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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	290 350	100.0	281 014	100.0	40 249	100.0	409
Single modes	217 178	74.8	272 356	96.9	36 453	90.6	141
Truck ¹	207 308	71.4	257 634	91.7	31 387	78.0	120
For-hire truck	107 008	36.9	77 886	27.7	21 874	54.3	484
Private truck	96 161	33.1	169 170	60.2	8 177	20.3	47
Rail	3 351	1.2	10 432	3.7	4 676	11.6	807
Water	S	S	S	S	S	S	241
Shallow draft	S	S	S	S	S	S	69
Great Lakes	S	S	S	S	S	S	10
Deep draft	S	S	S	S	S	S	2 078
Air (includes truck and air)	6 041	2.1	120	—	162	.4	1 410
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	59 496	20.5	1 832	.7	1 813	4.5	722
Parcel, U.S. Postal Service or courier	58 242	20.1	1 303	.5	841	2.1	722
Truck and rail	1 213	.4	510	.2	945	2.3	1 704
Truck and water	38	—	10	—	26	—	3 134
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	70
Other and unknown modes	13 676	4.7	6 825	2.4	1 984	4.9	88

— 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	290 350	261 068	11.2	281 014	219 754	27.9	40 249	36 145	11.4	409	382	7.1
Single modes	217 178	214 680	1.2	272 356	211 162	29.0	36 453	32 074	13.7	141	175	−19.4
Truck ¹	207 308	198 254	4.6	257 634	195 291	31.9	31 387	25 820	21.6	120	119	1.1
For-hire truck	107 008	123 371	−13.3	77 886	68 562	13.6	21 874	18 409	18.8	484	472	2.5
Private truck	96 161	74 683	28.8	169 170	125 773	34.5	8 177	7 334	11.5	47	47	—
Rail	3 351	4 128	−18.8	10 432	7 045	48.1	4 676	4 008	16.7	807	424	90.3
Water	S	S	S	S	S	S	S	S	S	241	4 585	−94.7
Shallow draft	S	S	S	S	S	S	S	S	S	69	—	—
Great Lakes	S	—	—	S	—	—	S	—	—	10	—	—
Deep draft	S	S	S	S	S	S	S	S	S	2 078	5 573	−62.7
Air (includes truck and air)	6 041	10 551	−42.7	120	132	−9.5	162	S	S	1 410	1 362	3.5
Pipeline ²	S	S	S	S	S	S	S	S	S	S	S	S
Multiple modes	59 496	35 311	68.5	1 832	996	83.9	1 813	760	138.7	722	692	4.4
Parcel, U.S. Postal Service or courier	58 242	34 802	67.4	1 303	854	52.5	841	537	56.8	722	691	4.4
Truck and rail	1 213	113	976.7	510	88	481.1	945	136	595.2	1 704	1 485	14.8
Truck and water	38	S	S	10	S	S	26	75	−65.6	3 134	S	S
Rail and water	—	—	—	—	—	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S	S	S	70	8 293	−99.2
Other and unknown modes	13 676	11 077	23.5	6 825	7 595	−10.1	1 984	S	S	88	239	−63.2

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

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

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 Some unpublished estimates can be derived from other data published in this table.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

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

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

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

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

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	74.8	82.2	96.9	96.1	90.6	88.7
Truck ¹	71.4	75.9	91.7	88.9	78.0	71.4
For-hire truck	36.9	47.3	27.7	31.2	54.3	50.9
Private truck	33.1	28.6	60.2	57.2	20.3	20.3
Rail	1.2	1.6	3.7	3.2	11.6	11.1
Water	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S
Great Lakes	S	S	S	S	S	S
Deep draft	S	S	S	S	S	S
Air (includes truck and air)	2.1	4.0	—	—	.4	S
Pipeline ²	S	S	S	S	S	S
Multiple modes	20.5	13.5	.7	.5	4.5	2.1
Parcel, U.S. Postal Service or courier	20.1	13.3	.5	.4	2.1	1.5
Truck and rail .....	.4	—	.2	—	2.3	.4
Truck and water	—	S	—	S	—	.2
Rail and water	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Other and unknown modes	4.7	4.2	2.4	3.5	4.9	S

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

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

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

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

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

Table 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	40 249	100.0	406
Truck	31 431	78.1	120
Rail	5 588	13.9	1 072
Shallow draft	S	S	69
Great Lakes	S	S	13
Deep draft	30	—	2 342
Air	153	.4	1 330
Parcel, U.S. Postal Service or courier	841	2.1	722
Pipeline	S	S	S
Other and unknown modes	1 984	4.9	88

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

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

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

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

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
All modes	290 350	100.0	281 014	100.0	40 249	100.0
Less than 50 miles	103 677	35.7	192 713	68.6	3 703	9.2
50 to 99 miles	22 973	7.9	29 882	10.6	2 915	7.2
100 to 249 miles	45 822	15.8	29 168	10.4	6 136	15.2
250 to 499 miles	33 108	11.4	12 159	4.3	5 266	13.1
500 to 749 miles	26 128	9.0	6 548	2.3	5 057	12.6
750 to 999 miles	15 321	5.3	3 388	1.2	3 472	8.6
1,000 to 1,499 miles	19 560	6.7	4 180	1.5	6 000	14.9
1,500 to 1,999 miles	5 714	2.0	662	.2	1 300	3.2
2,000 miles or more	18 046	6.2	2 315	.8	6 400	15.9
Single modes	217 178	100.0	272 356	100.0	36 453	100.0
Less than 50 miles	81 126	37.4	188 184	69.1	3 595	9.9
50 to 99 miles	19 551	9.0	29 051	10.7	2 841	7.8
100 to 249 miles	35 541	16.4	28 399	10.4	5 971	16.4
250 to 499 miles	25 124	11.6	11 627	4.3	5 033	13.8
500 to 749 miles	18 755	8.6	6 100	2.2	4 704	12.9
750 to 999 miles	11 323	5.2	3 216	1.2	3 291	9.0
1,000 to 1,499 miles	11 429	5.3	3 386	1.2	4 901	13.4
1,500 to 1,999 miles	3 450	1.6	514	.2	982	2.7
2,000 miles or more	10 880	5.0	1 880	.7	5 135	14.1
Truck¹	207 308	100.0	257 634	100.0	31 387	100.0
Less than 50 miles	80 524	38.8	186 983	72.6	3 584	11.4
50 to 99 miles	19 285	9.3	23 431	9.1	2 182	7.0
100 to 249 miles	33 557	16.2	23 753	9.2	4 834	15.4
250 to 499 miles	23 503	11.3	10 018	3.9	4 151	13.2
500 to 749 miles	17 770	8.6	5 517	2.1	4 173	13.3
750 to 999 miles	10 685	5.2	2 809	1.1	2 821	9.0
1,000 to 1,499 miles	9 847	4.7	2 923	1.1	4 071	13.0
1,500 to 1,999 miles	3 248	1.6	496	.2	944	3.0
2,000 miles or more	8 890	4.3	1 705	.7	4 626	14.7
For-hire truck	107 008	100.0	77 886	100.0	21 874	100.0
Less than 50 miles	17 435	16.3	37 090	47.6	845	3.9
50 to 99 miles	6 987	6.5	8 895	11.4	842	3.8
100 to 249 miles	22 425	21.0	12 848	16.5	2 711	12.4
250 to 499 miles	18 073	16.9	7 522	9.7	3 154	14.4
500 to 749 miles	14 676	13.7	4 653	6.0	3 526	16.1
750 to 999 miles	8 450	7.9	2 456	3.2	2 464	11.3
1,000 to 1,499 miles	8 372	7.8	2 487	3.2	3 468	15.9
1,500 to 1,999 miles	3 006	2.8	449	.6	855	3.9
2,000 miles or more	7 585	7.1	1 486	1.9	4 008	18.3
Private truck	96 161	100.0	169 170	100.0	8 177	100.0
Less than 50 miles	62 307	64.8	143 977	85.1	2 379	29.1
50 to 99 miles	11 882	12.4	12 395	7.3	1 085	13.3
100 to 249 miles	10 493	10.9	8 885	5.3	1 739	21.3
250 to 499 miles	4 008	4.2	2 184	1.3	861	10.5
500 to 749 miles	2 646	2.8	755	.4	559	6.8
750 to 999 miles	1 931	2.0	311	.2	315	3.9
1,000 to 1,499 miles	1 412	1.5	415	.2	574	7.0
1,500 to 1,999 miles	227	.2	44	—	83	1.0
2,000 miles or more	1 254	1.3	206	.1	581	7.1
Rail	3 351	100.0	10 432	100.0	4 676	100.0
Less than 50 miles	S	S	87	.8	2	—
50 to 99 miles	115	3.4	S	S	S	S
100 to 249 miles	791	23.6	4 620	44.3	1 126	24.1
250 to 499 miles	889	26.5	1 578	15.1	867	18.5
500 to 749 miles	260	7.8	565	5.4	511	10.9
750 to 999 miles	258	7.7	400	3.8	462	9.9
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	21	.6	S	S	31	.7
2,000 miles or more	240	7.2	142	1.4	418	8.9
Water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	9	3.8
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Single modes—Con.						
Great Lakes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
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
Air (includes truck and air)	6 041	100.0	120	100.0	162	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	106	1.7	1	.9	—	.1
100 to 249 miles	1 192	19.7	24	20.1	10	6.0
250 to 499 miles	719	11.9	24	19.8	13	7.9
500 to 749 miles	725	12.0	17	14.3	20	12.2
750 to 999 miles	380	6.3	7	5.6	8	4.7
1,000 to 1,499 miles	992	16.4	12	10.1	18	11.0
1,500 to 1,999 miles	181	3.0	3	2.6	6	3.8
2,000 miles or more	1 747	28.9	32	26.6	88	54.3
Pipeline²	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	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
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	59 496	100.0	1 832	100.0	1 813	100.0
Less than 50 miles	13 505	22.7	367	20.0	8	.5
50 to 99 miles	2 837	4.8	105	5.7	11	.6
100 to 249 miles	9 087	15.3	249	13.6	56	3.1
250 to 499 miles	7 290	12.3	194	10.6	83	4.6
500 to 749 miles	6 774	11.4	183	10.0	145	8.0
750 to 999 miles	3 811	6.4	116	6.3	123	6.8
1,000 to 1,499 miles	7 266	12.2	268	14.6	422	23.3
1,500 to 1,999 miles	2 109	3.5	100	5.4	218	12.0
2,000 miles or more	6 816	11.5	251	13.7	747	41.2
Parcel, U.S. Postal Service or courier	58 242	100.0	1 303	100.0	841	100.0
Less than 50 miles	13 497	23.2	355	27.3	8	.9
50 to 99 miles	2 836	4.9	89	6.8	8	1.0
100 to 249 miles	8 954	15.4	222	17.1	49	5.8
250 to 499 miles	7 101	12.2	152	11.6	65	7.7
500 to 749 miles	6 681	11.5	140	10.7	105	12.4
750 to 999 miles	3 754	6.4	81	6.2	83	9.8
1,000 to 1,499 miles	7 122	12.2	130	10.0	179	21.3
1,500 to 1,999 miles	1 955	3.4	36	2.8	71	8.5
2,000 miles or more	6 342	10.9	98	7.5	274	32.5
Truck and rail	1 213	100.0	510	100.0	945	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	132	10.9	26	5.2	7	.7
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	88	7.3	43	8.4	40	4.2
750 to 999 miles	56	4.6	35	6.8	40	4.2
1,000 to 1,499 miles	137	11.3	S	S	S	S
1,500 to 1,999 miles	154	12.7	S	S	S	S
2,000 miles or more	458	37.8	151	29.6	458	48.5
Truck and water	38	100.0	10	100.0	26	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	7	17.9	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Multiple modes—Con.						
Rail and water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	13 676	100.0	6 825	100.0	1 984	100.0
Less than 50 miles	9 046	66.1	4 162	61.0	99	5.0
50 to 99 miles	586	4.3	S	S	S	S
100 to 249 miles	1 194	8.7	519	7.6	109	5.5
250 to 499 miles	694	5.1	338	4.9	150	7.6
500 to 749 miles	599	4.4	265	3.9	208	10.5
750 to 999 miles	187	1.4	57	.8	58	2.9
1,000 to 1,499 miles	865	6.3	526	7.7	678	34.2
1,500 to 1,999 miles	155	1.1	48	.7	100	5.0
2,000 miles or more	350	2.6	184	2.7	518	26.1

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

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

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

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

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

Table 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	290 350	100.0	281 014	100.0	40 249	100.0	409
Less than 50 lb	56 921	19.6	1 181	.4	455	1.1	483
50 to 99 lb	13 799	4.8	221	.3	221	.5	283
100 to 499 lb	39 179	13.5	4 264	1.5	858	2.1	214
500 to 749 lb	10 473	3.6	1 842	.7	314	.8	170
750 to 999 lb	7 935	2.7	1 588	.6	273	.7	173
1,000 to 9,999 lb	65 284	22.5	21 932	7.8	4 256	10.6	193
10,000 to 49,999 lb	82 306	28.3	142 689	50.8	23 126	57.5	158
50,000 to 99,999 lb	8 356	2.9	69 559	24.8	4 041	10.0	58
100,000 lb or more	6 097	2.1	37 180	13.2	6 706	16.7	300
Single modes	217 178	100.0	272 356	100.0	36 453	100.0	141
Less than 50 lb	13 271	6.1	530	.2	63	.2	130
50 to 99 lb	6 261	2.9	524	.2	67	.2	127
100 to 499 lb	27 235	12.5	3 664	1.3	579	1.6	153
500 to 749 lb	9 220	4.2	1 712	.6	284	.8	165
750 to 999 lb	7 227	3.3	1 496	.5	255	.7	172
1,000 to 9,999 lb	61 022	28.1	20 812	7.6	3 908	10.7	187
10,000 to 49,999 lb	79 412	36.6	139 553	51.2	21 465	58.9	149
50,000 to 99,999 lb	7 984	3.7	67 681	24.9	3 760	10.3	56
100,000 lb or more	5 545	2.6	36 385	13.4	6 071	16.7	301
Truck¹	207 308	100.0	257 634	100.0	31 387	100.0	120
Less than 50 lb	10 917	5.3	520	.2	50	.2	96
50 to 99 lb	5 480	2.6	517	.2	60	.2	114
100 to 499 lb	25 958	12.5	3 645	1.4	545	1.7	144
500 to 749 lb	8 993	4.3	1 704	.7	273	.9	160
750 to 999 lb	7 055	3.4	1 490	.6	246	.8	167
1,000 to 9,999 lb	59 825	28.9	20 757	8.1	3 853	12.3	183
10,000 to 49,999 lb	78 622	37.9	139 170	54.0	21 007	66.9	146
50,000 to 99,999 lb	7 376	3.6	67 044	26.0	3 497	11.1	53
100,000 lb or more	3 082	1.5	22 787	8.8	1 855	5.9	139
For-hire truck	107 008	100.0	77 886	100.0	21 874	100.0	484
Less than 50 lb	3 256	3.0	80	.1	33	.2	426
50 to 99 lb	1 740	1.6	69	—	36	.2	520
100 to 499 lb	12 430	11.6	610	.8	397	1.8	622
500 to 749 lb	4 774	4.5	297	.4	203	.9	679
750 to 999 lb	3 745	3.5	321	.4	186	.9	590
1,000 to 9,999 lb	32 940	30.8	5 122	6.6	2 736	12.5	564
10,000 to 49,999 lb	43 474	40.6	42 778	54.9	15 254	69.7	374
50,000 to 99,999 lb	3 532	3.3	25 756	33.1	1 676	7.7	68
100,000 lb or more	S	S	2 853	3.7	S	S	581
Private truck	96 161	100.0	169 170	100.0	8 177	100.0	47
Less than 50 lb	7 553	7.9	417	.2	16	.2	41
50 to 99 lb	3 689	3.8	404	.2	23	.3	55
100 to 499 lb	13 331	13.9	2 990	1.8	145	1.8	50
500 to 749 lb	4 162	4.3	1 401	.8	70	.9	49
750 to 999 lb	3 293	3.4	1 166	.7	57	.7	49
1,000 to 9,999 lb	25 382	26.4	15 425	9.1	1 016	12.4	64
10,000 to 49,999 lb	33 069	34.4	93 123	55.0	5 168	63.2	57
50,000 to 99,999 lb	3 756	3.9	35 147	20.8	1 216	14.9	35
100,000 lb or more	1 925	2.0	19 098	11.3	467	5.7	35
Rail	3 351	100.0	10 432	100.0	4 676	100.0	807
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	2	—	—	—	—	—	1 026
500 to 749 lb	S	S	S	S	S	S	1 560
750 to 999 lb	S	S	S	S	S	S	306
1,000 to 9,999 lb	27	.8	5	—	4	—	809
10,000 to 49,999 lb	462	13.8	276	2.6	433	9.3	1 630
50,000 to 99,999 lb	472	14.1	282	2.7	247	5.3	887
100,000 lb or more	2 381	71.1	9 868	94.6	3 991	85.4	698
Water	S	S	S	S	S	S	241
Less than 50 lb	S	S	S	S	S	S	4
50 to 99 lb	S	S	S	S	S	S	322
100 to 499 lb	S	S	S	S	S	S	2 796
500 to 749 lb	S	S	S	S	S	S	311
750 to 999 lb	S	S	S	S	S	S	6 244
1,000 to 9,999 lb	S	S	S	S	S	S	134
10,000 to 49,999 lb	S	S	87	2.1	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	17
100,000 lb or more	S	S	S	S	S	S	62
Shallow draft	S	S	S	S	S	S	69
Less than 50 lb	S	S	S	S	S	S	4
50 to 99 lb	S	S	S	S	S	S	322
100 to 499 lb	S	S	S	S	S	S	184
500 to 749 lb	S	S	S	S	S	S	311
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	95
10,000 to 49,999 lb	S	S	S	S	S	S	41
50,000 to 99,999 lb	S	S	S	S	S	S	18
100,000 lb or more	S	S	S	S	S	S	62

