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1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

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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	567 017	100.0	913 505	100.0	206 392	100.0	418
Single modes	490 342	86.5	862 896	94.5	189 009	91.6	179
Truck ¹	366 365	64.6	465 355	50.9	79 223	38.4	145
For-hire truck	195 900	34.5	199 559	21.8	56 467	27.4	490
Private truck	168 297	29.7	262 281	28.7	22 096	10.7	61
Rail	43 841	7.7	95 987	10.5	59 935	29.0	903
Water	19 701	3.5	95 199	10.4	31 164	15.1	400
Shallow draft	15 032	2.7	69 440	7.6	15 009	7.3	339
Great Lakes	—	—	—	—	—	—	—
Deep draft	4 670	.8	25 759	2.8	16 155	7.8	663
Air (includes truck and air)	18 086	3.2	151	—	206	.1	1 357
Pipeline ²	42 349	7.5	206 204	22.6	S	S	S
Multiple modes	60 622	10.7	7 723	.8	S	S	815
Parcel, U.S. Postal Service or courier	57 644	10.2	1 225	.1	852	.4	815
Truck and rail	2 469	.4	4 147	.5	2 986	1.4	898
Truck and water	S	S	S	S	S	S	6 597
Rail and water	S	S	S	S	S	S	S
Other multiple modes	66	—	S	S	S	S	578
Other and unknown modes	16 053	2.8	42 887	4.7	3 068	1.5	97

— 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	567 017	451 847	25.5	913 505	882 021	3.6	206 392	201 496	2.4	418	337	24.0
Single modes	490 342	401 356	22.2	862 896	817 331	5.6	189 009	173 183	9.1	179	191	-6.3
Truck ¹	366 365	317 229	15.5	465 355	455 443	2.2	79 223	57 755	37.2	145	143	1.2
For-hire truck	195 900	168 751	16.1	199 559	220 128	-9.3	56 467	39 769	42.0	490	461	6.3
Private truck	168 297	139 810	20.4	262 281	234 023	12.1	22 096	17 708	24.8	61	52	15.8
Rail	43 841	30 431	44.1	95 987	130 663	-26.5	59 935	67 150	-10.7	903	818	10.3
Water	19 701	11 729	68.0	95 199	62 911	51.3	31 164	36 900	-15.5	400	375	6.6
Shallow draft	15 032	7 123	111.0	69 440	36 396	90.8	15 009	10 834	38.5	339	266	27.4
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	4 670	4 606	1.4	25 759	26 515	-2.9	16 155	26 066	-38.0	663	971	-31.8
Air (includes truck and air)	18 086	8 609	110.1	151	S	S	206	197	5.0	1 357	1 215	11.7
Pipeline ²	42 349	33 358	27.0	206 204	168 049	22.7	S	S	S	S	S	S
Multiple modes	60 622	36 302	67.0	7 723	17 739	-56.5	S	S	S	815	663	23.0
Parcel, U.S. Postal Service or courier	57 644	31 679	82.0	1 225	942	30.0	852	553	54.1	815	662	23.0
Truck and rail	2 469	1 363	81.2	4 147	1 542	168.9	2 986	996	199.7	898	915	-1.8
Truck and water	S	2 227	S	S	8 830	S	S	2 534	S	6 597	S	S
Rail and water	S	S	S	S	S	S	S	S	S	S	S	S
Other multiple modes	66	S	S	S	S	S	S	S	S	578	1 661	-65.2
Other and unknown modes	16 053	14 189	13.1	42 887	46 951	-8.7	3 068	5 964	-48.6	97	209	-53.7

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

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

S Data do not meet publication standards because of high sampling variability or other reasons. 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	86.5	88.8	94.5	92.7	91.6	85.9
Truck ¹	64.6	70.2	50.9	51.6	38.4	28.7
For-hire truck	34.5	37.3	21.8	25.0	27.4	19.7
Private truck	29.7	30.9	28.7	26.5	10.7	8.8
Rail	7.7	6.7	10.5	14.8	29.0	33.3
Water	3.5	2.6	10.4	7.1	15.1	18.3
Shallow draft	2.7	1.6	7.6	4.1	7.3	5.4
Great Lakes	—	—	—	—	—	—
Deep draft .....	.8	1.0	2.8	3.0	7.8	12.9
Air (includes truck and air)	3.2	1.9	—	S	.1	.1
Pipeline ²	7.5	7.4	22.6	19.1	S	S
Multiple modes	10.7	8.0	.8	2.0	S	S
Parcel, U.S. Postal Service or courier	10.2	7.0	.1	.1	.4	.3
Truck and rail .....	.4	.3	.5	.2	1.4	.5
Truck and water	S	.5	S	1.0	S	1.3
Rail and water	S	—	S	—	S	—
Other multiple modes	—	S	S	S	S	S
Other and unknown modes	2.8	3.1	4.7	5.3	1.5	3.0

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

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

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

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

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

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

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

Mode of transportation ¹	Ton-miles		Average miles per shipment
	Number (millions)	Percent	
Total	206 392	100.0	412
Truck	79 475	38.5	143
Rail	62 748	30.4	895
Shallow draft	15 402	7.5	359
Great Lakes	S	S	699
Deep draft	26 117	12.7	3 937
Air	197	.1	1 287
Parcel, U.S. Postal Service or courier	852	.4	815
Pipeline	S	S	S
Other and unknown modes	3 072	1.5	97

— 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—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	4 670	100.0	25 759	100.0	16 155	100.0
Less than 50 miles	2 046	43.8	12 423	48.2	229	1.4
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	1 015	21.7	5 454	21.2	5 103	31.6
1,000 to 1,499 miles	1 015	21.7	3 978	15.4	8 402	52.0
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	18 086	100.0	151	100.0	206	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	S	S	1	.6
100 to 249 miles	1 012	5.6	8	5.6	3	1.5
250 to 499 miles	S	S	7	4.6	5	2.5
500 to 749 miles	2 274	12.6	25	16.8	29	13.9
750 to 999 miles	3 737	20.7	40	26.4	50	24.2
1,000 to 1,499 miles	7 490	41.4	58	38.3	96	46.6
1,500 to 1,999 miles	1 397	7.7	7	4.5	15	7.1
2,000 miles or more	74	.4	S	S	S	S
Pipeline²	42 349	100.0	206 204	100.0	S	S
Less than 50 miles	31 019	73.2	152 979	74.2	S	S
50 to 99 miles	2 190	5.2	6 728	3.3	S	S
100 to 249 miles	4 004	9.5	19 837	9.6	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	1 272	3.0	7 768	3.8	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	60 622	100.0	7 723	100.0	S	S
Less than 50 miles	7 972	13.2	S	S	31	.2
50 to 99 miles	1 672	2.8	93	1.2	9	—
100 to 249 miles	7 427	12.3	1 679	21.7	449	3.1
250 to 499 miles	5 953	9.8	537	6.9	251	1.8
500 to 749 miles	5 855	9.7	354	4.6	328	2.3
750 to 999 miles	8 519	14.1	351	4.5	440	3.1
1,000 to 1,499 miles	19 552	32.3	S	S	S	S
1,500 to 1,999 miles	3 209	5.3	237	3.1	570	4.0
2,000 miles or more	S	S	9	.1	50	.4
Parcel, U.S. Postal Service or courier	57 644	100.0	1 225	100.0	852	100.0
Less than 50 miles	7 589	13.2	212	17.3	5	.5
50 to 99 miles	1 620	2.8	57	4.6	5	.6
100 to 249 miles	7 298	12.7	207	16.9	45	5.3
250 to 499 miles	5 641	9.8	169	13.8	72	8.4
500 to 749 miles	5 705	9.9	124	10.1	91	10.7
750 to 999 miles	8 267	14.3	164	13.4	170	20.0
1,000 to 1,499 miles	17 978	31.2	223	18.2	322	37.8
1,500 to 1,999 miles	3 097	5.4	67	5.4	135	15.8
2,000 miles or more	S	S	2	.2	7	.9
Truck and rail	2 469	100.0	4 147	100.0	2 986	100.0
Less than 50 miles	341	13.8	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	127	5.1	1 465	35.3	401	13.4
250 to 499 miles	261	10.6	330	8.0	160	5.4
500 to 749 miles	139	5.6	138	3.3	123	4.1
750 to 999 miles	240	9.7	170	4.1	210	7.0
1,000 to 1,499 miles	1 210	49.0	1 012	24.4	1 711	57.3
1,500 to 1,999 miles	100	4.0	146	3.5	355	11.9
2,000 miles or more	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	10	2.3	5	.2	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	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
Other multiple modes	66	100.0	S	S	S	S
Less than 50 miles	42	63.4	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Other and unknown modes	16 053	100.0	42 887	100.0	3 068	100.0
Less than 50 miles	10 596	66.0	36 386	84.8	410	13.4
50 to 99 miles	471	2.9	1 420	3.3	121	3.9
100 to 249 miles	1 811	11.3	3 114	7.3	607	19.8
250 to 499 miles	827	5.2	603	1.4	220	7.2
500 to 749 miles	442	2.8	339	.8	246	8.0
750 to 999 miles	364	2.3	S	S	315	10.3
1,000 to 1,499 miles	1 354	8.4	591	1.4	863	28.1
1,500 to 1,999 miles	127	.8	85	.2	172	5.6
2,000 miles or more	S	S	S	S	S	S

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

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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	567 017	100.0	913 505	100.0	206 392	100.0	418
Less than 50 lb	63 877	11.3	1 192	.1	502	.2	536
50 to 99 lb	16 662	2.9	965	.1	244	.1	248
100 to 499 lb	53 781	9.5	5 831	.6	1 274	.6	220
500 to 749 lb	13 165	2.3	2 669	.3	463	.2	173
750 to 999 lb	10 297	1.8	2 275	.2	512	.2	226
1,000 to 9,999 lb	103 872	18.3	38 066	4.2	8 209	4.0	207
10,000 to 49,999 lb	171 858	30.3	274 936	30.1	59 764	29.0	223
50,000 to 99,999 lb	20 430	3.6	122 626	13.4	10 751	5.2	85
100,000 lb or more	113 075	19.9	464 944	50.9	124 674	60.4	607
Single modes	490 342	100.0	862 896	100.0	189 009	100.0	179
Less than 50 lb	23 758	4.8	582	—	84	—	165
50 to 99 lb	10 323	2.1	717	—	109	—	145
100 to 499 lb	41 705	8.5	5 287	.6	1 017	.5	187
500 to 749 lb	11 097	2.3	2 521	.3	422	.2	166
750 to 999 lb	9 357	1.9	2 168	.3	469	.2	217
1,000 to 9,999 lb	99 269	20.2	36 776	4.3	7 946	4.2	208
10,000 to 49,999 lb	166 912	34.0	267 932	31.1	56 749	30.0	218
50,000 to 99,999 lb	19 749	4.0	119 327	13.8	10 136	5.4	82
100,000 lb or more	108 172	22.1	427 585	49.6	112 078	59.3	614
Truck¹	366 365	100.0	465 355	100.0	79 223	100.0	145
Less than 50 lb	13 762	3.8	564	.1	62	—	98
50 to 99 lb	8 030	2.2	707	.2	94	.1	126
100 to 499 lb	38 812	10.6	5 257	1.1	976	1.2	180
500 to 749 lb	10 475	2.9	2 509	.5	404	.5	160
750 to 999 lb	9 153	2.5	2 160	.5	459	.6	213
1,000 to 9,999 lb	96 556	26.4	36 598	7.9	7 671	9.7	202
10,000 to 49,999 lb	162 981	44.5	265 911	57.1	54 278	68.5	209
50,000 to 99,999 lb	18 898	5.2	117 753	25.3	9 329	11.8	78
100,000 lb or more	7 699	2.1	33 897	7.3	5 950	7.5	254
For-hire truck	195 900	100.0	199 559	100.0	56 467	100.0	490
Less than 50 lb	4 103	2.1	82	—	37	—	425
50 to 99 lb	3 268	1.7	107	—	61	.1	557
100 to 499 lb	22 326	11.4	1 108	.6	707	1.3	651
500 to 749 lb	5 041	2.6	471	.2	259	.5	548
750 to 999 lb	5 096	2.6	403	.2	276	.5	693
1,000 to 9,999 lb	49 531	25.3	9 075	4.5	4 897	8.7	567
10,000 to 49,999 lb	92 187	47.1	119 426	59.8	39 472	69.9	359
50,000 to 99,999 lb	8 345	4.3	58 278	29.2	5 774	10.2	96
100,000 lb or more	6 004	3.1	10 609	5.3	S	S	525
Private truck	168 297	100.0	262 281	100.0	22 096	100.0	61
Less than 50 lb	9 612	5.7	481	.2	24	.1	46
50 to 99 lb	4 743	2.8	598	.2	32	.1	52
100 to 499 lb	16 350	9.7	4 132	1.6	266	1.2	60
500 to 749 lb	5 264	3.1	2 021	.8	139	.6	67
750 to 999 lb	4 037	2.4	1 751	.7	182	.8	104
1,000 to 9,999 lb	46 484	27.6	27 235	10.4	2 688	12.2	93
10,000 to 49,999 lb	69 868	41.5	144 351	55.0	14 460	65.4	105
50,000 to 99,999 lb	10 380	6.2	58 872	22.4	3 516	15.9	59
100,000 lb or more	1 561	.9	22 840	8.7	788	3.6	S
Rail	43 841	100.0	95 987	100.0	59 935	100.0	903
Less than 50 lb	S	S	S	S	S	S	543
50 to 99 lb	S	S	S	S	S	S	S
100 to 499 lb	42	.1	S	S	S	S	934
500 to 749 lb	S	S	S	S	S	S	1 692
750 to 999 lb	S	S	S	S	S	S	1 477
1,000 to 9,999 lb	S	S	S	S	S	S	1 745
10,000 to 49,999 lb	S	S	S	S	S	S	1 358
50,000 to 99,999 lb	691	1.6	1 382	1.4	783	1.3	599
100,000 lb or more	38 930	88.8	92 706	96.6	56 512	94.3	798
Water	19 701	100.0	95 199	100.0	31 164	100.0	400
Less than 50 lb	S	S	S	S	S	S	106
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	59
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	16	—	24	—	S	S	836
50,000 to 99,999 lb	S	S	S	S	S	S	33
100,000 lb or more	19 681	99.9	95 171	100.0	31 145	99.9	424
Shallow draft	15 032	100.0	69 440	100.0	15 009	100.0	339
Less than 50 lb	S	S	S	S	S	S	106
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	1
10,000 to 49,999 lb	S	S	S	S	S	S	1 290
50,000 to 99,999 lb	S	S	S	S	S	S	1
100,000 lb or more	15 029	100.0	69 434	100.0	15 004	100.0	367

