4	1 395	3.5
Wisconsin	1 674	1.0	552	.3	387	1.0
WEST NORTH CENTRAL STATES						
Iowa	1 012	.6	329	.2	225	.6
Kansas	788	.5	488	.2	390	1.0
Minnesota	1 152	.7	S	S	S	S
Missouri	2 848	1.7	1 348	.6	513	1.3
Nebraska	356	.2	144	—	123	.3
North Dakota	217	.1	53	—	70	.2
South Dakota	132	—	31	—	32	—
SOUTH ATLANTIC STATES						
Delaware	177	.1	S	S	47	.1
District of Columbia	118	—	S	S	S	S
Florida	4 051	2.4	1 984	1.0	1 535	3.9
Georgia	9 871	6.0	8 480	4.1	1 792	4.5
Maryland	1 088	.7	432	.2	304	.8
North Carolina	5 043	3.0	3 329	1.6	1 222	3.1
South Carolina	3 813	2.3	2 591	1.2	1 202	3.0
Virginia	4 664	2.8	2 666	1.3	927	2.3
West Virginia	668	.4	376	.2	148	.4
EAST SOUTH CENTRAL STATES						
Alabama	5 211	3.1	8 763	4.2	1 379	3.5
Kentucky	6 576	4.0	5 095	2.4	832	2.1
Mississippi	3 976	2.4	5 327	2.6	860	2.2
Tennessee	47 298	28.5	135 281	64.9	5 535	13.9
WEST SOUTH CENTRAL STATES						
Arkansas	3 213	1.9	6 353	3.0	1 226	3.1
Louisiana	2 194	1.3	2 939	1.4	1 574	4.0
Oklahoma	1 125	.7	S	S	S	S
Texas	7 986	4.8	2 961	1.4	2 381	6.0
MOUNTAIN STATES						
Arizona	999	.6	247	.1	427	1.1
Colorado	892	.5	400	.2	516	1.3
Idaho	93	—	17	—	31	—
Montana	106	—	18	—	32	—
Nevada	453	.3	79	—	164	.4
New Mexico	139	—	28	—	37	—
Utah	416	.3	117	—	204	.5
Wyoming	28	—	5	—	7	—
PACIFIC STATES						
Alaska	29	—	2	—	5	—
California	8 482	5.1	1 622	.8	3 574	9.0
Hawaii	61	—	S	S	S	S
Oregon	534	.3	146	—	355	.9
Washington	1 095	.7	495	.2	1 290	3.2

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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	155 673	100.0	267 550	100.0	72 988	100.0
NEW ENGLAND STATES						
Connecticut	882	.6	276	.1	299	.4
Maine	320	.2	252	—	359	.5
Massachusetts	1 731	1.1	135	—	146	.2
New Hampshire	354	.2	33	—	40	—
Rhode Island	113	—	19	—	20	—
Vermont	96	—	32	—	35	—
MIDDLE ATLANTIC STATES						
New Jersey	2 459	1.6	517	.2	463	.6
New York	3 762	2.4	810	.3	714	1.0
Pennsylvania	4 616	3.0	2 574	1.0	2 471	3.4
EAST NORTH CENTRAL STATES						
Illinois	5 623	3.6	11 369	4.2	3 982	5.5
Indiana	5 176	3.3	4 676	1.7	2 131	2.9
Michigan	4 348	2.8	1 444	.5	935	1.3
Ohio	7 652	4.9	3 968	1.5	1 982	2.7
Wisconsin	3 396	2.2	1 386	.5	964	1.3
WEST NORTH CENTRAL STATES						
Iowa	1 365	.9	695	.3	462	.6
Kansas	1 223	.8	624	.2	491	.7
Minnesota	1 851	1.2	1 524	.6	1 576	2.2
Missouri	2 887	1.9	6 328	2.4	2 005	2.7
Nebraska	419	.3	2 160	—	138	.2
North Dakota	87	—	S	S	S	S
South Dakota	118	—	90	—	136	.2
SOUTH ATLANTIC STATES						
Delaware	151	.1	26	—	22	—
District of Columbia	S	S	S	S	S	S
Florida	2 475	1.6	1 169	.4	858	1.2
Georgia	9 540	6.1	8 033	3.0	2 190	3.0
Maryland	524	.3	143	—	85	.1
North Carolina	5 580	3.6	3 449	1.3	1 055	1.4
South Carolina	2 376	1.5	1 562	.6	666	.9
Virginia	2 704	1.7	7 667	2.9	1 003	1.4
West Virginia	609	.4	1 966	.7	1 507	2.1
EAST SOUTH CENTRAL STATES						
Alabama	5 737	3.7	S	S	S	S
Kentucky	6 114	3.9	21 799	8.1	5 775	7.9
Mississippi	3 388	2.2	3 803	1.4	866	1.2
Tennessee	47 298	30.4	135 281	50.6	5 535	7.6
WEST SOUTH CENTRAL STATES						
Arkansas	3 033	1.9	3 803	1.4	705	1.0
Louisiana	2 619	1.7	9 119	3.4	6 326	8.7
Oklahoma	729	.5	803	.3	682	.9
Texas	5 528	3.6	3 814	1.4	3 327	4.6
MOUNTAIN STATES						
Arizona	1 080	.7	58	—	102	.1
Colorado	693	.4	S	S	S	S
Idaho	229	.1	255	.1	493	.7
Montana	92	—	78	—	152	.2
Nevada	95	—	S	S	S	S
New Mexico	107	—	23	—	32	—
Utah	383	.2	S	S	S	S
Wyoming	43	—	423	.2	695	1.0
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	4 476	2.9	644	.2	1 424	2.0
Hawaii	S	S	S	S	S	S
Oregon	565	.4	153	—	407	.6
Washington	1 026	.7	280	.1	708	1.0

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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	5.5	—	9.1	—	6.3	—	6.5
Single modes	5.2	.9	9.1	.6	5.8	1.0	9.1
Truck	5.6	1.0	9.7	1.3	5.8	2.3	2.7
For-hire truck	9.2	2.4	16.4	3.3	5.2	2.1	6.6
Private truck	5.3	2.1	10.3	3.7	12.1	2.0	6.2
Rail	9.9	.3	10.0	1.1	14.4	2.1	8.2
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	13.3	.2	11.9	—	13.1	—	8.0
Pipeline	37.6	—	49.4	.1	S	S	S
Multiple modes	8.5	.7	44.6	.5	16.3	.5	5.3
Parcel, U.S. Postal Service or courier	5.4	.4	12.9	—	16.3	.2	5.3
Truck and rail	43.4	.5	S	S	21.4	.4	14.1
Truck and water	47.3	—	S	S	49.0	.2	45.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	29.1	.7	21.1	.2	25.6	.6	14.6

— 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-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	5.5	7.7	9.2	9.1	5.5	12.7	6.3	12.9	13.8	6.5	6.1	9.9
Single modes	5.2	8.4	9.5	9.1	5.4	12.5	5.8	13.2	13.3	9.1	9.4	16.4
Truck	5.6	9.3	10.6	9.7	5.5	13.5	5.8	13.4	13.6	2.7	8.1	9.7
For-hire truck	9.2	12.5	15.9	16.4	8.0	22.5	5.2	6.2	9.5	6.6	4.8	8.0
Private truck	5.3	4.9	6.4	10.3	6.0	14.0	12.1	29.1	18.3	6.2	9.7	11.6
Rail	9.9	14.2	13.1	10.0	10.9	15.0	14.4	12.4	20.5	8.2	12.9	13.5
Water	S	40.6	S	S	44.2	S	S	38.6	S	S	33.5	S
Shallow draft	S	46.2	S	S	46.7	S	S	45.6	S	S	19.9	S
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	S	S	S	31.6	25.4	.1
Air (includes truck and air)	13.3	37.7	25.8	11.9	29.0	21.4	13.1	35.3	16.7	8.0	3.0	7.6
Pipeline	37.6	—	S	49.4	—	S	S	S	S	S	S	S
Multiple modes	8.5	8.4	13.1	44.6	11.2	130.5	16.3	14.0	39.7	5.3	4.3	7.2
Parcel, U.S. Postal Service or courier	5.4	8.5	9.8	12.9	6.2	18.4	16.3	6.2	21.4	5.3	4.3	7.2
Truck and rail	43.4	39.4	178.0	S	24.5	S	21.4	27.5	115.9	14.1	10.6	8.3
Truck and water	47.3	28.7	64.6	S	32.4	S	49.0	34.8	51.5	45.8	35.9	146.8
Rail and water	—	S	S	—	S	S	—	S	S	—	31.6	—
Other multiple modes	S	S	S	S	S	S	S	S	S	31.6	31.6	29.7
Other and unknown modes	29.1	26.8	36.6	21.1	21.9	40.3	25.6	15.1	83.0	14.6	24.3	16.9

