

Michigan

1997

Issued December 1999

EC97TCF-MI

1997 Economic Census

Transportation

1997 Commodity Flow Survey



U.S. Department of Transportation
BUREAU OF TRANSPORTATION STATISTICS

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



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Introduction to the Economic Census

PURPOSES AND USES OF THE ECONOMIC CENSUS

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

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

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

BASIS OF REPORTING

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

AVAILABILITY OF ADDITIONAL DATA

Reports in Print and Electronic Media

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

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

HISTORICAL INFORMATION

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

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

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

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

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

SOURCES FOR MORE INFORMATION

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

1997 Commodity Flow Survey

GENERAL

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

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

INDUSTRY COVERAGE

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

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

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

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

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

SHIPMENT COVERAGE

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

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

MILEAGE CALCULATIONS

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

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

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

Mileage Data for Pipeline Shipments

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

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

DISCLOSURE RULES

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

EXPLANATION OF TERMS

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

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

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

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

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

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

Mode Definitions

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

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

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

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

Private truck
For-hire truck
Rail
Shallow draft vessel
Deep draft vessel
Pipeline

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

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

Other Definitions and Terms

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

Standard Classification of Transported Goods (SCTG).

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

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

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

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

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

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

ABBREVIATIONS AND SYMBOLS

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

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

OTHER TRANSPORTATION DATA

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

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

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

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

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

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

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

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

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

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

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

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	320 536	100.0	382 277	100.0	70 963	100.0	393
Single modes	268 337	83.7	355 111	92.9	59 202	83.4	132
Truck ¹	227 120	70.9	289 401	75.7	34 767	49.0	120
For-hire truck	140 068	43.7	148 872	38.9	26 315	37.1	342
Private truck	85 506	26.7	135 113	35.3	8 150	11.5	51
Rail	36 965	11.5	30 876	8.1	14 036	19.8	831
Water	433	.1	29 979	7.8	9 779	13.8	307
Shallow draft	S	S	S	S	S	S	4
Great Lakes	433	.1	29 979	7.8	9 779	13.8	314
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	2 704	.8	290	—	204	.3	1 150
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	33 468	10.4	16 816	4.4	10 084	14.2	672
Parcel, U.S. Postal Service or courier	19 871	6.2	653	.2	352	.5	669
Truck and rail	13 375	4.2	2 142	.6	2 898	4.1	1 468
Truck and water	S	S	6 224	1.6	3 392	4.8	4 280
Rail and water	S	S	S	S	S	S	S
Other multiple modes	25	—	3 937	1.0	1 099	1.5	504
Other and unknown modes	18 732	5.8	S	S	1 677	2.4	57

— 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	320 536	256 278	25.1	382 277	323 800	18.1	70 963	60 246	17.8	393	268	46.4
Single modes	268 337	217 148	23.6	355 111	306 711	15.8	59 202	49 893	18.7	132	138	-4.5
Truck ¹	227 120	197 142	15.2	289 401	249 899	15.8	34 767	28 976	20.0	120	110	9.1
For-hire truck	140 068	119 058	17.6	148 872	90 512	64.5	26 315	20 528	28.2	342	387	-11.8
Private truck	85 506	77 881	9.8	135 113	159 215	-15.1	8 150	8 408	-3.1	51	43	18.4
Rail	36 965	17 031	117.0	30 876	30 437	1.4	14 036	13 772	1.9	831	806	3.2
Water	433	199	117.6	29 979	22 379	34.0	9 779	6 573	48.8	307	287	6.8
Shallow draft	S	S	S	S	S	S	S	S	S	4	8	-46.9
Great Lakes	433	195	121.4	29 979	21 958	36.5	9 779	6 570	48.9	314	294	6.7
Deep draft	S	—	S	S	—	S	S	—	S	1	—	S
Air (includes truck and air)	2 704	2 116	27.8	290	S	S	204	S	S	1 150	1 162	-1.1
Pipeline ²	S	660	S	S	3 734	S	S	S	S	S	S	S
Multiple modes	33 468	28 622	16.9	16 816	12 509	34.4	10 084	9 042	11.5	672	458	46.9
Parcel, U.S. Postal Service or courier	19 871	14 224	39.7	653	539	21.1	352	290	21.6	669	448	49.3
Truck and rail	13 375	14 113	-5.2	2 142	2 172	-1.4	2 898	2 830	2.4	1 468	1 324	10.8
Truck and water	S	39	S	6 224	2 968	109.7	3 392	S	S	4 280	2 670	60.3
Rail and water	S	S	S	S	S	S	S	S	S	S	S	S
Other multiple modes	25	S	S	3 937	S	S	1 099	S	S	504	3 281	-84.6
Other and unknown modes	18 732	10 509	78.3	S	4 580	S	1 677	1 311	27.9	57	268	-78.8

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

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

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

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

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

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

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

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	83.7	84.7	92.9	94.7	83.4	82.8
Truck ¹	70.9	76.9	75.7	77.2	49.0	48.1
For-hire truck	43.7	46.5	38.9	28.0	37.1	34.1
Private truck	26.7	30.4	35.3	49.2	11.5	14.0
Rail	11.5	6.6	8.1	9.4	19.8	22.9
Water .....	.1	–	7.8	6.9	13.8	10.9
Shallow draft	S	S	S	S	S	S
Great Lakes .....	.1	–	7.8	6.8	13.8	10.9
Deep draft	S	–	S	–	S	–
Air (includes truck and air) .....	.8	.8	–	S	.3	S
Pipeline ²	S	.3	S	1.2	S	S
Multiple modes	10.4	11.2	4.4	3.9	14.2	15.0
Parcel, U.S. Postal Service or courier	6.2	5.6	.2	.2	.5	.5
Truck and rail	4.2	5.5	.6	.7	4.1	4.7
Truck and water	S	–	1.6	.9	4.8	S
Rail and water	S	S	S	S	S	S
Other multiple modes	–	S	1.0	S	1.5	S
Other and unknown modes	5.8	4.1	S	1.4	2.4	2.2

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

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

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

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

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

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

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

Mode of transportation ¹	Ton-miles		Average miles per shipment
	Number (millions)	Percent	
Total	70 963	100.0	391
Truck	35 326	49.8	120
Rail	17 352	24.5	1 125
Shallow draft	181	.3	230
Great Lakes	14 938	21.1	367
Deep draft	S	S	8 584
Air	177	.2	1 032
Parcel, U.S. Postal Service or courier	352	.5	669
Pipeline	S	S	S
Other and unknown modes	1 677	2.4	57