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	4 670	100.0	25 759	100.0	16 155	100.0	663
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	59
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	42
10,000 to 49,999 lb	S	S	S	S	S	S	724
50,000 to 99,999 lb	S	S	S	S	S	S	48
100,000 lb or more	4 651	99.6	25 737	99.9	16 141	99.9	666
Air (includes truck and air)	18 086	100.0	151	100.0	206	100.0	1 357
Less than 50 lb	S	S	17	11.2	22	10.5	1 349
50 to 99 lb	2 288	12.7	10	6.9	15	7.3	1 449
100 to 499 lb	2 850	15.8	29	19.3	40	19.4	1 362
500 to 749 lb	619	3.4	11	7.2	15	7.5	1 418
750 to 999 lb	S	S	S	S	9	4.3	1 467
1,000 to 9,999 lb	2 001	11.1	55	36.3	75	36.1	1 418
10,000 to 49,999 lb	S	S	13	8.8	15	7.2	1 183
50,000 to 99,999 lb	S	S	S	S	S	S	1 662
100,000 lb or more	—	—	—	—	—	—	—
Pipeline²	42 349	100.0	206 204	100.0	S	S	S
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	S	S	S	S	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	S	S	S	S	S	S	S
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	206	5	203	1	S	S	S
50,000 to 99,999 lb	S	—	179	—	S	S	S
100,000 lb or more	41 863	98.9	205 812	99.8	S	S	S
Multiple modes	60 622	100.0	7 723	100.0	S	S	815
Less than 50 lb	38 431	63.4	547	7.1	411	2.9	825
50 to 99 lb	5 804	9.6	198	2.6	131	.9	674
100 to 499 lb	10 891	18.0	355	4.6	241	1.7	695
500 to 749 lb	1 764	2.9	61	.8	34	.2	560
750 to 999 lb	742	1.2	60	.8	S	S	618
1,000 to 9,999 lb	120	.2	32	.4	27	.2	S
10,000 to 49,999 lb	1 388	2.3	1 168	15.1	1 746	12.2	1 479
50,000 to 99,999 lb	362	.6	1 130	14.6	382	2.7	342
100,000 lb or more	1 119	1.8	4 171	54.0	S	S	942
Parcel, U.S. Postal Service or courier	57 644	100.0	1 225	100.0	852	100.0	815
Less than 50 lb	38 431	66.7	547	44.7	411	48.2	825
50 to 99 lb	5 803	10.1	198	16.1	131	15.4	674
100 to 499 lb	10 888	18.9	353	28.9	238	28.0	682
500 to 749 lb	1 760	3.1	60	4.9	33	3.9	559
750 to 999 lb	742	1.3	60	4.9	S	S	624
1,000 to 9,999 lb	20	—	S	S	S	S	S
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	2 469	100.0	4 147	100.0	2 986	100.0	898
Less than 50 lb	S	S	S	S	S	S	1 093
50 to 99 lb	S	S	S	S	S	S	973
100 to 499 lb	S	S	S	S	S	S	S
500 to 749 lb	S	S	S	S	S	S	580
750 to 999 lb	S	S	S	S	S	S	85
1,000 to 9,999 lb	95	3.9	19	.4	21	.7	873
10,000 to 49,999 lb	1 372	55.6	1 155	27.9	1 699	56.9	1 446
50,000 to 99,999 lb	337	13.7	1 107	26.7	351	11.7	326
100,000 lb or more	657	26.6	1 862	44.9	915	30.7	820
Truck and water	S	S	S	S	S	S	6 597
Less than 50 lb	S	S	S	S	S	S	7 172
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	7 518
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	4	1.0	1	—	5	—	5 330
10,000 to 49,999 lb	13	3.0	10	.5	45	.4	4 227
50,000 to 99,999 lb	S	S	23	1.1	S	S	1 286
100,000 lb or more	S	S	S	S	S	S	3 300

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	S
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	S	S	S	S	S	S	S
Other multiple modes	66	100.0	S	S	S	S	578
Less than 50 lb	S	S	S	S	S	S	3
50 to 99 lb	S	S	S	S	S	S	239
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	14
10,000 to 49,999 lb	S	S	S	S	S	S	1 349
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	62	94.6	S	S	S	S	1 643
Other and unknown modes	16 053	100.0	42 887	100.0	3 068	100.0	97
Less than 50 lb	1 688	10.5	64	.1	6	.2	94
50 to 99 lb	536	3.3	50	.1	3	.1	63
100 to 499 lb	1 185	7.4	188	.4	15	.5	74
500 to 749 lb	303	1.9	86	.2	7	.2	80
750 to 999 lb	197	1.2	47	.1	7	.2	139
1,000 to 9,999 lb	4 483	27.9	1 258	2.9	236	7.7	184
10,000 to 49,999 lb	3 557	22.2	5 836	13.6	1 269	41.4	241
50,000 to 99,999 lb	319	2.0	2 170	5.1	234	7.6	S
100,000 lb or more	3 784	23.6	33 188	77.4	1 291	42.1	230

— 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	567 017	100.0	913 505	100.0	206 392	100.0	418
01	Live animals and live fish	382	—	245	—	77	—	219
02	Cereal grains	2 968	.5	23 216	2.5	3 440	1.7	87
03	Other agricultural products	3 966	.7	8 821	1.0	3 264	1.6	89
04	Animal feed and products of animal origin, n.e.c.	7 039	1.2	16 650	1.8	2 905	1.4	S
05	Meat, fish, seafood, and their preparations	13 451	2.4	5 966	.7	3 398	1.6	135
06	Milled grain products and preparations, and bakery products	8 713	1.5	5 482	.6	2 042	1.0	S
07	Other prepared foodstuffs and fats and oils	25 986	4.6	24 078	2.6	6 919	3.4	297
08	Alcoholic beverages	6 149	1.1	6 032	.7	1 134	.5	27
09	Tobacco products	618	.1	29	—	4	—	88
10	Monumental or building stone	S	S	448	—	S	S	209
11	Natural sands	236	—	23 599	2.6	1 443	.7	44
12	Gravel and crushed stone	381	—	71 846	7.9	3 807	1.8	41
13	Nonmetallic minerals n.e.c.	556	.1	S	S	2 125	1.0	106
14	Metallic ores and concentrates	950	.2	S	S	2 367	1.1	387
15	Coal	601	.1	49 543	5.4	507	.2	46
17	Gasoline and aviation turbine fuel	27 840	4.9	136 108	14.9	30 316	14.7	47
18	Fuel oils	15 486	2.7	96 073	10.5	9 533	4.6	28
19	Coal and petroleum products, n.e.c.	20 887	3.7	103 426	11.3	19 953	9.7	212
20	Basic chemicals	58 138	10.3	92 964	10.2	46 449	22.5	195
21	Pharmaceutical products	10 056	1.8	635	—	532	.3	559
22	Fertilizers	1 459	.3	5 095	.6	719	.3	S
23	Chemical products and preparations, n.e.c.	13 819	2.4	8 978	1.0	4 554	2.2	273
24	Plastics and rubber	29 313	5.2	23 918	2.6	17 488	8.5	346
25	Logs and other wood in the rough	364	—	14 452	1.6	790	.4	S
26	Wood products	5 857	1.0	12 077	1.3	3 099	1.5	313
27	Pulp, newsprint, paper, and paperboard	4 951	.9	5 696	.6	2 860	1.4	183
28	Paper or paperboard articles	5 846	1.0	3 635	.4	1 010	.5	228
29	Printed products	9 496	1.7	5 669	.6	624	.3	555
30	Textiles, leather, and articles of textiles or leather	22 147	3.9	3 246	.4	1 305	.6	860
31	Nonmetallic mineral products	7 843	1.4	72 559	7.9	9 706	4.7	241
32	Base metal in primary or semifinished forms and in finished basic shapes	14 223	2.5	16 266	1.8	7 732	3.7	212
33	Articles of base metal	18 422	3.2	12 377	1.4	4 159	2.0	293
34	Machinery	24 020	4.2	2 678	.3	1 269	.6	272
35	Electronic and other electrical equipment and components and office equipment	105 175	18.5	3 989	.4	2 510	1.2	574
36	Motorized and other vehicles (including parts)	16 905	3.0	2 273	.2	787	.4	314
37	Transportation equipment, n.e.c.	5 016	.9	428	—	132	—	847
38	Precision instruments and apparatus	S	S	145	—	97	—	988
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	11 091	2.0	1 617	.2	568	.3	512
40	Miscellaneous manufactured products	29 594	5.2	7 154	.8	3 085	1.5	615
41	Waste and scrap	1 366	.2	7 121	.8	1 691	.8	205
43	Mixed freight	19 605	3.5	7 826	.9	1 283	.6	91
--	Commodity unknown	2 139	.4	1 856	.2	626	.3	349

— 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	567 017	100.0	913 505	100.0	206 392	100.0	418
Single modes	490 342	86.5	862 896	94.5	189 009	91.6	179
Truck ¹	366 365	64.6	465 355	50.9	79 223	38.4	145
For-hire truck	195 900	34.5	199 559	21.8	56 467	27.4	490
Private truck	168 297	29.7	262 281	28.7	22 096	10.7	61
Rail	43 841	7.7	95 987	10.5	59 935	29.0	903
Water	19 701	3.5	95 199	10.4	31 164	15.1	400
Shallow draft	15 032	2.7	69 440	7.6	15 009	7.3	339
Great Lakes	—	—	—	—	—	—	—
Deep draft	4 670	.8	25 759	2.8	16 155	7.8	663
Air (includes truck and air)	18 086	3.2	151	—	206	.1	1 357
Pipeline ²	42 349	7.5	206 204	22.6	S	S	S
Multiple modes	60 622	10.7	7 723	.8	S	S	815
Parcel, U.S. Postal Service or courier	57 644	10.2	1 225	.1	852	.4	815
Truck and rail	2 469	.4	4 147	.5	2 986	1.4	898
Truck and water	S	S	S	S	S	S	6 597
Rail and water	S	S	S	S	S	S	S
Other multiple modes	66	—	S	S	S	S	578
Other and unknown modes	16 053	2.8	42 887	4.7	3 068	1.5	97
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	382	100.0	245	100.0	77	100.0	219
Single modes	372	97.5	241	98.2	77	99.7	203
Truck ¹	372	97.5	241	98.2	77	99.7	203
For-hire truck	206	53.9	131	53.5	51	65.4	340
Private truck	166	43.6	109	44.7	26	34.3	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	976
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	976
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	79
SCTG 02, CEREAL GRAINS							
Total	2 968	100.0	23 216	100.0	3 440	100.0	87
Single modes	2 638	88.9	20 880	89.9	3 405	99.0	84
Truck ¹	1 571	53.0	12 552	54.1	1 196	34.8	80
For-hire truck	875	29.5	7 897	34.0	826	24.0	150
Private truck	696	23.5	4 655	20.0	369	10.7	52
Rail	680	22.9	5 348	23.0	2 178	63.3	514
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)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	440
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 152
Truck and rail	S	S	S	S	S	S	116
Truck and water	S	S	S	S	S	S	399
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	10	.3	276

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	3 966	100.0	8 821	100.0	3 264	100.0	89
Single modes	3 849	97.0	8 620	97.7	3 179	97.4	S
Truck ¹	3 299	83.2	6 636	75.2	2 799	85.8	S
For-hire truck	1 400	35.3	3 220	36.5	2 493	76.4	644
Private truck	1 899	47.9	3 416	38.7	306	9.4	32
Rail	S	S	S	S	S	S	546
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 069
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 323
Parcel, U.S. Postal Service or courier	S	S	1	—	1	—	1 335
Truck and rail	S	S	S	S	S	S	754
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	39	1.0	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	7 039	100.0	16 650	100.0	2 905	100.0	S
Single modes	6 443	91.5	16 275	97.7	2 727	93.9	S
Truck ¹	6 151	87.4	15 475	92.9	2 133	73.4	S
For-hire truck	1 696	24.1	3 749	22.5	1 210	41.7	314
Private truck	4 455	63.3	11 725	70.4	922	31.8	S
Rail	S	S	S	S	S	S	849
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	424	6.0	183	1.1	145	5.0	1 270
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 322
Truck and rail	404	5.7	180	1.1	141	4.9	747
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	172	2.4	191	1.1	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	13 451	100.0	5 966	100.0	3 398	100.0	135
Single modes	13 400	99.6	5 916	99.2	3 375	99.3	130
Truck ¹	12 921	96.1	5 696	95.5	3 210	94.5	129
For-hire truck	7 137	53.1	2 800	46.9	2 544	74.9	792
Private truck	5 779	43.0	2 892	48.5	664	19.6	64
Rail	S	S	S	S	S	S	1 216
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 829
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	971
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	971
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	45	.3	49	.8	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 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	8 713	100.0	5 482	100.0	2 042	100.0	S
Single modes	8 662	99.4	5 445	99.3	2 014	98.6	S
Truck ¹	8 498	97.5	5 068	92.4	1 601	78.4	S
For-hire truck	1 164	13.4	1 616	29.5	908	44.5	482
Private truck	7 280	83.6	3 428	62.5	687	33.6	S
Rail	156	1.8	367	6.7	400	19.6	1 282
Water	S	S	S	S	S	S	1 204
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1 204
Air (includes truck and air)	S	S	S	S	S	S	168
Pipeline ²	—	—	—	—	—	—	S
Multiple modes	8	—	S	S	S	S	770
Parcel, U.S. Postal Service or courier	6	—	S	S	S	S	764
Truck and rail	S	—	S	S	S	S	1 658
Truck and water	S	—	S	S	S	S	7 273
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	173
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	25 986	100.0	24 078	100.0	6 919	100.0	297
Single modes	25 545	98.3	23 738	98.6	6 561	94.8	83
Truck ¹	24 862	95.7	22 246	92.4	5 792	83.7	82
For-hire truck	8 742	33.6	8 425	35.0	3 886	56.2	426
Private truck	15 991	61.5	13 492	56.0	1 839	26.6	58
Rail	467	1.8	1 048	4.4	766	11.1	822
Water	S	S	S	S	S	S	10
Shallow draft	S	S	S	S	S	S	10
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 560
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	318	1.2	132	.5	252	3.6	1 001
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 001
Truck and rail	193	.7	92	.4	159	2.3	1 776
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	872
Other and unknown modes	122	.5	S	S	S	S	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	6 149	100.0	6 032	100.0	1 134	100.0	27
Single modes	6 099	99.2	5 981	99.2	1 131	99.8	27
Truck ¹	5 896	95.9	5 613	93.0	929	82.0	27
For-hire truck	1 198	19.5	1 564	25.9	720	63.5	411
Private truck	4 698	76.4	4 049	67.1	209	18.4	23
Rail	S	S	S	S	S	S	482
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	88
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	173
Truck and rail	S	S	S	S	S	S	69
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	39	.6	38	.6	S	S	18

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 09, TOBACCO PRODUCTS							
Total	618	100.0	29	100.0	4	100.0	88
Single modes	603	97.6	28	97.2	4	96.7	89
Truck ¹	603	97.6	28	97.2	4	96.7	89
For-hire truck	S	S	S	S	—	.4	S
Private truck	590	95.5	28	95.2	4	96.3	91
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	—	.1	—	.1	154
Parcel, U.S. Postal Service or courier	S	S	S	S	—	.1	172
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	3
Other and unknown modes	14	2.2	1	2.7	S	S	S
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	448	100.0	S	S	209
Single modes	S	S	446	99.6	S	S	75
Truck ¹	S	S	446	99.6	S	S	75
For-hire truck	S	S	S	S	S	S	293
Private truck	S	S	S	S	S	S	42
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	974
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	974
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	.2	2	.4	—	—	11
SCTG 11, NATURAL SANDS							
Total	236	100.0	23 599	100.0	1 443	100.0	44
Single modes	218	92.7	22 592	95.7	1 418	98.2	42
Truck ¹	205	87.0	20 612	87.3	867	60.1	41
For-hire truck	117	49.5	10 414	44.1	550	38.1	53
Private truck	88	37.5	10 198	43.2	317	21.9	30
Rail	S	S	S	S	S	S	691
Water	S	S	S	S	S	S	226
Shallow draft	S	S	S	S	S	S	226
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	957
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 193
Truck and rail	S	S	S	S	S	S	21
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	8	3.5	983	4.2	25	1.7	23