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

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 .....	.9	.9	.6	.3	1.0	.4
Truck	1.0	1.4	1.3	1.4	2.3	2.4
For-hire truck	2.4	2.6	3.3	1.8	2.1	4.0
Private truck	2.1	1.4	3.7	1.6	2.0	3.9
Rail .....	.3	.6	1.1	.7	2.1	1.6
Water	S	.2	S	.8	S	1.5
Shallow draft	S	.2	S	.8	S	1.6
Great Lakes	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Air (includes truck and air) .....	.2	.5	—	—	—	—
Pipeline	—	—	.1	—	S	S
Multiple modes .....	.7	.6	.5	—	.5	.4
Parcel, U.S. Postal Service or courier .....	.4	.6	—	—	.2	.1
Truck and rail .....	.5	.1	S	—	.4	.3
Truck and water	—	—	S	—	.2	.1
Rail and water	—	S	—	S	—	S
Other multiple modes	S	S	S	S	S	S
Other and unknown modes .....	.7	1.0	.2	.3	.6	.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-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	6.3	—	5.3
Truck	5.8	2.3	3.0
Rail	13.2	1.9	6.1
Shallow draft	S	S	S
Great Lakes	—	—	—
Deep draft	S	S	30.4
Air	13.4	—	8.3
Parcel, U.S. Postal Service or courier	16.3	.2	5.3
Pipeline	S	S	S
Other and unknown modes	25.6	.6	14.6

— 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-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	5.5	—	9.1	—	6.3	—
Less than 50 miles	5.2	.7	11.8	2.8	10.9	.4
50 to 99 miles	4.5	.4	17.5	1.8	16.5	.8
100 to 249 miles	6.9	.6	10.4	.8	11.7	1.5
250 to 499 miles	12.4	1.5	7.9	1.2	7.9	1.9
500 to 749 miles	5.1	.5	13.3	.8	14.2	2.1
750 to 999 miles	3.6	.3	11.8	.2	12.2	1.0
1,000 to 1,499 miles	8.6	.2	10.6	—	11.4	.4
1,500 to 1,999 miles	19.6	1.2	8.4	.1	9.3	.7
2,000 miles or more	10.0	.1	16.3	—	17.5	.4
Single modes	5.2	—	9.1	—	5.8	—
Less than 50 miles	2.6	1.0	11.9	2.8	11.0	.5
50 to 99 miles	4.5	.4	17.6	1.8	16.6	.9
100 to 249 miles	6.8	.7	10.5	.8	11.9	1.5
250 to 499 miles	14.1	1.9	6.2	1.2	6.7	2.1
500 to 749 miles	5.6	.5	13.1	.8	14.3	2.3
750 to 999 miles	4.9	.3	12.6	.2	13.1	1.0
1,000 to 1,499 miles	9.6	.2	10.1	—	10.6	.4
1,500 to 1,999 miles	22.1	1.3	9.6	.1	10.8	.8
2,000 miles or more	12.3	.1	21.5	—	23.5	.4
Truck	5.6	—	9.7	—	5.8	—
Less than 50 miles	2.6	1.1	12.0	2.7	10.9	.6
50 to 99 miles	4.6	.5	19.0	1.9	18.4	1.1
100 to 249 miles	7.0	.7	12.8	.8	14.9	2.0
250 to 499 miles	14.8	2.0	5.2	.9	5.1	1.7
500 to 749 miles	6.7	.5	14.6	.7	15.9	2.1
750 to 999 miles	5.9	.3	11.0	.2	11.5	.9
1,000 to 1,499 miles	10.4	.3	10.3	—	10.4	.4
1,500 to 1,999 miles	24.7	1.4	8.6	.1	8.3	1.1
2,000 miles or more	9.8	—	10.4	—	10.3	.2
For-hire truck	9.2	—	16.4	—	5.2	—
Less than 50 miles	11.2	.8	26.4	3.9	26.4	.7
50 to 99 miles	7.7	.4	28.8	1.1	28.1	.9
100 to 249 miles	9.9	.9	13.1	1.1	13.2	1.1
250 to 499 miles	17.5	2.1	6.1	2.3	6.6	1.9
500 to 749 miles	7.9	.8	16.3	1.7	17.9	3.1
750 to 999 miles	7.4	.6	13.0	.3	13.5	1.2
1,000 to 1,499 miles	11.0	.4	10.2	.1	10.3	.5
1,500 to 1,999 miles	27.7	1.9	10.7	.4	10.2	1.6
2,000 miles or more	9.5	.1	11.3	—	11.3	.3
Private truck	5.3	—	10.3	—	12.1	—
Less than 50 miles	4.0	1.0	11.8	3.0	9.3	1.9
50 to 99 miles	4.5	.5	21.2	2.5	20.9	2.4
100 to 249 miles	9.4	.9	20.8	1.4	25.3	4.3
250 to 499 miles	8.5	.6	16.7	.4	15.3	2.2
500 to 749 miles	11.7	.3	12.2	.1	12.3	1.4
750 to 999 miles	20.2	.3	18.9	—	19.4	1.1
1,000 to 1,499 miles	17.7	—	33.9	—	34.6	.5
1,500 to 1,999 miles	25.5	.3	31.4	—	29.3	.9
2,000 miles or more	41.3	—	S	S	S	S
Rail	9.9	—	10.0	—	14.4	—
Less than 50 miles	27.8	.8	22.6	1.2	26.5	—
50 to 99 miles	25.3	.3	36.6	2.2	32.0	.5
100 to 249 miles	14.6	1.3	18.5	3.7	20.5	2.1
250 to 499 miles	10.8	2.5	20.8	4.2	19.8	4.4
500 to 749 miles	17.2	3.2	15.8	3.0	16.0	3.5
750 to 999 miles	28.7	3.4	25.0	1.6	24.8	2.7
1,000 to 1,499 miles	40.5	1.3	30.7	.4	32.6	1.1
1,500 to 1,999 miles	18.8	2.0	34.4	1.1	35.6	3.0
2,000 miles or more	S	S	S	S	S	S
Water	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	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow 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	—	—	—	—	—	—
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	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	13.3	—	11.9	—	13.1	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	34.1	.5	44.8	4.6	40.9	2.1
100 to 249 miles	30.7	2.9	36.5	5.9	41.0	3.0
250 to 499 miles	30.7	5.3	22.3	3.6	23.3	2.5
500 to 749 miles	9.3	2.9	32.1	4.8	29.4	3.5
750 to 999 miles	27.4	3.1	22.6	2.0	22.4	2.0
1,000 to 1,499 miles	33.4	2.3	24.2	3.5	24.0	4.8
1,500 to 1,999 miles	17.1	2.6	21.3	1.6	21.2	4.0
2,000 miles or more	36.9	1.4	33.5	.7	37.6	2.3
Pipeline	37.6	—	49.4	—	S	S
Less than 50 miles	37.6	—	49.4	—	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	8.5	—	44.6	—	16.3	—
Less than 50 miles	16.8	1.4	S	S	S	S
50 to 99 miles	13.1	.6	39.9	1.6	46.9	.2
100 to 249 miles	10.2	1.1	S	S	S	S
250 to 499 miles	21.6	3.1	33.0	3.4	33.5	2.8
500 to 749 miles	7.3	.8	44.8	7.0	47.5	7.3
750 to 999 miles	6.9	1.2	13.8	1.9	15.5	1.9
1,000 to 1,499 miles	11.7	.5	S	S	S	S
1,500 to 1,999 miles	8.8	.8	18.8	2.7	19.4	5.1
2,000 miles or more	16.2	.4	S	S	S	S
Parcel, U.S. Postal Service or courier	5.4	—	12.9	—	16.3	—
Less than 50 miles	17.0	1.5	S	S	S	S
50 to 99 miles	15.0	.7	16.7	1.1	15.9	.2
100 to 249 miles	10.8	1.3	11.3	1.5	11.3	.6
250 to 499 miles	7.2	1.2	12.7	1.9	12.8	1.4
500 to 749 miles	5.4	.9	13.4	1.6	11.5	1.5
750 to 999 miles	6.7	1.0	10.9	1.2	11.2	1.6
1,000 to 1,499 miles	14.6	.5	11.4	.4	11.3	.8
1,500 to 1,999 miles	14.0	.8	14.1	.8	13.9	2.0
2,000 miles or more	16.5	.3	S	S	S	S
Truck and rail	43.4	—	S	S	21.4	—
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	26.1	3.3	22.9	3.8	23.9	2.9
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	22.5	6.8	21.9	7.3	22.1	8.0
2,000 miles or more	S	S	S	S	S	S
Truck and water	47.3	—	S	S	49.0	—
Less than 50 miles	—	—	—	—	—	—
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	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	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
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	29.1	—	21.1	—	25.6	—
Less than 50 miles	46.4	8.1	22.5	9.2	25.7	1.0
50 to 99 miles	19.7	.7	40.4	1.7	43.6	1.6
100 to 249 miles	35.7	2.7	28.3	1.8	24.4	1.0
250 to 499 miles	20.2	3.9	49.6	10.8	48.3	10.8
500 to 749 miles	18.9	3.3	42.0	2.9	41.3	6.9
750 to 999 miles	19.2	.8	18.7	.8	19.2	3.9
1,000 to 1,499 miles	35.5	.4	30.3	.2	29.8	.9
1,500 to 1,999 miles	48.1	.9	50.0	.3	49.9	1.9
2,000 miles or more	45.4	.3	44.9	.8	47.1	5.8