– 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	320 536	100.0	382 277	100.0	70 963	100.0
Less than 50 miles	107 844	33.6	211 617	55.4	5 034	7.1
50 to 99 miles	30 033	9.4	42 080	11.0	3 673	5.2
100 to 249 miles	56 686	17.7	61 698	16.1	13 406	18.9
250 to 499 miles	40 307	12.6	42 690	11.2	20 962	29.5
500 to 749 miles	38 989	12.2	13 728	3.6	11 130	15.7
750 to 999 miles	11 869	3.7	3 717	1.0	3 986	5.6
1,000 to 1,499 miles	18 212	5.7	3 450	.9	4 963	7.0
1,500 to 1,999 miles	14 834	4.6	2 934	.8	6 832	9.6
2,000 miles or more	1 762	.5	364	.1	977	1.4
Single modes	268 337	100.0	355 111	100.0	59 202	100.0
Less than 50 miles	96 863	36.1	203 887	57.4	4 937	8.3
50 to 99 miles	27 067	10.1	41 462	11.7	3 616	6.1
100 to 249 miles	51 046	19.0	56 592	15.9	12 167	20.6
250 to 499 miles	32 156	12.0	31 729	8.9	14 680	24.8
500 to 749 miles	29 943	11.2	12 734	3.6	10 330	17.4
750 to 999 miles	9 074	3.4	3 354	.9	3 577	6.0
1,000 to 1,499 miles	11 922	4.4	2 873	.8	4 118	7.0
1,500 to 1,999 miles	8 990	3.4	2 178	.6	4 995	8.4
2,000 miles or more	1 276	.5	301	—	783	1.3
Truck¹	227 120	100.0	289 401	100.0	34 767	100.0
Less than 50 miles	93 146	41.0	189 998	65.7	4 353	12.5
50 to 99 miles	26 266	11.6	39 241	13.6	3 382	9.7
100 to 249 miles	43 185	19.0	34 652	12.0	7 007	20.2
250 to 499 miles	24 656	10.9	11 861	4.1	5 314	15.3
500 to 749 miles	20 682	9.1	7 750	2.7	5 631	16.2
750 to 999 miles	5 720	2.5	2 052	.7	2 105	6.1
1,000 to 1,499 miles	7 302	3.2	2 032	.7	2 903	8.4
1,500 to 1,999 miles	5 559	2.4	1 658	.6	3 696	10.6
2,000 miles or more	603	.3	157	—	376	1.1
For-hire truck	140 068	100.0	148 872	100.0	26 315	100.0
Less than 50 miles	38 650	27.6	78 028	52.4	1 955	7.4
50 to 99 miles	14 573	10.4	26 584	17.9	2 228	8.5
100 to 249 miles	31 090	22.2	22 624	15.2	4 795	18.2
250 to 499 miles	20 341	14.5	9 701	6.5	4 357	16.6
500 to 749 miles	18 065	12.9	6 666	4.5	4 831	18.4
750 to 999 miles	4 963	3.5	1 743	1.2	1 788	6.8
1,000 to 1,499 miles	6 950	5.0	1 903	1.3	2 726	10.4
1,500 to 1,999 miles	4 837	3.5	1 468	1.0	3 269	12.4
2,000 miles or more	599	.4	154	.1	367	1.4
Private truck	85 506	100.0	135 113	100.0	8 150	100.0
Less than 50 miles	53 983	63.1	107 417	79.5	2 288	28.1
50 to 99 miles	11 652	13.6	12 302	9.1	1 122	13.8
100 to 249 miles	11 638	13.6	11 707	8.7	2 155	26.4
250 to 499 miles	3 993	4.7	2 017	1.5	899	11.0
500 to 749 miles	2 487	2.9	1 054	.8	777	9.5
750 to 999 miles	717	.8	300	.2	308	3.8
1,000 to 1,499 miles	343	.4	127	—	175	2.2
1,500 to 1,999 miles	690	.8	185	.1	416	5.1
2,000 miles or more	4	—	S	S	S	S
Rail	36 965	100.0	30 876	100.0	14 036	100.0
Less than 50 miles	3 179	8.6	11 018	35.7	557	4.0
50 to 99 miles	473	1.3	734	2.4	98	.7
100 to 249 miles	6 675	18.1	7 393	23.9	2 084	14.9
250 to 499 miles	6 737	18.2	4 196	13.6	2 535	18.1
500 to 749 miles	8 737	23.6	4 959	16.1	4 675	33.3
750 to 999 miles	3 239	8.8	1 284	4.2	1 452	10.3
1,000 to 1,499 miles	4 354	11.8	643	2.1	990	7.1
1,500 to 1,999 miles	2 984	8.1	517	1.7	1 291	9.2
2,000 miles or more	588	1.6	S	S	S	S
Water	433	100.0	29 979	100.0	9 779	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	203	47.0	13 436	44.8	2 920	29.9
250 to 499 miles	S	S	15 503	51.7	6 753	69.1
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow draft	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	—	—	—	—	—	—

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	433	100.0	29 979	100.0	9 779	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	203	47.0	13 436	44.8	2 920	29.9
250 to 499 miles	S	S	15 503	51.7	6 753	69.1
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	2 704	100.0	290	100.0	204	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	127	4.7	S	S	3	1.5
100 to 249 miles	769	28.4	144	49.5	35	17.3
250 to 499 miles	506	18.7	S	S	S	S
500 to 749 miles	525	19.4	25	8.5	24	11.6
750 to 999 miles	116	4.3	S	S	S	S
1,000 to 1,499 miles	131	4.8	S	S	20	9.8
1,500 to 1,999 miles	447	16.5	4	1.3	8	4.0
2,000 miles or more	S	S	S	S	S	S
Pipeline²	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	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Multiple modes	33 468	100.0	16 816	100.0	10 084	100.0
Less than 50 miles	4 271	12.8	184	1.1	7	—
50 to 99 miles	1 706	5.1	84	.5	9	—
100 to 249 miles	4 722	14.1	4 088	24.3	1 052	10.4
250 to 499 miles	5 995	17.9	10 627	63.2	6 118	60.7
500 to 749 miles	7 067	21.1	635	3.8	538	5.3
750 to 999 miles	1 797	5.4	260	1.5	301	3.0
1,000 to 1,499 miles	3 358	10.0	293	1.7	441	4.4
1,500 to 1,999 miles	4 122	12.3	603	3.6	1 500	14.9
2,000 miles or more	430	1.3	43	.3	118	1.2
Parcel, U.S. Postal Service or courier	19 871	100.0	653	100.0	352	100.0
Less than 50 miles	3 847	19.4	121	18.6	3	.9
50 to 99 miles	1 598	8.0	57	8.7	6	1.7
100 to 249 miles	4 009	20.2	146	22.3	32	9.1
250 to 499 miles	2 895	14.6	108	16.5	52	14.7
500 to 749 miles	3 838	19.3	106	16.2	77	22.0
750 to 999 miles	958	4.8	36	5.5	38	10.7
1,000 to 1,499 miles	1 264	6.4	38	5.8	53	15.0
1,500 to 1,999 miles	1 278	6.4	37	5.6	82	23.2
2,000 miles or more	185	.9	4	.6	10	2.7
Truck and rail	13 375	100.0	2 142	100.0	2 898	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	27	1.3	4	.1
100 to 249 miles	698	5.2	87	4.1	23	.8
250 to 499 miles	2 898	21.7	362	16.9	231	8.0
500 to 749 miles	3 228	24.1	528	24.7	461	15.9
750 to 999 miles	839	6.3	224	10.5	264	9.1
1,000 to 1,499 miles	2 094	15.7	255	11.9	389	13.4
1,500 to 1,999 miles	2 844	21.3	566	26.4	1 418	48.9
2,000 miles or more	242	1.8	39	1.8	106	3.7
Truck and water	S	S	6 224	100.0	3 392	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	5 599	89.9	3 174	93.6
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	25	100.0	3 937	100.0	1 099	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	13	52.5	3 238	82.2	781	71.0
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	18 732	100.0	S	S	1 677	100.0
Less than 50 miles	6 711	35.8	S	S	89	5.3
50 to 99 miles	1 260	6.7	533	5.2	48	2.8
100 to 249 miles	918	4.9	1 019	9.8	186	11.1
250 to 499 miles	S	S	334	3.2	165	9.8
500 to 749 miles	S	S	359	3.5	262	15.6
750 to 999 miles	S	S	103	1.0	108	6.5
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S