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	S	S	S	S	S	S	10
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	S	S	S	S	S	S	9
50,000 to 99,999 lb	S	S	S	S	S	S	10
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	2 078
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	9 722
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	S	S	S	S	S	S	6 244
1,000 to 9,999 lb	S	S	S	S	S	S	2 085
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	6 041	100.0	120	100.0	162	100.0	1 410
Less than 50 lb	2 342	38.8	10	8.4	13	8.3	1 420
50 to 99 lb	780	12.9	7	5.5	7	4.5	1 105
100 to 499 lb	1 274	21.1	18	15.1	32	19.9	1 607
500 to 749 lb	225	3.7	7	5.8	10	6.2	1 460
750 to 999 lb	170	2.8	6	5.1	S	S	1 434
1,000 to 9,999 lb	1 147	19.0	36	30.4	48	29.6	1 447
10,000 to 49,999 lb	93	1.5	19	15.8	S	S	1 263
50,000 to 99,999 lb	S	S	S	S	S	S	1 818
100,000 lb or more	S	S	S	S	S	S	931
Pipeline²	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	S	S	S	S	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	—	—	—	—	S	S	S
50,000 to 99,999 lb	—	—	—	—	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Multiple modes	59 496	100.0	1 832	100.0	1 813	100.0	722
Less than 50 lb	39 353	66.1	576	31.4	386	21.3	725
50 to 99 lb	7 008	11.8	205	11.2	150	8.3	723
100 to 499 lb	10 602	17.8	433	23.6	270	14.9	655
500 to 749 lb	882	1.5	54	3.0	23	1.3	407
750 to 999 lb	370	.6	33	1.8	14	.7	414
1,000 to 9,999 lb	307	.5	34	1.8	42	2.3	1 033
10,000 to 49,999 lb	925	1.6	396	21.6	785	43.3	1 803
50,000 to 99,999 lb	S	S	S	S	S	S	151
100,000 lb or more	S	S	S	S	S	S	589
Parcel, U.S. Postal Service or courier	58 242	100.0	1 303	100.0	841	100.0	722
Less than 50 lb	39 352	67.6	576	44.2	386	45.9	725
50 to 99 lb	7 007	12.0	205	15.7	150	17.9	723
100 to 499 lb	10 600	18.2	433	33.2	269	32.0	655
500 to 749 lb	881	1.5	54	4.2	23	2.7	402
750 to 999 lb	356	.6	32	2.5	12	1.4	371
1,000 to 9,999 lb	S	S	S	S	S	S	264
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	1 213	100.0	510	100.0	945	100.0	1 704
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	S	S	S	S	S	S	1 729
100 to 499 lb	S	S	S	S	S	S	2 085
500 to 749 lb	S	S	S	S	—	—	1 716
750 to 999 lb	S	S	S	S	S	S	3 206
1,000 to 9,999 lb	243	20.0	27	5.4	32	3.4	1 364
10,000 to 49,999 lb	907	74.7	388	76.1	769	81.3	1 805
50,000 to 99,999 lb	S	S	S	S	S	S	300
100,000 lb or more	S	S	S	S	S	S	589
Truck and water	38	100.0	10	100.0	26	100.0	3 134
Less than 50 lb	S	S	S	S	S	S	3 374
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	.8	—	.2	S	S	2 263
500 to 749 lb	S	S	S	S	S	S	5 210
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	3 965
10,000 to 49,999 lb	18	48.4	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	70
Less than 50 lb	S	S	S	S	S	S	86
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	263
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	5
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	S	S	S	S	S	S	54
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	13 676	100.0	6 825	100.0	1 984	100.0	88
Less than 50 lb	4 297	31.4	75	1.1	6	.3	S
50 to 99 lb	530	3.9	51	.7	3	.2	61
100 to 499 lb	1 341	9.8	167	2.4	9	.5	58
500 to 749 lb	371	2.7	75	1.1	7	.4	94
750 to 999 lb	S	S	60	.9	4	.2	S
1,000 to 9,999 lb	3 954	28.9	1 086	15.9	306	15.4	297
10,000 to 49,999 lb	1 969	14.4	2 740	40.1	876	44.1	343
50,000 to 99,999 lb	368	2.7	1 865	27.3	279	14.0	S
100,000 lb or more	507	3.7	707	10.4	494	24.9	S

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

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

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

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

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

Table 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	290 350	100.0	281 014	100.0	40 249	100.0	409
01	Live animals and live fish	S	S	S	S	7	—	S
02	Cereal grains	126	—	761	.3	S	S	S
03	Other agricultural products	1 969	.7	1 990	.7	106	.3	S
04	Animal feed and products of animal origin, n.e.c.	2 008	.7	6 184	2.2	737	1.8	240
05	Meat, fish, seafood, and their preparations	6 272	2.2	2 233	.8	948	2.4	58
06	Milled grain products and preparations, and bakery products	5 632	1.9	5 501	2.0	1 620	4.0	S
07	Other prepared foodstuffs and fats and oils	20 681	7.1	21 797	7.8	5 382	13.4	94
08	Alcoholic beverages	5 958	2.1	5 899	2.1	2 432	6.0	44
09	Tobacco products	1 795	.6	51	—	1	—	23
10	Monumental or building stone	S	S	1 054	.4	70	.2	S
11	Natural sands	48	—	5 049	1.8	213	.5	41
12	Gravel and crushed stone	478	.2	70 807	25.2	1 951	4.8	26
13	Nonmetallic minerals n.e.c.	485	.2	24 581	8.7	1 866	4.6	102
14	Metallic ores and concentrates	297	.1	1 356	.5	268	.7	S
15	Coal	S	S	S	S	S	S	S
17	Gasoline and aviation turbine fuel	3 929	1.4	14 349	5.1	857	2.1	36
18	Fuel oils	1 654	.6	8 013	2.9	252	.6	24
19	Coal and petroleum products, n.e.c.	1 785	.6	26 265	9.3	470	1.2	53
20	Basic chemicals	4 249	1.5	5 221	1.9	1 708	4.2	220
21	Pharmaceutical products	11 730	4.0	385	.1	228	.6	714
22	Fertilizers	75	—	348	.1	S	S	S
23	Chemical products and preparations, n.e.c.	18 615	6.4	2 045	.7	1 032	2.6	498
24	Plastics and rubber	10 325	3.6	2 992	1.1	2 365	5.9	384
25	Logs and other wood in the rough	136	—	1 785	.6	119	.3	S
26	Wood products	2 390	.8	4 166	1.5	906	2.3	186
27	Pulp, newsprint, paper, and paperboard	4 165	1.4	4 758	1.7	2 725	6.8	146
28	Paper or paperboard articles	4 948	1.7	3 083	1.1	688	1.7	312
29	Printed products	17 507	6.0	4 804	1.7	1 032	2.6	441
30	Textiles, leather, and articles of textiles or leather	20 771	7.2	1 411	.5	788	2.0	734
31	Nonmetallic mineral products	5 121	1.8	19 922	7.1	2 051	5.1	271
32	Base metal in primary or semifinished forms and in finished basic shapes	7 372	2.5	3 927	1.4	1 505	3.7	294
33	Articles of base metal	7 611	2.6	2 567	.9	608	1.5	352
34	Machinery	20 434	7.0	2 050	.7	861	2.1	214
35	Electronic and other electrical equipment and components and office equipment	29 929	10.3	1 140	.4	665	1.7	441
36	Motorized and other vehicles (including parts)	9 220	3.2	1 540	.5	585	1.5	S
37	Transportation equipment, n.e.c.	2 298	.8	40	—	32	—	892
38	Precision instruments and apparatus	9 862	3.4	167	—	149	.4	774
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	4 018	1.4	644	.2	214	.5	328
40	Miscellaneous manufactured products	30 266	10.4	3 965	1.4	1 304	3.2	758
41	Waste and scrap	1 161	.4	5 505	2.0	1 060	2.6	185
43	Mixed freight	12 097	4.2	4 663	1.7	1 098	2.7	150
--	Commodity unknown	1 980	.7	662	.2	S	S	517

— 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	290 350	100.0	281 014	100.0	40 249	100.0	409
Single modes	217 178	74.8	272 356	96.9	36 453	90.6	141
Truck ¹	207 308	71.4	257 634	91.7	31 387	78.0	120
For-hire truck	107 008	36.9	77 886	27.7	21 874	54.3	484
Private truck	96 161	33.1	169 170	60.2	8 177	20.3	47
Rail	3 351	1.2	10 432	3.7	4 676	11.6	807
Water	S	S	S	S	S	S	241
Shallow draft	S	S	S	S	S	S	69
Great Lakes	S	S	S	S	S	S	10
Deep draft	S	S	S	S	S	S	2 078
Air (includes truck and air)	6 041	2.1	120	—	162	.4	1 410
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	59 496	20.5	1 832	.7	1 813	4.5	722
Parcel, U.S. Postal Service or courier	58 242	20.1	1 303	.5	841	2.1	722
Truck and rail	1 213	.4	510	.2	945	2.3	1 704
Truck and water	38	—	10	—	26	—	3 134
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	70
Other and unknown modes	13 676	4.7	6 825	2.4	1 984	4.9	88
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	7	100.0	S
Single modes	S	S	S	S	7	100.0	S
Truck ¹	S	S	S	S	7	100.0	S
For-hire truck	5	20.0	5	13.2	5	71.7	638
Private truck	S	S	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	126	100.0	761	100.0	S	S	S
Single modes	114	90.4	689	90.5	S	S	S
Truck ¹	91	72.4	502	66.0	11	24.7	S
For-hire truck	64	50.6	394	51.8	S	S	S
Private truck	S	S	108	14.2	5	10.9	S
Rail	S	S	S	S	S	S	183
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	407
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	407
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	2

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	1 969	100.0	1 990	100.0	106	100.0	S
Single modes	1 656	84.1	1 483	74.5	84	79.5	S
Truck ¹	1 656	84.1	1 483	74.5	84	79.5	S
For-hire truck	137	7.0	80	4.0	49	46.7	428
Private truck	1 519	77.1	1 403	70.5	35	32.8	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	1 232
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 232
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	23
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	2 008	100.0	6 184	100.0	737	100.0	240
Single modes	1 917	95.5	6 075	98.2	684	92.8	S
Truck ¹	1 857	92.5	5 909	95.6	583	79.1	60
For-hire truck	632	31.5	1 206	19.5	332	45.0	195
Private truck	1 222	60.9	4 698	76.0	251	34.1	48
Rail	S	S	108	1.8	S	S	1 218
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 601
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	695
Parcel, U.S. Postal Service or courier	43	2.1	4	—	3	.3	693
Truck and rail	S	S	S	S	S	S	1 736
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	2	.3	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	6 272	100.0	2 233	100.0	948	100.0	58
Single modes	5 987	95.5	2 156	96.5	941	99.3	58
Truck ¹	5 987	95.5	2 156	96.5	941	99.3	58
For-hire truck	1 585	25.3	659	29.5	774	81.7	1 018
Private truck	4 402	70.2	1 498	67.0	167	17.6	35
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	57
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	57
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	15

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	5 632	100.0	5 501	100.0	1 620	100.0	S
Single modes	5 512	97.9	5 302	96.4	1 605	99.1	S
Truck ¹	5 335	94.7	5 034	91.5	1 365	84.2	S
For-hire truck	1 499	26.6	1 773	32.2	1 015	62.7	563
Private truck	3 836	68.1	3 261	59.3	349	21.6	28
Rail	177	3.1	268	4.9	241	14.9	1 351
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	507
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	15	.3	4	—	6	.4	802
Parcel, U.S. Postal Service or courier	9	.2	1	—	1	—	800
Truck and rail	S	S	S	S	S	S	1 674
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	105	1.9	195	3.5	8	.5	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	20 681	100.0	21 797	100.0	5 382	100.0	94
Single modes	20 267	98.0	21 513	98.7	5 217	96.9	63
Truck ¹	20 167	97.5	21 413	98.2	5 117	95.1	63
For-hire truck	8 690	42.0	6 509	29.9	3 432	63.8	527
Private truck	10 972	53.1	14 192	65.1	1 516	28.2	32
Rail	91	.4	100	.5	100	1.9	1 421
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 523
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	136	.7	51	.2	S	S	811
Parcel, U.S. Postal Service or courier	S	S	S	S	5	.1	803
Truck and rail	S	S	S	S	S	S	2 804
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	278	1.3	234	1.1	62	1.2	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	5 958	100.0	5 899	100.0	2 432	100.0	44
Single modes	5 838	98.0	5 745	97.4	2 286	94.0	45
Truck ¹	5 666	95.1	5 554	94.2	2 156	88.6	44
For-hire truck	2 528	42.4	2 740	46.5	1 716	70.6	170
Private truck	3 135	52.6	2 814	47.7	440	18.1	25
Rail	172	2.9	191	3.2	128	5.3	733
Water	S	S	S	S	S	S	7 798
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	7 798
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	263
Truck and rail	S	S	S	S	S	S	1 320
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 09, TOBACCO PRODUCTS							
Total	1 795	100.0	51	100.0	1	100.0	23
Single modes	1 717	95.7	48	94.3	1	94.8	21
Truck ¹	1 717	95.7	48	94.3	1	94.8	21
For-hire truck	S	S	S	S	S	S	34
Private truck	1 713	95.4	48	94.0	1	94.4	21
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	305
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	305
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	72	4.0	3	5.3	—	.3	3
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	1 054	100.0	70	100.0	S
Single modes	S	S	1 047	99.3	67	96.6	S
Truck ¹	S	S	1 047	99.3	67	96.6	S
For-hire truck	S	S	S	S	S	S	S
Private truck	66	16.5	525	49.9	18	26.2	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 012
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	3 145
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	3 145
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	24
SCTG 11, NATURAL SANDS							
Total	48	100.0	5 049	100.0	213	100.0	41
Single modes	47	99.5	5 036	99.7	210	98.7	40
Truck ¹	47	99.5	5 036	99.7	210	98.7	40
For-hire truck	S	S	S	S	S	S	53
Private truck	28	59.2	2 435	48.2	S	S	27
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	200