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

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

Table B-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	5.5	—	9.1	—	6.3	—	6.5
Less than 50 lb	7.4	.6	2.8	—	4.4	—	7.7
50 to 99 lb	5.3	.2	9.8	—	5.9	—	9.9
100 to 499 lb	4.8	.6	5.1	.2	11.6	.2	7.7
500 to 749 lb	7.3	.2	12.8	—	9.9	—	6.1
750 to 999 lb	7.1	.2	7.1	—	5.5	—	7.6
1,000 to 9,999 lb	10.0	1.2	6.7	.7	7.8	1.0	5.6
10,000 to 49,999 lb	7.9	1.4	10.7	2.8	5.8	1.9	7.7
50,000 to 99,999 lb	5.6	.3	15.1	1.8	17.0	.9	6.0
100,000 lb or more	10.0	.4	23.5	3.0	12.9	2.4	7.3
Single modes	5.2	—	9.1	—	5.8	—	9.1
Less than 50 lb	14.0	.4	6.4	—	13.9	—	17.2
50 to 99 lb	13.1	.2	15.1	—	12.9	—	9.6
100 to 499 lb	4.4	.5	4.4	.1	7.5	.1	5.6
500 to 749 lb	7.6	.3	13.2	—	10.4	—	6.1
750 to 999 lb	6.8	.2	7.3	—	7.0	—	8.0
1,000 to 9,999 lb	7.1	1.0	6.0	.6	7.8	1.0	5.5
10,000 to 49,999 lb	8.5	1.9	10.8	2.8	5.7	2.0	7.7
50,000 to 99,999 lb	4.0	.2	15.2	1.9	17.5	1.0	5.9
100,000 lb or more	8.6	.4	25.6	3.2	13.2	2.8	8.2
Truck	5.6	—	9.7	—	5.8	—	2.7
Less than 50 lb	14.9	.4	6.9	—	17.6	—	7.8
50 to 99 lb	14.5	.2	15.1	—	13.6	—	11.2
100 to 499 lb	4.8	.5	4.5	.1	8.0	.1	6.0
500 to 749 lb	7.6	.3	13.2	—	10.5	—	6.1
750 to 999 lb	6.9	.2	7.3	—	6.5	—	7.7
1,000 to 9,999 lb	7.1	1.0	6.0	.8	7.8	1.0	5.5
10,000 to 49,999 lb	8.5	1.8	10.7	2.6	3.9	2.1	8.4
50,000 to 99,999 lb	4.0	.3	15.4	2.0	18.7	1.4	6.5
100,000 lb or more	14.8	.2	39.9	3.0	34.9	2.5	23.3
For-hire truck	9.2	—	16.4	—	5.2	—	6.6
Less than 50 lb	28.4	.3	23.9	—	23.0	—	16.7
50 to 99 lb	17.0	.1	10.3	—	14.7	—	10.5
100 to 499 lb	9.9	.6	8.3	.1	11.3	.2	5.1
500 to 749 lb	8.6	.2	8.3	—	11.2	—	3.9
750 to 999 lb	8.8	.2	9.3	—	11.3	—	4.6
1,000 to 9,999 lb	12.6	1.8	9.7	1.1	10.1	1.2	3.7
10,000 to 49,999 lb	11.2	2.0	11.6	3.5	4.2	2.7	6.4
50,000 to 99,999 lb	9.7	.2	28.6	1.9	20.7	1.1	13.6
100,000 lb or more	15.8	.2	S	S	40.8	3.6	27.2
Private truck	5.3	—	10.3	—	12.1	—	6.2
Less than 50 lb	17.3	.7	7.9	—	13.3	—	11.2
50 to 99 lb	19.5	.5	17.3	—	18.0	—	5.3
100 to 499 lb	6.3	.8	7.1	.2	13.1	.1	10.6
500 to 749 lb	15.3	.5	17.0	.1	25.3	.1	7.0
750 to 999 lb	12.8	.3	10.9	—	10.9	—	9.5
1,000 to 9,999 lb	7.4	1.2	8.6	.8	12.7	1.1	6.7
10,000 to 49,999 lb	5.9	1.7	13.3	3.1	13.7	2.6	8.3
50,000 to 99,999 lb	7.8	.4	13.4	2.7	20.9	2.9	9.8
100,000 lb or more	30.7	.4	26.9	1.5	35.9	1.0	42.5
Rail	9.9	—	10.0	—	14.4	—	8.2
Less than 50 lb	S	S	S	S	S	S	34.5
50 to 99 lb	S	S	S	S	S	S	28.3
100 to 499 lb	S	S	S	S	S	S	27.3
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	49.6	—	49.9	—	S	S	28.3
1,000 to 9,999 lb	39.1	.4	43.1	—	36.0	—	28.9
10,000 to 49,999 lb	20.9	3.1	40.6	1.3	S	S	11.0
50,000 to 99,999 lb	18.5	.5	34.7	.8	30.3	.7	15.7
100,000 lb or more	10.9	3.8	9.6	1.4	10.7	3.4	5.8
Water	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	30.5
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	31.6
750 to 999 lb	S	S	S	S	S	S	31.6
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	30.2
100,000 lb or more	S	S	S	S	S	S	28.0
Shallow draft	S	S	S	S	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	31.6
750 to 999 lb	S	S	S	S	S	S	31.6
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	30.2
100,000 lb or more	S	S	S	S	S	S	28.0

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	31.6
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	13.3	—	11.9	—	13.1	—	8.0
Less than 50 lb	16.3	4.5	25.4	6.3	21.5	5.5	8.6
50 to 99 lb	32.6	1.9	26.5	1.4	25.0	1.9	9.4
100 to 499 lb	22.3	3.9	27.8	5.1	21.6	4.4	5.2
500 to 749 lb	44.1	.4	29.5	.8	28.7	1.1	21.5
750 to 999 lb	S	S	40.7	1.3	44.6	1.8	15.8
1,000 to 9,999 lb	S	S	24.5	4.5	21.8	3.8	11.8
10,000 to 49,999 lb	S	S	42.0	5.2	43.7	3.2	29.1
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Pipeline	37.6	—	49.4	—	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	S	S	S	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	S
100,000 lb or more	38.4	2.3	S	S	S	S	S
Multiple modes	8.5	—	44.6	—	16.3	—	5.3
Less than 50 lb	5.6	2.5	5.6	2.6	4.4	1.4	5.7
50 to 99 lb	11.9	1.6	8.5	1.3	9.2	.9	7.3
100 to 499 lb	13.5	2.0	31.4	6.4	37.9	3.8	12.6
500 to 749 lb	19.8	.2	12.0	.3	21.2	.2	21.8
750 to 999 lb	32.4	.6	33.6	.8	46.4	.9	10.5
1,000 to 9,999 lb	S	S	26.8	.1	31.6	.2	S
10,000 to 49,999 lb	40.4	3.6	30.6	6.0	17.6	4.8	15.5
50,000 to 99,999 lb	49.2	.2	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	5.4	—	12.9	—	16.3	—	5.3
Less than 50 lb	5.6	2.0	5.6	3.5	4.4	3.9	5.7
50 to 99 lb	11.9	1.6	8.5	1.8	9.2	2.1	7.3
100 to 499 lb	13.6	2.0	31.4	6.4	37.9	5.5	12.6
500 to 749 lb	19.9	.3	12.2	.7	22.2	.7	23.0
750 to 999 lb	34.4	.6	33.8	1.5	47.1	1.6	11.7
1,000 to 9,999 lb	45.8	.1	S	S	S	S	27.7
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	43.4	—	S	S	21.4	—	14.1
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	30.4
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	43.7	—	S	S	27.5
1,000 to 9,999 lb	S	S	46.5	.2	48.4	.3	25.3
10,000 to 49,999 lb	42.2	1.3	31.1	14.5	17.8	2.9	13.0
50,000 to 99,999 lb	S	S	S	S	S	S	48.7
100,000 lb or more	S	S	S	S	S	S	31.6
Truck and water	47.3	—	S	S	49.0	—	45.8
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	S	S	S	S	S	S	42.3
50,000 to 99,999 lb	47.9	9.4	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	25.8