— 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	320 536	100.0	382 277	100.0	70 963	100.0	393
Less than 50 lb	20 108	6.3	681	.2	203	.3	474
50 to 99 lb	7 375	2.3	447	.1	96	.1	212
100 to 499 lb	20 442	6.4	2 756	.7	525	.7	184
500 to 749 lb	6 872	2.1	1 331	.3	224	.3	168
750 to 999 lb	5 403	1.7	1 173	.3	206	.3	177
1,000 to 9,999 lb	73 520	22.9	25 979	6.8	6 049	8.5	223
10,000 to 49,999 lb	126 417	39.4	109 248	28.6	24 350	34.3	209
50,000 to 99,999 lb	42 835	13.4	103 333	27.0	8 628	12.2	88
100,000 lb or more	17 564	5.5	137 329	35.9	30 681	43.2	126
Single modes	268 337	100.0	355 111	100.0	59 202	100.0	132
Less than 50 lb	7 067	2.6	356	.1	33	—	99
50 to 99 lb	3 903	1.5	292	—	32	—	108
100 to 499 lb	15 871	5.9	2 423	.7	393	.7	149
500 to 749 lb	6 299	2.3	1 255	.4	200	.3	158
750 to 999 lb	5 041	1.9	1 127	.3	193	.3	172
1,000 to 9,999 lb	63 561	23.7	24 202	6.8	5 173	8.7	206
10,000 to 49,999 lb	116 442	43.4	105 369	29.7	21 967	37.1	195
50,000 to 99,999 lb	32 927	12.3	100 816	28.4	7 703	13.0	79
100,000 lb or more	17 228	6.4	119 272	33.6	23 508	39.7	125
Truck¹	227 120	100.0	289 401	100.0	34 767	100.0	120
Less than 50 lb	6 231	2.7	352	.1	28	—	82
50 to 99 lb	3 582	1.6	291	.1	31	—	103
100 to 499 lb	15 401	6.8	2 410	.8	380	1.1	145
500 to 749 lb	6 202	2.7	1 250	.4	197	.6	156
750 to 999 lb	4 926	2.2	1 121	.4	190	.5	170
1,000 to 9,999 lb	59 052	26.0	23 785	8.2	4 731	13.6	197
10,000 to 49,999 lb	104 101	45.8	103 050	35.6	19 943	57.4	182
50,000 to 99,999 lb	21 871	9.6	98 203	33.9	5 564	16.0	57
100,000 lb or more	5 754	2.5	58 940	20.4	3 704	10.7	57
For-hire truck	140 068	100.0	148 872	100.0	26 315	100.0	342
Less than 50 lb	1 131	.8	58	—	14	—	267
50 to 99 lb	770	.5	43	—	18	—	408
100 to 499 lb	6 974	5.0	549	.4	281	1.1	499
500 to 749 lb	3 073	2.2	321	.2	145	.5	448
750 to 999 lb	2 990	2.1	317	.2	144	.5	458
1,000 to 9,999 lb	37 356	26.7	9 590	6.4	3 684	14.0	427
10,000 to 49,999 lb	71 372	51.0	57 132	38.4	16 104	61.2	276
50,000 to 99,999 lb	11 780	8.4	52 077	35.0	3 491	13.3	66
100,000 lb or more	4 621	3.3	28 786	19.3	2 434	9.3	75
Private truck	85 506	100.0	135 113	100.0	8 150	100.0	51
Less than 50 lb	4 950	5.8	290	.2	11	.1	45
50 to 99 lb	2 525	3.0	240	.2	10	.1	42
100 to 499 lb	8 328	9.7	1 855	1.4	98	1.2	51
500 to 749 lb	3 098	3.6	925	.7	52	.6	56
750 to 999 lb	1 916	2.2	801	.6	45	.6	57
1,000 to 9,999 lb	21 310	24.9	14 052	10.4	1 032	12.7	72
10,000 to 49,999 lb	32 276	37.7	44 557	33.0	3 730	45.8	78
50,000 to 99,999 lb	10 012	11.7	44 074	32.6	1 963	24.1	47
100,000 lb or more	1 090	1.3	28 320	21.0	1 208	14.8	38
Rail	36 965	100.0	30 876	100.0	14 036	100.0	831
Less than 50 lb	S	S	S	S	S	S	29
50 to 99 lb	S	S	S	S	S	S	S
100 to 499 lb	S	S	S	S	S	S	S
500 to 749 lb	S	S	S	S	S	S	2 450
750 to 999 lb	S	S	S	S	S	S	S
1,000 to 9,999 lb	4 238	11.5	360	1.2	387	2.8	1 033
10,000 to 49,999 lb	11 579	31.3	1 861	6.0	1 837	13.1	1 033
50,000 to 99,999 lb	10 927	29.6	2 436	7.9	1 953	13.9	807
100,000 lb or more	10 210	27.6	26 217	84.9	9 858	70.2	525
Water	433	100.0	29 979	100.0	9 779	100.0	307
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	1
10,000 to 49,999 lb	S	S	S	S	S	S	4
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	433	100.0	29 979	100.0	9 779	100.0	314
Shallow draft	S	S	S	S	S	S	4
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	4
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Single modes—Con.							
Great Lakes	433	100.0	29 979	100.0	9 779	100.0	314
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	433	100.0	29 979	100.0	9 779	100.0	314
Deep draft	S	S	S	S	S	S	1
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	1
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	2 704	100.0	290	100.0	204	100.0	1 150
Less than 50 lb	836	30.9	4	1.5	5	2.2	1 192
50 to 99 lb	320	11.8	1	.5	2	.9	1 213
100 to 499 lb	470	17.4	13	4.5	13	6.5	1 002
500 to 749 lb	97	3.6	S	S	S	S	642
750 to 999 lb	106	3.9	3	1.2	3	1.5	874
1,000 to 9,999 lb	248	9.2	28	9.6	20	9.7	789
10,000 to 49,999 lb	615	22.8	221	76.2	143	70.1	952
50,000 to 99,999 lb	S	S	S	S	S	S	1 079
100,000 lb or more	—	—	—	—	—	—	—
Pipeline²	S	S	S	S	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Multiple modes	33 468	100.0	16 816	100.0	10 084	100.0	672
Less than 50 lb	12 158	36.3	276	1.6	169	1.7	678
50 to 99 lb	3 182	9.5	119	.7	62	.6	511
100 to 499 lb	4 056	12.1	220	1.3	123	1.2	557
500 to 749 lb	451	1.3	35	.2	22	.2	635
750 to 999 lb	241	.7	13	—	11	.1	805
1,000 to 9,999 lb	6 059	18.1	596	3.5	701	6.9	1 151
10,000 to 49,999 lb	5 353	16.0	1 158	6.9	1 785	17.7	1 532
50,000 to 99,999 lb	S	S	S	S	S	S	799
100,000 lb or more	244	.7	14 099	83.8	6 964	69.1	859
Parcel, U.S. Postal Service or courier	19 871	100.0	653	100.0	352	100.0	669
Less than 50 lb	12 137	61.1	276	42.3	169	47.9	677
50 to 99 lb	3 163	15.9	119	18.2	61	17.2	505
100 to 499 lb	3 953	19.9	212	32.5	104	29.5	506
500 to 749 lb	441	2.2	31	4.7	12	3.4	382
750 to 999 lb	134	.7	11	1.7	6	1.6	484
1,000 to 9,999 lb	S	S	S	S	S	S	409
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	13 375	100.0	2 142	100.0	2 898	100.0	1 468
Less than 50 lb	S	S	—	—	S	S	2 197
50 to 99 lb	18	.1	S	—	1	—	2 098
100 to 499 lb	S	S	8	.4	18	.6	2 384
500 to 749 lb	S	S	S	—	S	—	2 436
750 to 999 lb	S	S	S	—	S	—	2 560
1,000 to 9,999 lb	6 015	45.0	593	27.7	699	24.1	1 166
10,000 to 49,999 lb	5 353	40.0	1 158	54.0	1 785	61.6	1 532
50,000 to 99,999 lb	S	S	S	—	S	—	799
100,000 lb or more	S	S	S	—	S	—	1 585
Truck and water	S	S	6 224	100.0	3 392	100.0	4 280
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	—	S	—	7 261
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	S	S	S	—	S	—	5 799
1,000 to 9,999 lb	S	S	S	—	S	—	10 123
10,000 to 49,999 lb	S	S	S	—	S	—	804
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	6 224	100.0	3 390	100.0	583

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	S
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	5 297
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	613
Other multiple modes	25	100.0	3 937	100.0	1 099	100.0	504
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	572
100 to 499 lb	S	S	S	S	S	S	184
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	25	97.8	3 937	100.0	1 099	100.0	265
Other and unknown modes	18 732	100.0	S	S	1 677	100.0	57
Less than 50 lb	884	4.7	49	.5	2	—	38
50 to 99 lb	291	1.6	35	.3	2	.1	S
100 to 499 lb	515	2.7	113	1.1	9	.6	79
500 to 749 lb	122	.7	41	.4	2	.1	57
750 to 999 lb	121	.6	33	.3	2	.1	65
1,000 to 9,999 lb	3 901	20.8	1 181	11.4	176	10.5	149
10,000 to 49,999 lb	4 622	24.7	2 721	26.3	598	35.6	214
50,000 to 99,999 lb	S	S	S	S	S	S	399
100,000 lb or more	92	.5	S	S	209	12.5	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	320 536	100.0	382 277	100.0	70 963	100.0	393
01	Live animals and live fish	315	.1	282	—	61	—	181
02	Cereal grains	2 056	.6	5 226	1.4	2 762	3.9	S
03	Other agricultural products	3 125	1.0	3 935	1.0	1 235	1.7	723
04	Animal feed and products of animal origin, n.e.c.	1 054	.3	3 081	.8	517	.7	S
05	Meat, fish, seafood, and their preparations	5 824	1.8	2 185	.6	1 009	1.4	116
06	Milled grain products and preparations, and bakery products	3 403	1.1	2 189	.6	786	1.1	S
07	Other prepared foodstuffs and fats and oils	11 108	3.5	12 522	3.3	2 902	4.1	88
08	Alcoholic beverages	1 679	.5	1 322	.3	133	.2	29
09	Tobacco products	441	.1	S	S	S	S	15
10	Monumental or building stone	3	—	447	.1	S	S	15
11	Natural sands	144	—	17 072	4.5	1 141	1.6	47
12	Gravel and crushed stone	402	.1	81 833	21.4	11 509	16.2	23
13	Nonmetallic minerals n.e.c.	406	.1	9 221	2.4	2 703	3.8	120
14	Metallic ores and concentrates	604	.2	14 796	3.9	3 043	4.3	S
15	Coal	S	S	S	S	S	S	414
17	Gasoline and aviation turbine fuel	11 746	3.7	37 670	9.9	1 370	1.9	35
18	Fuel oils	2 248	.7	10 140	2.7	438	.6	22
19	Coal and petroleum products, n.e.c.	2 496	.8	11 644	3.0	2 327	3.3	147
20	Basic chemicals	2 532	.8	3 953	1.0	590	.8	S
21	Pharmaceutical products	5 196	1.6	265	—	106	.1	273
22	Fertilizers	325	.1	1 370	.4	74	.1	42
23	Chemical products and preparations, n.e.c.	7 922	2.5	3 610	.9	1 884	2.7	267
24	Plastics and rubber	9 923	3.1	3 061	.8	1 203	1.7	230
25	Logs and other wood in the rough	259	—	2 829	.7	753	1.1	147
26	Wood products	2 984	.9	5 137	1.3	1 226	1.7	145
27	Pulp, newsprint, paper, and paperboard	4 955	1.5	S	S	3 627	5.1	267
28	Paper or paperboard articles	2 293	.7	1 422	.4	307	.4	172
29	Printed products	5 037	1.6	1 603	.4	410	.6	183
30	Textiles, leather, and articles of textiles or leather	4 988	1.6	396	.1	142	.2	702
31	Nonmetallic mineral products	3 120	1.0	25 650	6.7	3 065	4.3	125
32	Base metal in primary or semifinished forms and in finished basic shapes	20 816	6.5	47 436	12.4	6 084	8.6	154
33	Articles of base metal	13 101	4.1	5 206	1.4	2 100	3.0	301
34	Machinery	29 303	9.1	4 635	1.2	1 746	2.5	309
35	Electronic and other electrical equipment and components and office equipment	15 518	4.8	1 025	.3	452	.6	263
36	Motorized and other vehicles (including parts)	105 816	33.0	24 348	6.4	10 030	14.1	246
37	Transportation equipment, n.e.c.	1 659	.5	80	—	40	—	791
38	Precision instruments and apparatus	4 007	1.2	61	—	24	—	536
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	8 639	2.7	1 713	.4	1 207	1.7	444
40	Miscellaneous manufactured products	12 418	3.9	2 540	.7	907	1.3	470
41	Waste and scrap	2 220	.7	10 464	2.7	2 534	3.6	203
43	Mixed freight	9 873	3.1	5 136	1.3	393	.6	107
--	Commodity unknown	576	.2	534	.1	S	S	423