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	478	100.0	70 807	100.0	1 951	100.0	26
Single modes	459	96.0	69 462	98.1	1 896	97.2	26
Truck ¹	458	95.9	69 443	98.1	1 890	96.9	26
For-hire truck	121	25.2	16 571	23.4	691	35.4	40
Private truck	319	66.8	50 939	71.9	1 114	57.1	21
Rail	S	S	S	S	S	S	297
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	485	100.0	24 581	100.0	1 866	100.0	102
Single modes	458	94.4	24 486	99.6	1 754	94.0	82
Truck ¹	434	89.4	21 219	86.3	1 390	74.5	80
For-hire truck	176	36.2	2 873	11.7	509	27.2	185
Private truck	201	41.4	12 675	51.6	191	10.2	27
Rail	S	S	S	S	S	S	682
Water	S	S	S	S	S	S	39
Shallow draft	S	S	S	S	S	S	70
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	3
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	873
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	707
Truck and rail	S	S	S	S	S	S	1 752
Truck and water	S	S	S	S	S	S	2 330
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	3	.7	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	297	100.0	1 356	100.0	268	100.0	S
Single modes	242	81.5	1 313	96.8	239	89.1	162
Truck ¹	171	57.8	1 106	81.5	136	50.8	149
For-hire truck	154	51.9	870	64.1	96	35.8	146
Private truck	S	S	S	S	S	S	160
Rail	70	23.7	207	15.3	103	38.4	500
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	546
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	312
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	312
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	770

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 15, COAL							
Total	\$	\$	\$	\$	\$	\$	\$
Single modes	\$	\$	\$	\$	\$	\$	\$
Truck ¹	\$	\$	\$	\$	102	11.2	\$
For-hire truck	11	2.0	442	6.1	\$	\$	211
Private truck	\$	\$	\$	\$	\$	\$	\$
Rail	\$	\$	\$	\$	\$	\$	288
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	264
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	264
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	3 929	100.0	14 349	100.0	857	100.0	36
Single modes	3 898	99.2	14 230	99.2	853	99.5	35
Truck ¹	3 408	86.7	11 865	82.7	391	45.6	35
For-hire truck	644	16.4	2 335	16.3	104	12.1	55
Private truck	2 764	70.3	9 531	66.4	287	33.5	30
Rail	\$	\$	\$	\$	\$	\$	225
Water	\$	\$	\$	\$	\$	\$	18
Shallow draft	\$	\$	\$	\$	\$	\$	19
Great Lakes	\$	\$	\$	\$	\$	\$	10
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	54
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	\$	\$	\$	\$	\$	\$	54
Other and unknown modes	27	.7	\$	\$	\$	\$	63
SCTG 18, FUEL OILS							
Total	1 654	100.0	8 013	100.0	252	100.0	24
Single modes	1 650	99.7	7 989	99.7	248	98.6	24
Truck ¹	1 629	98.5	7 909	98.7	244	97.0	24
For-hire truck	\$	\$	\$	\$	98	39.1	\$
Private truck	1 045	63.2	4 944	61.7	146	57.9	22
Rail	\$	\$	\$	\$	\$	\$	140
Water	\$	\$	\$	\$	\$	\$	6
Shallow draft	\$	\$	\$	\$	\$	\$	6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	\$	\$	\$
Multiple modes	\$	\$	\$	\$	\$	\$	132
Parcel, U.S. Postal Service or courier	\$	\$	\$	\$	\$	\$	132
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	\$	\$	\$	\$	\$	\$	57

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	1 785	100.0	26 265	100.0	470	100.0	53
Single modes	1 764	98.8	26 043	99.2	466	99.2	35
Truck ¹	1 641	91.9	25 798	98.2	417	88.7	35
For-hire truck	372	20.8	S	S	207	44.0	208
Private truck	1 245	69.7	18 998	72.3	175	37.3	11
Rail	S	S	S	S	S	S	411
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 569
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	701
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	701
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	13	.7	S	S	3	.5	149
SCTG 20, BASIC CHEMICALS							
Total	4 249	100.0	5 221	100.0	1 708	100.0	220
Single modes	3 378	79.5	5 073	97.2	1 540	90.2	S
Truck ¹	3 053	71.8	4 105	78.6	865	50.7	S
For-hire truck	2 064	48.6	1 542	29.5	590	34.6	S
Private truck	989	23.3	2 563	49.1	275	16.1	30
Rail	286	6.7	950	18.2	672	39.4	752
Water	S	S	S	S	S	S	167
Shallow draft	S	S	S	S	S	S	165
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	522
Air (includes truck and air)	S	S	S	S	S	S	1 451
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	453
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	450
Truck and rail	63	1.5	S	S	S	S	2 328
Truck and water	S	S	S	S	S	S	2 332
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S
Other and unknown modes	110	2.6	60	1.1	12	.7	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	11 730	100.0	385	100.0	228	100.0	714
Single modes	7 944	67.7	319	82.9	192	84.1	319
Truck ¹	7 349	62.7	308	80.0	178	78.0	247
For-hire truck	4 091	34.9	239	61.9	163	71.6	583
Private truck	3 008	25.6	66	17.1	14	6.3	S
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	64
Shallow draft	S	S	S	S	S	S	64
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	395	3.4	10	2.7	14	6.1	1 240
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 633	31.0	55	14.3	33	14.5	801
Parcel, U.S. Postal Service or courier	3 621	30.9	55	14.2	32	13.9	801
Truck and rail	S	S	S	S	S	S	3 334
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	152	1.3	S	S	3	1.4	301

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	75	100.0	348	100.0	S	S	S
Single modes	73	97.5	343	98.4	S	S	57
Truck ¹	70	93.2	305	87.5	S	S	52
For-hire truck	S	S	S	S	S	S	S
Private truck	55	73.1	233	66.9	11	19.3	41
Rail	S	S	S	S	S	S	899
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	364
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	364
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	24
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	18 615	100.0	2 045	100.0	1 032	100.0	498
Single modes	15 452	83.0	1 914	93.6	950	92.0	466
Truck ¹	15 185	81.6	1 874	91.6	908	88.0	365
For-hire truck	S	S	1 172	57.3	789	76.4	787
Private truck	2 275	12.2	702	34.3	120	11.6	52
Rail	S	S	S	S	S	S	521
Water	S	S	S	S	S	S	111
Shallow draft	S	S	S	S	S	S	111
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 759
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	77	3.8	68	6.5	697
Parcel, U.S. Postal Service or courier	S	S	70	3.4	45	4.4	696
Truck and rail	S	S	S	S	S	S	2 951
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	208	1.1	S	S	S	S	13
SCTG 24, PLASTICS AND RUBBER							
Total	10 325	100.0	2 992	100.0	2 365	100.0	384
Single modes	8 926	86.4	2 773	92.7	2 268	95.9	246
Truck ¹	8 472	82.0	2 409	80.5	1 606	67.9	239
For-hire truck	5 063	49.0	1 417	47.4	1 450	61.3	744
Private truck	3 394	32.9	976	32.6	155	6.5	S
Rail	S	S	S	S	S	S	1 787
Water	S	S	S	S	S	S	9 615
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	9 615
Air (includes truck and air)	S	S	S	S	S	S	1 357
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	843	8.2	65	2.2	46	1.9	677
Parcel, U.S. Postal Service or courier	811	7.9	57	1.9	35	1.5	677
Truck and rail	S	S	S	S	S	S	1 988
Truck and water	7	—	S	S	S	S	1 203
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	556	5.4	153	5.1	51	2.1	51

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	136	100.0	1 785	100.0	119	100.0	S
Single modes	133	97.3	1 754	98.3	111	93.4	S
Truck ¹	129	94.8	1 752	98.2	105	88.4	S
For-hire truck	53	39.2	S	S	41	34.4	S
Private truck	76	55.6	S	S	S	S	36
Rail	S	S	S	S	S	S	2 741
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	2 818
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	2 818
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	148
SCTG 26, WOOD PRODUCTS							
Total	2 390	100.0	4 166	100.0	906	100.0	186
Single modes	2 137	89.4	3 774	90.6	467	51.5	97
Truck ¹	2 121	88.8	3 755	90.1	430	47.5	95
For-hire truck	688	28.8	1 416	34.0	264	29.1	218
Private truck	1 427	59.7	2 334	56.0	165	18.3	54
Rail	16	.7	19	.5	S	S	2 345
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 694
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	42	1.7	10	.2	20	2.2	824
Parcel, U.S. Postal Service or courier	36	1.5	5	.1	6	.6	822
Truck and rail	6	.2	S	S	S	S	2 747
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	211	8.8	382	9.2	S	S	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	4 165	100.0	4 758	100.0	2 725	100.0	146
Single modes	3 899	93.6	4 435	93.2	2 426	89.0	121
Truck ¹	3 563	85.6	3 916	82.3	1 874	68.8	116
For-hire truck	2 737	65.7	3 107	65.3	1 771	65.0	326
Private truck	825	19.8	809	17.0	S	S	37
Rail	329	7.9	518	10.9	552	20.3	1 125
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	499
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	122	2.9	S	S	S	S	360
Parcel, U.S. Postal Service or courier	58	1.4	13	.3	3	.1	343
Truck and rail	S	S	S	S	S	S	1 918
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	144	3.4	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	4 948	100.0	3 083	100.0	688	100.0	312
Single modes	4 274	86.4	2 989	97.0	620	90.2	99
Truck ¹	4 265	86.2	2 989	96.9	620	90.2	96
For-hire truck	2 114	42.7	1 521	49.3	525	76.4	316
Private truck	2 149	43.4	1 465	47.5	93	13.5	44
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	9	.2	1	—	1	—	1 084
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	577	11.7	59	1.9	54	7.8	541
Parcel, U.S. Postal Service or courier	559	11.3	43	1.4	20	2.8	541
Truck and rail	S	S	S	S	S	S	2 423
Truck and water	S	S	S	S	S	S	67
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	96	1.9	35	1.1	13	2.0	S
SCTG 29, PRINTED PRODUCTS							
Total	17 507	100.0	4 804	100.0	1 032	100.0	441
Single modes	9 669	55.2	4 356	90.7	866	84.0	76
Truck ¹	9 483	54.2	4 344	90.4	851	82.5	57
For-hire truck	3 755	21.5	1 220	25.4	476	46.2	S
Private truck	5 642	32.2	3 098	64.5	S	S	41
Rail	S	S	S	S	S	S	861
Water	S	S	S	S	S	S	74
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	74
Air (includes truck and air)	S	S	7	.2	10	1.0	1 057
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	7 177	41.0	231	4.8	125	12.1	642
Parcel, U.S. Postal Service or courier	7 174	41.0	229	4.8	119	11.5	642
Truck and rail	S	S	S	S	S	S	3 300
Truck and water	S	S	S	S	S	S	3 325
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	661	3.8	217	4.5	40	3.9	176
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	20 771	100.0	1 411	100.0	788	100.0	734
Single modes	12 998	62.6	1 069	75.8	572	72.6	749
Truck ¹	12 803	61.6	1 052	74.6	561	71.3	724
For-hire truck	8 788	42.3	693	49.1	427	54.2	865
Private truck	3 746	18.0	322	22.8	125	15.9	497
Rail	S	S	S	S	S	S	3 272
Water	S	S	S	S	S	S	177
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	177
Air (includes truck and air)	162	.8	4	.3	6	.8	1 900
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	6 046	29.1	158	11.2	124	15.7	780
Parcel, U.S. Postal Service or courier	6 023	29.0	156	11.1	119	15.1	780
Truck and rail	S	S	S	S	S	S	3 107
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 727	8.3	184	13.0	93	11.7	99