See footnote at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Less than 50 lb	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—
Other and unknown modes	29.1	—	21.1	—	25.6	—	14.6
Less than 50 lb	26.4	2.9	28.2	.3	30.7	—	17.6
50 to 99 lb	25.6	1.1	17.1	.2	44.7	.2	30.3
100 to 499 lb	17.0	1.3	20.5	.8	18.7	.3	18.2
500 to 749 lb	20.7	.3	32.2	.1	33.0	.1	19.0
750 to 999 lb	30.7	.3	24.4	.2	30.1	.1	38.1
1,000 to 9,999 lb	S	S	28.3	8.1	20.4	6.1	41.0
10,000 to 49,999 lb	19.2	6.3	19.8	6.5	20.6	7.9	15.8
50,000 to 99,999 lb	S	S	S	S	S	S	25.5
100,000 lb or more	S	S	S	S	47.6	11.6	27.3

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

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

Table B-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	5.5	—	9.1	—	6.3	—	6.5
01	Live animals and live fish	S	S	S	S	S	S	25.4
02	Cereal grains	32.6	—	36.4	.2	30.6	.2	30.2
03	Other agricultural products	16.6	.2	S	S	S	S	33.7
04	Animal feed and products of animal origin, n.e.c.	33.9	.2	33.9	.7	S	S	22.3
05	Meat, fish, seafood, and their preparations	21.9	.6	18.0	.2	28.0	.5	12.3
06	Milled grain products and preparations, and bakery products	14.1	.4	16.9	.3	16.0	.4	33.3
07	Other prepared foodstuffs and fats and oils	6.5	.5	7.4	.9	21.0	1.5	26.4
08	Alcoholic beverages	23.8	.3	23.5	.1	38.9	.6	12.5
09	Tobacco products	33.9	.4	34.0	—	28.1	—	17.3
10	Monumental or building stone	S	S	38.7	—	S	S	25.5
11	Natural sands	39.2	—	S	S	S	S	S
12	Gravel and crushed stone	22.6	—	22.4	5.3	24.9	1.8	18.2
13	Nonmetallic minerals n.e.c.	27.5	—	31.3	—	30.1	.2	25.3
14	Metallic ores and concentrates	22.4	—	S	S	49.7	.8	37.7
15	Coal	S	S	S	S	S	S	30.6
17	Gasoline and aviation turbine fuel	11.3	.2	9.4	.8	5.8	.1	6.0
18	Fuel oils	22.2	.1	20.4	.4	22.2	—	8.2
19	Coal and petroleum products, n.e.c.	40.9	.1	34.2	.3	S	S	48.8
20	Basic chemicals	18.8	.4	17.6	.3	14.5	.6	24.4
21	Pharmaceutical products	13.9	.4	S	S	18.6	—	21.5
22	Fertilizers	29.7	—	34.7	.2	49.9	.4	32.8
23	Chemical products and preparations, n.e.c.	18.9	.4	22.2	.2	23.4	.3	20.3
24	Plastics and rubber	12.7	.8	8.5	—	11.1	.5	9.5
25	Logs and other wood in the rough	S	S	S	S	S	S	36.5
26	Wood products	11.9	.2	18.3	.5	17.3	.5	16.6
27	Pulp, newsprint, paper, and paperboard	10.6	.2	18.4	.6	19.8	1.6	19.7
28	Paper or paperboard articles	12.6	.2	21.6	.4	30.2	.6	14.4
29	Printed products	19.4	.6	16.2	.2	22.6	.6	9.1
30	Textiles, leather, and articles of textiles or leather	23.1	2.0	15.7	.2	29.4	1.0	6.7
31	Nonmetallic mineral products	11.5	.3	27.4	3.0	11.9	.6	15.6
32	Base metal in primary or semifinished forms and in finished basic shapes	16.8	.7	12.5	.4	18.4	1.0	12.4
33	Articles of base metal	13.0	.6	7.8	.2	12.7	.4	12.5
34	Machinery	19.5	1.0	12.6	.2	12.7	.5	13.5
35	Electronic and other electrical equipment and components and office equipment	12.2	1.0	11.4	.1	10.0	.3	8.0
36	Motorized and other vehicles (including parts)	29.3	1.6	25.8	.3	19.4	.7	19.5
37	Transportation equipment, n.e.c.	11.8	.1	13.9	—	17.3	—	7.4
38	Precision instruments and apparatus	20.1	.3	26.1	—	32.8	—	11.5
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	7.9	.2	7.7	—	7.1	—	22.5
40	Miscellaneous manufactured products	10.6	.5	16.0	.2	14.4	.4	10.9
41	Waste and scrap	19.0	.1	23.3	.6	28.1	.9	20.2
43	Mixed freight	15.0	.5	17.7	.2	21.5	.3	33.0
--	Commodity unknown	S	S	S	S	S	S	15.8

— 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-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	5.5	—	9.1	—	6.3	—	6.5
Single modes	5.2	.9	9.1	.6	5.8	1.0	9.1
Truck	5.6	1.0	9.7	1.3	5.8	2.3	2.7
For-hire truck	9.2	2.4	16.4	3.3	5.2	2.1	6.6
Private truck	5.3	2.1	10.3	3.7	12.1	2.0	6.2
Rail	9.9	.3	10.0	1.1	14.4	2.1	8.2
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	13.3	.2	11.9	—	13.1	—	8.0
Pipeline	37.6	—	49.4	.1	S	S	S
Multiple modes	8.5	.7	44.6	.5	16.3	.5	5.3
Parcel, U.S. Postal Service or courier	5.4	.4	12.9	—	16.3	.2	5.3
Truck and rail	43.4	.5	S	S	21.4	.4	14.1
Truck and water	47.3	—	S	S	49.0	.2	45.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	29.1	.7	21.1	.2	25.6	.6	14.6
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	S	S	25.4
Single modes	S	S	S	S	S	S	25.3
Truck	S	S	S	S	S	S	25.3
For-hire truck	S	S	S	S	S	S	30.0
Private truck	S	S	S	S	S	S	26.9
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	31.2
SCTG 02, CEREAL GRAINS							
Total	32.6	—	36.4	—	30.6	—	30.2
Single modes	42.6	13.6	44.1	12.3	42.1	13.6	36.4
Truck	42.6	13.6	44.1	12.3	42.1	13.6	36.4
For-hire truck	S	S	S	S	S	S	S
Private truck	S	S	49.0	13.7	37.6	13.8	32.7
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	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