— 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	320 536	100.0	382 277	100.0	70 963	100.0	393
Single modes	268 337	83.7	355 111	92.9	59 202	83.4	132
Truck ¹	227 120	70.9	289 401	75.7	34 767	49.0	120
For-hire truck	140 068	43.7	148 872	38.9	26 315	37.1	342
Private truck	85 506	26.7	135 113	35.3	8 150	11.5	51
Rail	36 965	11.5	30 876	8.1	14 036	19.8	831
Water	433	.1	29 979	7.8	9 779	13.8	307
Shallow draft	S	S	S	S	S	S	4
Great Lakes	433	.1	29 979	7.8	9 779	13.8	314
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	2 704	.8	290	—	204	.3	1 150
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	33 468	10.4	16 816	4.4	10 084	14.2	672
Parcel, U.S. Postal Service or courier	19 871	6.2	653	.2	352	.5	669
Truck and rail	13 375	4.2	2 142	.6	2 898	4.1	1 468
Truck and water	S	S	6 224	1.6	3 392	4.8	4 280
Rail and water	S	S	S	S	S	S	S
Other multiple modes	25	—	3 937	1.0	1 099	1.5	504
Other and unknown modes	18 732	5.8	S	S	1 677	2.4	57
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	315	100.0	282	100.0	61	100.0	181
Single modes	315	100.0	282	100.0	61	99.9	181
Truck ¹	315	100.0	282	100.0	61	99.9	181
For-hire truck	259	82.2	236	83.6	54	88.4	219
Private truck	56	17.7	46	16.3	7	11.5	90
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	505
SCTG 02, CEREAL GRAINS							
Total	2 056	100.0	5 226	100.0	2 762	100.0	S
Single modes	1 695	82.5	4 945	94.6	2 407	87.2	124
Truck ¹	1 253	60.9	2 900	55.5	338	12.2	S
For-hire truck	1 116	54.3	1 795	34.3	273	9.9	262
Private truck	137	6.7	1 105	21.1	65	2.4	28
Rail	442	21.5	2 045	39.1	2 069	74.9	865
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	179	3.4	338	12.2	1 510
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	789
Truck and rail	S	S	S	S	S	S	1 511
Truck and water	S	S	S	S	S	S	3 056
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	3 125	100.0	3 935	100.0	1 235	100.0	723
Single modes	2 607	83.4	3 645	92.6	787	63.8	61
Truck ¹	2 469	79.0	3 281	83.4	518	42.0	56
For-hire truck	471	15.1	1 230	31.3	366	29.6	S
Private truck	1 946	62.3	1 996	50.7	124	10.1	49
Rail	108	3.4	359	9.1	265	21.5	906
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	893
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	753
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	753
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	3 056
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	5	.4	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	1 054	100.0	3 081	100.0	517	100.0	S
Single modes	1 039	98.6	3 041	98.7	516	99.9	77
Truck ¹	1 019	96.7	2 895	94.0	S	S	77
For-hire truck	S	S	S	S	S	S	513
Private truck	616	58.5	2 119	68.8	97	18.8	38
Rail	S	S	S	S	S	S	869
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	296
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	296
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	19
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	5 824	100.0	2 185	100.0	1 009	100.0	116
Single modes	5 737	98.5	2 158	98.8	986	97.7	117
Truck ¹	5 737	98.5	2 158	98.8	986	97.7	117
For-hire truck	2 387	41.0	851	39.0	783	77.6	809
Private truck	3 350	57.5	1 306	59.8	203	20.1	74
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	818
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	818
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	87	1.5	27	1.2	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	3 403	100.0	2 189	100.0	786	100.0	S
Single modes	3 374	99.1	2 181	99.7	777	98.8	S
Truck ¹	3 374	99.1	2 181	99.7	777	98.8	S
For-hire truck	1 681	49.4	892	40.8	656	83.4	771
Private truck	1 693	49.8	1 289	58.9	121	15.4	47
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	5	.2	9	1.1	1 240
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	640
Truck and rail	S	S	5	.2	9	1.1	1 645
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	2	.1	S	S	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	11 108	100.0	12 522	100.0	2 902	100.0	88
Single modes	10 762	96.9	12 313	98.3	2 735	94.3	84
Truck ¹	10 588	95.3	12 078	96.4	2 455	84.6	83
For-hire truck	3 996	36.0	3 699	29.5	1 625	56.0	379
Private truck	6 517	58.7	8 312	66.4	821	28.3	58
Rail	167	1.5	235	1.9	280	9.6	1 287
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 160
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	165	1.5	100	.8	140	4.8	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	81	.7	S	S	138	4.8	1 741
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	181	1.6	109	.9	27	.9	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	1 679	100.0	1 322	100.0	133	100.0	29
Single modes	1 632	97.2	1 306	98.8	100	74.9	28
Truck ¹	1 632	97.2	1 306	98.8	100	74.9	28
For-hire truck	S	S	S	S	S	S	155
Private truck	1 547	92.1	1 266	95.8	S	S	28
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	2 555
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	2 555
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	25

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	441	100.0	S	S	S	S	15
Single modes	417	94.6	S	S	S	S	15
Truck ¹	417	94.6	S	S	S	S	15
For-hire truck	—	—	—	—	—	—	—
Private truck	417	94.6	S	S	S	S	15
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	184
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	184
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	12
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	3	100.0	447	100.0	S	S	15
Single modes	S	S	S	S	S	S	20
Truck ¹	S	S	S	S	S	S	20
For-hire truck	—	—	—	—	—	—	—
Private truck	S	S	S	S	S	S	20
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	1	31.2	S	S	S	S	7
SCTG 11, NATURAL SANDS							
Total	144	100.0	17 072	100.0	1 141	100.0	47
Single modes	143	99.6	17 004	99.6	1 137	99.6	47
Truck ¹	128	89.0	15 827	92.7	686	60.1	40
For-hire truck	92	63.6	9 825	57.6	485	42.5	46
Private truck	34	23.3	4 928	28.9	191	16.8	38
Rail	15	10.6	1 177	6.9	451	39.5	395
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