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	5 121	100.0	19 922	100.0	2 051	100.0	271
Single modes	4 740	92.6	19 530	98.0	1 809	88.2	202
Truck ¹	4 646	90.7	19 330	97.0	1 712	83.5	198
For-hire truck	2 460	48.0	6 170	31.0	1 108	54.0	599
Private truck	2 016	39.4	12 993	65.2	541	26.4	36
Rail	20	.4	177	.9	71	3.5	588
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	23	.1	S	S	1 328
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	140	2.7	S	S	11	.5	771
Parcel, U.S. Postal Service or courier	138	2.7	8	—	6	.3	771
Truck and rail	S	S	S	S	S	S	246
Truck and water	S	S	S	S	S	S	231
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	240	4.7	362	1.8	231	11.3	223
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	7 372	100.0	3 927	100.0	1 505	100.0	294
Single modes	7 009	95.1	3 652	93.0	1 419	94.3	234
Truck ¹	6 870	93.2	3 554	90.5	1 369	91.0	187
For-hire truck	4 867	66.0	2 392	60.9	1 216	80.8	534
Private truck	2 002	27.2	1 162	29.6	153	10.2	52
Rail	S	S	S	S	S	S	S
Water	S	S	S	S	S	S	6 244
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	6 244
Air (includes truck and air)	65	.9	3	—	3	.2	1 524
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	287	3.9	28	.7	34	2.2	541
Parcel, U.S. Postal Service or courier	219	3.0	14	.4	8	.5	539
Truck and rail	69	.9	14	.4	26	1.7	1 773
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	76	1.0	S	S	52	3.5	111
SCTG 33, ARTICLES OF BASE METAL							
Total	7 611	100.0	2 567	100.0	608	100.0	352
Single modes	5 610	73.7	1 481	57.7	417	68.6	152
Truck ¹	5 480	72.0	1 467	57.2	400	65.8	133
For-hire truck	2 582	33.9	691	26.9	313	51.4	616
Private truck	2 850	37.4	770	30.0	87	14.3	S
Rail	S	S	S	S	S	S	331
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	125	1.6	10	.4	13	2.1	1 989
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 481	19.5	57	2.2	48	7.9	753
Parcel, U.S. Postal Service or courier	1 479	19.4	55	2.1	45	7.5	753
Truck and rail	S	S	S	S	S	S	1 482
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	520	6.8	S	S	143	23.5	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 34, MACHINERY							
Total	20 434	100.0	2 050	100.0	861	100.0	214
Single modes	17 564	86.0	1 894	92.4	774	89.8	159
Truck ¹	16 815	82.3	1 828	89.2	717	83.2	117
For-hire truck	12 418	60.8	1 419	69.2	635	73.7	672
Private truck	4 041	19.8	373	18.2	70	8.1	40
Rail	S	S	S	S	S	S	855
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	374	1.8	9	.4	13	1.5	1 414
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 182	10.7	102	5.0	73	8.5	442
Parcel, U.S. Postal Service or courier	1 760	8.6	33	1.6	18	2.0	440
Truck and rail	408	2.0	69	3.3	S	S	690
Truck and water	S	S	S	S	S	S	7 968
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	86
Other and unknown modes	687	3.4	54	2.6	14	1.7	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	29 929	100.0	1 140	100.0	665	100.0	441
Single modes	17 265	57.7	903	79.2	481	72.2	193
Truck ¹	14 531	48.6	885	77.6	463	69.6	137
For-hire truck	9 526	31.8	652	57.2	434	65.3	676
Private truck	4 990	16.7	231	20.3	29	4.3	33
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	2 604	8.7	10	.9	16	2.3	1 445
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	10 757	35.9	163	14.3	174	26.1	712
Parcel, U.S. Postal Service or courier	10 551	35.3	119	10.5	79	11.8	712
Truck and rail	206	.7	43	3.8	S	S	1 571
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	1 907	6.4	74	6.5	11	1.6	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	9 220	100.0	1 540	100.0	585	100.0	S
Single modes	7 805	84.7	1 425	92.5	562	96.0	S
Truck ¹	7 400	80.3	1 307	84.8	498	85.2	S
For-hire truck	2 912	31.6	572	37.1	276	47.2	276
Private truck	2 396	26.0	380	24.6	41	7.0	S
Rail	S	S	S	S	S	S	556
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	31	.3	1	—	1	.2	1 269
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	699	7.6	34	2.2	16	2.8	524
Parcel, U.S. Postal Service or courier	699	7.6	34	2.2	16	2.8	524
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	715	7.8	81	5.3	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	2 298	100.0	40	100.0	32	100.0	892
Single modes	934	40.7	32	80.6	25	77.2	542
Truck ¹	725	31.6	27	67.5	23	70.4	464
For-hire truck	596	26.0	25	64.3	23	70.0	933
Private truck	S	S	S	S	S	S	84
Rail	S	S	S	S	S	S	322
Water	S	S	S	S	S	S	5
Shallow draft	S	S	S	S	S	S	5
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	188	8.2	—	1.1	S	S	1 325
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 357	59.1	S	S	S	S	957
Parcel, U.S. Postal Service or courier	1 357	59.1	S	S	S	S	957
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	623
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	9 862	100.0	167	100.0	149	100.0	774
Single modes	3 582	36.3	87	51.9	79	52.9	448
Truck ¹	3 038	30.8	82	49.1	73	49.0	335
For-hire truck	2 090	21.2	59	35.5	S	S	796
Private truck	948	9.6	23	13.6	2	1.4	53
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	9 788
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	9 788
Air (includes truck and air)	S	S	5	2.8	5	3.2	1 252
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	6 047	61.3	65	38.9	65	43.7	826
Parcel, U.S. Postal Service or courier	6 047	61.3	65	38.9	65	43.7	826
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	233	2.4	S	S	S	S	224
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	4 018	100.0	644	100.0	214	100.0	328
Single modes	3 459	86.1	586	91.0	163	76.1	226
Truck ¹	3 456	86.0	585	90.9	163	76.0	221
For-hire truck	1 333	33.2	184	28.6	90	42.0	481
Private truck	2 085	51.9	395	61.3	62	29.0	148
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	3 478
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	379	9.4	28	4.4	S	S	569
Parcel, U.S. Postal Service or courier	379	9.4	28	4.4	S	S	569
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	30 266	100.0	3 965	100.0	1 304	100.0	758
Single modes	14 196	46.9	3 661	92.3	1 101	84.4	500
Truck ¹	13 293	43.9	3 646	92.0	1 083	83.0	436
For-hire truck	5 840	19.3	926	23.4	746	57.2	896
Private truck	S	S	S	S	332	25.4	198
Rail	S	S	S	S	S	S	2 904
Water	S	S	S	S	S	S	2
Shallow draft	S	S	S	S	S	S	2
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	898	3.0	S	S	10	.8	1 461
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	12 690	41.9	210	5.3	162	12.4	858
Parcel, U.S. Postal Service or courier	12 667	41.9	200	5.0	140	10.8	858
Truck and rail	23	—	11	.3	S	S	1 705
Truck and water	S	S	S	S	S	S	8 038
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	3 380	11.2	93	2.4	42	3.2	278
SCTG 41, WASTE AND SCRAP							
Total	1 161	100.0	5 505	100.0	1 060	100.0	185
Single modes	1 120	96.5	5 450	99.0	1 014	95.7	182
Truck ¹	1 010	87.0	4 199	76.3	758	71.5	174
For-hire truck	778	67.0	3 144	57.1	578	54.5	194
Private truck	232	20.0	1 049	19.1	S	S	103
Rail	S	S	S	S	S	S	430
Water	S	S	S	S	S	S	8
Shallow draft	S	S	S	S	S	S	8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	642
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	8 850
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	8 850
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	295
SCTG 43, MIXED FREIGHT							
Total	12 097	100.0	4 663	100.0	1 098	100.0	150
Single modes	11 047	91.3	4 332	92.9	904	82.3	88
Truck ¹	11 042	91.3	4 331	92.9	903	82.3	88
For-hire truck	1 373	11.3	790	16.9	544	49.5	890
Private truck	9 518	78.7	3 493	74.9	348	31.7	48
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	899
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	587	4.9	55	1.2	S	S	S
Parcel, U.S. Postal Service or courier	475	3.9	48	1.0	21	1.9	330
Truck and rail	S	S	S	S	S	S	3 299
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	1 980	100.0	662	100.0	S	S	517
Single modes	S	S	572	86.5	127	37.3	S
Truck ¹	S	S	552	83.4	91	26.7	S
For-hire truck	419	21.2	109	16.4	72	21.3	534
Private truck	S	S	443	67.0	18	5.4	S
Rail	S	S	S	S	S	S	1 914
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	72	3.6	S	S	S	S	1 095
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	386	19.5	9	1.3	S	S	844
Parcel, U.S. Postal Service or courier	384	19.4	6	.9	S	S	844
Truck and rail	S	S	S	S	S	S	1 519
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	95	4.8	S	S	S	S	S

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

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

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

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

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

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

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

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

State of destination	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	290 350	100.0	281 014	100.0	40 249	100.0
NEW ENGLAND STATES						
Connecticut	5 485	1.9	3 144	1.1	415	1.0
Maine	1 025	.4	629	.2	247	.6
Massachusetts	7 078	2.4	4 521	1.6	931	2.3
New Hampshire	1 041	.4	448	.2	112	.3
Rhode Island	686	.2	380	.1	116	.3
Vermont	1 452	.5	3 481	1.2	683	1.7
MIDDLE ATLANTIC STATES						
New Jersey	22 348	7.7	11 702	4.2	1 354	3.4
New York	122 301	42.1	217 676	77.5	7 894	19.6
Pennsylvania	16 439	5.7	11 582	4.1	2 269	5.6
EAST NORTH CENTRAL STATES						
Illinois	8 532	2.9	2 434	.9	1 874	4.7
Indiana	3 952	1.4	1 042	.4	663	1.6
Michigan	7 298	2.5	1 816	.6	677	1.7
Ohio	9 101	3.1	3 222	1.1	1 309	3.3
Wisconsin	3 880	1.3	1 333	.5	1 237	3.1
WEST NORTH CENTRAL STATES						
Iowa	960	.3	373	.1	375	.9
Kansas	S	S	129	—	155	.4
Minnesota	2 086	.7	670	.2	789	2.0
Missouri	4 497	1.5	458	.2	467	1.2
Nebraska	460	.2	84	—	103	.3
North Dakota	164	—	31	—	46	.1
South Dakota	175	—	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	647	.2	276	.1	80	.2
District of Columbia	1 054	.4	S	S	S	S
Florida	6 502	2.2	916	.3	1 165	2.9
Georgia	4 483	1.5	1 196	.4	1 139	2.8
Maryland	3 598	1.2	S	S	811	2.0
North Carolina	4 276	1.5	961	.3	683	1.7
South Carolina	2 173	.7	496	.3	412	1.0
Virginia	4 851	1.7	1 488	.5	752	1.9
West Virginia	628	.2	326	.1	160	.4
EAST SOUTH CENTRAL STATES						
Alabama	1 303	.4	547	.2	627	1.6
Kentucky	1 358	.5	458	.2	331	.8
Mississippi	595	.2	191	—	218	.5
Tennessee	3 762	1.3	810	.3	714	1.8
WEST SOUTH CENTRAL STATES						
Arkansas	729	.3	205	—	258	.6
Louisiana	1 198	.4	330	.1	450	1.1
Oklahoma	1 520	.5	186	—	255	.6
Texas	9 689	3.3	1 957	.7	3 316	8.2
MOUNTAIN STATES						
Arizona	2 285	.8	193	—	466	1.2
Colorado	1 531	.5	149	—	260	.6
Idaho	299	.1	16	—	40	.1
Montana	193	—	24	—	51	.1
Nevada	548	.2	57	—	153	.4
New Mexico	209	—	21	—	42	.1
Utah	508	.2	49	—	103	.3
Wyoming	62	—	4	—	7	—
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	12 224	4.2	1 562	.6	4 381	10.9
Hawaii	214	—	5	—	28	—
Oregon	1 161	.4	244	—	701	1.7
Washington	1 617	.6	242	—	691	1.7

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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	345 317	100.0	327 231	100.0	67 833	100.0
NEW ENGLAND STATES						
Connecticut	13 469	3.9	4 786	1.5	S	S
Maine	2 060	.6	S	S	S	S
Massachusetts	14 136	4.1	2 144	.7	506	.7
New Hampshire	2 162	.6	1 342	.4	S	S
Rhode Island	1 192	.3	252	—	55	—
Vermont	2 312	.7	758	.2	166	.2
MIDDLE ATLANTIC STATES						
New Jersey	41 670	12.1	21 417	6.5	1 742	2.6
New York	122 301	35.4	217 676	66.5	7 894	11.6
Pennsylvania	22 890	6.6	21 365	6.5	5 690	8.4
EAST NORTH CENTRAL STATES						
Illinois	6 788	2.0	2 320	.7	1 791	2.6
Indiana	4 311	1.2	1 564	.5	958	1.4
Michigan	5 575	1.6	1 986	.6	853	1.3
Ohio	13 968	4.0	6 891	2.1	2 988	4.4
Wisconsin	4 567	1.3	2 849	.9	2 768	4.1
WEST NORTH CENTRAL STATES						
Iowa	1 247	.4	981	.3	936	1.4
Kansas	1 463	.4	501	.2	735	1.1
Minnesota	3 076	.9	836	.3	997	1.5
Missouri	2 214	.6	543	.2	571	.8
Nebraska	1 002	.3	294	—	364	.5
North Dakota	119	—	S	S	S	S
South Dakota	251	—	110	—	178	.3
SOUTH ATLANTIC STATES						
Delaware	1 347	.4	620	.2	185	.3
District of Columbia	S	S	S	S	S	S
Florida	5 228	1.5	2 715	.8	3 485	5.1
Georgia	4 013	1.2	1 603	.5	1 696	2.5
Maryland	3 357	1.0	2 225	.7	705	1.0
North Carolina	10 874	3.1	2 160	.7	1 433	2.1
South Carolina	2 998	.9	939	.3	769	1.1
Virginia	6 436	1.9	1 996	.6	918	1.4
West Virginia	1 661	.5	10 471	3.2	5 656	8.3
EAST SOUTH CENTRAL STATES						
Alabama	1 512	.4	548	.2	614	.9
Kentucky	2 106	.6	3 197	1.0	2 326	3.4
Mississippi	523	.2	323	.1	422	.6
Tennessee	2 843	.8	836	.3	793	1.2
WEST SOUTH CENTRAL STATES						
Arkansas	965	.3	576	.2	697	1.0
Louisiana	1 115	.3	505	.2	741	1.1
Oklahoma	696	.2	313	.1	425	.6
Texas	7 017	2.0	3 012	.9	5 726	8.4
MOUNTAIN STATES						
Arizona	3 158	.9	64	—	154	.2
Colorado	2 841	.8	197	—	344	.5
Idaho	S	—	216	—	526	.8
Montana	57	—	33	—	72	.1
Nevada	S	—	37	—	95	.1
New Mexico	385	.1	S	S	S	S
Utah	314	—	38	—	81	.1
Wyoming	68	—	79	—	163	.2
PACIFIC STATES						
Alaska	18	—	S	S	S	S
California	14 936	4.3	1 787	.5	5 135	7.6
Hawaii	16	—	S	S	S	S
Oregon	1 258	.4	330	.1	983	1.4
Washington	1 553	.4	257	—	749	1.1

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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	3.4	—	8.1	—	3.4	—	7.6
Single modes	4.7	1.3	8.2	.5	3.9	1.3	8.8
Truck	4.9	1.4	8.9	1.3	5.7	3.2	10.6
For-hire truck	6.7	1.5	15.2	3.0	5.8	2.2	8.6
Private truck	7.2	1.9	9.8	2.4	8.0	1.5	19.1
Rail	20.6	.3	32.6	1.3	27.4	3.1	10.5
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.4
Great Lakes	S	S	S	S	S	S	29.8
Deep draft	S	S	S	S	S	S	46.3
Air (includes truck and air)	9.4	.2	15.6	—	20.5	—	3.7
Pipeline	S	S	S	S	S	S	S
Multiple modes	5.4	1.1	7.5	.1	12.8	.7	5.6
Parcel, U.S. Postal Service or courier	5.3	1.0	6.4	—	5.6	.2	5.6
Truck and rail	20.7	—	15.1	—	21.2	.6	13.1
Truck and water	37.0	—	44.1	—	44.1	—	27.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	40.2
Other and unknown modes	12.4	.7	24.1	.6	25.7	1.2	44.2

— 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-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	3.4	4.9	6.7	8.1	5.3	12.4	3.4	9.5	11.2	7.6	2.7	8.7
Single modes	4.7	5.9	7.6	8.2	5.5	12.8	3.9	7.1	9.2	8.8	7.6	9.4
Truck	4.9	6.0	8.1	8.9	3.8	12.8	5.7	9.2	13.2	10.6	8.1	13.5
For-hire truck	6.7	8.6	9.5	15.2	5.9	18.5	5.8	11.4	15.2	8.6	5.3	10.3
Private truck	7.2	4.3	10.8	9.8	5.8	15.3	8.0	15.4	19.3	19.1	11.5	22.1
Rail	20.6	17.5	22.0	32.6	15.3	53.3	27.4	10.6	34.3	10.5	32.1	64.3
Water	S	S	S	S	S	S	S	S	S	29.8	29.9	2.2
Shallow draft	S	S	S	S	S	S	S	S	S	29.4	S	S
Great Lakes	S	—	S	S	—	S	S	—	S	29.8	—	S
Deep draft	S	S	S	S	S	S	S	S	S	46.3	29.7	20.5
Air (includes truck and air)	9.4	27.4	16.6	15.6	41.3	39.9	20.5	S	S	3.7	4.6	6.1
Pipeline	S	S	S	S	S	S	S	S	S	S	S	S
Multiple modes	5.4	5.0	12.4	7.5	9.0	21.6	12.8	12.5	42.6	5.6	2.7	6.5
Parcel, U.S. Postal Service or courier	5.3	5.2	12.3	6.4	6.4	13.7	5.6	8.6	16.1	5.6	2.7	6.5
Truck and rail	20.7	37.3	459.7	15.1	33.0	211.1	21.2	40.8	319.5	13.1	11.0	19.6
Truck and water	37.0	S	S	44.1	S	S	44.1	42.7	21.1	27.6	S	S
Rail and water	—	—	—	—	—	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S	S	S	40.2	31.6	.4
Other and unknown modes ...	12.4	10.7	20.3	24.1	24.1	30.6	25.7	S	S	44.2	16.6	17.4