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	381	100.0	71 846	100.0	3 807	100.0	41
Single modes	376	98.7	71 026	98.9	3 702	97.3	40
Truck ¹	340	89.4	64 951	90.4	2 483	65.2	37
For-hire truck	166	43.6	30 259	42.1	1 449	38.1	46
Private truck	174	45.8	34 692	48.3	1 035	27.2	29
Rail	26	6.9	4 598	6.4	948	24.9	201
Water	S	S	S	S	S	S	180
Shallow draft	S	S	S	S	S	S	180
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	S	S	S	S	S	S	425
Parcel, U.S. Postal Service or courier	-	-	-	-	-	-	-
Truck and rail	S	S	S	S	S	S	425
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	556	100.0	S	S	2 125	100.0	106
Single modes	516	92.7	S	S	2 084	98.0	101
Truck ¹	472	84.8	S	S	1 504	70.7	99
For-hire truck	262	47.0	S	S	855	40.2	276
Private truck	210	37.8	S	S	S	S	S
Rail	44	7.9	S	S	S	S	603
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	S	S	S	S	1 468
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	213
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	S	S	S	S	S	S	14
Other and unknown modes	35	6.2	S	S	S	S	251
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	950	100.0	S	S	2 367	100.0	387
Single modes	937	98.6	S	S	2 316	97.8	363
Truck ¹	S	S	S	S	244	10.3	245
For-hire truck	S	S	S	S	206	8.7	475
Private truck	166	17.4	182	5.0	S	S	S
Rail	146	15.3	896	24.4	1 088	46.0	1 292
Water	S	S	S	S	983	41.5	1 052
Shallow draft	93	9.8	562	15.3	907	38.3	1 626
Great Lakes	-	-	-	-	-	-	-
Deep draft	S	S	S	S	S	S	154
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	S	S	S	S	S	S	534
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	369
Truck and rail	S	S	S	S	S	S	1 857
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	724

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	601	100.0	49 543	100.0	507	100.0	46
Single modes	330	54.8	26 638	53.8	248	48.9	S
Truck ¹	124	20.7	8 299	16.8	86	17.0	S
For-hire truck	S	S	S	S	S	S	148
Private truck	117	19.5	8 138	16.4	58	11.5	14
Rail	205	34.2	18 338	37.0	162	32.0	44
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	169
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25
Truck and rail	S	S	S	S	S	S	246
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	262	43.6	22 569	45.6	176	34.8	16
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	27 840	100.0	136 108	100.0	30 316	100.0	47
Single modes	27 251	97.9	133 288	97.9	20 417	67.3	48
Truck ¹	7 747	27.8	26 085	19.2	1 565	5.2	46
For-hire truck	3 036	10.9	9 802	7.2	810	2.7	97
Private truck	4 699	16.9	16 220	11.9	747	2.5	30
Rail	S	S	S	S	S	S	S
Water	2 201	7.9	12 351	9.1	6 678	22.0	475
Shallow draft	S	S	S	S	1 387	4.6	215
Great Lakes	—	—	—	—	—	—	—
Deep draft	976	3.5	5 496	4.0	S	S	990
Air (includes truck and air)	S	S	S	S	S	S	1 444
Pipeline ²	17 258	62.0	94 614	69.5	S	S	S
Multiple modes	S	S	S	S	S	S	1 743
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 068
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	5 291
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	270	1.0	953	.7	21	—	9
SCTG 18, FUEL OILS							
Total	15 486	100.0	96 073	100.0	9 533	100.0	28
Single modes	15 296	98.8	95 213	99.1	9 495	99.6	28
Truck ¹	3 911	25.3	16 610	17.3	717	7.5	27
For-hire truck	936	6.0	3 030	3.2	251	2.6	88
Private truck	2 966	19.2	13 525	14.1	461	4.8	22
Rail	56	.4	408	.4	S	S	818
Water	1 773	11.4	16 065	16.7	4 047	42.4	S
Shallow draft	1 046	6.8	9 444	9.8	1 500	15.7	108
Great Lakes	—	—	—	—	—	—	—
Deep draft	727	4.7	6 621	6.9	S	S	S
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	9 556	61.7	62 129	64.7	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	43

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	20 887	100.0	103 426	100.0	19 953	100.0	212
Single modes	19 768	94.6	100 863	97.5	19 174	96.1	211
Truck ¹	4 811	23.0	25 419	24.6	S	S	203
For-hire truck	1 807	8.7	S	S	1 275	6.4	219
Private truck	S	S	8 735	8.4	S	S	201
Rail	2 881	13.8	9 227	8.9	5 403	27.1	613
Water	6 169	29.5	37 210	36.0	8 081	40.5	460
Shallow draft	5 421	26.0	33 044	31.9	4 136	20.7	364
Great Lakes	—	—	—	—	—	—	—
Deep draft	748	3.6	4 166	4.0	S	S	891
Air (includes truck and air)	S	S	S	S	S	S	1 751
Pipeline ²	5 898	28.2	29 007	28.0	S	S	S
Multiple modes	S	S	458	.4	573	2.9	765
Parcel, U.S. Postal Service or courier	S	S	1	—	S	S	629
Truck and rail	S	S	S	S	S	S	1 490
Truck and water	S	S	S	S	S	S	1 234
Rail and water	S	S	S	S	S	S	417
Other multiple modes	S	S	S	S	S	S	2 284
Other and unknown modes	861	4.1	2 104	2.0	207	1.0	S
SCTG 20, BASIC CHEMICALS							
Total	58 138	100.0	92 964	100.0	46 449	100.0	195
Single modes	55 697	95.8	87 778	94.4	45 600	98.2	186
Truck ¹	17 934	30.8	23 242	25.0	S	S	121
For-hire truck	15 475	26.6	17 600	18.9	S	S	465
Private truck	2 426	4.2	5 422	5.8	765	1.6	S
Rail	S	S	25 706	27.7	24 293	52.3	1 167
Water	8 490	14.6	20 448	22.0	10 438	22.5	440
Shallow draft	6 965	12.0	15 558	16.7	6 188	13.3	437
Great Lakes	—	—	—	—	—	—	—
Deep draft	1 525	2.6	4 890	5.3	4 249	9.1	461
Air (includes truck and air)	S	S	S	S	S	S	1 216
Pipeline ²	8 511	14.6	18 382	19.8	S	S	S
Multiple modes	278	.5	330	.4	S	S	S
Parcel, U.S. Postal Service or courier	103	.2	S	S	4	—	331
Truck and rail	97	.2	S	S	S	S	1 730
Truck and water	S	S	S	S	S	S	4 301
Rail and water	S	S	S	S	S	S	4 355
Other multiple modes	41	—	S	S	S	S	22
Other and unknown modes	2 163	3.7	4 855	5.2	550	1.2	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	10 056	100.0	635	100.0	532	100.0	559
Single modes	7 064	70.2	581	91.5	496	93.3	204
Truck ¹	6 856	68.2	567	89.4	482	90.6	162
For-hire truck	3 934	39.1	427	67.3	426	80.1	298
Private truck	2 864	28.5	139	21.9	56	10.4	94
Rail	S	S	S	S	S	S	1 171
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	187	1.9	S	S	S	S	1 368
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 962	29.5	52	8.2	35	6.7	683
Parcel, U.S. Postal Service or courier	2 939	29.2	48	7.6	26	4.8	683
Truck and rail	S	S	S	S	S	S	1 624
Truck and water	S	S	S	S	S	S	7 411
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	1 459	100.0	5 095	100.0	719	100.0	S
Single modes	1 448	99.2	5 035	98.8	718	99.9	S
Truck ¹	1 340	91.8	4 430	86.9	445	61.9	S
For-hire truck	148	10.2	841	16.5	250	34.8	373
Private truck	S	S	3 209	63.0	177	24.6	31
Rail	S	S	167	3.3	137	19.0	822
Water	S	S	S	S	S	S	232
Shallow draft	S	S	S	S	S	S	232
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	57	3.9	315	6.2	S	S	S
Multiple modes	S	S	S	S	S	S	1 278
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 278
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	11	.8	59	1.2	1	.1	17
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	13 819	100.0	8 978	100.0	4 554	100.0	273
Single modes	12 658	91.6	8 083	90.0	4 214	92.5	164
Truck ¹	10 172	73.6	5 859	65.3	2 505	55.0	149
For-hire truck	6 306	45.6	3 573	39.8	2 121	46.6	476
Private truck	3 798	27.5	2 119	23.6	271	6.0	37
Rail	1 708	12.4	1 616	18.0	1 698	37.3	976
Water	S	S	S	S	S	S	463
Shallow draft	S	S	S	S	S	S	869
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	32
Air (includes truck and air)	31	.2	2	—	S	S	1 521
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	818	5.9	114	1.3	137	3.0	564
Parcel, U.S. Postal Service or courier	666	4.8	43	.5	20	.4	562
Truck and rail	152	1.1	71	.8	115	2.5	1 640
Truck and water	S	S	S	S	S	S	8 065
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	343	2.5	S	S	S	S	30
SCTG 24, PLASTICS AND RUBBER							
Total	29 313	100.0	23 918	100.0	17 488	100.0	346
Single modes	26 638	90.9	22 061	92.2	16 328	93.4	244
Truck ¹	16 255	55.5	9 045	37.8	4 216	24.1	217
For-hire truck	11 971	40.8	6 901	28.9	3 768	21.5	579
Private truck	4 116	14.0	2 059	8.6	400	2.3	65
Rail	10 296	35.1	12 985	54.3	12 104	69.2	934
Water	S	S	S	S	S	S	49
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	49
Air (includes truck and air)	74	.3	5	—	S	S	1 441
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	1 624	5.5	606	2.5	865	4.9	632
Parcel, U.S. Postal Service or courier	1 146	3.9	59	.2	37	.2	625
Truck and rail	478	1.6	S	S	828	4.7	1 486
Truck and water	S	S	S	S	S	S	6 847
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 050	3.6	S	S	295	1.7	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	364	100.0	14 452	100.0	790	100.0	S
Single modes	364	99.8	14 418	99.8	788	99.7	57
Truck ¹	362	99.5	14 414	99.7	783	99.1	57
For-hire truck	S	S	S	S	S	S	S
Private truck	177	48.5	S	S	S	S	78
Rail	S	S	S	S	S	S	718
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	1 427
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 427
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	68
SCTG 26, WOOD PRODUCTS							
Total	5 857	100.0	12 077	100.0	3 099	100.0	313
Single modes	5 652	96.5	11 876	98.3	2 935	94.7	150
Truck ¹	5 379	91.8	10 651	88.2	1 869	60.3	146
For-hire truck	1 966	33.6	3 527	29.2	1 190	38.4	525
Private truck	3 401	58.1	7 102	58.8	675	21.8	81
Rail	257	4.4	774	6.4	1 062	34.3	1 304
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 312
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	123	2.1	S	S	S	S	1 038
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 038
Truck and rail	S	S	S	S	S	S	1 459
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	239
Other and unknown modes	82	1.4	S	S	17	.6	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	4 951	100.0	5 696	100.0	2 860	100.0	183
Single modes	4 840	97.8	5 442	95.5	2 721	95.2	168
Truck ¹	4 234	85.5	4 159	73.0	1 569	54.8	157
For-hire truck	1 831	37.0	2 577	45.2	1 462	51.1	543
Private truck	2 402	48.5	1 582	27.8	106	3.7	45
Rail	602	12.2	1 275	22.4	1 150	40.2	865
Water	S	S	S	S	S	S	178
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	178
Air (includes truck and air)	S	S	S	S	S	S	862
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	47	.9	54	.9	S	S	505
Parcel, U.S. Postal Service or courier	22	.5	5	—	1	—	489
Truck and rail	S	S	S	S	S	S	1 541
Truck and water	S	S	S	S	S	S	4 292
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	54

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	5 846	100.0	3 635	100.0	1 010	100.0	228
Single modes	5 281	90.3	3 433	94.4	933	92.3	83
Truck ¹	5 197	88.9	3 341	91.9	842	83.4	67
For-hire truck	2 573	44.0	1 702	46.8	713	70.6	218
Private truck	2 606	44.6	1 633	44.9	125	12.3	35
Rail	S	S	S	S	S	S	1 078
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 412
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	342	5.8	54	1.5	53	5.3	638
Parcel, U.S. Postal Service or courier	309	5.3	39	1.1	S	S	636
Truck and rail	28	.5	14	.4	25	2.4	1 771
Truck and water	S	S	S	S	S	S	7 474
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	287
Other and unknown modes	223	3.8	148	4.1	24	2.4	58
SCTG 29, PRINTED PRODUCTS							
Total	9 496	100.0	5 669	100.0	624	100.0	555
Single modes	6 166	64.9	5 181	91.4	394	63.2	187
Truck ¹	6 020	63.4	5 169	91.2	378	60.6	124
For-hire truck	2 450	25.8	1 093	19.3	307	49.3	526
Private truck	3 539	37.3	4 057	71.6	69	11.0	20
Rail	S	S	S	S	S	S	166
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	146	1.5	12	.2	16	2.6	1 594
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 692	28.3	169	3.0	115	18.5	776
Parcel, U.S. Postal Service or courier	2 691	28.3	169	3.0	114	18.3	776
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	7 378
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	638	6.7	318	5.6	S	S	400
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	22 147	100.0	3 246	100.0	1 305	100.0	860
Single modes	18 154	82.0	3 029	93.3	1 119	85.7	541
Truck ¹	18 018	81.4	2 994	92.2	1 063	81.5	371
For-hire truck	3 951	17.8	428	13.2	406	31.1	1 039
Private truck	S	S	S	S	654	50.1	75
Rail	S	S	S	S	S	S	827
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	96	.4	2	—	2	.1	1 296
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 505	15.8	130	4.0	143	11.0	988
Parcel, U.S. Postal Service or courier	3 449	15.6	108	3.3	106	8.2	988
Truck and rail	S	S	S	S	S	S	1 637
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	488	2.2	S	S	S	S	363