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	402	100.0	81 833	100.0	11 509	100.0	23
Single modes	342	85.1	67 900	83.0	8 036	69.8	25
Truck ¹	271	67.4	46 592	56.9	1 231	10.7	25
For-hire truck	96	23.8	12 334	15.1	466	4.0	37
Private truck	159	39.4	30 928	37.8	655	5.7	19
Rail	S	S	S	S	S	S	31
Water	69	17.3	21 059	25.7	6 797	59.1	312
Shallow draft	S	S	S	S	S	S	4
Great Lakes	69	17.3	21 059	25.7	6 797	59.1	316
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	33	8.1	8 565	10.5	3 351	29.1	380
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	17	4.3	4 774	5.8	2 310	20.1	487
Rail and water	—	—	—	—	—	—	—
Other multiple modes	15	3.8	3 790	4.6	1 041	9.0	255
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	406	100.0	9 221	100.0	2 703	100.0	120
Single modes	340	83.8	7 861	85.2	2 142	79.2	104
Truck ¹	231	56.8	3 104	33.7	345	12.8	87
For-hire truck	103	25.4	1 361	14.8	280	10.4	247
Private truck	127	31.3	S	S	64	2.4	38
Rail	32	7.9	403	4.4	257	9.5	653
Water	S	S	4 353	47.2	1 540	57.0	332
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	4 353	47.2	1 540	57.0	332
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	10	2.4	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	S	S	S	S	S	S	41
Truck and water	S	S	S	S	S	S	446
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	604	100.0	14 796	100.0	3 043	100.0	S
Single modes	465	77.0	10 922	73.8	695	22.8	211
Truck ¹	141	23.4	63	.4	13	.4	249
For-hire truck	67	11.1	20	.1	9	.3	484
Private truck	S	S	S	S	S	S	70
Rail	324	53.6	10 859	73.4	682	22.4	69
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	736
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	842
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	613
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	716

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 15, COAL							
Total	S	S	S	S	S	S	414
Single modes	S	S	S	S	S	S	83
Truck ¹	S	S	S	S	S	S	83
For-hire truck	S	S	S	S	S	S	83
Private truck	S	S	S	S	S	S	83
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	529
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	11 746	100.0	37 670	100.0	1 370	100.0	35
Single modes	11 712	99.7	37 579	99.8	1 369	99.9	38
Truck ¹	S	S	35 806	95.1	1 332	97.2	38
For-hire truck	4 420	37.6	13 255	35.2	485	35.4	46
Private truck	S	S	22 551	59.9	847	61.8	33
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	-	-	-	-	-	-	-
Parcel, U.S. Postal Service or courier	-	-	-	-	-	-	-
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	7
SCTG 18, FUEL OILS							
Total	2 248	100.0	10 140	100.0	438	100.0	22
Single modes	2 227	99.1	10 053	99.1	436	99.7	22
Truck ¹	1 811	80.5	7 843	77.3	307	70.2	22
For-hire truck	697	31.0	3 616	35.7	170	38.9	43
Private truck	1 114	49.5	4 227	41.7	137	31.3	19
Rail	-	-	-	-	-	-	-
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	-	-	-	-	-	-	-
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	-	-	-	-	-	-	-
Parcel, U.S. Postal Service or courier	-	-	-	-	-	-	-
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	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 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	2 496	100.0	11 644	100.0	2 327	100.0	147
Single modes	2 485	99.6	11 639	100.0	2 326	100.0	148
Truck ¹	1 875	75.1	9 482	81.4	1 328	57.1	135
For-hire truck	1 349	54.1	S	S	1 101	47.3	226
Private truck	524	21.0	2 828	24.3	227	9.7	34
Rail	263	10.5	1 030	8.8	661	28.4	647
Water	S	S	S	S	S	S	146
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	S	S	S	S	146
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 438
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	5	.2	S	S	—	—	274
Parcel, U.S. Postal Service or courier	5	.2	S	S	—	—	274
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	6	.2	4	—	—	—	S
SCTG 20, BASIC CHEMICALS							
Total	2 532	100.0	3 953	100.0	590	100.0	S
Single modes	2 305	91.0	3 905	98.8	566	96.0	S
Truck ¹	2 217	87.6	3 694	93.5	470	79.7	S
For-hire truck	1 275	50.4	1 114	28.2	324	54.9	426
Private truck	942	37.2	2 575	65.1	146	24.7	S
Rail	S	S	S	S	95	16.2	955
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	478
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	207	8.2	S	S	S	S	450
Parcel, U.S. Postal Service or courier	132	5.2	4	.1	S	S	448
Truck and rail	S	S	S	S	S	S	1 087
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	20	.8	S	S	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	5 196	100.0	265	100.0	106	100.0	273
Single modes	4 407	84.8	233	88.1	96	90.6	144
Truck ¹	4 085	78.6	231	87.3	94	89.5	85
For-hire truck	946	18.2	49	18.5	23	22.1	S
Private truck	3 014	58.0	181	68.5	71	67.3	47
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	1	1.1	1 095
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	721	13.9	30	11.3	9	8.6	392
Parcel, U.S. Postal Service or courier	672	12.9	28	10.6	9	8.2	392
Truck and rail	S	S	S	S	S	S	184
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 22, FERTILIZERS							
Total	325	100.0	1 370	100.0	74	100.0	42
Single modes	289	88.9	1 183	86.3	68	92.5	44
Truck ¹	280	86.2	1 159	84.5	58	78.3	43
For-hire truck	101	31.2	400	29.2	33	44.6	121
Private truck	178	54.8	754	55.0	25	33.5	36
Rail	S	S	S	S	S	S	428
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	S
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	18
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	7 922	100.0	3 610	100.0	1 884	100.0	267
Single modes	6 333	79.9	3 265	90.4	1 352	71.8	117
Truck ¹	6 206	78.3	3 082	85.4	1 310	69.5	116
For-hire truck	3 512	44.3	1 962	54.4	1 068	56.7	538
Private truck	2 675	33.8	1 107	30.7	241	12.8	39
Rail	126	1.6	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	758
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 409	17.8	289	8.0	510	27.1	592
Parcel, U.S. Postal Service or courier	443	5.6	38	1.0	21	1.1	583
Truck and rail	S	S	251	7.0	488	25.9	1 927
Truck and water	S	S	S	S	S	S	10 049
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	180	2.3	56	1.6	22	1.2	S
SCTG 24, PLASTICS AND RUBBER							
Total	9 923	100.0	3 061	100.0	1 203	100.0	230
Single modes	8 981	90.5	2 937	96.0	1 098	91.3	178
Truck ¹	8 700	87.7	2 824	92.3	984	81.7	170
For-hire truck	5 626	56.7	1 687	55.1	855	71.0	496
Private truck	3 029	30.5	1 130	36.9	128	10.6	63
Rail	S	S	S	S	S	S	718
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	44	.4	2	—	2	.2	1 132
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	681	6.9	53	1.7	41	3.4	409
Parcel, U.S. Postal Service or courier	645	6.5	40	1.3	20	1.6	408
Truck and rail	36	.4	14	.4	21	1.8	1 617
Truck and water	S	S	S	S	S	S	10 212
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	261	2.6	70	2.3	S	S	85

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	259	100.0	2 829	100.0	753	100.0	147
Single modes	240	92.8	2 754	97.3	624	82.8	133
Truck ¹	240	92.8	2 754	97.3	624	82.8	133
For-hire truck	87	33.6	S	S	302	40.1	S
Private truck	69	26.5	1 402	49.6	S	S	160
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	1 473
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	1 473
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	717
SCTG 26, WOOD PRODUCTS							
Total	2 984	100.0	5 137	100.0	1 226	100.0	145
Single modes	2 842	95.2	5 014	97.6	1 139	93.0	127
Truck ¹	2 798	93.8	4 884	95.1	972	79.3	125
For-hire truck	995	33.4	2 089	40.7	703	57.3	491
Private truck	1 801	60.3	2 793	54.4	268	21.9	58
Rail	44	1.5	130	2.5	167	13.7	1 232
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	549
Parcel, U.S. Postal Service or courier	11	.4	2	—	1	.1	514
Truck and rail	S	S	S	S	S	S	2 007
Truck and water	S	S	S	S	S	S	804
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	90	3.0	86	1.7	S	S	106
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	4 955	100.0	S	S	3 627	100.0	267
Single modes	4 702	94.9	S	S	3 428	94.5	119
Truck ¹	3 531	71.3	S	S	2 100	57.9	74
For-hire truck	2 572	51.9	S	S	2 035	56.1	205
Private truck	954	19.3	770	4.8	59	1.6	29
Rail	1 151	23.2	1 611	9.9	1 326	36.6	855
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 129
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	159	3.2	65	.4	98	2.7	771
Parcel, U.S. Postal Service or courier	S	S	10	—	S	S	749
Truck and rail	S	S	55	.3	95	2.6	1 510
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	347