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	16.6	—	S	S	S	S	33.7
Single modes	19.8	7.7	S	S	S	S	S
Truck	19.7	7.5	S	S	S	S	S
For-hire truck	24.7	10.8	S	S	S	S	22.3
Private truck	26.3	9.7	29.0	12.2	30.1	11.3	29.9
Rail	S	S	S	S	S	S	30.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	24.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25.1
Truck and rail	S	S	S	S	S	S	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	33.9	—	33.9	—	S	S	22.3
Single modes	32.7	1.4	33.7	1.0	S	S	23.9
Truck	34.3	6.7	26.2	7.4	36.8	14.7	26.8
For-hire truck	S	S	S	S	S	S	24.4
Private truck	17.7	11.7	15.3	10.3	35.8	14.6	30.0
Rail	S	S	44.0	5.7	S	S	21.7
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)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	32.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	35.1
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	21.9	—	18.0	—	28.0	—	12.3
Single modes	22.0	.9	17.8	.7	27.9	.8	12.5
Truck	22.0	.9	17.8	.7	27.9	.8	12.5
For-hire truck	S	S	42.4	8.4	49.9	9.4	21.8
Private truck	16.5	9.7	17.9	8.6	17.3	9.7	14.5
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	32.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	32.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	47.6	.7	48.0	.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 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	14.1	—	16.9	—	16.0	—	33.3
Single modes	14.2	.4	17.1	.3	16.0	.2	28.4
Truck	14.7	2.4	18.1	4.3	20.8	9.2	28.6
For-hire truck	17.7	8.4	19.6	7.3	14.2	8.9	15.6
Private truck	22.5	8.8	21.3	7.4	32.5	10.0	28.5
Rail	35.9	2.0	36.6	4.2	44.0	9.2	26.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38.2	.5	35.1	.3	42.9	.2	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	6.5	—	7.4	—	21.0	—	26.4
Single modes	6.3	.7	6.8	1.3	22.6	2.3	27.9
Truck	6.3	1.6	8.4	3.8	15.3	7.5	22.5
For-hire truck	11.5	4.1	15.5	4.0	21.3	3.1	12.7
Private truck	12.9	5.4	15.5	7.0	26.8	5.0	18.2
Rail	29.6	1.6	29.1	3.8	40.5	8.1	19.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	S	S	S	S	S	S	S
Multiple modes	26.4	.6	S	S	31.7	2.3	S
Parcel, U.S. Postal Service or courier	S	S	S	S	49.9	—	S
Truck and rail	26.7	.6	S	S	31.8	2.3	28.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	36.3	—	37.9	—	45.6	.1	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	23.8	—	23.5	—	38.9	—	12.5
Single modes	22.2	2.5	23.2	5.6	43.4	9.4	11.8
Truck	22.2	2.5	23.2	5.6	43.4	9.4	11.8
For-hire truck	S	S	43.2	10.4	44.9	17.4	25.2
Private truck	7.9	12.2	11.1	12.0	S	S	7.5
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	29.9
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	37.8

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 09, TOBACCO PRODUCTS							
Total	33.9	—	34.0	—	28.1	—	17.3
Single modes	34.1	2.0	34.4	1.6	28.4	2.6	18.2
Truck	34.1	2.0	34.5	1.6	28.4	2.6	18.3
For-hire truck	40.6	15.0	37.6	8.8	39.0	12.8	18.5
Private truck	37.6	14.7	49.5	11.8	S	S	25.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.4	1.5	38.3	1.6	30.3	2.7	19.5
Parcel, U.S. Postal Service or courier	32.4	1.5	38.3	1.6	30.3	2.7	19.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	34.3
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	38.7	—	S	S	25.5
Single modes	S	S	36.4	3.0	49.5	1.6	25.1
Truck	S	S	39.6	4.5	S	S	25.1
For-hire truck	S	S	49.0	13.6	S	S	27.4
Private truck	S	S	S	S	S	S	40.5
Rail	S	S	S	S	S	S	28.2
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	31.5
SCTG 11, NATURAL SANDS							
Total	39.2	—	S	S	S	S	S
Single modes	40.4	2.8	S	S	S	S	S
Truck	33.6	5.1	44.4	8.6	S	S	S
For-hire truck	45.5	14.8	S	S	S	S	S
Private truck	35.0	16.9	43.5	12.3	S	S	26.7
Rail	S	S	S	S	S	S	S
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)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	30.2

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	22.6	—	22.4	—	24.9	—	18.2
Single modes	22.6	—	22.4	—	24.9	—	18.2
Truck	23.3	3.4	22.8	2.0	27.5	6.8	17.1
For-hire truck	37.6	3.2	42.2	3.7	44.1	3.1	17.7
Private truck	19.5	4.5	19.6	4.3	27.5	7.1	17.7
Rail	S	S	S	S	S	S	28.1
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)	—	—	—	—	—	—	—
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 13, NONMETALLIC MINERALS N.E.C.							
Total	27.5	—	31.3	—	30.1	—	25.3
Single modes	27.7	5.3	34.3	5.6	34.5	7.5	30.9
Truck	31.4	8.4	31.9	12.3	25.4	15.4	37.4
For-hire truck	36.9	12.3	27.5	8.6	26.0	8.7	13.5
Private truck	29.5	12.8	S	S	30.1	13.5	13.2
Rail	38.9	7.2	42.4	12.4	39.9	15.7	21.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	38.1
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	40.8
Truck and rail	S	S	S	S	S	S	30.2
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	30.0
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	22.4	—	S	S	49.7	—	37.7
Single modes	24.8	6.8	S	S	S	S	34.0
Truck	25.2	6.9	S	S	S	S	40.6
For-hire truck	35.5	9.8	S	S	S	S	42.7
Private truck	22.6	7.3	27.8	3.6	24.4	8.8	48.9
Rail	S	S	S	S	S	S	30.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	43.1	5.8	S	S	S	S	21.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	27.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	30.1

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 15, COAL							
Total	S	S	S	S	S	S	30.6
Single modes	S	S	S	S	S	S	30.6
Truck	47.8	8.1	46.8	8.5	45.4	15.6	41.2
For-hire truck	47.8	8.8	46.9	9.0	45.4	12.9	26.2
Private truck	S	S	S	S	S	S	31.4
Rail	S	S	S	S	S	S	31.6
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)	-	-	-	-	-	-	-
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	11.3	-	9.4	-	5.8	-	6.0
Single modes	11.4	.2	9.5	.2	5.8	.5	6.0
Truck	11.4	.2	9.5	.2	5.8	.5	6.0
For-hire truck	18.5	3.0	20.9	3.4	18.8	3.1	12.4
Private truck	14.6	2.9	11.6	3.3	5.9	3.2	5.9
Rail	-	-	-	-	-	-	-
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	31.3
SCTG 18, FUEL OILS							
Total	22.2	-	20.4	-	22.2	-	8.2
Single modes	22.2	.1	20.3	.1	22.3	.2	8.3
Truck	23.0	3.9	21.5	4.4	24.6	7.0	8.9
For-hire truck	46.4	8.7	44.1	8.0	32.5	5.6	33.7
Private truck	19.5	8.3	16.3	7.8	26.7	7.1	10.0
Rail	S	S	S	S	S	S	31.6
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)	-	-	-	-	-	-	-
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	34.6