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	7 843	100.0	72 559	100.0	9 706	100.0	241
Single modes	7 271	92.7	70 168	96.7	9 075	93.5	97
Truck ¹	7 076	90.2	67 431	92.9	7 413	76.4	83
For-hire truck	3 754	47.9	20 091	27.7	5 376	55.4	329
Private truck	3 262	41.6	47 029	64.8	1 937	20.0	47
Rail	179	2.3	2 728	3.8	1 654	17.0	603
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 299
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	358	4.6	1 029	1.4	413	4.3	879
Parcel, U.S. Postal Service or courier	267	3.4	22	—	15	.2	887
Truck and rail	91	1.2	1 007	1.4	399	4.1	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	214	2.7	1 362	1.9	218	2.2	86
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	14 223	100.0	16 266	100.0	7 732	100.0	212
Single modes	13 154	92.5	14 805	91.0	7 103	91.9	184
Truck ¹	11 127	78.2	12 502	76.9	4 190	54.2	173
For-hire truck	7 259	51.0	6 949	42.7	3 593	46.5	504
Private truck	3 804	26.7	5 480	33.7	589	7.6	44
Rail	1 941	13.6	2 196	13.5	2 755	35.6	1 306
Water	S	S	S	S	S	S	1 401
Shallow draft	S	S	S	S	S	S	1 401
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	30	.2	S	S	S	S	1 441
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	302	2.1	135	.8	203	2.6	569
Parcel, U.S. Postal Service or courier	227	1.6	14	—	7	—	564
Truck and rail	55	.4	94	.6	S	S	1 260
Truck and water	S	S	S	S	S	S	2 306
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	767	5.4	1 327	8.2	426	5.5	S
SCTG 33, ARTICLES OF BASE METAL							
Total	18 422	100.0	12 377	100.0	4 159	100.0	293
Single modes	16 097	87.4	12 003	97.0	3 998	96.1	201
Truck ¹	15 347	83.3	11 211	90.6	3 958	95.1	183
For-hire truck	9 492	51.5	6 432	52.0	2 218	53.3	399
Private truck	5 792	31.4	4 708	38.0	1 722	41.4	117
Rail	580	3.1	781	6.3	25	.6	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	171	.9	11	—	16	.4	1 330
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 384	7.5	102	.8	84	2.0	599
Parcel, U.S. Postal Service or courier	1 346	7.3	89	.7	S	S	599
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	S
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	941	5.1	272	2.2	77	1.9	60

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	24 020	100.0	2 678	100.0	1 269	100.0	272
Single modes	19 963	83.1	2 499	93.3	1 212	95.5	186
Truck ¹	19 282	80.3	2 468	92.1	1 169	92.1	152
For-hire truck	12 224	50.9	1 350	50.4	978	77.1	438
Private truck	6 874	28.6	1 061	39.6	161	12.7	74
Rail	106	.4	18	.7	27	2.1	1 248
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	575	2.4	13	.5	16	1.2	1 221
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 978	12.4	71	2.7	37	2.9	448
Parcel, U.S. Postal Service or courier	2 973	12.4	70	2.6	34	2.7	448
Truck and rail	S	S	S	S	S	S	1 961
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 079	4.5	109	4.1	20	1.6	52
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	105 175	100.0	3 989	100.0	2 510	100.0	574
Single modes	78 524	74.7	3 656	91.7	2 328	92.7	452
Truck ¹	68 994	65.6	3 586	89.9	2 224	88.6	364
For-hire truck	57 894	55.0	2 807	70.4	2 041	81.3	830
Private truck	10 783	10.3	753	18.9	155	6.2	57
Rail	S	S	S	S	S	S	1 432
Water	S	S	S	S	S	S	106
Shallow draft	S	S	S	S	S	S	106
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	9 214	8.8	51	1.3	74	3.0	1 373
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	24 275	23.1	218	5.5	147	5.9	773
Parcel, U.S. Postal Service or courier	24 136	22.9	210	5.3	135	5.4	773
Truck and rail	S	S	S	S	S	S	1 445
Truck and water	S	S	S	S	S	S	7 524
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	2 375	2.3	115	2.9	35	1.4	49
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	16 905	100.0	2 273	100.0	787	100.0	314
Single modes	14 189	83.9	1 925	84.7	700	89.0	210
Truck ¹	14 025	83.0	1 916	84.3	690	87.7	157
For-hire truck	6 183	36.6	644	28.3	421	53.5	417
Private truck	7 830	46.3	1 269	55.8	267	34.0	64
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	155	.9	6	.3	7	.9	1 305
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 137	6.7	51	2.2	32	4.1	690
Parcel, U.S. Postal Service or courier	1 137	6.7	51	2.2	32	4.1	690
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 579	9.3	298	13.1	54	6.9	67

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	5 016	100.0	428	100.0	132	100.0	847
Single modes	4 211	84.0	425	99.3	130	98.5	796
Truck ¹	3 439	68.6	273	63.9	94	71.5	397
For-hire truck	2 288	45.6	36	8.4	36	27.2	707
Private truck	1 150	22.9	237	55.5	59	44.3	148
Rail	S	S	S	S	S	S	302
Water	S	S	S	S	S	S	266
Shallow draft	S	S	S	S	S	S	266
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	565	11.3	2	.6	3	2.5	1 458
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	732	14.6	S	S	S	S	901
Parcel, U.S. Postal Service or courier	732	14.6	S	S	S	S	901
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	73	1.4	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	S	S	145	100.0	97	100.0	988
Single modes	4 067	29.6	76	52.2	39	40.6	283
Truck ¹	3 212	23.4	73	50.1	35	36.2	94
For-hire truck	1 666	12.1	42	29.0	25	25.6	354
Private truck	1 544	11.2	30	20.9	S	S	42
Rail	S	S	S	S	S	S	1 706
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	829	6.0	2	1.5	3	2.8	1 387
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	S	S	S	S	S	S	1 048
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 048
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	314	2.3	8	5.2	3	3.0	437
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	11 091	100.0	1 617	100.0	568	100.0	512
Single modes	10 615	95.7	1 560	96.5	534	93.9	352
Truck ¹	10 514	94.8	1 559	96.4	531	93.5	341
For-hire truck	2 702	24.4	371	22.9	333	58.6	847
Private truck	S	S	1 188	73.4	198	34.9	121
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	1	-	S	S	1 320
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	329	3.0	S	S	S	S	902
Parcel, U.S. Postal Service or courier	329	3.0	S	S	S	S	902
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	147	1.3	22	1.3	6	1.0	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	29 594	100.0	7 154	100.0	3 085	100.0	615
Single modes	23 448	79.2	6 706	93.7	2 818	91.3	223
Truck ¹	17 543	59.3	6 401	89.5	2 303	74.6	165
For-hire truck	9 330	31.5	3 266	45.7	1 779	57.7	445
Private truck	8 043	27.2	3 117	43.6	517	16.8	67
Rail	96	.3	296	4.1	501	16.2	1 127
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	10	.1	14	.5	1 303
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	5 293	17.9	207	2.9	169	5.5	906
Parcel, U.S. Postal Service or courier	5 074	17.1	138	1.9	108	3.5	903
Truck and rail	S	S	S	S	S	S	1 676
Truck and water	S	S	S	S	S	S	7 518
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	4 406
Other and unknown modes	853	2.9	241	3.4	98	3.2	S
SCTG 41, WASTE AND SCRAP							
Total	1 366	100.0	7 121	100.0	1 691	100.0	205
Single modes	1 265	92.6	6 303	88.5	1 521	90.0	204
Truck ¹	990	72.5	4 155	58.4	755	44.7	176
For-hire truck	616	45.1	2 501	35.1	526	31.1	202
Private truck	374	27.4	1 644	23.1	229	13.5	144
Rail	274	20.1	2 148	30.2	766	45.3	374
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	51	3.8	101	1.4	S	S	1 642
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	51	3.8	101	1.4	S	S	1 642
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	19 605	100.0	7 826	100.0	1 283	100.0	91
Single modes	19 245	98.2	7 716	98.6	1 277	99.5	107
Truck ¹	19 241	98.1	7 715	98.6	1 276	99.5	106
For-hire truck	1 835	9.4	1 132	14.5	166	13.0	148
Private truck	17 295	88.2	6 513	83.2	1 103	86.0	102
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	917
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	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	2 139	100.0	1 856	100.0	626	100.0	349
Single modes	1 822	85.2	1 799	96.9	619	99.0	207
Truck ¹	1 400	65.5	902	48.6	348	55.6	179
For-hire truck	820	38.3	562	30.3	287	45.8	451
Private truck	580	27.1	340	18.3	61	9.8	92
Rail	118	5.5	171	9.2	225	36.0	1 172
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 623
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	226	10.6	S	S	3	.5	640
Parcel, U.S. Postal Service or courier	220	10.3	4	.2	2	.4	640
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	103

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

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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	567 017	100.0	913 505	100.0	206 392	100.0
NEW ENGLAND STATES						
Connecticut	1 733	.3	634	—	1 345	.7
Maine	351	—	46	—	92	—
Massachusetts	3 007	.5	S	S	S	S
New Hampshire	S	S	89	—	185	—
Rhode Island	185	—	70	—	141	—
Vermont	126	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	7 218	1.3	2 788	.3	5 025	2.4
New York	7 017	1.2	3 012	.3	5 726	2.8
Pennsylvania	6 733	1.2	3 877	.4	6 460	3.1
EAST NORTH CENTRAL STATES						
Illinois	11 301	2.0	8 418	.9	9 005	4.4
Indiana	4 081	.7	2 899	.3	3 390	1.6
Michigan	10 301	1.8	S	S	S	S
Ohio	8 479	1.5	3 110	.3	4 039	2.0
Wisconsin	3 828	.7	1 040	.1	1 320	.6
WEST NORTH CENTRAL STATES						
Iowa	2 438	.4	1 533	.2	1 454	.7
Kansas	3 691	.7	2 680	.3	1 486	.7
Minnesota	4 792	.8	1 196	.1	1 536	.7
Missouri	5 612	1.0	4 921	.5	3 672	1.8
Nebraska	2 254	.4	556	—	453	.2
North Dakota	S	S	S	S	S	S
South Dakota	176	—	40	—	43	—
SOUTH ATLANTIC STATES						
Delaware	1 562	.3	515	—	925	.4
District of Columbia	110	—	15	—	21	—
Florida	10 257	1.8	9 591	1.0	9 187	4.5
Georgia	8 590	1.5	11 368	1.2	8 445	4.1
Maryland	2 501	.4	593	—	928	.4
North Carolina	5 523	1.0	3 517	.4	5 104	2.5
South Carolina	3 748	.7	2 123	.2	2 516	1.2
Virginia	4 313	.8	1 388	.2	2 170	1.1
West Virginia	1 526	.3	1 618	.2	2 735	1.3
EAST SOUTH CENTRAL STATES						
Alabama	3 739	.7	2 345	.3	1 769	.9
Kentucky	4 642	.8	1 985	.2	2 130	1.0
Mississippi	S	S	2 344	.3	1 214	.6
Tennessee	5 528	1.0	3 814	.4	3 327	1.6
WEST SOUTH CENTRAL STATES						
Arkansas	6 998	1.2	4 351	.5	1 801	.9
Louisiana	14 596	2.6	17 853	2.0	5 275	2.6
Oklahoma	11 400	2.0	8 617	.9	3 143	1.5
Texas	336 039	59.3	765 751	83.8	52 263	25.3
MOUNTAIN STATES						
Arizona	4 387	.8	2 272	.2	2 098	1.0
Colorado	4 689	.8	4 931	.5	3 038	1.5
Idaho	299	—	S	S	S	S
Montana	825	.1	511	—	1 013	.5
Nevada	1 110	.2	284	—	441	.2
New Mexico	6 039	1.1	5 107	.6	1 628	.8
Utah	2 025	.4	805	—	1 195	.6
Wyoming	S	S	99	—	111	—
PACIFIC STATES						
Alaska	S	S	47	—	S	S
California	30 386	5.4	13 060	1.4	28 607	13.9
Hawaii	129	—	9	—	52	—
Oregon	1 555	.3	699	—	1 718	.8
Washington	3 199	.6	980	.1	2 308	1.1

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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	598 350	100.0	968 235	100.0	236 160	100.0
NEW ENGLAND STATES						
Connecticut	2 396	.4	S	S	S	S
Maine	467	—	142	—	283	.1
Massachusetts	4 450	.7	326	—	636	.3
New Hampshire	853	.1	93	—	183	—
Rhode Island	383	—	S	S	S	S
Vermont	677	.1	50	—	97	—
MIDDLE ATLANTIC STATES						
New Jersey	7 501	1.3	S	S	S	S
New York	9 689	1.6	1 957	.2	3 316	1.4
Pennsylvania	9 649	1.6	3 674	.4	5 625	2.4
EAST NORTH CENTRAL STATES						
Illinois	14 750	2.5	5 446	.6	5 803	2.5
Indiana	10 139	1.7	3 721	.4	4 704	2.0
Michigan	13 809	2.3	2 793	.3	3 856	1.6
Ohio	14 350	2.4	6 419	.7	8 521	3.6
Wisconsin	6 516	1.1	2 226	.2	2 751	1.2
WEST NORTH CENTRAL STATES						
Iowa	3 583	.6	2 420	.2	2 490	1.1
Kansas	5 506	.9	13 073	1.4	10 086	4.3
Minnesota	5 757	1.0	2 415	.2	2 788	1.2
Missouri	8 226	1.4	6 373	.7	5 391	2.3
Nebraska	2 666	.4	3 338	.3	3 319	1.4
North Dakota	216	—	380	—	585	.2
South Dakota	757	.1	486	—	589	.2
SOUTH ATLANTIC STATES						
Delaware	334	—	92	—	152	—
District of Columbia	S	S	S	S	S	S
Florida	6 284	1.1	2 641	.3	3 393	1.4
Georgia	8 022	1.3	3 248	.3	3 151	1.3
Maryland	1 320	.2	313	—	473	.2
North Carolina	7 380	1.2	1 817	.2	2 229	.9
South Carolina	4 122	.7	1 210	.1	1 491	.6
Virginia	3 158	.5	701	—	974	.4
West Virginia	2 037	.3	925	.1	1 364	.6
EAST SOUTH CENTRAL STATES						
Alabama	5 408	.9	4 942	.5	3 549	1.5
Kentucky	4 491	.8	2 165	.2	2 273	1.0
Mississippi	4 267	.7	2 924	.3	1 685	.7
Tennessee	7 986	1.3	2 961	.3	2 381	1.0
WEST SOUTH CENTRAL STATES						
Arkansas	5 632	.9	11 516	1.2	3 214	1.4
Louisiana	14 617	2.4	40 975	4.2	13 614	5.8
Oklahoma	9 080	1.5	13 254	1.4	4 025	1.7
Texas	336 039	56.2	765 751	79.1	52 263	22.1
MOUNTAIN STATES						
Arizona	6 399	1.1	2 242	.2	1 856	.8
Colorado	4 137	.7	3 895	.4	3 582	1.5
Idaho	646	.1	442	—	780	.3
Montana	364	—	641	—	1 125	.5
Nevada	498	—	S	S	S	S
New Mexico	1 713	.3	3 510	.4	1 841	.8
Utah	1 111	.2	298	—	442	.2
Wyoming	556	—	31 961	3.3	45 670	19.3
PACIFIC STATES						
Alaska	S	S	—	—	1	—
California	31 354	5.2	6 733	.7	8 980	3.8
Hawaii	12	—	S	S	S	S
Oregon	2 215	.4	945	.1	2 479	1.0
Washington	6 799	1.1	1 588	.2	3 864	1.6