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	2 293	100.0	1 422	100.0	307	100.0	172
Single modes	2 080	90.7	1 398	98.3	296	96.4	80
Truck ¹	2 079	90.7	1 398	98.3	296	96.3	79
For-hire truck	867	37.8	611	43.0	246	80.2	429
Private truck	1 179	51.4	752	52.9	48	15.7	50
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	2 297
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	134	5.8	11	.8	5	1.6	476
Parcel, U.S. Postal Service or courier	134	5.8	11	.8	5	1.6	476
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	250
SCTG 29, PRINTED PRODUCTS							
Total	5 037	100.0	1 603	100.0	410	100.0	183
Single modes	3 984	79.1	1 483	92.5	374	91.1	31
Truck ¹	3 936	78.1	1 474	91.9	352	85.8	29
For-hire truck	2 191	43.5	800	49.9	324	79.0	S
Private truck	1 741	34.6	672	41.9	28	6.8	15
Rail	S	S	S	S	S	S	2 621
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	1	—	S	S	1 096
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	788	15.6	57	3.6	30	7.3	518
Parcel, U.S. Postal Service or courier	787	15.6	57	3.6	30	7.3	518
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	2 794
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	265	5.3	64	4.0	6	1.6	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	4 988	100.0	396	100.0	142	100.0	702
Single modes	2 684	53.8	281	70.9	80	56.3	392
Truck ¹	2 673	53.6	281	70.8	79	55.5	392
For-hire truck	863	17.3	133	33.5	57	40.2	652
Private truck	1 436	28.8	136	34.4	16	11.6	241
Rail	S	S	S	S	S	S	2 485
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 496
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 970	39.5	81	20.4	S	S	840
Parcel, U.S. Postal Service or courier	1 969	39.5	81	20.3	S	S	840
Truck and rail	S	S	S	S	S	S	2 629
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 31, NONMETALLIC MINERAL PRODUCTS							
Total	3 120	100.0	25 650	100.0	3 065	100.0	125
Single modes	2 959	94.8	25 148	98.0	2 935	95.8	58
Truck ¹	2 684	86.0	20 869	81.4	1 400	45.7	56
For-hire truck	1 233	39.5	5 579	21.8	863	28.2	211
Private truck	1 416	45.4	15 079	58.8	526	17.2	27
Rail	53	1.7	391	1.5	181	5.9	776
Water	S	S	S	S	S	S	353
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	S	S	S	S	353
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	927
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	75	2.4	S	S	S	S	805
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	806
Truck and rail	S	S	S	S	S	S	S
Truck and water	S	S	S	S	S	S	45
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	396
Other and unknown modes	86	2.8	342	1.3	68	2.2	S
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	20 816	100.0	47 436	100.0	6 084	100.0	154
Single modes	20 027	96.2	46 774	98.6	5 884	96.7	139
Truck ¹	18 903	90.8	44 501	93.8	5 008	82.3	136
For-hire truck	12 228	58.7	35 514	74.9	4 012	66.0	219
Private truck	6 648	31.9	8 960	18.9	994	16.3	68
Rail	996	4.8	2 162	4.6	833	13.7	407
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	670
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	367	1.8	S	S	S	S	300
Parcel, U.S. Postal Service or courier	192	.9	13	—	4	—	296
Truck and rail	S	S	S	S	S	S	798
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	422	2.0	545	1.1	119	2.0	S
SCTG 33, ARTICLES OF BASE METAL							
Total	13 101	100.0	5 206	100.0	2 100	100.0	301
Single modes	10 734	81.9	4 837	92.9	1 928	91.8	251
Truck ¹	10 631	81.1	4 823	92.6	1 901	90.5	241
For-hire truck	7 182	54.8	3 225	61.9	1 669	79.5	536
Private truck	3 425	26.1	1 524	29.3	221	10.5	59
Rail	S	S	S	S	S	S	2 136
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	69	.5	3	—	4	.2	1 096
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 915	14.6	85	1.6	54	2.6	411
Parcel, U.S. Postal Service or courier	1 889	14.4	71	1.4	30	1.4	410
Truck and rail	26	.2	13	.3	S	S	1 593
Truck and water	S	S	S	S	S	S	10 002
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	184
Other and unknown modes	453	3.5	284	5.5	118	5.6	71

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	29 303	100.0	4 635	100.0	1 746	100.0	309
Single modes	24 990	85.3	4 446	95.9	1 611	92.3	236
Truck ¹	24 077	82.2	4 235	91.4	1 319	75.6	214
For-hire truck	15 993	54.6	2 733	59.0	958	54.9	617
Private truck	8 047	27.5	1 497	32.3	360	20.6	48
Rail	S	S	207	4.5	S	S	1 072
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	280	1.0	4	—	4	.2	1 168
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 571	12.2	92	2.0	87	5.0	402
Parcel, U.S. Postal Service or courier	3 406	11.6	54	1.2	24	1.4	400
Truck and rail	164	.6	S	S	63	3.6	1 499
Truck and water	S	S	S	S	S	S	9 943
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	742	2.5	97	2.1	S	S	98
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	15 518	100.0	1 025	100.0	452	100.0	263
Single modes	10 801	69.6	852	83.2	292	64.6	102
Truck ¹	10 347	66.7	827	80.7	266	58.8	85
For-hire truck	7 181	46.3	536	52.3	222	49.1	465
Private truck	3 046	19.6	288	28.1	43	9.6	46
Rail	S	S	S	S	S	S	1 177
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	150	1.0	3	.3	3	.7	1 240
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 221	20.8	80	7.8	115	25.5	595
Parcel, U.S. Postal Service or courier	2 790	18.0	39	3.8	21	4.7	539
Truck and rail	S	S	S	S	S	S	2 488
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	25
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	105 816	100.0	24 348	100.0	10 030	100.0	246
Single modes	83 959	79.3	22 281	91.5	8 141	81.2	147
Truck ¹	52 044	49.2	15 770	64.8	3 384	33.7	117
For-hire truck	45 585	43.1	14 037	57.6	3 117	31.1	405
Private truck	6 023	5.7	1 578	6.5	238	2.4	26
Rail	31 301	29.6	6 373	26.2	4 674	46.6	939
Water	S	S	S	S	S	S	1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	1
Air (includes truck and air)	614	.6	138	.6	83	.8	1 274
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	11 282	10.7	1 092	4.5	1 193	11.9	653
Parcel, U.S. Postal Service or courier	858	.8	42	.2	25	.2	611
Truck and rail	10 424	9.9	1 050	4.3	1 168	11.6	1 112
Truck and water	S	S	S	S	S	S	1 035
Rail and water	S	S	S	S	S	S	5 297
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	10 574	10.0	976	4.0	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	1 659	100.0	80	100.0	40	100.0	791
Single modes	1 214	73.2	78	97.1	39	96.7	939
Truck ¹	609	36.7	73	90.4	37	91.3	587
For-hire truck	523	31.5	44	55.3	27	67.5	784
Private truck	85	5.1	28	35.1	S	S	175
Rail	S	S	S	S	S	S	289
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	564	34.0	1	.8	1	2.0	1 229
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	396	23.9	1	.9	1	1.8	762
Parcel, U.S. Postal Service or courier	396	23.9	1	.9	1	1.8	762
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	50	3.0	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	4 007	100.0	61	100.0	24	100.0	536
Single modes	2 093	52.2	42	69.1	13	53.4	340
Truck ¹	2 031	50.7	42	68.4	13	51.8	266
For-hire truck	S	S	30	49.3	12	48.8	595
Private truck	709	17.7	12	19.1	1	3.0	59
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	62	1.5	S	S	S	S	1 124
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 820	45.4	18	29.8	11	46.5	630
Parcel, U.S. Postal Service or courier	1 820	45.4	18	29.8	11	46.5	630
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	1	1.1	—	.1	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	8 639	100.0	1 713	100.0	1 207	100.0	444
Single modes	8 297	96.0	1 664	97.2	1 150	95.3	418
Truck ¹	8 153	94.4	1 641	95.8	1 083	89.7	391
For-hire truck	5 727	66.3	1 060	61.9	990	82.0	814
Private truck	2 425	28.1	582	34.0	93	7.7	79
Rail	S	S	S	S	S	S	1 489
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 278
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	183	2.1	19	1.1	33	2.7	671
Parcel, U.S. Postal Service or courier	97	1.1	5	.3	3	.3	660
Truck and rail	S	S	14	.8	29	2.4	1 938
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	159	1.8	30	1.7	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	12 418	100.0	2 540	100.0	907	100.0	470
Single modes	8 943	72.0	2 381	93.7	770	84.9	281
Truck ¹	8 679	69.9	2 359	92.9	765	84.4	256
For-hire truck	5 338	43.0	1 331	52.4	612	67.5	557
Private truck	3 341	26.9	1 028	40.5	153	16.9	91
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	4	.2	4	.4	1 053
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	3 107	25.0	112	4.4	105	11.6	615
Parcel, U.S. Postal Service or courier	2 900	23.4	84	3.3	54	5.9	614
Truck and rail	207	1.7	27	1.1	52	5.7	2 152
Truck and water	S	S	S	S	S	S	10 051
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	572
Other and unknown modes	367	3.0	48	1.9	31	3.5	S
SCTG 41, WASTE AND SCRAP							
Total	2 220	100.0	10 464	100.0	2 534	100.0	203
Single modes	2 151	96.9	10 335	98.8	2 362	93.2	188
Truck ¹	1 652	74.4	7 458	71.3	973	38.4	151
For-hire truck	1 119	50.4	4 561	43.6	745	29.4	212
Private truck	530	23.9	2 877	27.5	225	8.9	76
Rail	499	22.5	2 877	27.5	1 389	54.8	476
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	68	3.1	129	1.2	172	6.8	883
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	15
Truck and rail	68	3.1	129	1.2	172	6.8	1 422
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	5
SCTG 43, MIXED FREIGHT							
Total	9 873	100.0	5 136	100.0	393	100.0	107
Single modes	7 557	76.5	4 142	80.7	332	84.3	100
Truck ¹	7 555	76.5	4 142	80.7	331	84.2	99
For-hire truck	139	1.4	S	S	12	3.0	S
Private truck	7 416	75.1	4 090	79.6	320	81.2	99
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	629
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	60	.6	4	—	2	.5	332
Parcel, U.S. Postal Service or courier	60	.6	4	—	2	.5	332
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	989	19.3	60	15.3	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	576	100.0	534	100.0	S	S	423
Single modes	467	81.2	482	90.2	S	S	601
Truck ¹	434	75.3	392	73.4	59	51.8	601
For-hire truck	262	45.5	S	S	S	S	1 232
Private truck	172	29.9	265	49.7	S	S	S
Rail	S	S	S	S	S	S	571
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	836
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	82	14.3	S	S	S	S	365
Parcel, U.S. Postal Service or courier	71	12.3	2	.4	1	.7	366
Truck and rail	S	S	S	S	S	S	206
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	96