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

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

Table B-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	1.3	1.0	.5	.8	1.3	3.6
Truck	1.4	1.3	1.3	2.4	3.2	4.7
For-hire truck	1.5	2.1	3.0	2.2	2.2	3.9
Private truck	1.9	1.4	2.4	2.5	1.5	3.1
Rail .....	.3	.3	1.3	.5	3.1	1.7
Water	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S
Great Lakes	S	S	S	S	S	S
Deep draft	S	S	S	S	S	S
Air (includes truck and air) .....	.2	1.0	—	—	—	S
Pipeline	S	S	S	S	S	S
Multiple modes	1.1	.8	.1	—	.7	.4
Parcel, U.S. Postal Service or courier	1.0	.8	—	—	.2	.3
Truck and rail	—	—	—	—	.6	.2
Truck and water	—	S	—	S	—	—
Rail and water	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Other and unknown modes .....	.7	.5	.6	.8	1.2	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-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	3.4	—	7.6
Truck	5.7	3.2	10.5
Rail	22.8	3.1	13.9
Shallow draft	S	S	29.5
Great Lakes	S	S	30.0
Deep draft	39.6	—	41.7
Air	21.1	—	4.1
Parcel, U.S. Postal Service or courier	5.6	.2	5.6
Pipeline	S	S	S
Other and unknown modes	25.7	1.2	44.2

— 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–3. Measures of Reliability for Shipment Characteristics by Mode of Transportation and Distance Shipped for State of Origin: 1997

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
All modes	3.4	—	8.1	—	3.4	—
Less than 50 miles	3.1	1.2	11.0	2.2	9.4	.9
50 to 99 miles	13.2	.9	10.0	.9	10.5	.8
100 to 249 miles	4.0	.5	6.8	1.0	7.1	1.0
250 to 499 miles	5.0	.4	6.4	.5	7.3	.7
500 to 749 miles	9.3	.6	11.2	.3	11.3	1.1
750 to 999 miles	13.0	.5	12.8	.1	12.4	.8
1,000 to 1,499 miles	5.4	.3	10.5	.2	10.7	1.5
1,500 to 1,999 miles	14.7	.3	7.9	—	9.1	.3
2,000 miles or more	9.1	.4	5.1	—	5.6	1.4
Single modes	4.7	—	8.2	—	3.9	—
Less than 50 miles	4.8	1.5	11.2	2.2	9.7	1.0
50 to 99 miles	15.9	1.2	10.6	.9	10.6	.8
100 to 249 miles	4.7	.6	6.9	1.0	7.4	1.0
250 to 499 miles	5.4	.5	6.4	.5	7.4	.7
500 to 749 miles	12.1	.8	11.6	.3	11.8	1.2
750 to 999 miles	17.3	.7	13.4	.1	13.0	.9
1,000 to 1,499 miles	7.5	.3	10.4	.2	11.9	1.5
1,500 to 1,999 miles	24.4	.3	5.9	—	5.7	.2
2,000 miles or more	12.9	.5	6.7	—	7.1	1.4
Truck	4.9	—	8.9	—	5.7	—
Less than 50 miles	4.9	1.6	11.3	2.2	9.8	1.0
50 to 99 miles	16.0	1.2	10.7	1.1	11.4	.8
100 to 249 miles	5.1	.6	9.6	.9	9.2	.9
250 to 499 miles	6.1	.6	6.1	.4	6.5	.5
500 to 749 miles	12.8	.8	12.4	.3	12.8	1.4
750 to 999 miles	18.4	.7	13.1	.1	12.6	.8
1,000 to 1,499 miles	5.7	.2	10.8	.1	10.5	.9
1,500 to 1,999 miles	26.0	.3	6.3	—	6.1	.2
2,000 miles or more	14.6	.5	8.4	—	8.9	1.4
For-hire truck	6.7	—	15.2	—	5.8	—
Less than 50 miles	6.8	1.2	29.0	5.0	21.8	.9
50 to 99 miles	6.2	.6	11.8	1.7	12.0	.5
100 to 249 miles	7.5	1.0	11.1	1.6	10.8	.9
250 to 499 miles	6.4	1.0	6.6	1.0	6.7	.7
500 to 749 miles	14.5	1.0	12.8	1.2	13.4	1.6
750 to 999 miles	17.6	.8	15.2	.7	14.6	1.2
1,000 to 1,499 miles	6.5	.4	10.9	.5	10.5	1.2
1,500 to 1,999 miles	26.7	.5	7.2	—	7.0	.4
2,000 miles or more	15.4	.7	10.5	.4	11.1	2.4
Private truck	7.2	—	9.8	—	8.0	—
Less than 50 miles	6.5	2.7	10.8	1.4	7.3	1.2
50 to 99 miles	24.2	1.8	12.8	1.1	12.4	1.8
100 to 249 miles	9.6	.5	9.4	.6	9.3	1.4
250 to 499 miles	12.7	.6	13.4	.2	14.3	1.4
500 to 749 miles	22.1	.7	20.6	—	20.1	1.3
750 to 999 miles	44.6	.9	23.1	—	23.2	.9
1,000 to 1,499 miles	15.2	.3	23.0	—	23.8	1.2
1,500 to 1,999 miles	30.7	—	32.4	—	31.9	.4
2,000 miles or more	30.5	.4	38.5	—	39.7	2.0
Rail	20.6	—	32.6	—	27.4	—
Less than 50 miles	S	S	45.9	.9	43.8	—
50 to 99 miles	43.1	1.3	S	S	S	S
100 to 249 miles	26.0	3.5	37.9	7.4	38.5	4.9
250 to 499 miles	35.1	3.9	26.7	4.5	27.6	4.0
500 to 749 miles	21.1	2.2	30.3	1.4	31.5	1.6
750 to 999 miles	28.0	1.8	32.6	1.9	32.6	2.3
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	39.7	.7	S	S	47.5	1.9
2,000 miles or more	13.7	2.1	19.5	1.4	19.2	4.2
Water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	49.6	15.2
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Shallow draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Single modes—Con.						
Great Lakes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
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
Air (includes truck and air)	9.4	—	15.6	—	20.5	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	28.3	.6	30.5	.5	28.2	—
100 to 249 miles	12.5	3.7	27.8	3.7	31.5	1.7
250 to 499 miles	17.6	2.0	28.0	5.2	22.8	3.5
500 to 749 miles	34.3	2.7	33.6	3.4	35.7	3.9
750 to 999 miles	23.8	1.3	23.6	1.4	23.9	1.5
1,000 to 1,499 miles	42.0	5.2	26.0	2.4	25.2	2.3
1,500 to 1,999 miles	25.5	.9	44.6	1.0	44.6	1.4
2,000 miles or more	18.0	4.1	32.4	5.8	31.3	7.5
Pipeline	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	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
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	—	—	—	—	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	5.4	—	7.5	—	12.8	—
Less than 50 miles	11.7	1.8	13.0	2.1	12.0	—
50 to 99 miles	9.0	.3	17.4	1.2	26.0	.3
100 to 249 miles	10.3	1.2	9.1	.9	9.1	.4
250 to 499 miles	9.9	1.3	12.6	1.5	12.2	1.4
500 to 749 miles	7.4	.7	10.9	1.0	11.2	.7
750 to 999 miles	7.5	.3	12.4	.8	13.3	.9
1,000 to 1,499 miles	4.7	.5	24.9	2.2	30.4	3.4
1,500 to 1,999 miles	17.8	.8	41.7	2.1	46.4	4.7
2,000 miles or more	9.1	.9	16.5	1.9	16.4	4.1
Parcel, U.S. Postal Service or courier	5.3	—	6.4	—	5.6	—
Less than 50 miles	11.7	1.9	14.0	2.4	14.0	—
50 to 99 miles	9.0	.3	10.9	.5	10.7	.1
100 to 249 miles	10.4	1.2	10.3	1.2	10.4	.5
250 to 499 miles	9.8	1.3	9.0	1.1	7.9	.7
500 to 749 miles	7.3	.7	10.5	.9	10.2	1.1
750 to 999 miles	7.5	.3	4.2	.5	4.0	.4
1,000 to 1,499 miles	4.8	.6	6.5	.7	6.3	1.5
1,500 to 1,999 miles	19.2	.8	20.1	.4	20.0	1.2
2,000 miles or more	8.7	.9	9.0	.6	8.8	1.5
Truck and rail	20.7	—	15.1	—	21.2	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	37.1	3.4	31.1	2.4	33.4	.9
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	23.4	3.2	24.5	1.7	27.2	.9
750 to 999 miles	46.6	1.6	36.1	2.0	36.8	1.8
1,000 to 1,499 miles	34.1	3.8	S	S	S	S
1,500 to 1,999 miles	44.0	3.8	S	S	S	S
2,000 miles or more	35.8	7.0	22.6	5.3	22.7	7.0
Truck and water	37.0	—	44.1	—	44.1	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	48.9	8.8	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	12.4	—	24.1	—	25.7	—
Less than 50 miles	18.3	4.3	31.5	5.7	42.8	1.6
50 to 99 miles	21.5	1.0	S	S	S	S
100 to 249 miles	14.3	1.7	20.0	3.1	18.5	2.8
250 to 499 miles	16.0	.6	24.8	1.4	26.9	2.9
500 to 749 miles	22.3	1.2	25.9	1.1	27.2	2.3
750 to 999 miles	33.0	.4	26.2	.6	26.6	3.2
1,000 to 1,499 miles	17.1	1.3	36.2	2.2	34.9	7.0
1,500 to 1,999 miles	35.0	.5	38.5	.6	37.9	3.0
2,000 miles or more	20.4	.8	44.6	1.0	45.7	4.0

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

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

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

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

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	3.4	—	8.1	—	3.4	—	7.6
Less than 50 lb	4.5	1.2	5.4	—	8.8	.1	8.3
50 to 99 lb	6.4	.3	9.2	—	8.6	—	6.0
100 to 499 lb	6.9	.7	14.7	.2	9.0	.2	10.4
500 to 749 lb	7.7	.2	13.5	—	10.0	—	11.8
750 to 999 lb	6.6	.2	12.5	—	10.8	—	10.3
1,000 to 9,999 lb	8.1	1.3	7.4	.6	7.6	.6	9.1
10,000 to 49,999 lb	8.2	1.8	10.1	2.3	5.9	2.0	9.7
50,000 to 99,999 lb	12.3	.4	14.6	2.4	9.7	.9	12.0
100,000 lb or more	15.1	.3	29.0	3.5	15.1	2.7	19.2
Single modes	4.7	—	8.2	—	3.9	—	8.8
Less than 50 lb	5.0	.5	12.1	—	16.8	—	20.1
50 to 99 lb	9.9	.2	13.5	—	15.1	—	10.7
100 to 499 lb	7.3	.7	16.6	.2	9.8	.1	11.3
500 to 749 lb	8.7	.2	14.0	—	10.2	—	13.3
750 to 999 lb	7.4	.2	13.8	—	11.6	—	12.5
1,000 to 9,999 lb	9.2	1.6	7.8	.6	8.8	.8	8.5
10,000 to 49,999 lb	8.6	2.2	10.4	2.5	6.7	2.4	9.8
50,000 to 99,999 lb	12.7	.5	15.0	2.4	9.9	1.1	10.8
100,000 lb or more	17.3	.5	29.5	3.7	19.5	3.3	19.7
Truck	4.9	—	8.9	—	5.7	—	10.6
Less than 50 lb	6.8	.5	12.3	—	20.1	—	25.6
50 to 99 lb	10.4	.2	13.6	—	15.7	—	11.7
100 to 499 lb	6.8	.6	16.7	.2	9.9	.2	11.1
500 to 749 lb	9.2	.3	14.1	—	10.5	.1	12.7
750 to 999 lb	7.8	.2	13.9	—	12.5	—	11.4
1,000 to 9,999 lb	9.0	1.7	7.8	.6	8.9	.8	8.9
10,000 to 49,999 lb	8.7	2.3	10.4	2.3	6.9	1.9	9.6
50,000 to 99,999 lb	14.4	.6	15.2	2.5	10.0	.9	10.1
100,000 lb or more	24.4	.4	35.7	3.2	36.4	2.3	46.7
For-hire truck	6.7	—	15.2	—	5.8	—	8.6
Less than 50 lb	13.7	.5	32.6	—	26.5	—	22.1
50 to 99 lb	13.6	.2	17.9	—	16.0	—	10.9
100 to 499 lb	13.1	.9	8.9	.1	10.0	.2	4.1
500 to 749 lb	15.9	.4	6.4	—	10.2	.1	6.6
750 to 999 lb	12.0	.3	11.9	—	14.0	.1	8.6
1,000 to 9,999 lb	13.9	2.0	8.3	.7	11.4	.9	7.5
10,000 to 49,999 lb	6.0	2.6	10.1	3.3	8.8	3.7	7.9
50,000 to 99,999 lb	21.4	.6	31.1	4.2	11.3	1.0	21.7
100,000 lb or more	S	S	50.0	1.4	S	S	32.9
Private truck	7.2	—	9.8	—	8.0	—	19.1
Less than 50 lb	8.0	.9	15.7	—	12.6	—	37.8
50 to 99 lb	10.0	.4	12.6	—	29.0	—	27.4
100 to 499 lb	5.6	.9	19.7	.3	20.3	.3	9.5
500 to 749 lb	8.8	.4	16.4	.1	18.2	.1	15.7
750 to 999 lb	8.5	.4	14.9	.1	11.2	—	17.9
1,000 to 9,999 lb	6.1	1.4	8.7	.9	9.1	1.0	9.9
10,000 to 49,999 lb	19.7	3.5	14.2	3.8	10.2	2.4	8.9
50,000 to 99,999 lb	17.7	.9	12.2	3.2	8.3	1.7	6.1
100,000 lb or more	27.8	.6	40.9	3.9	27.1	1.5	23.2
Rail	20.6	—	32.6	—	27.4	—	10.5
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	40.0	—	42.2	—	30.3	—	39.5
500 to 749 lb	S	S	S	S	S	S	30.7
750 to 999 lb	S	S	S	S	S	S	31.5
1,000 to 9,999 lb	30.9	.5	37.2	—	30.1	—	34.7
10,000 to 49,999 lb	15.7	4.3	20.2	2.6	21.2	5.3	3.2
50,000 to 99,999 lb	38.9	4.1	31.8	3.6	34.4	3.4	37.1
100,000 lb or more	24.2	5.7	33.9	5.6	30.6	7.2	8.6
Water	S	S	S	S	S	S	29.8
Less than 50 lb	S	S	S	S	S	S	30.4
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	S	S	S	S	S	S	30.2
10,000 to 49,999 lb	S	S	43.5	14.6	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	29.9
100,000 lb or more	S	S	S	S	S	S	29.0
Shallow draft	S	S	S	S	S	S	29.4
Less than 50 lb	S	S	S	S	S	S	30.4
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	—	—	—	—	—	—	—
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	30.9
50,000 to 99,999 lb	S	S	S	S	S	S	29.9
100,000 lb or more	S	S	S	S	S	S	29.0