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 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	40.9	—	34.2	—	S	S	48.8
Single modes	41.1	3.8	34.0	1.1	S	S	47.1
Truck	41.1	3.8	34.0	1.1	S	S	47.1
For-hire truck	S	S	36.6	10.0	S	S	27.0
Private truck	48.1	10.1	S	S	S	S	16.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	49.0	3.2	S	S	S	S	28.5
Parcel, U.S. Postal Service or courier	49.0	3.2	S	S	S	S	28.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 20, BASIC CHEMICALS							
Total	18.8	—	17.6	—	14.5	—	24.4
Single modes	17.4	3.1	17.7	.4	14.4	.9	24.3
Truck	20.8	5.8	11.1	5.6	11.4	6.7	17.9
For-hire truck	23.8	5.9	16.6	4.1	13.2	3.7	5.8
Private truck	7.4	7.6	13.4	8.1	22.0	7.6	21.4
Rail	20.7	3.8	20.4	4.7	20.8	6.7	13.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	24.0
Pipeline	46.6	1.6	S	S	S	S	S
Multiple modes	S	S	38.2	.3	40.8	.4	22.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	23.1
Truck and rail	S	S	S	S	S	S	31.1
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	13.9	—	S	S	18.6	—	21.5
Single modes	17.6	5.8	S	S	22.0	6.1	35.2
Truck	17.7	6.0	S	S	22.4	6.6	18.4
For-hire truck	35.3	9.8	31.8	11.5	35.7	10.4	S
Private truck	23.7	10.4	S	S	31.4	11.7	19.7
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	47.4	.1	45.4	.6	28.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.8	3.7	37.6	3.8	41.1	6.1	13.3
Parcel, U.S. Postal Service or courier	29.8	3.7	37.6	3.8	41.1	6.1	13.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	29.7	—	34.7	—	49.9	—	32.8
Single modes	29.7	—	34.7	—	49.9	—	34.0
Truck	30.5	6.6	37.1	7.7	45.2	13.6	32.6
For-hire truck	33.6	9.1	44.3	6.9	45.8	15.6	21.7
Private truck	37.6	8.0	40.8	7.1	48.7	9.2	36.4
Rail	S	S	S	S	S	S	24.3
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	30.9
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	18.9	—	22.2	—	23.4	—	20.3
Single modes	19.6	4.5	24.1	5.2	24.2	6.9	23.8
Truck	19.6	4.3	24.3	5.2	22.5	7.1	24.1
For-hire truck	18.7	5.5	23.0	7.3	23.3	7.9	12.0
Private truck	24.9	3.7	34.7	7.4	44.6	5.6	15.7
Rail	49.1	1.0	S	S	S	S	25.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	22.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	40.6	2.4	S	S	S	S	19.3
Parcel, U.S. Postal Service or courier	37.4	1.0	22.4	.1	34.3	.2	19.7
Truck and rail	S	S	S	S	S	S	29.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	25.7
SCTG 24, PLASTICS AND RUBBER							
Total	12.7	—	8.5	—	11.1	—	9.5
Single modes	11.2	4.2	8.6	1.3	11.4	1.3	10.0
Truck	11.2	4.2	8.8	2.0	12.5	2.8	9.9
For-hire truck	12.9	4.2	10.8	3.6	14.0	4.1	5.1
Private truck	11.4	2.6	9.7	2.6	17.5	2.5	14.2
Rail	23.6	1.0	15.7	1.4	17.0	2.3	13.2
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)	S	S	49.6	—	S	S	13.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	39.8	1.2	34.4	1.2	17.4
Parcel, U.S. Postal Service or courier	22.9	.8	13.7	—	15.1	—	17.6
Truck and rail	S	S	46.9	1.2	40.3	1.2	30.7
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	24.9	.1	36.5	.2	44.7	.3	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	S	S	S	S	S	S	36.5
Single modes	47.1	11.9	S	S	S	S	S
Truck	47.1	11.9	S	S	S	S	S
For-hire truck	S	S	S	S	S	S	34.8
Private truck	S	S	S	S	S	S	40.0
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	—	—	—	—	—	—	—
SCTG 26, WOOD PRODUCTS							
Total	11.9	—	18.3	—	17.3	—	16.6
Single modes	12.4	.9	18.2	.8	14.9	2.6	15.5
Truck	12.2	1.2	18.0	.9	14.5	3.6	15.6
For-hire truck	18.4	5.0	25.4	7.6	17.7	5.5	13.0
Private truck	13.9	4.4	26.4	7.7	17.0	4.3	10.7
Rail	S	S	S	S	S	S	29.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.1	.5	48.7	.2	S	S	13.0
Parcel, U.S. Postal Service or courier	35.3	.1	26.0	—	34.1	—	13.5
Truck and rail	S	S	S	S	S	S	46.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	37.0	.8	48.0	.9	S	S	43.3
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	10.6	—	18.4	—	19.8	—	19.7
Single modes	10.7	1.1	18.2	.6	19.5	1.0	15.9
Truck	11.1	5.4	28.1	7.5	31.5	8.3	13.9
For-hire truck	14.4	4.7	33.4	6.7	32.6	8.1	13.7
Private truck	14.1	3.8	29.5	3.1	44.3	.9	10.6
Rail	18.4	4.3	18.5	6.6	20.3	8.0	12.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.2
Pipeline	S	S	S	S	S	S	S
Multiple modes	25.0	1.0	30.5	.5	31.5	.9	45.8
Parcel, U.S. Postal Service or courier	30.1	.1	26.7	—	41.9	—	39.4
Truck and rail	30.7	1.1	32.2	.5	36.1	1.0	22.0
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	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 28, PAPER OR PAPERBOARD ARTICLES							
Total	12.6	—	21.6	—	30.2	—	14.4
Single modes	15.0	3.2	22.7	2.3	32.8	3.9	23.6
Truck	15.0	3.2	22.6	2.3	33.1	3.8	31.9
For-hire truck	21.3	5.7	31.1	4.7	22.1	5.6	25.5
Private truck	17.2	4.9	21.8	5.5	S	S	39.0
Rail	S	S	S	S	S	S	31.6
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)	48.3	.2	S	S	S	S	23.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	18.0	3.1	28.4	1.2	44.2	3.7	9.5
Parcel, U.S. Postal Service or courier	17.7	2.4	21.3	.4	26.0	.6	9.7
Truck and rail	S	S	S	S	S	S	28.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.5
SCTG 29, PRINTED PRODUCTS							
Total	19.4	—	16.2	—	22.6	—	9.1
Single modes	22.7	3.4	15.8	6.2	24.1	5.0	22.5
Truck	22.9	3.5	15.7	6.2	24.0	5.3	34.7
For-hire truck	29.4	6.0	22.6	8.2	24.4	5.9	10.0
Private truck	13.2	2.6	24.0	4.2	28.4	1.2	S
Rail	S	S	S	S	S	S	28.1
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)	38.3	.4	40.1	.1	36.2	.4	26.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	15.9	2.8	34.3	1.6	20.2	4.5	8.0
Parcel, U.S. Postal Service or courier	16.3	2.9	37.2	1.8	16.6	4.8	8.0
Truck and rail	S	S	S	S	S	S	27.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.9	1.6	43.6	4.9	28.0	.6	31.3
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	23.1	—	15.7	—	29.4	—	6.7
Single modes	25.3	2.8	16.4	.9	30.3	1.3	6.0
Truck	25.3	2.8	16.5	.9	30.4	1.4	6.4
For-hire truck	30.8	6.3	20.2	4.9	32.2	3.8	5.2
Private truck	11.9	4.4	8.3	4.0	10.3	2.5	32.3
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)	41.1	—	37.3	—	43.1	—	15.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	14.9	1.2	16.5	.6	18.2	1.1	6.7
Parcel, U.S. Postal Service or courier	14.8	1.2	14.4	.6	15.6	1.2	6.7
Truck and rail	42.2	.2	42.2	.6	42.1	.4	24.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	34.9	1.1	42.6	.7	31.5

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	11.5	—	27.4	—	11.9	—	15.6
Single modes	11.1	3.0	27.8	1.1	13.3	4.2	20.9
Truck	11.4	2.8	28.9	2.4	13.1	4.2	22.5
For-hire truck	13.7	4.0	S	S	14.4	3.5	19.6
Private truck	16.4	3.0	23.4	7.5	15.8	2.4	15.9
Rail	33.6	1.3	35.8	1.9	32.5	3.1	26.6
Water	S	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S	S
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	39.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	48.5	.8	S	S	S	S	26.7
Parcel, U.S. Postal Service or courier	S	S	S	S	38.0	—	26.6
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	46.8
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	16.8	—	12.5	—	18.4	—	12.4
Single modes	16.8	1.3	12.6	1.3	18.6	1.9	12.1
Truck	16.7	3.4	13.1	3.3	15.2	5.8	11.8
For-hire truck	19.2	3.8	13.3	5.1	15.8	5.1	8.5
Private truck	15.6	3.5	25.4	4.9	20.0	1.7	20.8
Rail	45.4	3.2	37.9	2.8	35.9	6.1	19.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	23.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	42.7	.3	S	S	46.8	.1	29.7
Parcel, U.S. Postal Service or courier	48.8	.3	28.6	—	33.0	—	30.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	27.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	44.6	1.3	32.9	1.2	34.1	2.0	S
SCTG 33, ARTICLES OF BASE METAL							
Total	13.0	—	7.8	—	12.7	—	12.5
Single modes	13.0	2.9	9.6	3.2	13.4	2.1	12.2
Truck	12.8	3.2	9.6	3.4	13.9	3.7	12.8
For-hire truck	15.2	3.7	12.0	4.8	15.2	4.2	7.2
Private truck	15.0	3.4	17.9	4.2	21.7	2.7	15.9
Rail	48.9	.5	43.9	.9	43.1	2.0	25.9
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)	S	S	S	S	S	S	23.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	23.5	2.0	20.2	.4	30.1	.6	11.7
Parcel, U.S. Postal Service or courier	23.4	2.0	19.6	.3	25.4	.5	12.3
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	29.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.2	1.3	S	S	49.5	1.8	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	19.5	—	12.6	—	12.7	—	13.5
Single modes	21.7	2.0	13.2	1.1	13.0	1.4	20.2
Truck	22.1	2.1	13.4	1.2	13.4	1.5	21.6
For-hire truck	28.5	5.5	18.5	5.4	15.9	4.5	9.3
Private truck	21.9	4.5	24.9	5.0	41.7	4.0	39.8
Rail	48.0	.4	48.8	.4	37.9	.9	25.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	37.3	.4	S	S	S	S	6.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.4	1.7	20.0	.5	32.6	.8	19.2
Parcel, U.S. Postal Service or courier	25.5	1.7	19.7	.5	27.4	.5	19.2
Truck and rail	S	S	S	S	S	S	30.2
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	26.7	1.3	19.2	.8	24.2	.9	28.6
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	12.2	—	11.4	—	10.0	—	8.0
Single modes	13.6	2.3	11.5	.4	9.5	.6	17.7
Truck	14.3	2.7	12.0	.8	10.7	2.2	17.1
For-hire truck	16.7	4.3	11.3	3.9	13.1	5.2	4.4
Private truck	18.3	1.9	27.9	3.1	27.8	3.1	19.3
Rail	48.1	.9	30.6	.8	26.5	2.3	15.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	49.8	.1	49.3	.2	6.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	12.2	2.3	15.8	.3	31.8	.6	8.7
Parcel, U.S. Postal Service or courier	12.6	2.3	13.8	.3	18.1	.3	8.7
Truck and rail	S	S	S	S	S	S	23.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	27.4	.3	24.0	.1	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	29.3	—	25.8	—	19.4	—	19.5
Single modes	20.5	4.3	21.6	2.7	19.4	.8	32.8
Truck	20.6	4.2	21.7	2.6	19.8	1.3	33.5
For-hire truck	24.2	3.6	24.9	3.8	21.2	4.2	S
Private truck	15.8	3.3	17.0	4.0	25.8	3.6	30.6
Rail	S	S	S	S	S	S	30.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	26.6	.1	24.0	—	29.7	.1	9.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	34.2	.6	29.2	.2	24.4	.3	15.3
Parcel, U.S. Postal Service or courier	34.8	.6	29.7	.2	21.9	.3	15.3
Truck and rail	S	S	S	S	S	S	29.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	38.8	.9	35.1