— 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	320 536	100.0	382 277	100.0	70 963	100.0
NEW ENGLAND STATES						
Connecticut	1 099	.3	537	.1	484	.7
Maine	364	.1	116	—	72	.1
Massachusetts	2 598	.8	477	.1	338	.5
New Hampshire	251	—	151	—	95	.1
Rhode Island	135	—	30	—	22	—
Vermont	182	—	55	—	35	—
MIDDLE ATLANTIC STATES						
New Jersey	6 613	2.1	1 647	.4	1 220	1.7
New York	5 575	1.7	1 986	.5	853	1.2
Pennsylvania	6 422	2.0	4 452	1.2	2 227	3.1
EAST NORTH CENTRAL STATES						
Illinois	12 554	3.9	11 005	2.9	3 775	5.3
Indiana	10 685	3.3	16 227	4.2	4 234	6.0
Michigan	149 271	46.6	278 128	72.8	16 439	23.2
Ohio	25 870	8.1	28 835	7.5	7 309	10.3
Wisconsin	5 298	1.7	7 119	1.9	2 318	3.3
WEST NORTH CENTRAL STATES						
Iowa	1 622	.5	771	.2	440	.6
Kansas	1 526	.5	516	.1	410	.6
Minnesota	3 135	1.0	4 125	1.1	2 359	3.3
Missouri	9 320	2.9	2 430	.6	1 586	2.2
Nebraska	1 523	.5	238	—	182	.3
North Dakota	241	—	58	—	61	—
South Dakota	191	—	80	—	65	—
SOUTH ATLANTIC STATES						
Delaware	567	.2	S	S	S	S
District of Columbia	88	—	17	—	10	—
Florida	6 087	1.9	1 076	.3	1 369	1.9
Georgia	6 596	2.1	1 721	.5	1 455	2.0
Maryland	3 126	1.0	1 497	.4	1 485	2.1
North Carolina	3 665	1.1	2 316	.6	2 203	3.1
South Carolina	1 852	.6	883	.2	780	1.1
Virginia	3 616	1.1	1 252	.3	1 033	1.5
West Virginia	933	.3	736	.2	299	.4
EAST SOUTH CENTRAL STATES						
Alabama	1 258	.4	1 093	.3	910	1.3
Kentucky	4 532	1.4	1 892	.5	813	1.1
Mississippi	705	.2	303	—	265	.4
Tennessee	4 348	1.4	1 444	.4	935	1.3
WEST SOUTH CENTRAL STATES						
Arkansas	861	.3	482	.1	423	.6
Louisiana	1 587	.5	382	.1	416	.6
Oklahoma	2 255	.7	1 101	.3	1 129	1.6
Texas	13 809	4.3	2 793	.7	3 856	5.4
MOUNTAIN STATES						
Arizona	2 118	.7	269	—	558	.8
Colorado	1 418	.4	387	.1	485	.7
Idaho	189	—	47	—	93	.1
Montana	233	—	29	—	51	—
Nevada	535	.2	91	—	200	.3
New Mexico	551	.2	52	—	84	.1
Utah	1 307	.4	222	—	367	.5
Wyoming	58	—	S	S	S	S
PACIFIC STATES						
Alaska	13	—	1	—	2	—
California	9 640	3.0	1 972	.5	4 677	6.6
Hawaii	S	S	S	S	S	S
Oregon	1 193	.4	304	—	732	1.0
Washington	2 816	.9	605	.2	1 460	2.1

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

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

State of origin	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	331 821	100.0	388 841	100.0	88 342	100.0
NEW ENGLAND STATES						
Connecticut	1 464	.4	138	—	96	.1
Maine	295	—	80	—	44	—
Massachusetts	2 024	.6	316	—	215	.2
New Hampshire	997	.3	139	—	98	.1
Rhode Island	225	—	8	—	5	—
Vermont	250	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	5 760	1.7	1 043	.3	699	.8
New York	7 298	2.2	1 816	.5	677	.8
Pennsylvania	5 830	1.8	4 613	1.2	2 064	2.3
EAST NORTH CENTRAL STATES						
Illinois	17 887	5.4	11 340	2.9	3 117	3.5
Indiana	20 052	6.0	10 730	2.8	2 396	2.7
Michigan	149 271	45.0	278 128	71.5	16 439	18.6
Ohio	33 840	10.2	21 089	5.4	3 954	4.5
Wisconsin	9 447	2.8	5 984	1.5	1 973	2.2
WEST NORTH CENTRAL STATES						
Iowa	3 206	1.0	1 800	.5	970	1.1
Kansas	1 109	.3	371	.1	331	.4
Minnesota	3 532	1.1	S	S	S	S
Missouri	4 122	1.2	1 031	.3	665	.8
Nebraska	1 364	.4	688	.2	554	.6
North Dakota	176	—	258	—	253	.3
South Dakota	S	S	390	.1	456	.5
SOUTH ATLANTIC STATES						
Delaware	161	—	78	—	57	—
District of Columbia	S	S	S	S	S	S
Florida	1 860	.6	818	.2	1 147	1.3
Georgia	3 845	1.2	2 062	.5	1 780	2.0
Maryland	1 087	.3	361	—	236	.3
North Carolina	4 182	1.3	1 133	.3	821	.9
South Carolina	2 472	.7	711	.2	628	.7
Virginia	2 183	.7	1 484	.4	957	1.1
West Virginia	1 611	.5	6 669	1.7	3 586	4.1
EAST SOUTH CENTRAL STATES						
Alabama	2 472	.7	1 348	.3	1 129	1.3
Kentucky	7 829	2.4	3 836	1.0	1 795	2.0
Mississippi	1 263	.4	760	.2	717	.8
Tennessee	5 194	1.6	1 844	.5	1 149	1.3
WEST SOUTH CENTRAL STATES						
Arkansas	1 201	.4	667	.2	597	.7
Louisiana	1 639	.5	1 283	.3	1 551	1.8
Oklahoma	749	.2	488	.1	509	.6
Texas	10 301	3.1	S	S	S	S
MOUNTAIN STATES						
Arizona	792	.2	S	S	S	S
Colorado	1 360	.4	S	S	S	S
Idaho	450	.1	309	—	615	.7
Montana	117	—	S	S	S	S
Nevada	147	—	37	—	81	—
New Mexico	206	—	49	—	77	—
Utah	578	.2	111	—	186	.2
Wyoming	165	—	2 693	.7	4 048	4.6
PACIFIC STATES						
Alaska	1	—	S	S	S	S
California	9 098	2.7	1 667	.4	4 114	4.7
Hawaii	S	S	S	S	S	S
Oregon	641	.2	411	.1	1 036	1.2
Washington	1 273	.4	403	.1	966	1.1

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

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

Appendix A.

Comparability With the 1993 Commodity Flow Survey

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

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

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

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

Appendix B.