See footnote at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Single modes—Con.							
Great Lakes	S	S	S	S	S	S	29.8
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	S	S	S	S	S	S	29.8
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	46.3
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	S	S	S	S	S	S	32.5
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	9.4	—	15.6	—	20.5	—	3.7
Less than 50 lb	15.8	5.6	14.8	1.5	15.2	1.7	4.2
50 to 99 lb	31.5	2.6	23.5	2.0	17.9	1.3	9.4
100 to 499 lb	26.4	3.6	16.9	3.4	20.1	4.5	6.4
500 to 749 lb	19.4	.8	23.9	1.5	29.3	1.9	13.9
750 to 999 lb	39.0	1.1	48.1	1.8	S	S	17.0
1,000 to 9,999 lb	35.7	5.9	33.1	6.1	41.8	6.0	11.6
10,000 to 49,999 lb	45.2	.8	48.0	6.7	S	S	23.7
50,000 to 99,999 lb	S	S	S	S	S	S	31.0
100,000 lb or more	S	S	S	S	S	S	28.3
Pipeline	S	S	S	S	S	S	S
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	S	S	S	S	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	—	—	—	—	S	S	S
50,000 to 99,999 lb	—	—	—	—	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Multiple modes	5.4	—	7.5	—	12.8	—	5.6
Less than 50 lb	7.9	2.7	9.6	2.0	10.3	1.8	5.8
50 to 99 lb	7.3	.9	6.3	.8	7.5	1.4	4.6
100 to 499 lb	11.3	1.9	10.7	2.0	11.2	2.3	5.3
500 to 749 lb	16.5	.3	15.8	.5	25.9	.4	22.8
750 to 999 lb	21.9	.1	16.1	.3	17.6	.2	14.7
1,000 to 9,999 lb	35.9	.2	35.7	.9	37.1	1.2	28.0
10,000 to 49,999 lb	18.6	.2	14.8	2.8	17.9	4.8	11.4
50,000 to 99,999 lb	S	S	S	S	S	S	32.3
100,000 lb or more	S	S	S	S	S	S	38.7
Parcel, U.S. Postal Service or courier	5.3	—	6.4	—	5.6	—	5.6
Less than 50 lb	7.9	2.7	9.6	3.3	10.3	3.6	5.8
50 to 99 lb	7.3	.9	6.3	.9	7.5	1.6	4.6
100 to 499 lb	11.3	2.0	10.7	2.6	11.1	2.6	5.3
500 to 749 lb	16.6	.3	15.9	.6	26.2	.6	22.8
750 to 999 lb	21.0	.1	15.5	.4	15.2	.3	17.8
1,000 to 9,999 lb	S	S	S	S	S	S	30.7
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	20.7	—	15.1	—	21.2	—	13.1
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	S	S	S	S	S	S	32.3
100 to 499 lb	S	S	S	S	S	S	27.0
500 to 749 lb	S	S	S	S	46.4	—	28.6
750 to 999 lb	S	S	S	S	S	S	27.8
1,000 to 9,999 lb	45.1	6.1	41.9	3.9	34.0	2.3	26.9
10,000 to 49,999 lb	18.8	6.2	15.4	7.8	18.9	6.5	11.7
50,000 to 99,999 lb	S	S	S	S	S	S	31.6
100,000 lb or more	S	S	S	S	S	S	38.7
Truck and water	37.0	—	44.1	—	44.1	—	27.6
Less than 50 lb	S	S	S	S	S	S	32.3
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	46.4	.3	41.6	.3	S	S	40.1
500 to 749 lb	S	S	S	S	S	S	30.0
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	30.4
10,000 to 49,999 lb	39.1	13.4	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

See footnote at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	40.2
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	S	S	S	S	S	S	31.6
100,000 lb or more	—	—	—	—	—	—	—
Other and unknown modes	12.4	—	24.1	—	25.7	—	44.2
Less than 50 lb	24.8	3.6	16.4	.5	40.7	.1	S
50 to 99 lb	19.8	.9	24.1	.3	28.5	.2	42.5
100 to 499 lb	10.4	1.2	11.5	1.0	19.5	.4	21.7
500 to 749 lb	27.3	.6	12.7	.5	21.9	.3	47.3
750 to 999 lb	S	S	26.4	.5	20.8	.2	S
1,000 to 9,999 lb	13.9	2.4	16.9	4.6	23.0	5.0	32.4
10,000 to 49,999 lb	18.8	3.0	28.7	3.7	38.4	6.4	21.2
50,000 to 99,999 lb	33.1	1.2	48.2	6.3	24.5	2.1	S
100,000 lb or more	37.8	1.7	32.9	2.9	48.2	8.0	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–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	3.4	—	8.1	—	3.4	—	7.6
01	Live animals and live fish	S	S	S	S	47.6	—	S
02	Cereal grains	31.0	—	34.8	.1	S	S	S
03	Other agricultural products	30.9	.2	36.8	.3	27.6	—	S
04	Animal feed and products of animal origin, n.e.c.	29.1	.2	32.5	.8	20.1	.3	32.4
05	Meat, fish, seafood, and their preparations	21.0	.5	22.1	.2	36.4	.8	17.7
06	Milled grain products and preparations, and bakery products	12.4	.2	12.2	.3	15.7	.8	S
07	Other prepared foodstuffs and fats and oils	9.7	.7	15.5	.8	15.8	1.9	17.2
08	Alcoholic beverages	16.3	.3	17.0	.4	32.9	1.7	23.5
09	Tobacco products	22.1	.1	21.6	—	25.4	—	12.7
10	Monumental or building stone	S	S	43.4	.1	45.5	—	S
11	Natural sands	33.7	—	31.8	.6	37.5	.2	16.1
12	Gravel and crushed stone	12.7	—	12.8	2.1	16.5	.9	14.6
13	Nonmetallic minerals n.e.c.	24.0	—	21.4	1.7	23.8	1.0	24.7
14	Metallic ores and concentrates	21.6	—	31.7	.2	30.8	.2	S
15	Coal	S	S	S	S	S	S	S
17	Gasoline and aviation turbine fuel	13.1	.2	12.3	.9	29.3	.7	8.7
18	Fuel oils	25.2	.1	31.2	.7	14.7	.1	17.5
19	Coal and petroleum products, n.e.c.	25.9	.1	27.9	2.0	23.1	.2	43.5
20	Basic chemicals	22.5	.3	30.6	.9	26.0	1.1	31.3
21	Pharmaceutical products	10.0	.4	14.6	—	16.4	—	15.0
22	Fertilizers	37.8	—	41.6	—	S	S	S
23	Chemical products and preparations, n.e.c.	46.3	2.6	19.1	.2	21.1	.5	17.8
24	Plastics and rubber	10.5	.4	13.5	.2	34.6	2.2	18.8
25	Logs and other wood in the rough	23.8	—	34.8	.4	23.7	—	S
26	Wood products	11.0	—	9.1	.2	25.8	.5	35.0
27	Pulp, newsprint, paper, and paperboard	11.9	.2	17.0	.3	14.5	1.0	28.0
28	Paper or paperboard articles	16.0	.3	18.0	.1	18.4	.3	25.4
29	Printed products	15.8	1.0	22.0	.6	26.1	.6	17.1
30	Textiles, leather, and articles of textiles or leather	8.6	.7	14.0	—	13.2	.2	8.6
31	Nonmetallic mineral products	13.5	.3	13.9	.9	9.0	.6	18.1
32	Base metal in primary or semifinished forms and in finished basic shapes	13.2	.4	10.6	.3	16.4	.8	15.0
33	Articles of base metal	10.7	.3	31.9	.3	9.9	.1	22.8
34	Machinery	9.9	.6	16.0	.1	19.9	.4	21.2
35	Electronic and other electrical equipment and components and office equipment	5.6	.7	10.9	—	17.4	.3	13.9
36	Motorized and other vehicles (including parts)	14.5	.5	14.2	.1	21.0	.3	S
37	Transportation equipment, n.e.c.	21.8	.2	31.7	—	32.5	—	11.4
38	Precision instruments and apparatus	17.8	.6	20.3	—	31.3	.1	8.9
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	19.0	.3	22.9	—	42.6	.2	21.0
40	Miscellaneous manufactured products	11.4	1.1	40.5	.7	16.8	.6	4.9
41	Waste and scrap	10.8	—	22.0	.5	23.8	.5	8.9
43	Mixed freight	31.8	1.2	31.2	.6	25.3	.8	17.8
—	Commodity unknown	42.9	.3	30.0	—	S	S	20.3

— 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-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	3.4	—	8.1	—	3.4	—	7.6
Single modes	4.7	1.3	8.2	.5	3.9	1.3	8.8
Truck	4.9	1.4	8.9	1.3	5.7	3.2	10.6
For-hire truck	6.7	1.5	15.2	3.0	5.8	2.2	8.6
Private truck	7.2	1.9	9.8	2.4	8.0	1.5	19.1
Rail	20.6	.3	32.6	1.3	27.4	3.1	10.5
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.4
Great Lakes	S	S	S	S	S	S	29.8
Deep draft	S	S	S	S	S	S	46.3
Air (includes truck and air)	9.4	.2	15.6	—	20.5	—	3.7
Pipeline	S	S	S	S	S	S	S
Multiple modes	5.4	1.1	7.5	.1	12.8	.7	5.6
Parcel, U.S. Postal Service or courier	5.3	1.0	6.4	—	5.6	.2	5.6
Truck and rail	20.7	—	15.1	—	21.2	.6	13.1
Truck and water	37.0	—	44.1	—	44.1	—	27.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	40.2
Other and unknown modes	12.4	.7	24.1	.6	25.7	1.2	44.2
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	S	S	S	S	47.6	—	S
Single modes	S	S	S	S	47.6	—	S
Truck	S	S	S	S	47.6	—	S
For-hire truck	38.2	14.0	32.5	15.6	49.1	5.7	24.6
Private truck	S	S	S	S	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 02, CEREAL GRAINS							
Total	31.0	—	34.8	—	S	S	S
Single modes	33.1	5.6	37.1	5.4	S	S	S
Truck	31.0	8.3	34.4	9.3	31.9	19.5	S
For-hire truck	44.7	12.5	44.5	12.4	S	S	S
Private truck	S	S	39.8	16.2	48.3	17.7	S
Rail	S	S	S	S	S	S	30.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	30.9	—	36.8	—	27.6	—	S
Single modes	37.0	9.1	44.7	10.5	33.3	9.1	S
Truck	37.0	9.1	44.7	10.5	33.3	9.1	S
For-hire truck	47.7	6.2	30.4	7.2	36.7	9.1	22.4
Private truck	40.9	10.8	46.7	10.7	38.2	11.6	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	26.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	26.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	21.4
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	29.1	—	32.5	—	20.1	—	32.4
Single modes	30.1	2.7	33.2	1.9	18.6	3.3	S
Truck	31.5	4.7	34.4	3.4	23.3	7.0	21.7
For-hire truck	31.4	5.6	32.8	4.7	28.0	7.9	30.9
Private truck	34.0	6.8	38.8	6.2	29.1	8.7	17.6
Rail	S	S	38.9	2.6	S	S	26.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.3
Pipeline	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	40.4
Parcel, U.S. Postal Service or courier	39.2	1.7	34.1	.1	36.5	.3	21.6
Truck and rail	S	S	S	S	S	S	30.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	35.7	.1	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	21.0	—	22.1	—	36.4	—	17.7
Single modes	22.4	5.7	23.4	5.2	36.9	5.7	16.4
Truck	22.4	5.7	23.4	5.2	36.9	5.7	16.4
For-hire truck	36.8	5.4	40.1	6.6	40.9	13.7	17.0
Private truck	21.9	5.4	22.6	5.8	28.9	11.1	19.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	34.7

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	12.4	—	12.2	—	15.7	—	S
Single modes	12.6	.7	12.6	1.4	15.9	.3	S
Truck	13.5	1.9	13.3	2.7	19.4	5.7	S
For-hire truck	14.2	5.5	7.8	5.1	26.0	6.2	9.6
Private truck	21.8	6.2	20.0	6.3	21.8	4.4	44.5
Rail	30.2	1.5	24.9	1.4	28.8	5.6	19.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.4	—	40.0	—	46.8	.2	17.9
Parcel, U.S. Postal Service or courier	44.8	—	46.0	—	41.2	—	19.9
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.7	.7	33.7	1.4	49.3	.2	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	9.7	—	15.5	—	15.8	—	17.2
Single modes	9.6	.5	15.6	.3	15.9	.7	26.1
Truck	9.7	.5	15.7	.6	16.2	.8	25.6
For-hire truck	16.4	4.3	14.3	5.1	19.0	4.9	12.4
Private truck	10.2	3.6	20.2	4.5	19.2	3.0	28.0
Rail	25.2	.2	35.8	.4	46.4	.8	23.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	47.5	.3	43.6	.1	S	S	37.8
Parcel, U.S. Postal Service or courier	S	S	S	S	47.8	—	20.4
Truck and rail	S	S	S	S	S	S	22.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	23.6	.3	29.4	.4	27.4	.5	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	16.3	—	17.0	—	32.9	—	23.5
Single modes	17.1	1.6	17.9	1.9	35.5	5.4	22.9
Truck	17.6	1.8	18.3	1.9	37.4	7.0	23.1
For-hire truck	29.0	6.9	30.6	7.4	44.9	8.7	29.2
Private truck	15.2	6.7	16.1	7.5	25.8	5.6	14.3
Rail	36.1	1.1	37.0	1.2	36.0	5.3	26.3
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	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	30.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	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 09, TOBACCO PRODUCTS							
Total	22.1	—	21.6	—	25.4	—	12.7
Single modes	22.4	1.5	21.6	1.6	25.2	2.4	11.2
Truck	22.4	1.5	21.6	1.6	25.2	2.4	11.2
For-hire truck	S	S	S	S	S	S	33.4
Private truck	22.3	1.5	21.5	1.6	25.2	2.4	11.2
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	34.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	34.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	35.1	1.5	38.6	1.6	30.3	.2	23.4
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	43.4	—	45.5	—	S
Single modes	S	S	43.7	3.0	46.8	1.4	S
Truck	S	S	43.7	3.0	46.8	1.4	S
For-hire truck	S	S	S	S	S	S	S
Private truck	35.3	18.5	35.2	12.4	25.7	12.7	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	27.9
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	27.7
SCTG 11, NATURAL SANDS							
Total	33.7	—	31.8	—	37.5	—	16.1
Single modes	33.7	.2	31.8	.2	37.3	.5	15.9
Truck	33.7	.2	31.8	.2	37.3	.5	15.9
For-hire truck	S	S	S	S	S	S	40.6
Private truck	40.2	10.2	26.1	13.2	S	S	25.8
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

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	12.7	—	12.8	—	16.5	—	14.6
Single modes	12.3	2.7	12.8	1.4	17.4	2.6	15.0
Truck	12.3	2.7	12.8	1.4	17.4	2.6	15.0
For-hire truck	28.7	6.3	29.4	6.2	29.8	6.8	16.4
Private truck	14.8	6.0	15.6	5.9	17.7	6.5	17.2
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	24.0	—	21.4	—	23.8	—	24.7
Single modes	24.2	2.8	21.6	1.0	26.6	5.9	20.4
Truck	26.0	6.1	27.1	8.7	30.9	9.9	19.7
For-hire truck	46.3	7.8	41.5	7.0	49.2	7.5	25.9
Private truck	44.5	9.0	43.5	11.1	17.2	5.5	42.7
Rail	S	S	S	S	S	S	27.0
Water	S	S	S	S	S	S	31.8
Shallow draft	S	S	S	S	S	S	29.8
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	32.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.4
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	37.3	.3	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	21.6	—	31.7	—	30.8	—	S
Single modes	30.0	13.9	33.6	14.6	36.5	13.6	30.9
Truck	29.3	13.2	37.4	15.4	43.5	13.3	25.5
For-hire truck	29.8	12.8	37.7	13.9	36.2	13.5	26.1
Private truck	S	S	S	S	S	S	27.5
Rail	45.2	6.3	41.9	7.9	42.1	10.4	25.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	44.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	44.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	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 15, COAL							
Total	S	S	S	S	S	S	S
Single modes	S	S	S	S	S	S	S
Truck	S	S	S	S	48.4	18.2	S
For-hire truck	48.7	14.3	49.8	13.7	S	S	25.9
Private truck	S	S	S	S	S	S	S
Rail	S	S	S	S	S	S	28.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	29.8
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	—	—	—	—	—	—	—
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	13.1	—	12.3	—	29.3	—	8.7
Single modes	13.5	.9	12.7	1.1	29.5	.8	8.1
Truck	15.6	5.3	14.7	6.6	11.9	15.4	8.0
For-hire truck	25.2	2.5	25.1	2.4	17.8	5.4	20.5
Private truck	14.8	5.2	13.5	6.2	14.2	11.5	7.4
Rail	S	S	S	S	S	S	27.9
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.8
Great Lakes	S	S	S	S	S	S	29.8
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	46.9	.9	S	S	S	S	34.8
SCTG 18, FUEL OILS							
Total	25.2	—	31.2	—	14.7	—	17.5
Single modes	25.3	.3	31.3	.4	15.2	1.6	16.9
Truck	25.7	.8	31.7	.8	15.0	1.7	16.8
For-hire truck	S	S	S	S	30.1	6.0	S
Private truck	12.7	6.6	19.4	7.4	11.0	6.7	15.6
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
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	28.7