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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	5.4	—	6.0	—	8.6	—	7.7
Single modes	6.2	1.4	6.0	.7	9.7	4.1	5.2
Truck	6.9	1.8	8.5	2.5	7.7	2.4	6.1
For-hire truck	8.9	2.2	12.7	1.6	10.6	2.0	7.8
Private truck	11.5	2.6	10.7	2.7	12.7	1.6	9.5
Rail	27.7	1.7	12.5	1.0	19.9	2.6	6.6
Water	8.6	.4	10.7	1.4	10.2	1.7	18.7
Shallow draft	9.3	.3	12.2	1.2	16.5	1.3	17.4
Great Lakes	—	—	—	—	—	—	—
Deep draft	20.5	.2	21.7	.6	16.6	1.4	25.1
Air (includes truck and air)	29.3	.9	11.0	—	14.0	—	2.3
Pipeline	5.9	.7	8.4	1.3	S	S	S
Multiple modes	13.1	1.5	22.9	.3	S	S	3.7
Parcel, U.S. Postal Service or courier	14.1	1.5	5.3	—	8.1	—	3.7
Truck and rail	20.0	.1	22.6	.1	18.3	.3	13.8
Truck and water	S	S	S	S	S	S	14.2
Rail and water	S	S	S	S	S	S	S
Other multiple modes	27.2	—	S	S	S	S	27.5
Other and unknown modes	9.0	.2	17.3	.7	8.3	.2	20.5

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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	5.4	7.5	11.6	6.0	7.6	10.0	8.6	9.6	13.2	7.7	4.5	11.1
Single modes	6.2	8.4	12.8	6.0	7.9	10.5	9.7	5.6	12.2	5.2	9.8	10.4
Truck	6.9	11.2	15.2	8.5	11.9	14.9	7.7	4.5	12.2	6.1	9.7	11.6
For-hire truck	8.9	9.7	15.3	12.7	25.4	25.7	10.6	3.6	15.9	7.8	7.5	11.5
Private truck	11.5	20.7	28.4	10.7	9.1	15.7	12.7	13.5	23.1	9.5	5.2	12.5
Rail	27.7	9.8	42.4	12.5	12.9	13.2	19.9	11.4	20.5	6.6	5.0	9.1
Water	8.6	18.5	34.2	10.7	24.3	40.1	10.2	24.1	22.1	18.7	26.3	34.4
Shallow draft	9.3	21.9	50.2	12.2	23.5	50.6	16.5	35.3	53.9	17.4	37.8	52.9
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	20.5	35.7	41.8	21.7	48.7	51.8	16.6	31.2	21.9	25.1	27.1	25.2
Air (includes truck and air)	29.3	19.2	73.6	11.0	S	S	14.0	39.1	43.7	2.3	3.3	4.5
Pipeline	5.9	14.7	20.1	8.4	9.9	15.9	S	S	S	S	S	S
Multiple modes	13.1	9.3	26.9	22.9	32.2	17.2	S	S	S	3.7	3.0	5.9
Parcel, U.S. Postal Service or courier	14.1	8.7	30.1	5.3	7.4	11.9	8.1	7.3	16.8	3.7	3.0	5.8
Truck and rail	20.0	47.6	93.5	22.6	23.7	88.0	18.3	20.6	82.7	13.8	13.1	18.7
Truck and water	S	46.9	S	S	32.2	S	S	22.1	S	14.2	S	S
Rail and water	S	S	S	S	S	S	S	S	S	S	S	S
Other multiple modes	27.2	S	S	S	S	S	S	S	S	27.5	28.0	13.7
Other and unknown modes	9.0	11.7	16.7	17.3	28.3	30.3	8.3	22.8	12.5	20.5	10.1	10.6

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

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

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

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	—	—	—	—	—	—
Single modes	1.4	1.0	.7	1.5	4.1	4.5
Truck	1.8	2.5	2.5	3.0	2.4	2.6
For-hire truck	2.2	2.8	1.6	3.9	2.0	1.7
Private truck	2.6	3.1	2.7	2.2	1.6	1.4
Rail	1.7	.9	1.0	2.3	2.6	4.1
Water .....	.4	.6	1.4	1.5	1.7	4.1
Shallow draft .....	.3	.4	1.2	1.0	1.3	2.1
Great Lakes	—	—	—	—	—	—
Deep draft .....	.2	.4	.6	1.0	1.4	3.9
Air (includes truck and air) .....	.9	.4	—	S	—	—
Pipeline .....	.7	1.1	1.3	1.6	S	S
Multiple modes	1.5	.8	.3	.7	S	S
Parcel, U.S. Postal Service or courier	1.5	.7	—	—	—	—
Truck and rail .....	.1	.1	.1	—	.3	.1
Truck and water	S	.3	S	.4	S	.2
Rail and water	S	—	S	—	S	—
Other multiple modes	—	S	S	S	S	S
Other and unknown modes2	.5	.7	1.3	.2	1.0

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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	8.6	—	7.8
Truck	7.6	2.4	6.1
Rail	19.3	2.6	6.7
Shallow draft	16.0	1.3	15.9
Great Lakes	S	S	30.0
Deep draft	33.0	3.5	21.1
Air	14.4	—	2.5
Parcel, U.S. Postal Service or courier	8.1	—	3.7
Pipeline	S	S	S
Other and unknown modes	8.3	.2	20.5

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

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

Table B-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	20.5	—	21.7	—	16.6	—
Less than 50 miles	30.4	8.0	34.0	8.9	43.6	5.5
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	43.0	11.2	45.4	11.0	43.4	11.8
1,000 to 1,499 miles	47.8	6.8	38.4	7.9	35.7	12.3
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	29.3	—	11.0	—	14.0	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	S	S	49.1	.4
100 to 249 miles	25.3	1.7	23.4	1.1	25.6	.4
250 to 499 miles	S	S	22.6	1.7	21.6	.9
500 to 749 miles	44.7	2.5	24.7	3.7	22.8	3.3
750 to 999 miles	31.0	3.6	13.1	3.6	13.5	3.3
1,000 to 1,499 miles	27.3	4.2	22.4	4.6	22.2	4.2
1,500 to 1,999 miles	30.3	1.4	25.9	1.0	27.7	1.7
2,000 miles or more	48.8	.3	S	S	S	S
Pipeline	5.9	—	8.4	—	S	S
Less than 50 miles	10.5	5.2	14.5	6.5	S	S
50 to 99 miles	25.1	1.4	21.5	.8	S	S
100 to 249 miles	25.4	2.6	29.4	3.4	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	39.8	1.5	40.2	1.7	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	13.1	—	22.9	—	S	S
Less than 50 miles	13.9	2.6	S	S	46.6	.4
50 to 99 miles	23.6	.7	33.9	.4	35.1	—
100 to 249 miles	16.3	.9	32.9	7.4	34.3	3.8
250 to 499 miles	7.9	.6	14.4	1.7	15.6	1.9
500 to 749 miles	17.7	.7	26.6	1.8	33.7	3.3
750 to 999 miles	20.8	1.0	17.7	.7	18.6	2.5
1,000 to 1,499 miles	21.1	2.4	S	S	S	S
1,500 to 1,999 miles	11.6	.6	20.8	1.1	22.6	4.0
2,000 miles or more	S	S	24.1	—	27.4	.4
Parcel, U.S. Postal Service or courier	14.1	—	5.3	—	8.1	—
Less than 50 miles	15.1	2.7	10.8	1.6	13.0	—
50 to 99 miles	24.9	.8	21.9	1.0	22.6	.2
100 to 249 miles	16.6	.8	9.4	1.2	10.0	.6
250 to 499 miles	8.9	.8	7.1	.9	7.6	.9
500 to 749 miles	18.5	.7	8.7	.9	7.9	1.2
750 to 999 miles	21.7	1.0	13.1	1.5	12.8	1.2
1,000 to 1,499 miles	23.3	2.6	10.2	1.5	10.0	1.5
1,500 to 1,999 miles	12.0	.7	18.7	1.0	19.6	2.1
2,000 miles or more	S	S	15.5	—	17.7	.2
Truck and rail	20.0	—	22.6	—	18.3	—
Less than 50 miles	43.9	3.4	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	43.7	2.8	37.6	9.4	38.3	5.0
250 to 499 miles	36.7	3.1	26.1	2.4	26.7	1.6
500 to 749 miles	35.3	1.3	42.9	.8	41.5	1.3
750 to 999 miles	31.9	3.0	27.9	4.8	28.4	4.0
1,000 to 1,499 miles	20.4	6.2	27.7	7.9	26.5	6.5
1,500 to 1,999 miles	28.1	1.1	26.0	1.5	27.2	3.0
2,000 miles or more	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	26.3	19.4	35.4	18.3	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	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
Other multiple modes	27.2	—	S	S	S	S
Less than 50 miles	39.2	14.2	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S
Other and unknown modes	9.0	—	17.3	—	8.3	—
Less than 50 miles	11.9	3.2	21.4	5.8	19.8	4.2
50 to 99 miles	18.2	.7	27.5	1.3	26.0	1.2
100 to 249 miles	16.5	1.9	30.3	3.4	41.1	6.1
250 to 499 miles	25.1	.8	39.3	.9	38.3	1.7
500 to 749 miles	27.0	.9	40.7	.4	38.1	3.9
750 to 999 miles	17.8	.4	S	S	49.4	4.5
1,000 to 1,499 miles	23.8	2.3	29.5	1.0	29.9	6.5
1,500 to 1,999 miles	33.8	.3	44.9	—	45.1	2.7
2,000 miles or more	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-4. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Shipment Size for State of Origin: 1997—Con.

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	S
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	S	S	S	S	S	S	S
Other multiple modes	27.2	—	S	S	S	S	27.5
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	S	S	S	S	S	S	31.6
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	39.0
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	26.7	10.1	S	S	S	S	31.7
Other and unknown modes	9.0	—	17.3	—	8.3	—	20.5
Less than 50 lb	11.1	1.1	10.2	—	32.1	—	28.7
50 to 99 lb	10.0	.4	14.0	—	26.6	—	15.2
100 to 499 lb	13.5	1.1	14.4	.2	23.6	—	14.8
500 to 749 lb	19.9	.4	13.9	.1	38.0	—	36.1
750 to 999 lb	49.3	.4	23.3	—	37.9	—	30.0
1,000 to 9,999 lb	11.9	2.2	10.6	1.5	12.3	.8	17.3
10,000 to 49,999 lb	13.6	2.1	15.7	3.1	14.9	5.4	18.7
50,000 to 99,999 lb	29.3	.7	26.9	2.4	18.3	1.6	S
100,000 lb or more	17.8	2.6	20.8	6.7	20.3	6.8	41.3

— 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	5.4	—	6.0	—	8.6	—	7.7
01	Live animals and live fish	22.4	—	24.3	—	30.5	—	33.1
02	Cereal grains	14.9	—	13.0	.4	26.1	.4	19.2
03	Other agricultural products	15.8	.1	22.1	.2	28.3	.5	42.0
04	Animal feed and products of animal origin, n.e.c.	28.4	.3	16.5	.2	16.2	.3	S
05	Meat, fish, seafood, and their preparations	12.1	.3	10.0	—	16.0	.3	36.0
06	Milled grain products and preparations, and bakery products	33.4	.4	17.3	—	18.3	.2	S
07	Other prepared foodstuffs and fats and oils	20.4	.8	6.2	.2	10.4	.4	28.3
08	Alcoholic beverages	12.2	.2	16.3	.1	28.8	.1	6.4
09	Tobacco products	35.0	—	33.3	—	34.8	—	23.1
10	Monumental or building stone	S	S	49.3	—	S	S	27.0
11	Natural sands	20.8	—	24.2	.7	23.9	.2	27.2
12	Gravel and crushed stone	21.7	—	24.4	1.5	20.5	.3	15.4
13	Nonmetallic minerals n.e.c.	20.2	—	S	S	28.8	.3	32.0
14	Metallic ores and concentrates	40.9	—	S	S	33.9	.4	29.2
15	Coal	22.1	—	24.1	1.1	21.8	—	46.4
17	Gasoline and aviation turbine fuel	7.7	.6	8.5	1.5	34.9	4.5	14.1
18	Fuel oils	23.0	.7	24.5	2.1	22.0	1.4	21.1
19	Coal and petroleum products, n.e.c.	11.4	.4	9.7	1.4	18.1	1.2	25.5
20	Basic chemicals	32.2	2.6	21.5	1.8	35.6	4.5	27.5
21	Pharmaceutical products	10.9	.2	15.1	—	19.9	—	15.3
22	Fertilizers	42.5	—	19.9	.1	21.6	.1	S
23	Chemical products and preparations, n.e.c.	15.4	.3	14.2	.2	7.3	.2	12.3
24	Plastics and rubber	4.1	.3	6.8	.2	7.3	.6	6.0
25	Logs and other wood in the rough	31.3	—	46.3	.6	43.5	.2	S
26	Wood products	8.8	.1	12.7	.2	6.1	.2	23.5
27	Pulp, newsprint, paper, and paperboard	27.3	.2	12.6	—	10.9	.2	21.5
28	Paper or paperboard articles	12.6	.1	11.1	—	20.2	—	22.8
29	Printed products	9.4	.2	30.0	.1	17.4	—	12.0
30	Textiles, leather, and articles of textiles or leather	36.0	1.1	44.8	.2	26.6	.2	6.8
31	Nonmetallic mineral products	9.1	.1	12.3	.8	14.7	.8	22.4
32	Base metal in primary or semifinished forms and in finished basic shapes	6.8	.2	10.4	.2	11.5	.2	13.8
33	Articles of base metal	6.0	.3	20.2	.3	27.9	.7	15.8
34	Machinery	11.0	.4	16.7	—	20.6	.2	11.4
35	Electronic and other electrical equipment and components and office equipment	19.9	3.1	24.1	.1	22.9	.3	6.8
36	Motorized and other vehicles (including parts)	15.3	.4	19.0	—	8.9	—	11.5
37	Transportation equipment, n.e.c.	11.7	.1	26.0	—	25.8	—	9.0
38	Precision instruments and apparatus	S	S	27.3	—	42.0	—	13.3
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	37.5	.7	36.1	—	22.3	—	12.4
40	Miscellaneous manufactured products	20.2	1.1	15.7	.1	16.0	.3	12.3
41	Waste and scrap	19.8	—	29.0	.2	15.8	.2	18.5
43	Mixed freight	40.9	1.4	32.5	.3	42.8	.3	13.9
--	Commodity unknown	22.3	—	29.0	—	25.9	—	11.5