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 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	11.8	—	13.9	—	17.3	—	7.4
Single modes	9.9	3.8	12.7	2.1	17.6	2.7	8.0
Truck	9.6	4.2	12.8	2.0	18.3	3.1	14.3
For-hire truck	19.9	8.4	23.6	10.3	27.4	10.7	9.0
Private truck	21.9	7.9	26.9	10.4	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	30.3	3.9	S	S	38.8	1.3	13.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	47.3	1.0	38.5	—	42.0	—	15.7
Parcel, U.S. Postal Service or courier	47.3	1.0	38.5	—	42.0	—	15.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	49.2	4.1	44.2	2.1	41.0	2.8	22.8
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	20.1	—	26.1	—	32.8	—	11.5
Single modes	11.0	7.7	25.4	14.5	26.5	16.0	12.3
Truck	16.9	3.8	26.5	13.9	27.2	14.4	23.8
For-hire truck	22.8	2.8	25.0	11.2	31.1	13.0	14.7
Private truck	35.6	3.7	S	S	S	S	31.7
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	17.9	6.9	26.7	1.0	25.6	1.7	7.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	30.3	7.3	32.0	5.6	36.3	7.0	12.7
Parcel, U.S. Postal Service or courier	30.3	7.3	32.0	5.6	36.3	7.0	12.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	27.9
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	7.9	—	7.7	—	7.1	—	22.5
Single modes	7.9	1.5	7.6	.9	7.4	2.7	20.6
Truck	8.0	1.5	7.6	.9	7.3	2.6	20.9
For-hire truck	9.4	4.4	12.7	5.3	11.4	5.5	5.9
Private truck	21.4	5.0	21.9	5.7	27.8	5.6	S
Rail	40.0	.2	39.8	.1	42.7	.5	22.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	47.0	—	44.7	—	31.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	28.0	.1	29.1	—	33.2	.1	13.2
Parcel, U.S. Postal Service or courier	29.0	.1	30.5	—	33.2	—	13.2
Truck and rail	S	S	S	S	S	S	30.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	45.7	.8	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	10.6	—	16.0	—	14.4	—	10.9
Single modes	12.6	2.5	17.5	3.6	15.7	5.0	19.4
Truck	13.0	2.7	17.7	3.6	16.2	5.1	17.6
For-hire truck	11.6	2.2	19.2	4.1	18.2	5.9	5.4
Private truck	19.3	2.8	26.1	4.5	28.3	5.6	12.3
Rail	S	S	S	S	S	S	32.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	47.9	.1	45.3	.2	7.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	9.7	2.4	38.6	3.6	45.7	5.1	9.2
Parcel, U.S. Postal Service or courier	10.5	2.5	43.4	3.6	S	S	9.2
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	25.2	.4	32.5	.2	25.2	.2	28.3
SCTG 41, WASTE AND SCRAP							
Total	19.0	—	23.3	—	28.1	—	20.2
Single modes	19.2	.6	23.6	.9	28.2	.2	20.2
Truck	24.1	5.7	29.7	6.4	32.8	5.4	22.8
For-hire truck	28.1	5.2	35.0	5.5	35.0	5.0	16.4
Private truck	25.8	5.2	32.6	5.7	28.6	2.1	27.2
Rail	24.8	6.5	29.7	7.4	36.3	7.9	35.3
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)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	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	32.5
SCTG 43, MIXED FREIGHT							
Total	15.0	—	17.7	—	21.5	—	33.0
Single modes	15.4	1.8	18.5	2.5	23.2	6.2	28.2
Truck	15.4	1.8	18.5	2.5	23.2	6.2	28.2
For-hire truck	22.0	7.7	26.2	9.8	27.4	8.3	13.4
Private truck	41.8	7.5	26.2	9.8	28.7	5.8	17.1
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	27.1
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	27.5
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	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	S	S	S	S	S	S	15.8
Single modes	49.7	10.6	S	S	S	S	34.9
Truck	49.4	11.0	S	S	S	S	37.3
For-hire truck	S	S	S	S	40.3	16.4	28.8
Private truck	40.3	13.2	S	S	S	S	19.5
Rail	S	S	S	S	S	S	31.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	46.4	—	23.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.2
Parcel, U.S. Postal Service or courier	49.7	7.4	S	S	S	S	37.0
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

— 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	5.5	—	9.1	—	6.3	—
NEW ENGLAND STATES						
Connecticut	17.1	—	39.3	—	40.0	.2
Maine	23.9	—	18.0	—	17.4	—
Massachusetts	18.1	.1	16.9	—	16.7	.2
New Hampshire	23.2	—	22.2	—	22.0	—
Rhode Island	13.7	—	13.4	—	13.4	—
Vermont	24.9	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	13.5	.1	14.4	—	16.4	.4
New York	7.4	.1	16.0	—	17.5	.2
Pennsylvania	18.4	.5	9.1	.1	9.3	.3
EAST NORTH CENTRAL STATES						
Illinois	7.7	.2	17.2	.2	14.0	.5
Indiana	8.5	.1	11.2	—	10.9	.2
Michigan	8.2	.3	10.8	.1	10.5	.3
Ohio	S	S	24.2	.3	25.7	1.0
Wisconsin	14.2	.2	14.6	—	16.4	.1
WEST NORTH CENTRAL STATES						
Iowa	16.0	.1	24.1	—	23.0	.1
Kansas	21.8	.1	26.2	—	27.8	.3
Minnesota	9.5	—	S	S	S	S
Missouri	11.7	.2	11.2	—	9.4	.1
Nebraska	13.7	—	22.0	—	22.6	—
North Dakota	21.0	—	21.3	—	21.6	—
South Dakota	31.7	—	22.3	—	21.8	—
SOUTH ATLANTIC STATES						
Delaware	22.5	—	S	S	48.2	—
District of Columbia	42.3	—	S	S	S	S
Florida	4.9	.1	9.7	.2	9.7	.3
Georgia	9.4	.6	14.0	.5	14.7	.6
Maryland	10.0	—	10.7	—	13.8	.1
North Carolina	4.8	.2	6.9	.3	4.3	.2
South Carolina	11.9	.3	20.4	.5	22.4	.8
Virginia	13.1	.4	8.2	.1	11.2	.3
West Virginia	15.0	—	9.3	—	10.6	—
EAST SOUTH CENTRAL STATES						
Alabama	20.6	.4	19.9	.7	19.5	.7
Kentucky	8.7	.4	10.0	.3	4.7	.2
Mississippi	8.7	.2	29.9	.5	19.7	.3
Tennessee	5.1	1.0	10.6	2.3	14.2	1.6
WEST SOUTH CENTRAL STATES						
Arkansas	8.9	.2	31.5	.8	37.4	1.2
Louisiana	13.1	.2	30.2	.4	35.1	1.3
Oklahoma	16.5	.1	S	S	S	S
Texas	9.7	.2	7.7	.2	6.7	.6
MOUNTAIN STATES						
Arizona	13.8	—	16.4	—	17.6	.1
Colorado	12.9	—	21.2	—	21.2	.3
Idaho	21.8	—	38.4	—	38.2	—
Montana	26.6	—	27.1	—	27.7	—
Nevada	28.2	—	23.3	—	24.0	.1
New Mexico	23.2	—	25.4	—	25.5	—
Utah	16.7	—	31.1	—	32.9	.2
Wyoming	21.8	—	37.2	—	39.6	—
PACIFIC STATES						
Alaska	29.0	—	44.7	—	39.5	—
California	22.0	1.1	8.7	.1	8.4	.9
Hawaii	38.4	—	S	S	S	S
Oregon	12.2	—	14.2	—	14.9	.2
Washington	11.1	—	38.2	—	38.8	.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.