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 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	25.9	—	27.9	—	23.1	—	43.5
Single modes	26.4	2.5	28.1	.7	23.1	.5	26.1
Truck	28.4	5.6	28.4	1.6	20.7	4.9	26.1
For-hire truck	42.0	6.8	S	S	36.1	9.7	49.7
Private truck	33.6	8.1	31.7	7.0	13.6	12.0	18.5
Rail	S	S	S	S	S	S	28.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	25.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	25.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	39.7	.9	S	S	44.6	.5	44.2
SCTG 20, BASIC CHEMICALS							
Total	22.5	—	30.6	—	26.0	—	31.3
Single modes	14.7	4.8	31.0	1.3	22.7	2.2	S
Truck	16.7	4.4	33.9	6.2	23.3	9.5	S
For-hire truck	25.2	6.7	39.2	5.8	23.5	7.7	S
Private truck	35.1	8.7	44.7	9.7	48.8	9.8	43.3
Rail	20.2	2.1	40.6	6.5	33.7	9.2	32.0
Water	S	S	S	S	S	S	37.4
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	S	S	S	S	23.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	32.1
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	42.7	.7	S	S	S	S	17.6
Truck and water	S	S	S	S	S	S	30.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S
Other and unknown modes	34.4	1.1	23.9	1.0	26.7	.3	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	10.0	—	14.6	—	16.4	—	15.0
Single modes	12.3	5.5	16.9	4.4	19.7	6.8	39.2
Truck	13.4	5.5	17.3	3.9	21.6	6.6	42.9
For-hire truck	18.4	4.7	16.6	5.0	22.1	6.2	15.1
Private truck	17.6	3.7	25.7	3.7	33.2	1.5	S
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	29.2	.7	42.8	1.2	41.6	3.3	17.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	19.4	5.5	25.2	4.1	36.8	6.9	13.3
Parcel, U.S. Postal Service or courier	19.3	5.4	25.2	4.1	37.5	6.9	13.3
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.1	.4	S	S	47.1	.5	47.0

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	37.8	—	41.6	—	S	S	S
Single modes	39.2	4.8	42.6	6.5	S	S	46.3
Truck	41.8	8.8	48.9	10.7	S	S	29.7
For-hire truck	S	S	S	S	S	S	S
Private truck	33.6	8.4	40.4	10.4	46.8	19.7	34.2
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	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	30.3
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	46.3	—	19.1	—	21.1	—	17.8
Single modes	47.4	4.6	20.4	1.9	23.0	4.9	21.8
Truck	48.1	5.2	20.2	1.7	22.5	4.6	23.7
For-hire truck	S	S	22.2	5.8	21.9	4.3	10.4
Private truck	26.0	6.6	31.5	5.4	33.9	2.5	20.2
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)	S	S	S	S	S	S	8.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	28.9	1.1	26.6	2.2	13.5
Parcel, U.S. Postal Service or courier	S	S	33.0	1.1	32.7	1.3	13.6
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	44.5	2.9	S	S	S	S	43.9
SCTG 24, PLASTICS AND RUBBER							
Total	10.5	—	13.5	—	34.6	—	18.8
Single modes	10.9	2.0	14.4	2.1	36.2	2.5	18.1
Truck	11.5	2.9	15.7	6.2	41.1	8.1	19.2
For-hire truck	12.2	3.2	21.3	5.7	46.3	7.8	10.5
Private truck	13.2	2.6	17.9	4.6	23.7	2.9	S
Rail	S	S	S	S	S	S	21.7
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	12.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	13.1	1.3	23.0	.4	27.1	.8	15.3
Parcel, U.S. Postal Service or courier	14.0	1.3	26.8	.4	31.5	.8	15.4
Truck and rail	S	S	S	S	S	S	30.5
Truck and water	45.8	—	S	S	S	S	30.3
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38.7	1.5	41.2	1.9	49.4	2.2	31.5

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	23.8	—	34.8	—	23.7	—	S
Single modes	23.8	1.9	35.5	2.0	25.9	4.2	S
Truck	22.8	2.3	35.6	2.1	28.8	9.1	S
For-hire truck	40.3	12.8	S	S	44.1	13.6	S
Private truck	40.1	13.0	S	S	S	S	24.6
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	40.2
SCTG 26, WOOD PRODUCTS							
Total	11.0	—	9.1	—	25.8	—	35.0
Single modes	10.8	2.6	9.7	3.8	11.7	13.0	13.5
Truck	10.9	2.6	9.7	3.7	9.8	12.4	13.6
For-hire truck	29.0	4.5	13.3	3.9	14.1	7.7	46.0
Private truck	7.7	5.5	14.3	5.3	13.3	8.0	13.0
Rail	41.3	.3	39.1	.2	S	S	24.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.6	.4	31.2	—	48.8	1.2	27.0
Parcel, U.S. Postal Service or courier	15.5	.4	22.2	—	40.2	.3	27.1
Truck and rail	46.4	.1	S	S	S	S	26.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	36.5	2.8	47.4	3.8	S	S	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	11.9	—	17.0	—	14.5	—	28.0
Single modes	12.1	1.9	18.3	4.0	16.0	6.3	29.9
Truck	12.7	2.7	19.6	4.7	15.4	6.9	29.0
For-hire truck	11.5	3.3	19.0	4.5	14.7	6.8	16.5
Private truck	21.9	2.5	28.7	2.5	S	S	44.5
Rail	23.0	1.7	25.1	2.0	28.5	3.0	8.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	34.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	31.4	1.1	S	S	S	S	14.6
Parcel, U.S. Postal Service or courier	25.2	.4	28.1	.1	24.2	.1	17.4
Truck and rail	S	S	S	S	S	S	26.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	34.3	1.0	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	16.0	—	18.0	—	18.4	—	25.4
Single modes	16.7	3.5	18.1	.6	18.6	2.9	25.7
Truck	16.7	3.5	18.1	.6	18.6	2.9	26.3
For-hire truck	15.3	5.4	21.0	6.4	18.2	3.0	20.5
Private truck	23.4	4.8	24.1	6.7	33.4	3.1	16.7
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	45.4	.2	38.3	—	39.6	—	21.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	26.0	3.8	18.6	.6	43.4	3.1	16.4
Parcel, U.S. Postal Service or courier	27.6	3.9	25.2	.6	36.8	2.9	16.6
Truck and rail	S	S	S	S	S	S	24.9
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42.4	.8	31.6	.4	42.6	.8	S
SCTG 29, PRINTED PRODUCTS							
Total	15.8	—	22.0	—	26.1	—	17.1
Single modes	15.9	7.3	25.0	5.0	31.9	5.0	15.3
Truck	16.5	7.6	25.0	5.1	32.6	5.0	17.4
For-hire truck	10.1	4.6	16.9	7.1	14.4	7.5	S
Private truck	26.6	6.7	36.1	10.3	S	S	49.2
Rail	S	S	S	S	S	S	26.3
Water	S	S	S	S	S	S	29.8
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	29.8
Air (includes truck and air)	S	S	46.0	—	49.9	.8	9.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.5	7.1	25.2	2.4	32.3	4.7	14.2
Parcel, U.S. Postal Service or courier	32.5	7.2	25.6	2.4	34.7	4.8	14.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	34.2
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	27.2	.7	36.2	3.2	28.3	1.2	28.6
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	8.6	—	14.0	—	13.2	—	8.6
Single modes	12.4	3.9	14.6	3.1	15.2	3.6	11.1
Truck	12.7	3.8	14.8	3.1	15.6	3.6	11.5
For-hire truck	15.8	3.7	18.3	4.9	18.2	4.8	10.8
Private truck	8.1	1.9	16.0	3.5	10.9	2.1	19.3
Rail	S	S	S	S	S	S	29.8
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)	34.5	.5	39.2	.3	40.1	.7	9.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	12.2	2.8	10.7	1.7	11.2	2.4	9.3
Parcel, U.S. Postal Service or courier	12.3	2.8	10.9	1.6	11.9	2.2	9.3
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29.8	2.4	35.6	3.3	46.5	3.7	42.9

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	13.5	—	13.9	—	9.0	—	18.1
Single modes	14.4	1.5	14.2	.6	10.3	3.2	22.8
Truck	14.5	1.4	14.3	.6	10.1	2.7	23.7
For-hire truck	16.1	5.9	20.7	5.1	16.0	4.7	8.7
Private truck	35.2	6.4	18.8	5.7	13.2	4.8	13.1
Rail	33.1	.2	38.6	.4	35.0	1.3	36.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	48.9	.1	S	S	14.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.5	.5	S	S	39.8	.2	12.6
Parcel, U.S. Postal Service or courier	16.3	.5	21.3	—	24.3	.1	12.6
Truck and rail	S	S	S	S	S	S	28.4
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	25.1	1.4	19.3	.6	27.2	3.2	34.3
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	13.2	—	10.6	—	16.4	—	15.0
Single modes	13.7	1.1	9.6	2.3	17.2	1.6	20.1
Truck	14.0	1.2	9.9	2.8	18.0	2.7	19.2
For-hire truck	15.8	4.7	9.0	4.3	16.5	3.2	8.6
Private truck	19.0	4.2	20.3	3.8	36.4	2.3	17.3
Rail	S	S	S	S	S	S	S
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	21.9	.2	47.3	—	49.8	.1	12.5
Pipeline	S	S	S	S	S	S	S
Multiple modes	22.0	.9	22.2	.1	33.9	.8	27.5
Parcel, U.S. Postal Service or courier	22.8	.8	26.4	.1	33.4	.2	27.2
Truck and rail	41.3	.3	42.3	.1	46.6	.8	25.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	25.3	.2	S	S	46.5	1.6	33.2
SCTG 33, ARTICLES OF BASE METAL							
Total	10.7	—	31.9	—	9.9	—	22.8
Single modes	13.3	4.6	14.6	10.1	14.8	6.8	40.3
Truck	13.7	4.6	14.8	10.0	15.7	7.2	45.2
For-hire truck	10.0	2.5	17.8	7.3	16.1	6.7	9.3
Private truck	21.6	5.2	22.0	6.3	25.5	2.3	S
Rail	S	S	S	S	S	S	43.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	46.1	.8	33.3	.4	43.7	1.1	17.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	28.9	4.2	20.9	1.1	27.7	2.9	10.3
Parcel, U.S. Postal Service or courier	29.0	4.2	22.6	1.1	30.3	3.0	10.3
Truck and rail	S	S	S	S	S	S	32.5
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	32.1	2.3	S	S	38.3	7.1	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	9.9	—	16.0	—	19.9	—	21.2
Single modes	11.9	2.3	16.7	1.8	20.8	2.7	21.9
Truck	12.1	2.2	16.6	2.1	21.5	3.5	15.8
For-hire truck	10.4	2.3	21.2	4.9	22.4	3.1	6.9
Private truck	24.3	2.8	17.0	4.9	22.9	2.1	19.6
Rail	S	S	S	S	S	S	27.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	23.0	.5	29.3	.2	44.3	1.0	7.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	11.0	1.6	32.9	1.6	46.3	2.7	15.9
Parcel, U.S. Postal Service or courier	11.1	1.4	15.7	.5	21.6	.5	16.0
Truck and rail	44.2	.9	48.9	1.5	S	S	31.8
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	26.6	1.2	31.5	1.1	43.8	1.0	S
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	5.6	—	10.9	—	17.4	—	13.9
Single modes	6.7	2.5	11.5	3.3	16.5	4.4	28.7
Truck	8.1	2.6	11.4	3.1	16.6	4.4	33.6
For-hire truck	8.9	2.7	14.5	5.4	16.6	4.4	11.2
Private truck	16.1	2.1	19.2	3.3	28.8	1.2	35.4
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	17.2	1.9	16.2	.1	20.7	.6	4.3
Pipeline	S	S	S	S	S	S	S
Multiple modes	11.1	3.2	22.9	2.0	30.2	3.8	6.8
Parcel, U.S. Postal Service or courier	11.1	3.3	19.3	1.4	16.0	2.9	6.8
Truck and rail	45.2	.3	45.7	1.3	S	S	29.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	33.3	2.1	32.4	3.1	38.3	2.1	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	14.5	—	14.2	—	21.0	—	S
Single modes	17.8	5.6	16.1	4.5	21.3	2.4	S
Truck	18.8	5.8	15.7	5.1	26.1	7.9	S
For-hire truck	21.0	3.5	20.3	3.2	21.8	6.0	25.2
Private truck	13.7	6.4	12.0	6.9	24.2	5.7	S
Rail	S	S	S	S	S	S	33.4
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	41.8	.2	35.2	—	34.7	.3	37.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.0	1.8	20.2	.6	19.7	1.7	12.4
Parcel, U.S. Postal Service or courier	25.0	1.8	20.2	.6	19.7	1.7	12.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	44.1	4.2	39.2	3.9	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	21.8	—	31.7	—	32.5	—	11.4
Single modes	27.0	8.7	28.9	8.9	28.1	8.8	28.3
Truck	25.5	7.5	27.9	9.8	28.8	8.7	31.9
For-hire truck	23.6	6.7	29.5	9.6	29.0	8.6	11.8
Private truck	S	S	S	S	S	S	27.5
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)	42.4	2.4	44.3	1.0	S	S	15.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.0	8.6	S	S	S	S	10.2
Parcel, U.S. Postal Service or courier	29.0	8.6	S	S	S	S	10.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	33.5
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	17.8	—	20.3	—	31.3	—	8.9
Single modes	14.9	3.2	19.6	5.3	45.6	6.9	26.7
Truck	11.3	3.9	20.1	5.6	48.8	7.7	30.3
For-hire truck	11.3	3.2	26.1	5.6	S	S	13.3
Private truck	26.0	2.6	40.9	4.4	37.7	.5	44.6
Rail	—	—	—	—	—	—	—
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	S	S	39.1	1.5	40.2	2.2	14.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	21.7	3.4	30.4	4.9	41.8	7.2	9.3
Parcel, U.S. Postal Service or courier	21.7	3.4	30.4	4.9	41.8	7.2	9.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	20.7	1.0	S	S	S	S	23.5
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	19.0	—	22.9	—	42.6	—	21.0
Single modes	20.7	5.3	22.0	2.5	32.5	5.7	34.7
Truck	20.7	5.3	22.0	2.5	32.6	5.7	32.4
For-hire truck	30.3	4.8	36.2	4.0	26.7	7.0	21.9
Private truck	21.9	6.4	24.1	6.1	35.5	4.9	37.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	23.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	43.0	4.8	35.6	1.0	S	S	19.0
Parcel, U.S. Postal Service or courier	43.0	4.8	35.6	1.0	S	S	19.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	11.4	—	40.5	—	16.8	—	4.9
Single modes	27.1	5.3	44.5	4.4	20.1	4.8	19.3
Truck	29.2	5.3	44.7	4.4	20.5	4.9	21.2
For-hire truck	10.8	2.7	15.6	6.1	19.2	5.0	8.3
Private truck	S	S	S	S	40.3	5.7	38.8
Rail	S	S	S	S	S	S	28.5
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)	37.9	1.4	S	S	35.7	.6	7.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	6.4	4.7	23.0	4.2	22.5	4.3	4.5
Parcel, U.S. Postal Service or courier	6.3	4.7	22.5	4.0	19.1	3.6	4.5
Truck and rail	47.0	—	49.5	.3	S	S	25.4
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29.5	3.1	30.2	.9	47.6	2.0	45.9
SCTG 41, WASTE AND SCRAP							
Total	10.8	—	22.0	—	23.8	—	8.9
Single modes	11.1	2.5	21.9	.6	25.6	4.5	9.3
Truck	11.3	6.7	20.6	10.3	28.0	11.0	8.8
For-hire truck	14.2	7.1	21.4	9.7	18.4	11.0	11.9
Private truck	31.7	6.1	42.9	5.4	S	S	9.7
Rail	S	S	S	S	S	S	23.7
Water	S	S	S	S	S	S	29.8
Shallow draft	S	S	S	S	S	S	29.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	46.5
SCTG 43, MIXED FREIGHT							
Total	31.8	—	31.2	—	25.3	—	17.8
Single modes	35.5	4.6	34.3	4.6	29.0	7.0	15.6
Truck	35.5	4.6	34.3	4.6	29.0	7.0	15.8
For-hire truck	29.1	4.9	29.3	5.3	32.0	8.7	14.3
Private truck	39.5	6.1	39.5	6.3	32.7	6.4	19.0
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	30.0	2.5	33.3	.7	S	S	S
Parcel, U.S. Postal Service or courier	36.5	2.7	39.4	.7	40.6	2.6	26.2
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
COMMODITY UNKNOWN							
Total	42.9	—	30.0	—	S	S	20.3
Single modes	S	S	36.3	9.3	36.1	18.0	S
Truck	S	S	38.1	10.5	39.7	19.4	S
For-hire truck	43.4	9.2	43.7	8.2	46.4	14.1	17.6
Private truck	S	S	48.4	11.7	43.0	12.4	S
Rail	S	S	S	S	S	S	30.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	48.6	2.6	S	S	S	S	27.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.2	6.2	41.0	.8	S	S	15.2
Parcel, U.S. Postal Service or courier	32.6	6.5	48.8	.8	S	S	17.4
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	47.2	6.0	S	S	S	S	S