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

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

Table B-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	5.4	—	6.0	—	8.6	—	7.7
Single modes	6.2	1.4	6.0	.7	9.7	4.1	5.2
Truck	6.9	1.8	8.5	2.5	7.7	2.4	6.1
For-hire truck	8.9	2.2	12.7	1.6	10.6	2.0	7.8
Private truck	11.5	2.6	10.7	2.7	12.7	1.6	9.5
Rail	27.7	1.7	12.5	1.0	19.9	2.6	6.6
Water	8.6	.4	10.7	1.4	10.2	1.7	18.7
Shallow draft	9.3	.3	12.2	1.2	16.5	1.3	17.4
Great Lakes	—	—	—	—	—	—	—
Deep draft	20.5	.2	21.7	.6	16.6	1.4	25.1
Air (includes truck and air)	29.3	.9	11.0	—	14.0	—	2.3
Pipeline	5.9	.7	8.4	1.3	S	S	S
Multiple modes	13.1	1.5	22.9	.3	S	S	3.7
Parcel, U.S. Postal Service or courier	14.1	1.5	5.3	—	8.1	—	3.7
Truck and rail	20.0	.1	22.6	.1	18.3	.3	13.8
Truck and water	S	S	S	S	S	S	14.2
Rail and water	S	S	S	S	S	S	14.2
Other multiple modes	27.2	—	S	S	S	S	27.5
Other and unknown modes	9.0	.2	17.3	.7	8.3	.2	20.5
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	22.4	—	24.3	—	30.5	—	33.1
Single modes	22.5	1.7	24.6	1.5	30.6	.2	26.2
Truck	22.5	1.7	24.6	1.5	30.6	.2	26.2
For-hire truck	41.2	10.9	43.2	10.8	46.4	11.6	36.3
Private truck	28.5	11.7	32.7	11.4	24.9	11.7	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	29.9
SCTG 02, CEREAL GRAINS							
Total	14.9	—	13.0	—	26.1	—	19.2
Single modes	19.5	8.3	16.9	7.5	26.4	1.8	18.7
Truck	16.1	6.4	15.2	6.5	22.3	6.8	18.9
For-hire truck	17.4	5.1	16.8	4.9	27.2	3.7	24.4
Private truck	25.3	4.5	25.7	4.6	35.4	4.5	25.1
Rail	37.6	5.5	36.2	6.1	32.8	8.0	23.3
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	32.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	27.1
Truck and water	S	S	S	S	S	S	29.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	42.4	.1	32.7

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	15.8	—	22.1	—	28.3	—	42.0
Single modes	15.6	.9	21.4	.8	28.0	1.0	S
Truck	18.2	6.1	21.5	8.3	29.0	4.5	S
For-hire truck	17.1	7.4	23.8	8.4	32.1	5.2	8.6
Private truck	26.7	8.2	29.5	8.5	26.9	3.5	22.3
Rail	S	S	S	S	S	S	27.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	19.2
Parcel, U.S. Postal Service or courier	S	S	45.9	—	49.0	—	19.3
Truck and rail	S	S	S	S	S	S	30.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	31.9	.3	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	28.4	—	16.5	—	16.2	—	S
Single modes	29.9	3.8	16.8	.9	16.9	3.3	S
Truck	31.6	4.8	18.1	3.3	17.4	7.1	S
For-hire truck	17.7	4.7	24.6	4.4	25.0	8.0	11.6
Private truck	41.4	5.5	21.1	5.0	22.9	6.0	S
Rail	S	S	S	S	S	S	18.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.1	3.2	35.9	.8	42.2	3.3	16.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	22.6
Truck and rail	38.8	3.1	36.2	.8	43.3	3.3	28.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	41.6	.8	44.0	.4	S	S	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	12.1	—	10.0	—	16.0	—	36.0
Single modes	12.1	.1	10.0	.3	16.1	.4	33.4
Truck	11.9	2.4	10.3	2.6	15.8	2.1	33.3
For-hire truck	17.5	4.9	17.0	4.8	16.0	4.2	7.3
Private truck	9.0	5.4	9.8	5.5	23.6	4.6	26.6
Rail	S	S	S	S	S	S	23.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	25.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38.2	.1	47.2	.3	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 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	33.4	—	17.3	—	18.3	—	S
Single modes	33.4	.2	17.3	.3	18.3	.7	S
Truck	33.8	1.2	18.1	2.3	21.3	4.5	S
For-hire truck	21.7	6.1	33.1	6.1	28.1	7.0	14.7
Private truck	38.7	7.3	18.4	7.5	19.9	7.7	S
Rail	24.5	1.2	22.1	2.4	22.1	4.6	13.6
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	42.2	—	S	S	S	S	25.9
Parcel, U.S. Postal Service or courier	48.8	—	S	S	S	S	25.4
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	44.1
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	20.4	—	6.2	—	10.4	—	28.3
Single modes	20.9	.7	6.6	.7	10.8	1.5	18.1
Truck	21.5	1.3	7.3	1.9	10.6	2.3	18.0
For-hire truck	4.6	4.8	9.1	3.5	12.4	3.1	13.7
Private truck	33.2	5.5	12.3	4.6	16.4	3.6	11.0
Rail	23.3	.6	23.5	1.0	23.9	2.0	12.7
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)	S	S	S	S	S	S	28.8
Pipeline	S	S	S	S	S	S	S
Multiple modes	35.8	.7	25.9	.2	35.9	1.1	10.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	13.7
Truck and rail	32.9	.3	29.2	.1	29.3	.8	16.1
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	43.1
Other and unknown modes	39.2	.3	S	S	S	S	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	12.2	—	16.3	—	28.8	—	6.4
Single modes	12.3	.4	16.5	.6	28.9	.6	6.5
Truck	12.2	2.1	15.8	3.1	24.2	6.0	6.1
For-hire truck	27.5	4.0	25.5	4.5	24.7	10.8	15.6
Private truck	9.7	4.6	13.4	5.8	23.7	11.9	5.8
Rail	S	S	S	S	S	S	40.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	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	39.0	.4	41.6	.7	S	S	21.6

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 09, TOBACCO PRODUCTS							
Total	35.0	—	33.3	—	34.8	—	23.1
Single modes	36.0	4.5	34.6	5.1	36.8	8.8	16.3
Truck	36.0	4.5	34.6	5.1	36.8	8.8	16.3
For-hire truck	S	S	S	S	44.4	.6	S
Private truck	36.6	5.7	35.0	5.8	36.9	9.1	18.6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	47.5	.1	49.3	1.0	28.7
Parcel, U.S. Postal Service or courier	S	S	S	S	49.4	1.0	27.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	42.9	4.5	43.8	5.1	S	S	S
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	49.3	—	S	S	27.0
Single modes	S	S	49.5	1.8	S	S	24.2
Truck	S	S	49.5	1.8	S	S	24.2
For-hire truck	S	S	S	S	S	S	28.9
Private truck	S	S	S	S	S	S	14.2
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	45.4	2.6	36.7	1.8	47.8	1.7	47.7
SCTG 11, NATURAL SANDS							
Total	20.8	—	24.2	—	23.9	—	27.2
Single modes	22.3	3.2	25.6	2.6	24.7	2.5	30.1
Truck	23.7	4.6	26.3	4.9	18.3	10.0	28.1
For-hire truck	27.8	8.9	38.1	9.1	21.3	8.2	35.0
Private truck	34.2	10.3	33.0	10.0	28.9	11.1	16.7
Rail	S	S	S	S	S	S	30.1
Water	S	S	S	S	S	S	27.9
Shallow draft	S	S	S	S	S	S	27.9
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.7
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	39.9	2.6	43.9	2.7	49.3	2.5	25.3

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	21.7	—	24.4	—	20.5	—	15.4
Single modes	21.9	.4	24.5	.4	20.9	1.2	14.9
Truck	23.4	2.9	26.3	3.0	27.2	6.7	14.2
For-hire truck	25.9	3.8	30.3	4.5	26.6	5.0	21.3
Private truck	26.7	4.2	32.0	5.1	37.4	4.2	10.5
Rail	31.4	2.2	35.1	2.5	28.3	6.6	16.5
Water	S	S	S	S	S	S	28.0
Shallow draft	S	S	S	S	S	S	28.0
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.3
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	30.3
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	20.2	—	S	S	28.8	—	32.0
Single modes	22.4	4.5	S	S	29.2	1.9	43.0
Truck	26.0	7.2	S	S	39.7	10.4	39.1
For-hire truck	29.4	5.4	S	S	39.4	9.6	33.9
Private truck	31.4	6.1	S	S	S	S	S
Rail	49.7	5.3	S	S	S	S	19.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	40.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	44.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	47.5	3.7	S	S	S	S	49.4
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	40.9	—	S	S	33.9	—	29.2
Single modes	41.6	7.0	S	S	34.6	15.3	34.4
Truck	S	S	S	S	39.9	12.4	47.7
For-hire truck	S	S	S	S	40.6	6.6	26.8
Private truck	47.3	14.9	49.8	16.7	S	S	S
Rail	39.5	8.2	37.8	9.1	39.6	12.0	22.2
Water	S	S	S	S	45.6	11.0	28.9
Shallow draft	44.8	4.8	44.7	5.2	44.5	10.1	26.0
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	36.7
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

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	22.1	—	24.1	—	21.8	—	46.4
Single modes	21.6	10.8	22.4	11.5	15.9	11.7	S
Truck	29.7	14.4	35.2	15.7	27.8	15.6	S
For-hire truck	S	S	S	S	S	S	43.8
Private truck	32.4	14.8	36.4	15.9	36.2	16.3	45.9
Rail	39.6	10.1	39.9	11.1	34.8	10.6	43.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.5
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	31.9	9.7	32.7	10.9	32.7	9.1	22.5
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	7.7	—	8.5	—	34.9	—	14.1
Single modes	7.9	1.3	8.8	1.5	24.8	11.7	14.5
Truck	7.8	2.2	8.5	1.7	18.2	4.2	15.5
For-hire truck	18.1	2.0	15.1	1.1	35.0	2.3	28.6
Private truck	11.5	1.7	11.3	1.3	14.3	2.3	11.9
Rail	S	S	S	S	S	S	S
Water	35.7	3.9	34.4	4.3	43.3	10.1	33.7
Shallow draft	S	S	S	S	42.3	8.9	37.0
Great Lakes	—	—	—	—	—	—	—
Deep draft	45.8	1.8	43.9	1.9	S	S	27.2
Air (includes truck and air)	S	S	S	S	S	S	28.6
Pipeline	12.7	5.2	12.6	5.1	S	S	S
Multiple modes	S	S	S	S	S	S	37.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	45.0	.4	44.7	.3	44.2	.2	30.0
SCTG 18, FUEL OILS							
Total	23.0	—	24.5	—	22.0	—	21.1
Single modes	23.4	1.1	24.8	.8	21.9	.2	21.3
Truck	22.2	5.2	25.2	4.6	30.1	2.7	17.1
For-hire truck	16.8	2.0	18.6	.8	29.6	1.4	34.5
Private truck	28.8	5.0	29.3	4.1	32.6	1.6	24.5
Rail	42.0	.2	44.2	.3	S	S	25.2
Water	30.0	3.4	33.1	4.6	41.4	11.4	S
Shallow draft	36.0	2.6	30.3	3.0	45.2	8.0	23.0
Great Lakes	—	—	—	—	—	—	—
Deep draft	36.0	1.8	42.2	2.4	S	S	S
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	36.0	6.6	35.5	6.7	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	26.6

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	11.4	—	9.7	—	18.1	—	25.5
Single modes	11.6	1.3	9.8	.6	18.9	1.7	26.9
Truck	26.6	5.4	34.8	7.6	S	S	29.8
For-hire truck	12.7	1.7	S	S	23.4	3.2	35.5
Private truck	S	S	42.9	5.8	S	S	33.4
Rail	30.1	4.0	20.3	1.7	19.3	4.0	17.6
Water	27.3	5.1	23.8	6.1	34.2	6.3	32.9
Shallow draft	32.4	5.7	27.5	6.5	30.2	6.7	25.5
Great Lakes	—	—	—	—	—	—	—
Deep draft	37.6	2.3	43.7	1.6	S	S	35.1
Air (includes truck and air)	S	S	S	S	S	S	29.1
Pipeline	14.0	2.9	10.6	3.0	S	S	S
Multiple modes	S	S	44.8	.3	41.8	1.7	18.3
Parcel, U.S. Postal Service or courier	S	S	49.3	—	S	S	16.8
Truck and rail	S	S	S	S	S	S	29.3
Truck and water	S	S	S	S	S	S	31.6
Rail and water	S	S	S	S	S	S	31.6
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	36.9	1.2	27.8	.6	28.0	.5	S
SCTG 20, BASIC CHEMICALS							
Total	32.2	—	21.5	—	35.6	—	27.5
Single modes	32.4	.7	22.2	1.5	36.1	.9	35.0
Truck	41.7	2.6	35.3	2.1	S	S	39.1
For-hire truck	49.5	3.1	48.5	2.8	S	S	8.1
Private truck	14.4	1.3	18.2	1.4	15.3	.9	S
Rail	S	S	45.2	4.0	43.7	4.4	4.3
Water	14.2	3.8	8.0	3.3	25.3	6.1	15.0
Shallow draft	15.5	3.3	6.4	2.3	23.1	4.0	15.5
Great Lakes	—	—	—	—	—	—	—
Deep draft	35.1	1.3	31.9	2.1	49.9	4.7	38.7
Air (includes truck and air)	S	S	S	S	S	S	19.3
Pipeline	27.9	4.4	15.9	4.0	S	S	S
Multiple modes	25.6	.2	47.2	.3	S	S	S
Parcel, U.S. Postal Service or courier	44.8	—	S	S	39.5	—	39.8
Truck and rail	45.2	.1	S	S	S	S	21.5
Truck and water	S	S	S	S	S	S	31.6
Rail and water	S	S	S	S	S	S	31.6
Other multiple modes	39.5	—	S	S	S	S	23.6
Other and unknown modes	33.1	.7	25.5	1.5	29.1	.3	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	10.9	—	15.1	—	19.9	—	15.3
Single modes	15.0	6.2	17.4	2.8	22.2	4.3	25.9
Truck	15.4	6.5	18.3	4.4	23.1	6.7	29.6
For-hire truck	21.4	5.9	19.6	6.1	23.6	6.1	26.4
Private truck	21.7	5.8	34.0	5.1	40.5	3.3	37.2
Rail	S	S	S	S	S	S	29.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	37.1	.5	S	S	S	S	5.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.8	6.2	21.8	2.8	20.7	4.3	12.0
Parcel, U.S. Postal Service or courier	16.9	6.2	24.1	2.7	25.7	4.1	12.0
Truck and rail	S	S	S	S	S	S	25.9
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 22, FERTILIZERS							
Total	42.5	—	19.9	—	21.6	—	S
Single modes	42.9	.7	20.3	.8	21.6	.2	S
Truck	46.3	5.2	23.2	4.1	25.8	8.8	S
For-hire truck	21.2	4.7	18.5	3.8	42.1	7.9	23.1
Private truck	S	S	22.5	4.6	18.0	7.3	31.4
Rail	S	S	37.3	1.7	44.7	6.7	27.3
Water	S	S	S	S	S	S	27.9
Shallow draft	S	S	S	S	S	S	27.9
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	39.9	4.2	36.9	3.7	S	S	S
Multiple modes	S	S	S	S	S	S	27.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	27.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	41.4	.7	41.7	.8	36.9	.2	27.6
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	15.4	—	14.2	—	7.3	—	12.3
Single modes	17.0	2.2	13.7	4.4	8.5	3.5	17.9
Truck	19.3	5.0	17.3	5.6	14.2	5.1	19.4
For-hire truck	11.3	4.7	15.6	5.1	15.2	5.5	10.6
Private truck	41.3	4.7	28.5	3.5	33.7	1.4	13.2
Rail	20.9	2.3	17.5	4.1	16.4	6.7	8.6
Water	S	S	S	S	S	S	37.9
Shallow draft	S	S	S	S	S	S	32.3
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	28.9
Air (includes truck and air)	42.6	.1	46.5	—	S	S	10.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	20.2	1.7	30.0	.6	36.6	1.2	9.0
Parcel, U.S. Postal Service or courier	16.9	1.2	18.4	.1	11.7	—	9.0
Truck and rail	42.8	.5	43.1	.5	43.0	1.2	15.4
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.8	1.1	S	S	S	S	29.4
SCTG 24, PLASTICS AND RUBBER							
Total	4.1	—	6.8	—	7.3	—	6.0
Single modes	2.9	2.1	5.5	3.6	7.6	2.6	5.7
Truck	4.6	2.2	7.1	2.5	4.6	2.4	6.5
For-hire truck	3.8	1.9	7.4	1.9	4.6	1.8	4.5
Private truck	12.9	1.8	19.4	1.7	17.5	.7	9.4
Rail	5.9	2.1	6.9	3.3	10.8	4.0	6.9
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	36.1	.1	43.0	—	S	S	6.3
Pipeline	S	S	S	S	S	S	S
Multiple modes	23.8	1.1	45.7	.9	47.1	2.3	9.5
Parcel, U.S. Postal Service or courier	31.4	1.0	37.0	—	33.6	—	9.6
Truck and rail	47.5	.7	S	S	49.4	2.3	5.2
Truck and water	S	S	S	S	S	S	30.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43.4	1.3	S	S	38.1	.6	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	31.3	—	46.3	—	43.5	—	S
Single modes	31.2	.1	46.3	.1	43.5	.2	43.2
Truck	31.4	.8	46.3	.9	43.9	3.8	43.2
For-hire truck	S	S	S	S	S	S	S
Private truck	42.0	13.4	S	S	S	S	28.2
Rail	S	S	S	S	S	S	31.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	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	30.5
SCTG 26, WOOD PRODUCTS							
Total	8.8	—	12.7	—	6.1	—	23.5
Single modes	9.2	1.4	12.9	.5	6.0	2.0	13.5
Truck	9.8	1.7	15.3	3.1	6.8	2.8	13.9
For-hire truck	9.2	2.4	11.3	2.7	7.6	2.4	9.1
Private truck	12.4	2.7	20.2	3.6	8.6	1.6	18.0
Rail	10.4	.6	11.2	1.0	13.1	3.6	6.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	24.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	49.3	1.5	S	S	S	S	9.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	10.2
Truck and rail	S	S	S	S	S	S	24.1
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	47.7	.6	S	S	38.7	.2	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	27.3	—	12.6	—	10.9	—	21.5
Single modes	28.2	1.2	12.0	1.9	10.5	1.7	21.6
Truck	30.8	2.7	13.0	2.9	14.1	4.1	23.3
For-hire truck	13.7	4.6	9.2	3.2	12.8	3.5	16.2
Private truck	46.8	6.3	23.4	3.9	38.8	1.0	18.0
Rail	18.1	2.0	17.9	3.0	13.9	4.1	11.4
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	25.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	33.8	.5	49.3	.5	S	S	20.7
Parcel, U.S. Postal Service or courier	34.3	.2	46.3	—	41.0	—	20.1
Truck and rail	S	S	S	S	S	S	26.2
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	32.8