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	2.4	-	9.1	-	17.1	-
NEW ENGLAND STATES						
Connecticut	16.8	-	35.7	-	36.9	.2
Maine	14.2	-	27.0	-	27.8	.2
Massachusetts	18.1	.2	16.6	-	16.9	-
New Hampshire	24.5	-	22.5	-	21.2	-
Rhode Island	24.7	-	37.9	-	38.5	-
Vermont	17.0	-	17.7	-	16.9	-
MIDDLE ATLANTIC STATES						
New Jersey	14.1	.2	17.1	-	17.0	.2
New York	13.2	.3	10.1	-	11.4	.2
Pennsylvania	13.1	.4	31.9	.3	42.8	1.4
EAST NORTH CENTRAL STATES						
Illinois	7.3	.2	43.0	1.6	27.3	1.6
Indiana	17.9	.6	22.2	.4	26.3	.7
Michigan	9.9	.3	10.2	-	9.7	.2
Ohio	9.2	.4	12.2	.2	12.4	.6
Wisconsin	15.0	.3	23.3	.1	22.0	.4
WEST NORTH CENTRAL STATES						
Iowa	14.6	.1	12.4	-	12.5	.1
Kansas	22.0	.2	16.9	-	18.3	.2
Minnesota	9.3	.1	34.7	.3	34.9	1.2
Missouri	10.2	.2	29.6	.5	29.3	.9
Nebraska	20.3	-	15.0	-	16.2	-
North Dakota	42.3	-	S	S	S	S
South Dakota	16.2	-	19.5	-	19.5	-
SOUTH ATLANTIC STATES						
Delaware	47.4	-	34.2	-	36.4	-
District of Columbia	S	S	S	S	S	S
Florida	10.4	.2	12.9	-	15.1	.2
Georgia	10.9	.5	23.2	.9	19.8	1.0
Maryland	13.8	-	30.0	-	27.2	-
North Carolina	7.8	.3	17.8	.2	11.3	.2
South Carolina	6.7	.1	11.4	-	12.4	.2
Virginia	11.3	.2	49.8	1.2	18.6	.3
West Virginia	11.3	-	26.0	.2	38.8	1.1
EAST SOUTH CENTRAL STATES						
Alabama	19.1	.6	S	S	S	S
Kentucky	7.5	.3	24.2	1.9	24.9	2.1
Mississippi	8.0	.2	8.1	.3	8.7	.2
Tennessee	5.1	1.4	10.6	3.6	14.2	1.4
WEST SOUTH CENTRAL STATES						
Arkansas	10.0	.2	29.1	.8	18.5	.3
Louisiana	28.0	.5	43.8	1.3	43.4	3.0
Oklahoma	16.3	-	18.0	-	18.5	.3
Texas	8.7	.3	10.6	.3	10.7	.9
MOUNTAIN STATES						
Arizona	29.6	.2	37.1	-	38.4	-
Colorado	22.4	-	S	S	S	S
Idaho	19.5	-	47.4	-	45.2	.5
Montana	29.9	-	38.2	-	37.5	.1
Nevada	47.4	-	S	S	S	S
New Mexico	31.9	-	47.1	-	49.2	-
Utah	29.1	-	S	S	S	S
Wyoming	30.1	-	36.0	-	35.0	.6
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	9.0	.3	11.3	-	11.2	.4
Hawaii	S	S	S	S	S	S
Oregon	20.3	-	27.0	-	28.0	.3
Washington	45.5	.3	27.0	-	26.6	.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.

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.

	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>
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

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

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

YOUR RESPONSE IS REQUIRED BY LAW. Title 13, United States Code, requires businesses and other organizations that receive this questionnaire to answer the questions and return the report to the Census Bureau. By the same law, **YOUR CENSUS REPORT IS CONFIDENTIAL.** It may be seen only by Census Bureau employees and may be used only for statistical purposes. Further, copies retained in respondents' files are immune from legal process.

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. ↗

Item F SHIPMENT CHARACTERISTICS

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

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

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

2 — Private truck
3 — For-hire truck

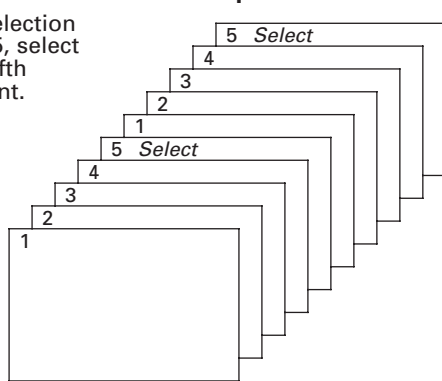
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

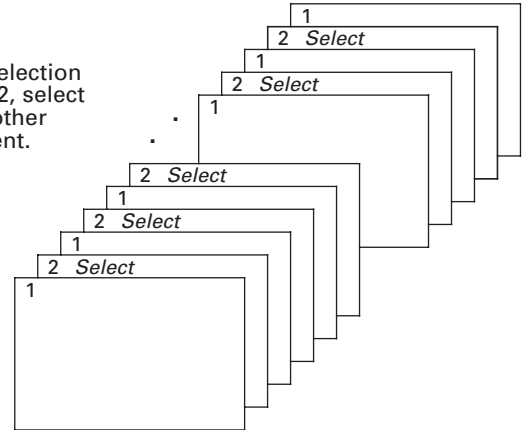
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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


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

Containerized? (Y/N)	U.S. destination <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
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									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	

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

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RETURN TO

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(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.*

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	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.

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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						| | | |		| | | |

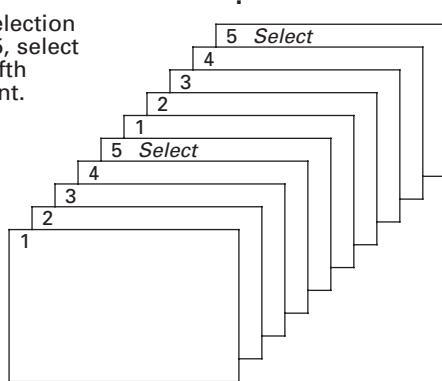
Mode of transport codes for columns (k) and (n) 1 — Parcel delivery, courier, or U.S. Postal Service 2 — Private truck 3 — For-hire truck 4 — Railroad Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

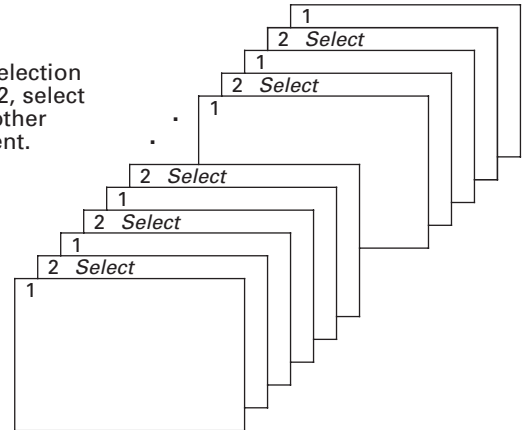
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment 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>		Export mode	Line No.
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
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								
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28								
29								
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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> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode (n)	Line No. (o)
	(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
 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.

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)	(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.