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

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

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

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

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

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

State of destination	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	3.4	—	8.1	—	3.4	—
NEW ENGLAND STATES						
Connecticut	9.8	.2	17.9	.2	9.4	.1
Maine	22.5	—	38.3	—	29.9	.2
Massachusetts	3.9	.1	13.1	.1	10.6	.2
New Hampshire	14.5	—	11.3	—	11.3	—
Rhode Island	22.3	—	17.5	—	18.0	—
Vermont	18.3	—	34.1	.6	39.1	.7
MIDDLE ATLANTIC STATES						
New Jersey	5.0	.4	17.9	.7	11.1	.4
New York	4.4	1.5	10.2	1.7	6.8	1.2
Pennsylvania	8.8	.5	17.4	.8	12.0	.6
EAST NORTH CENTRAL STATES						
Illinois	7.9	.2	19.8	.2	20.5	.8
Indiana	10.4	.1	13.1	—	13.9	.2
Michigan	12.6	.3	13.3	—	13.2	.2
Ohio	7.2	.2	9.8	.1	9.9	.3
Wisconsin	20.7	.3	21.8	.1	22.8	.6
WEST NORTH CENTRAL STATES						
Iowa	13.2	—	31.0	—	32.8	.3
Kansas	S	S	20.5	—	19.9	—
Minnesota	8.2	—	24.3	—	24.7	.4
Missouri	39.9	.5	11.5	—	11.6	.1
Nebraska	20.4	—	26.4	—	27.2	—
North Dakota	27.5	—	38.1	—	39.1	—
South Dakota	21.2	—	S	S	S	S
SOUTH ATLANTIC STATES						
Delaware	35.1	—	26.1	—	22.9	—
District of Columbia	48.0	.2	S	S	S	S
Florida	9.2	.2	8.7	—	8.2	.2
Georgia	10.5	.1	18.6	—	18.5	.5
Maryland	10.8	.1	S	S	48.3	.9
North Carolina	7.0	.1	12.2	—	14.4	.2
South Carolina	11.6	.1	10.1	—	9.8	.1
Virginia	12.7	.2	17.9	.1	21.0	.4
West Virginia	12.6	—	20.3	—	23.2	—
EAST SOUTH CENTRAL STATES						
Alabama	13.0	—	33.4	—	35.1	.5
Kentucky	8.7	—	13.2	—	13.5	.1
Mississippi	13.5	—	23.5	—	22.3	.1
Tennessee	13.2	.2	10.1	—	11.4	.2
WEST SOUTH CENTRAL STATES						
Arkansas	8.1	—	16.6	—	16.1	.1
Louisiana	11.4	—	28.4	—	29.1	.3
Oklahoma	25.6	.1	16.6	—	16.3	.1
Texas	6.1	.2	13.3	.2	15.0	1.3
MOUNTAIN STATES						
Arizona	32.7	.2	31.1	—	30.7	.4
Colorado	24.5	.2	11.2	—	11.7	—
Idaho	29.0	—	30.8	—	31.5	—
Montana	23.0	—	47.7	—	48.6	—
Nevada	27.2	—	30.7	—	34.7	.1
New Mexico	13.3	—	26.6	—	26.9	—
Utah	6.5	—	33.4	—	31.2	—
Wyoming	26.9	—	28.8	—	29.9	—
PACIFIC STATES						
Alaska	S	S	S	S	S	S
California	10.2	.3	10.1	—	10.3	1.4
Hawaii	31.3	—	21.3	—	26.5	—
Oregon	12.8	—	37.6	—	38.3	.8
Washington	13.5	—	19.2	—	19.0	.3

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

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

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

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

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	1.8	—	6.5	—	5.4	—
NEW ENGLAND STATES						
Connecticut	11.1	.4	46.8	.7	S	S
Maine	12.8	—	S	S	S	S
Massachusetts	27.8	1.0	7.6	—	7.4	—
New Hampshire	19.2	.1	48.4	.2	S	S
Rhode Island	21.1	—	29.5	—	28.7	—
Vermont	30.2	.2	15.8	—	19.6	—
MIDDLE ATLANTIC STATES						
New Jersey	11.4	1.3	10.3	.8	15.8	.4
New York	4.4	1.6	10.2	2.7	6.8	.9
Pennsylvania	8.8	.7	9.6	1.1	12.1	1.2
EAST NORTH CENTRAL STATES						
Illinois	8.5	.2	24.3	.1	24.8	.6
Indiana	11.3	.1	10.3	—	10.7	.2
Michigan	9.9	.2	21.8	.1	24.2	.4
Ohio	11.3	.5	11.6	.3	14.3	.6
Wisconsin	13.2	.2	26.2	.2	26.8	.8
WEST NORTH CENTRAL STATES						
Iowa	9.2	—	15.9	—	14.3	.2
Kansas	24.5	.1	31.0	—	31.3	.3
Minnesota	8.5	—	12.7	—	14.5	.2
Missouri	13.0	—	18.0	—	18.3	.1
Nebraska	15.8	—	19.1	—	17.9	.1
North Dakota	27.1	—	S	S	S	S
South Dakota	31.9	—	41.9	—	43.3	.1
SOUTH ATLANTIC STATES						
Delaware	34.7	.1	17.5	—	20.5	—
District of Columbia	S	S	S	S	S	S
Florida	15.9	.2	19.3	.2	17.5	1.0
Georgia	15.0	.2	8.1	—	8.5	.2
Maryland	13.4	.1	33.0	.2	37.0	.5
North Carolina	24.9	.8	12.1	.1	11.1	.2
South Carolina	12.5	.1	7.7	—	7.2	.1
Virginia	13.6	.2	7.8	—	7.2	.1
West Virginia	15.8	—	14.4	.5	20.1	1.6
EAST SOUTH CENTRAL STATES						
Alabama	13.0	—	12.0	—	13.1	.1
Kentucky	11.3	—	38.7	.5	39.6	1.5
Mississippi	14.9	—	19.1	—	20.6	.1
Tennessee	7.4	—	16.0	—	17.5	.2
WEST SOUTH CENTRAL STATES						
Arkansas	9.7	—	15.9	—	16.3	.2
Louisiana	33.9	.1	16.0	—	16.9	.2
Oklahoma	17.9	—	23.3	—	21.9	.1
Texas	16.7	.3	42.8	.4	48.1	3.0
MOUNTAIN STATES						
Arizona	28.3	.3	34.8	—	34.6	—
Colorado	24.4	.2	23.1	—	24.3	.1
Idaho	S	S	20.3	—	19.8	.2
Montana	43.2	—	27.8	—	25.5	—
Nevada	S	S	36.5	—	35.8	—
New Mexico	33.5	—	S	S	S	S
Utah	12.5	—	26.5	—	26.2	—
Wyoming	43.7	—	46.0	—	45.6	.1
PACIFIC STATES						
Alaska	49.2	—	S	S	S	S
California	16.1	.7	11.4	—	11.2	.9
Hawaii	25.9	—	S	S	S	S
Oregon	26.9	.1	24.0	—	23.8	.4
Washington	31.2	.1	19.1	—	20.1	.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.

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

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

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

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

Month	Day	Year

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

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

Number and street

City, town, village, etc.

State

ZIP Code

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

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

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

--

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

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

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

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

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

2 — Private truck
3 — For-hire truck

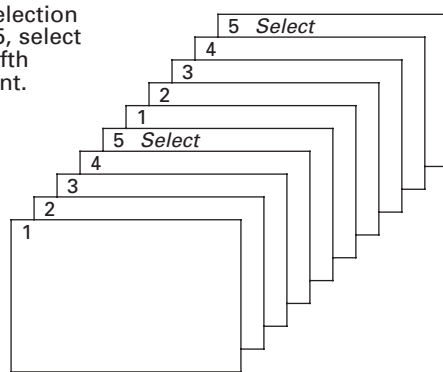
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

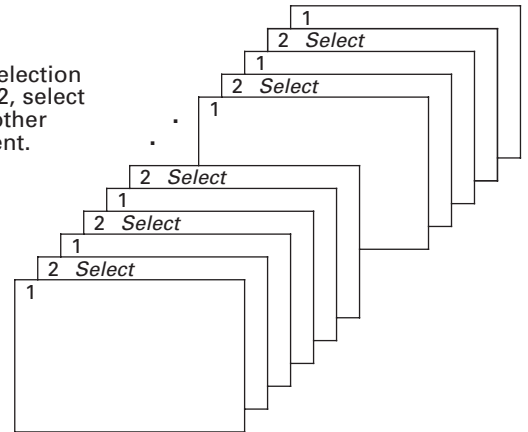
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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

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

Containerized? (Y/N)	U.S. destination (Complete for all shipments.)			Mode(s) of transport to U.S. destination Enter all that apply in order used. Use codes below.	Export? (Y/N)	Foreign destination (for export shipments only) Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(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

6 — Deep draft vessel

7 — Pipeline

8 — Air

9 — Other mode

0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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


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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued


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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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


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

2 — Private truck
3 — For-hire truck

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

☐ Yes

☐ No

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

☐ Yes

☐ No

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

☐ Yes

☐ No

Item H

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

Total value in whole dollars

Item I

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

☐ Yes

☐ No

Item J
CERTIFICATION

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

Telephone number — *Include area code*

Date

Signature

Title

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

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

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

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

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

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

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

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

Month	Day	Year

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

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

Number and street

City, town, village, etc.

State

ZIP Code

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

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

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

--

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

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

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. →

Item F SHIPMENT CHARACTERISTICS

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

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

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

2 — Private truck
3 — For-hire truck

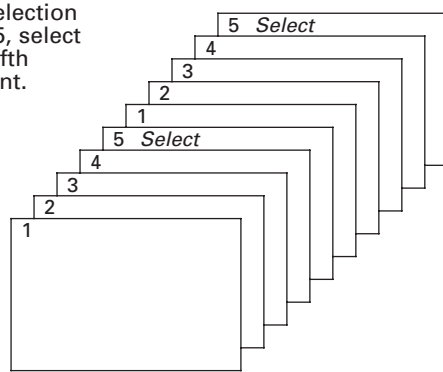
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

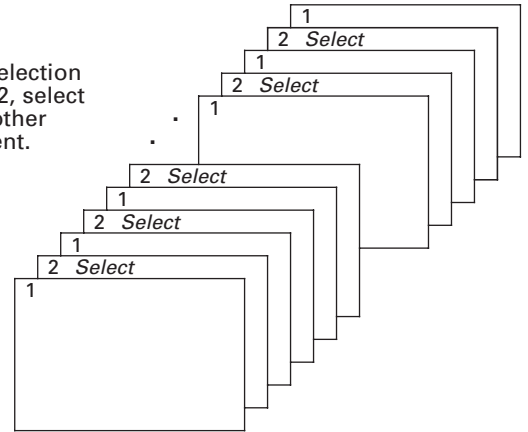
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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

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

Containerized? (Y/N)	U.S. destination <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)
N	Los Angeles	C A	9 0 0 4 0	2, 4, 3	N				0
N	New York	N Y	1 0 4 5 4	5	Y	London	England	6	00
									1
									2
									3
									4
									5
									6
									7
									8
									9

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued


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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

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

Total value in whole dollars

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

☐ Yes

☐ No

Item I AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

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

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

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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

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

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

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

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

3 – For-Hire Truck
4 – Rail

5 – Water
6 – Pipeline

7 – Air
8 – Other

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

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

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

Item L TRANSPORTATION DECISIONS

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

1 ☐ Your company2 ☐ Receiver of shipment3 ☐ Other

Remarks

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

Date

Signature

Title

Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

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

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

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

PART I – GENERAL INFORMATION

Frequently Asked Questions About the Commodity Flow Survey (CFS)

Why are you conducting the CFS?

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

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

Who reports in the CFS?

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

Why is my participation important?

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

Your report helps ensure quality results.

Is this survey mandatory?

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

Will my data be kept confidential?

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

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

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

How often must I report?

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

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

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

Item D

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

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

What we mean by a "shipment":

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

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

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

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

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

A special note about "shipments":

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

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

Item E: Sampling Instructions

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

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

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

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

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

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

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

Item F SHIPMENT CHARACTERISTICS							
Line No. (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)
		Month	Day				
0	123-5	4	26	4,235	140	3 6 1 2 0	Electrical transformers
00	123-6	4	26	125,300	626,500	1 7 1 0 0	Gasoline
1						| | | |	
2						| | | |	
3						| | | |	
4						| | | |	

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

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

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

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

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

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

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

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

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

Items G – I

Please enter the information requested.

Item J: Certification

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

PART III – MODE DEFINITIONS

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

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

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

Railroad – Any common carrier or private railroad.

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

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

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

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

Other mode – Any mode not listed above.

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

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

PART IV -- STATE ABBREVIATION LIST

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

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