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 28, PAPER OR PAPERBOARD ARTICLES							
Total	12.6	—	11.1	—	20.2	—	22.8
Single modes	14.4	2.8	12.7	2.2	22.3	3.5	19.0
Truck	14.7	2.8	12.1	2.3	17.3	4.2	12.9
For-hire truck	20.6	6.0	14.0	3.9	20.1	4.9	21.8
Private truck	23.5	6.0	16.3	4.1	20.9	4.1	13.1
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	24.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	27.2	1.7	30.4	.5	34.7	1.9	17.5
Parcel, U.S. Postal Service or courier	28.4	1.7	36.1	.5	S	S	17.7
Truck and rail	38.1	.2	43.8	.2	40.8	.9	22.3
Truck and water	S	S	S	S	S	S	27.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	31.7	1.9	25.4	1.9	40.2	2.1	26.8
SCTG 29, PRINTED PRODUCTS							
Total	9.4	—	30.0	—	17.4	—	12.0
Single modes	12.5	4.2	33.4	3.3	13.4	6.4	23.6
Truck	13.0	4.3	33.4	3.4	14.0	6.4	33.2
For-hire truck	21.5	5.0	22.6	8.2	19.4	7.5	13.5
Private truck	17.6	4.4	43.8	9.2	18.4	4.5	14.7
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	31.5	.6	29.9	.1	29.2	1.3	6.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	18.4	3.7	18.7	1.0	22.7	4.1	10.0
Parcel, U.S. Postal Service or courier	18.4	3.7	18.7	1.0	23.0	4.1	10.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	21.3	1.3	39.1	3.2	S	S	24.0
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	36.0	—	44.8	—	26.6	—	6.8
Single modes	39.7	3.2	47.9	2.8	30.6	3.9	17.3
Truck	39.9	3.3	48.4	2.7	31.9	4.0	17.8
For-hire truck	20.1	5.5	16.3	6.9	19.9	7.0	5.3
Private truck	S	S	S	S	49.8	7.5	38.6
Rail	S	S	S	S	S	S	31.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	36.3	.3	31.5	—	38.6	—	9.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	22.9	2.7	20.4	2.2	27.1	3.6	3.7
Parcel, U.S. Postal Service or courier	23.3	2.7	15.8	2.1	18.8	2.9	3.7
Truck and rail	S	S	S	S	S	S	23.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	18.3	.7	S	S	S	S	20.4

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	9.1	—	12.3	—	14.7	—	22.4
Single modes	9.2	1.3	12.5	.7	15.0	1.8	17.9
Truck	9.4	1.4	12.9	1.1	14.0	2.8	21.1
For-hire truck	9.9	2.0	11.6	2.6	15.7	2.0	12.2
Private truck	10.6	2.6	15.8	3.6	23.0	3.5	17.8
Rail	13.4	.3	15.6	.8	25.0	2.0	17.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	15.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	26.2	1.1	44.7	.5	47.1	1.9	15.2
Parcel, U.S. Postal Service or courier	32.4	1.0	32.2	—	36.9	—	15.4
Truck and rail	31.9	.3	45.7	.5	48.9	1.9	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	17.6	.6	20.9	.7	33.4	1.0	26.7
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	6.8	—	10.4	—	11.5	—	13.8
Single modes	7.8	2.1	12.0	4.8	12.7	4.2	16.1
Truck	7.7	2.5	13.1	4.5	12.2	5.1	16.3
For-hire truck	8.3	2.5	15.2	4.3	12.8	4.7	8.6
Private truck	13.0	2.7	19.7	4.1	15.3	1.0	23.9
Rail	15.4	1.6	19.6	2.5	20.2	3.6	7.5
Water	S	S	S	S	S	S	29.9
Shallow draft	S	S	S	S	S	S	29.9
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	47.1	—	S	S	S	S	9.4
Pipeline	S	S	S	S	S	S	S
Multiple modes	24.4	.6	39.4	.4	42.9	1.1	9.7
Parcel, U.S. Postal Service or courier	25.8	.5	19.4	—	26.7	—	10.5
Truck and rail	46.3	.2	48.6	.3	S	S	24.2
Truck and water	S	S	S	S	S	S	28.5
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	26.5	1.7	46.3	4.6	46.2	3.4	S
SCTG 33, ARTICLES OF BASE METAL							
Total	6.0	—	20.2	—	27.9	—	15.8
Single modes	8.6	3.7	20.9	1.2	29.5	2.3	17.3
Truck	8.8	3.7	21.2	2.3	29.8	2.5	17.8
For-hire truck	10.9	4.5	21.8	5.1	22.8	6.8	12.1
Private truck	12.4	2.9	26.5	4.0	46.8	7.9	28.0
Rail	41.7	1.3	40.3	2.3	31.0	.5	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	22.2	.2	18.5	—	19.9	.2	5.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	24.6	2.1	34.1	.6	48.4	1.9	8.4
Parcel, U.S. Postal Service or courier	25.8	2.1	40.2	.6	S	S	8.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	S
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.6	1.9	16.6	.6	35.3	1.2	28.4

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	11.0	—	16.7	—	20.6	—	11.4
Single modes	13.0	2.8	17.9	1.4	21.5	.9	20.4
Truck	13.6	2.8	18.1	1.4	22.0	1.0	19.5
For-hire truck	14.9	3.5	21.7	5.5	25.5	4.5	10.2
Private truck	20.0	3.8	24.0	6.0	25.8	4.1	32.3
Rail	41.2	.2	37.8	.3	37.3	.7	18.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	28.2	1.0	30.7	.2	29.9	.5	4.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	17.3	2.9	17.7	.8	21.6	.9	12.4
Parcel, U.S. Postal Service or courier	17.4	2.9	18.5	.8	23.4	.9	12.4
Truck and rail	S	S	S	S	S	S	29.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	26.4	.9	29.3	1.1	47.6	.7	35.8
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	19.9	—	24.1	—	22.9	—	6.8
Single modes	27.7	7.1	25.1	1.7	24.3	1.8	10.8
Truck	30.3	7.5	25.4	1.8	24.7	1.9	16.6
For-hire truck	33.0	7.8	28.6	4.5	26.2	2.4	9.3
Private truck	26.0	1.7	23.6	3.8	28.8	2.0	11.4
Rail	S	S	S	S	S	S	28.0
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)	21.7	2.5	24.9	.6	25.7	1.2	5.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	23.6	6.9	14.9	1.5	10.1	1.6	5.1
Parcel, U.S. Postal Service or courier	23.8	6.9	16.3	1.5	10.7	1.6	5.1
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	16.4	.5	20.4	.5	25.7	.6	21.8
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	15.3	—	19.0	—	8.9	—	11.5
Single modes	19.4	3.8	23.4	3.9	10.2	2.1	13.0
Truck	19.5	3.8	23.5	3.9	10.4	2.3	12.4
For-hire truck	18.7	4.6	19.7	4.3	14.8	5.4	8.2
Private truck	26.2	5.2	34.2	6.2	20.9	5.6	23.3
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	31.6	.3	29.0	—	28.5	.3	9.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	14.2	1.5	20.9	.7	12.9	.9	8.0
Parcel, U.S. Postal Service or courier	14.2	1.5	20.9	.7	12.9	.9	8.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	16.7	3.1	19.0	3.7	30.0	2.3	32.8

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 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	11.7	—	26.0	—	25.8	—	9.0
Single modes	14.4	5.9	26.2	1.4	26.3	1.0	13.2
Truck	19.7	7.7	36.6	12.8	30.5	9.8	18.7
For-hire truck	22.8	7.6	23.6	10.9	26.8	11.8	14.7
Private truck	36.5	6.8	42.2	13.6	48.8	11.7	19.8
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)	33.4	4.8	23.4	1.5	25.4	3.4	9.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	46.2	5.7	S	S	S	S	8.6
Parcel, U.S. Postal Service or courier	46.2	5.7	S	S	S	S	8.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	45.0	.5	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	S	S	27.3	—	42.0	—	13.3
Single modes	17.3	10.7	18.5	7.3	25.4	9.0	22.8
Truck	20.3	9.2	19.0	7.1	28.6	8.5	29.5
For-hire truck	16.0	6.2	16.7	6.2	20.0	7.4	7.5
Private truck	47.6	7.1	29.3	4.6	S	S	18.5
Rail	S	S	S	S	S	S	29.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	28.7	3.0	12.1	.5	10.7	1.2	5.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	9.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	9.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	20.3	1.3	34.2	2.3	28.5	2.3	27.5
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	37.5	—	36.1	—	22.3	—	12.4
Single modes	38.4	2.2	36.4	.6	22.0	1.6	15.0
Truck	38.7	2.2	36.4	.7	22.2	1.7	15.6
For-hire truck	32.2	8.2	19.1	8.4	21.3	7.4	6.0
Private truck	S	S	47.7	8.5	49.8	7.2	49.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	47.8	.2	S	S	20.6
Pipeline	S	S	S	S	S	S	S
Multiple modes	48.6	2.0	S	S	S	S	8.5
Parcel, U.S. Postal Service or courier	48.6	2.0	S	S	S	S	8.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.2	.9	41.6	.4	40.9	.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 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	20.2	—	15.7	—	16.0	—	12.3
Single modes	26.6	5.1	16.9	1.7	17.9	3.0	22.7
Truck	10.2	6.7	16.8	1.5	16.0	2.8	28.0
For-hire truck	15.4	5.6	19.0	4.0	18.8	4.3	20.6
Private truck	19.3	4.4	18.3	4.7	23.5	2.9	22.6
Rail	23.5	.1	29.1	.9	32.4	3.3	17.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	23.6	—	24.4	.2	6.2
Pipeline	S	S	S	S	S	S	S
Multiple modes	33.8	4.9	21.3	1.2	21.0	2.6	5.6
Parcel, U.S. Postal Service or courier	35.8	5.0	21.6	.7	24.7	1.3	5.8
Truck and rail	S	S	S	S	S	S	28.5
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	20.1	.9	34.7	1.2	38.5	1.9	S
SCTG 41, WASTE AND SCRAP							
Total	19.8	—	29.0	—	15.8	—	18.5
Single modes	19.1	2.0	23.3	3.4	18.0	5.4	12.3
Truck	20.3	4.3	26.7	6.0	15.7	5.4	15.0
For-hire truck	25.5	5.5	24.4	4.4	22.8	5.0	12.6
Private truck	22.0	6.5	35.7	5.5	16.4	6.8	27.0
Rail	21.3	3.8	24.5	6.2	24.8	6.7	37.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	40.0	1.7	49.5	1.3	S	S	21.2
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	40.0	1.7	49.5	1.3	S	S	21.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	40.9	—	32.5	—	42.8	—	13.9
Single modes	41.8	2.0	33.1	1.9	43.1	1.3	11.7
Truck	41.8	2.0	33.1	1.9	43.1	1.3	11.8
For-hire truck	19.0	5.0	25.3	6.1	30.7	7.3	26.5
Private truck	46.8	5.7	39.5	6.0	50.0	7.7	12.5
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	27.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	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	22.3	—	29.0	—	25.9	—	11.5
Single modes	25.3	7.4	30.5	4.6	26.2	1.0	17.6
Truck	22.8	6.5	22.9	12.0	24.6	9.7	19.5
For-hire truck	24.9	7.5	28.2	10.6	28.7	8.6	20.2
Private truck	34.6	5.2	38.3	9.6	39.9	7.5	48.5
Rail	42.2	2.7	38.4	5.1	49.3	9.2	22.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	20.5
Pipeline	S	S	S	S	S	S	S
Multiple modes	40.0	5.1	S	S	24.7	.3	15.4
Parcel, U.S. Postal Service or courier	41.6	5.2	32.2	.1	25.6	.3	15.5
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	30.3

— 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-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	5.4	—	6.0	—	8.6	—
NEW ENGLAND STATES						
Connecticut	17.9	—	24.5	—	27.4	.2
Maine	26.8	—	34.1	—	33.8	—
Massachusetts	18.9	.1	S	S	S	S
New Hampshire	S	S	48.3	—	49.5	—
Rhode Island	28.0	—	36.6	—	38.1	—
Vermont	28.5	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	15.5	.2	22.6	—	23.3	.6
New York	16.7	.1	42.8	.1	48.1	.8
Pennsylvania	11.1	.1	19.5	—	20.7	.6
EAST NORTH CENTRAL STATES						
Illinois	7.9	.2	18.6	.1	15.5	.7
Indiana	15.5	—	16.0	—	18.7	.3
Michigan	45.1	.7	S	S	S	S
Ohio	13.1	.2	8.6	—	9.3	.2
Wisconsin	38.5	.2	13.8	—	15.1	.1
WEST NORTH CENTRAL STATES						
Iowa	11.4	—	15.5	—	13.0	.2
Kansas	13.2	.1	14.1	—	14.0	.1
Minnesota	31.9	.2	7.6	—	7.4	—
Missouri	12.0	.2	39.4	.2	42.4	.8
Nebraska	47.8	.1	16.6	—	15.8	—
North Dakota	S	S	S	S	S	S
South Dakota	27.9	—	22.7	—	23.6	—
SOUTH ATLANTIC STATES						
Delaware	24.4	—	23.0	—	23.6	.1
District of Columbia	42.1	—	44.8	—	42.2	—
Florida	9.1	.2	26.2	.3	25.1	1.2
Georgia	8.3	.2	28.4	.4	25.3	1.1
Maryland	20.4	—	21.7	—	23.0	.1
North Carolina	20.1	.2	36.0	.1	43.1	1.3
South Carolina	9.8	—	12.6	—	15.1	.2
Virginia	13.4	—	28.7	—	33.9	.4
West Virginia	26.9	—	34.2	—	36.7	.5
EAST SOUTH CENTRAL STATES						
Alabama	11.8	—	11.8	—	15.0	.1
Kentucky	21.8	.2	15.7	—	16.1	.2
Mississippi	S	S	33.4	—	29.2	.2
Tennessee	8.7	—	10.6	—	10.7	.2
WEST SOUTH CENTRAL STATES						
Arkansas	10.4	.1	7.1	—	7.6	.1
Louisiana	6.4	.2	10.7	.2	10.2	.2
Oklahoma	20.6	.3	13.1	.2	17.8	.2
Texas	5.3	1.6	6.9	1.4	7.3	1.7
MOUNTAIN STATES						
Arizona	18.3	.2	9.9	—	11.6	.2
Colorado	11.5	.1	27.5	.1	15.0	.2
Idaho	25.2	—	S	S	S	S
Montana	20.5	—	46.7	—	48.6	.3
Nevada	17.9	—	18.1	—	18.9	—
New Mexico	15.2	.2	12.2	—	12.3	.2
Utah	17.8	—	13.4	—	14.8	.1
Wyoming	S	S	32.8	—	29.8	—
PACIFIC STATES						
Alaska	S	S	49.7	—	S	S
California	18.1	.7	22.5	.4	35.0	3.9
Hawaii	29.4	—	34.1	—	34.9	—
Oregon	19.7	—	12.7	—	12.8	.1
Washington	13.9	—	13.5	—	14.1	.2

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

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

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

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

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	3.1	—	6.6	—	8.3	—
NEW ENGLAND STATES						
Connecticut	12.7	—	S	S	S	S
Maine	16.9	—	37.0	—	37.8	—
Massachusetts	16.9	.1	11.0	—	11.4	—
New Hampshire	15.3	—	23.2	—	23.3	—
Rhode Island	21.2	—	S	S	S	S
Vermont	47.8	—	29.2	—	27.8	—
MIDDLE ATLANTIC STATES						
New Jersey	13.3	.2	S	S	S	S
New York	6.1	.1	13.3	—	15.0	.2
Pennsylvania	13.4	.2	21.2	—	18.7	.3
EAST NORTH CENTRAL STATES						
Illinois	6.1	.2	13.2	.1	13.8	.4
Indiana	18.9	.3	22.6	—	25.0	.4
Michigan	10.7	.3	7.2	—	6.1	.2
Ohio	6.7	.2	8.4	—	8.6	.4
Wisconsin	12.4	.1	13.0	—	12.2	.2
WEST NORTH CENTRAL STATES						
Iowa	8.8	—	13.7	—	14.7	.1
Kansas	6.8	—	20.2	.3	31.7	.9
Minnesota	9.3	—	27.6	—	26.8	.3
Missouri	20.2	.3	19.5	.2	22.0	.6
Nebraska	11.7	—	28.9	.1	30.9	.6
North Dakota	20.7	—	33.8	—	37.1	—
South Dakota	23.4	—	43.1	—	47.5	.2
SOUTH ATLANTIC STATES						
Delaware	25.5	—	37.7	—	38.5	—
District of Columbia	S	S	S	S	S	S
Florida	15.9	.2	26.9	—	28.7	.4
Georgia	9.0	.1	10.9	—	10.1	.1
Maryland	15.1	—	38.8	—	35.8	—
North Carolina	7.1	.1	11.2	—	11.1	.2
South Carolina	14.0	—	8.7	—	8.4	—
Virginia	6.8	—	8.7	—	8.7	—
West Virginia	25.8	—	25.8	—	26.9	.2
EAST SOUTH CENTRAL STATES						
Alabama	9.2	—	23.6	.2	18.7	.4
Kentucky	7.5	—	17.5	—	19.5	.2
Mississippi	16.5	.1	10.0	—	10.7	.1
Tennessee	9.7	.2	7.7	—	6.7	—
WEST SOUTH CENTRAL STATES						
Arkansas	10.2	.1	30.6	.3	20.2	.2
Louisiana	12.1	.3	26.7	.9	25.0	1.2
Oklahoma	8.6	.1	15.2	.2	9.7	.2
Texas	5.3	1.4	6.9	1.4	7.3	2.1
MOUNTAIN STATES						
Arizona	25.8	.3	13.8	—	17.7	.1
Colorado	5.3	—	9.8	—	10.6	.2
Idaho	31.8	—	13.1	—	13.7	—
Montana	30.2	—	19.4	—	19.3	.1
Nevada	26.3	—	S	S	S	S
New Mexico	12.4	—	26.9	.1	30.4	.3
Utah	33.1	—	25.3	—	27.8	—
Wyoming	14.2	—	21.9	.6	24.0	3.3
PACIFIC STATES						
Alaska	S	S	34.1	—	39.6	—
California	6.5	.4	31.6	.2	20.4	.5
Hawaii	45.9	—	S	S	S	S
Oregon	11.3	—	11.8	—	17.7	.2
Washington	31.2	.3	23.1	—	23.8	.3

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

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

Appendix C.

Sample Design, Data Collection, and Estimation

INTRODUCTION

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

SAMPLE DESIGN

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

First Stage

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

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

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

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

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

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

Second Stage

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

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

Third Stage

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

DATA COLLECTION

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

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

ESTIMATION

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

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

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

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

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

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

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

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

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

Appendix D.

Standard Classification of Transported Goods Code Information

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

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

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

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

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

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

Appendix E.

Sample Report Forms and Instructions

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

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

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

Please return by:

RETURN TO

**BUREAU OF THE CENSUS
1201 East 10th Street
Jeffersonville IN 47132-0001**

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

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

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

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

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

Number and street		
City, town, village, etc.	State	ZIP Code

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

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

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

<div style="border: 1px solid black; width: 90%; margin: 5px;"></div>	This number should reflect all shipments and deliveries leaving this location during the one-week reporting period. <i>Please see Instruction Guide for a definition of "shipment."</i>
---	---

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

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

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

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

Month	Day	Year

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

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. ↗

Item F SHIPMENT CHARACTERISTICS

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

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

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

2 — Private truck
3 — For-hire truck

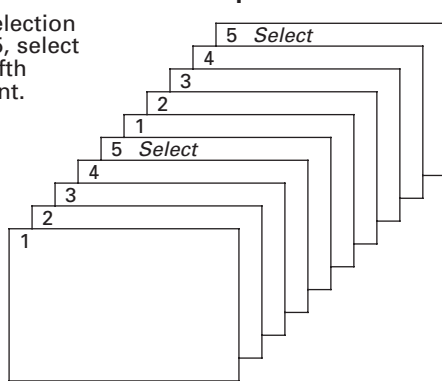
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

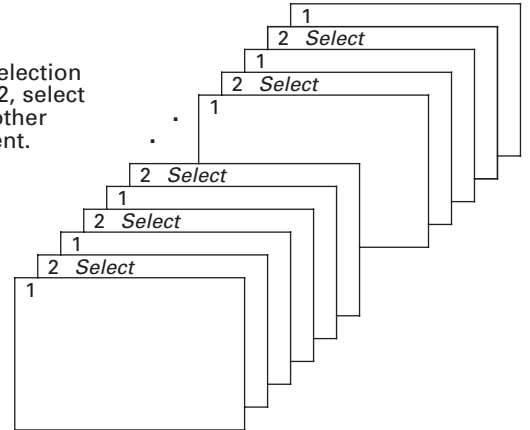
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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


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

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

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

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued 

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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

Item G

1. Do this establishment's outbound shipments leave more than one site within this physical location?

Yes

No

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

Yes

No

If yes to item G1 or item G2:

3. Would it be easier to receive a separate questionnaire for each file or each shipment site?

Yes

No

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

Total value in whole dollars

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

Yes

No

Item J CERTIFICATION

Name of person to contact regarding this report — <i>Please print</i>	Telephone number — <i>Include area code</i>	Date
---	---	------

Signature	Title
-----------	-------

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

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

Remarks

THANK YOU FOR COMPLETING YOUR REPORT

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

Please return by:

RETURN TO

**BUREAU OF THE CENSUS
1201 East 10th Street
Jeffersonville IN 47132-0001**

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

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

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

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

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

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- 2 Temporarily or seasonally inactive
- 3 Ceased operation — *Give date* →

Month	Day	Year

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

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

Number and street		
City, town, village, etc.	State	ZIP Code

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

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

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

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

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

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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						| | | |		| | | |

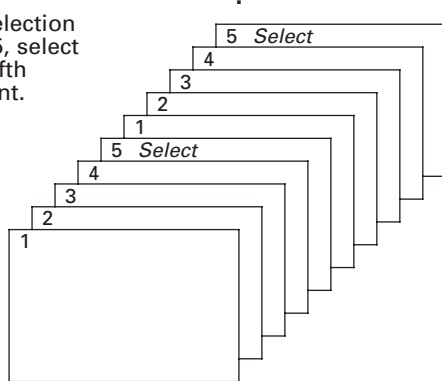
Mode of transport codes for columns (k) and (n) 1 — Parcel delivery, courier, or U.S. Postal Service 2 — Private truck 3 — For-hire truck 4 — Railroad Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

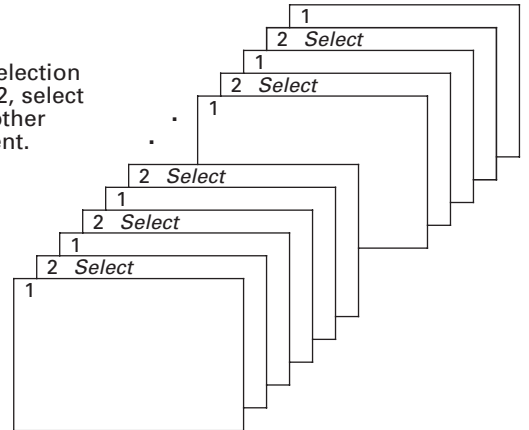
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment 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								
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21								
22								
23								
24								
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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 (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)
									10
									11
									12
									13
									14
									15
									16
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									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

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

Total value in whole dollars

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

Yes

No

Item I AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

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

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

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

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

Item J USE OF OFF-SITE SHIPPING FACILITIES

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

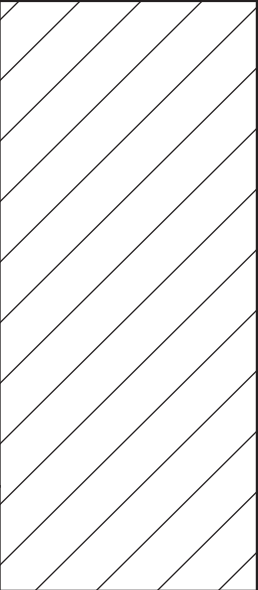
Type of shipping facility (a)	Did you use this type of off-site facility for outbound shipments during 1997? (b)	Distance to the off-site facility of this type that you used most in 1997 (Report in miles – estimates are acceptable) (c)	Mode of transport used to reach that facility (Enter a code from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

1 – Trailer on Flat Car (TOFC) **3** – For-Hire Truck **5** – Water **7** – Air
2 – Private Truck **4** – Rail **6** – Pipeline **8** – Other

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

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

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

Item L TRANSPORTATION DECISIONS

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

1 Your company 2 Receiver of shipment 3 Other

Remarks

Item M CERTIFICATION

Name of person to contact regarding this report – <i>Please print</i>	Telephone number – <i>Include area code</i>	Date
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Signature	Title
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Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

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

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

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

PART I – GENERAL INFORMATION
Frequently Asked Questions About the
Commodity Flow Survey (CFS)

Why are you conducting the CFS?

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

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

Who reports in the CFS?

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

Why is my participation important?

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

Your report helps ensure quality results.

Is this survey mandatory?

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

Will my data be kept confidential?

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

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

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

How often must I report?

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

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

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

Item D

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

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

What we mean by a "shipment":

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

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

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

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

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

A special note about "shipments":

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

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

Item E: Sampling Instructions

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

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

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

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

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

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

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

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

Mode of transport codes for columns (k) and (n) ▶	1 — Parcel delivery, courier, or U.S. Postal Service	2 — Private truck 3 — For-hire truck	4 — Railroad Continued →
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PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

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

For **export shipments**, report the U.S. **port of exit** as the destination city. The port of exit is the port or airport from which the shipment left the country. In case of land shipments into Mexico or Canada, it is the border crossing.
- **Mode(s) of Transport (column k)** – Enter the code(s) for **all** modes of transport used for the shipment to its U.S. destination (i.e., the destination reported in column j). Codes are located on the bottom of pages 2, 3, 4, and 5 of the questionnaire. Enter in the sequence used, all that apply. See Part III for definitions of each mode.
 - **For Customer Pick-up:** Report the mode(s) of transportation used, if known. Otherwise, report mode as "0" (unknown).
 - **For Export Shipments:** List only the mode(s) of transport used to reach the port, airport, or border crossing of exit.

If a hazardous material, enter the "UN" or "NA" number (h)	Containerized? (Y/N) (i)	U.S. destination (j)			Mode(s) of transport to U.S. destination <i>Enter all that apply using codes shown below.</i> (k)
		City	State	ZIP Code	
	N	Los Angeles	C A	9 | 0 | 0 | 4 | 0	2, 4, 3
| | | |	N	New York	N Y	1 | 0 | 4 | 5 | 4	5

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

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

Export? (Y/N)	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.
	(m)			
(l)	City	Country	(n)	(o)
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.