Reliability of the Estimates

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

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

SAMPLING ERROR

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

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

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

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

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

NONSAMPLING ERROR

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

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

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

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

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

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

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

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	3.0	—	5.9	—	4.0	—	12.6
Single modes	4.1	1.9	6.5	1.3	4.8	2.5	6.9
Truck	3.2	1.3	6.1	1.9	5.3	2.4	7.4
For-hire truck	3.5	1.3	11.1	3.6	6.9	2.4	7.6
Private truck	5.5	1.0	12.4	3.4	7.5	.8	11.2
Rail	13.9	1.2	17.0	.9	9.2	1.9	5.0
Water	28.7	—	19.8	1.5	21.6	2.6	6.2
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	28.7	—	19.8	1.5	21.6	2.6	5.9
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	13.8	.1	32.0	—	28.5	—	3.5
Pipeline	S	S	S	S	S	S	S
Multiple modes	9.9	1.1	21.3	1.0	19.1	2.4	6.3
Parcel, U.S. Postal Service or courier	4.5	.2	7.1	—	11.6	—	6.6
Truck and rail	23.0	1.0	19.5	.1	19.7	.7	7.3
Truck and water	S	S	31.3	.5	29.7	1.5	26.2
Rail and water	S	S	S	S	S	S	S
Other multiple modes	39.9	—	42.7	.4	45.1	.6	23.7
Other and unknown modes	32.6	1.9	S	S	32.4	.7	13.2

— 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	3.0	3.4	5.7	5.9	7.7	11.5	4.0	8.1	10.6	12.6	8.4	22.2
Single modes	4.1	3.6	6.7	6.5	8.3	12.2	4.8	5.2	8.4	6.9	7.7	9.9
Truck	3.2	3.4	5.3	6.1	11.0	14.5	5.3	4.6	8.4	7.4	8.6	12.4
For-hire truck	3.5	3.0	5.4	11.1	10.8	25.5	6.9	4.8	10.8	7.6	7.0	9.1
Private truck	5.5	7.8	10.5	12.4	13.8	15.7	7.5	11.0	12.9	11.2	5.8	14.9
Rail	13.9	16.4	46.6	17.0	27.0	32.4	9.2	14.6	17.6	5.0	8.9	10.5
Water	28.7	19.9	76.1	19.8	22.2	39.9	21.6	21.4	45.2	6.2	3.0	7.4
Shallow draft	S	S	S	S	S	S	S	S	S	31.6	27.9	22.4
Great Lakes	28.7	19.5	76.9	19.8	22.2	40.6	21.6	21.4	45.2	5.9	3.4	7.2
Deep draft	S	—	S	S	—	S	S	—	S	31.6	—	S
Air (includes truck and air)	13.8	13.3	24.5	32.0	S	S	28.5	S	S	3.5	5.9	6.8
Pipeline	S	42.0	S	S	41.9	S	S	S	S	S	S	S
Multiple modes	9.9	13.2	19.3	21.3	33.7	53.6	19.1	34.8	44.3	6.3	10.0	17.3
Parcel, U.S. Postal Service or courier	4.5	5.0	9.3	7.1	5.0	10.5	11.6	5.4	15.6	6.6	10.1	17.9
Truck and rail	23.0	28.2	34.5	19.5	26.7	32.6	19.7	30.8	37.4	7.3	5.8	10.3
Truck and water	S	43.8	S	31.3	43.0	111.5	29.7	S	S	26.2	44.4	82.7
Rail and water	S	S	S	S	S	S	S	S	S	S	S	S
Other multiple modes	39.9	S	S	42.7	S	S	45.1	S	S	23.7	29.8	5.9
Other and unknown modes	32.6	16.1	64.8	S	19.9	S	32.4	18.6	47.8	13.2	37.7	8.5

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

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

Table B-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	1.9	1.2	1.3	1.3	2.5	3.1
Truck	1.3	1.7	1.9	3.5	2.4	3.4
For-hire truck	1.3	1.4	3.6	1.8	2.4	2.6
Private truck	1.0	1.9	3.4	3.5	.8	1.6
Rail	1.2	.9	.9	3.0	1.9	2.1
Water	-	-	1.5	1.7	2.6	2.6
Shallow draft	S	S	S	S	S	S
Great Lakes	-	-	1.5	1.7	2.6	2.6
Deep draft	S	-	S	-	S	-
Air (includes truck and air) .....	.1	.1	-	S	-	S
Pipeline	S	.1	S	.5	S	S
Multiple modes	1.1	1.3	1.0	1.3	2.4	3.5
Parcel, U.S. Postal Service or courier .....	.2	.4	-	-	-	-
Truck and rail	1.0	1.5	.1	.2	.7	1.2
Truck and water	S	-	.5	.4	1.5	S
Rail and water	S	S	S	S	S	S
Other multiple modes	-	S	.4	S	.6	S
Other and unknown modes	1.9	.6	S	.3	.7	.5

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

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

Table B-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	4.0	-	12.7
Truck	5.0	2.3	7.3
Rail	5.6	1.5	4.7
Shallow draft	40.7	.1	30.5
Great Lakes	18.6	3.2	6.4
Deep draft	S	S	27.7
Air	30.9	-	3.5
Parcel, U.S. Postal Service or courier	11.6	-	6.6
Pipeline	S	S	S
Other and unknown modes	32.4	.7	13.1

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

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

Table B-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	3.0	-	5.9	-	4.0	-
Less than 50 miles	5.7	1.2	9.2	2.6	14.0	.9
50 to 99 miles	6.3	.6	23.8	2.3	20.9	1.1
100 to 249 miles	7.2	.9	6.7	1.0	8.1	1.1
250 to 499 miles	4.1	.5	10.8	1.3	10.1	2.1
500 to 749 miles	4.2	.6	4.5	.2	4.8	.9
750 to 999 miles	7.2	.2	12.4	.2	12.0	.7
1,000 to 1,499 miles	7.9	.5	7.1	-	6.5	.5
1,500 to 1,999 miles	8.2	.4	7.6	-	7.6	.7
2,000 miles or more	21.6	.1	34.1	-	32.6	.4
Single modes	4.1	-	6.5	-	4.8	-
Less than 50 miles	6.3	1.2	10.3	3.0	14.5	.9
50 to 99 miles	5.6	.6	24.0	2.7	21.0	1.3
100 to 249 miles	7.9	.9	6.3	.8	8.0	1.2
250 to 499 miles	4.7	.5	10.7	1.0	9.9	2.1
500 to 749 miles	4.6	.7	5.2	.3	5.6	1.0
750 to 999 miles	7.9	.2	14.8	.2	14.6	.7
1,000 to 1,499 miles	9.7	.4	10.0	-	9.4	.7
1,500 to 1,999 miles	8.1	.3	10.8	-	10.9	.8
2,000 miles or more	30.6	.1	42.7	-	42.3	.5
Truck	3.2	-	6.1	-	5.3	-
Less than 50 miles	6.7	1.6	10.0	3.7	14.1	1.6
50 to 99 miles	6.0	.7	25.9	3.6	23.0	2.1
100 to 249 miles	5.0	.9	6.0	1.0	7.3	1.3
250 to 499 miles	3.6	.4	7.3	.2	8.2	.9
500 to 749 miles	5.0	.5	8.3	.2	8.4	1.0
750 to 999 miles	8.4	.2	7.9	-	7.7	.4
1,000 to 1,499 miles	9.3	.3	10.0	-	10.3	.5
1,500 to 1,999 miles	8.9	.2	14.1	-	14.5	1.2
2,000 miles or more	33.0	-	32.3	-	32.6	.3
For-hire truck	3.5	-	11.1	-	6.9	-
Less than 50 miles	8.6	1.8	17.1	4.9	19.2	1.1
50 to 99 miles	7.6	.9	38.5	5.2	35.0	2.6
100 to 249 miles	6.0	1.0	8.3	1.9	9.4	1.5
250 to 499 miles	4.2	.7	9.2	.4	9.9	.9
500 to 749 miles	5.7	.5	7.8	.4	7.9	1.4
750 to 999 miles	10.0	.3	8.7	.1	8.5	.5
1,000 to 1,499 miles	9.5	.4	10.8	.1	11.0	.7
1,500 to 1,999 miles	8.6	.3	16.2	.1	16.6	1.4
2,000 miles or more	33.1	.1	32.7	-	33.0	.5
Private truck	5.5	-	12.4	-	7.5	-
Less than 50 miles	6.6	1.7	15.4	3.0	17.5	4.0
50 to 99 miles	12.7	1.2	9.1	1.5	8.5	.7
100 to 249 miles	8.0	1.0	10.5	1.2	10.7	1.7
250 to 499 miles	14.3	.6	20.8	.3	20.7	1.5
500 to 749 miles	10.5	.4	17.6	.2	18.0	1.5
750 to 999 miles	18.9	.2	22.0	-	21.3	.7
1,000 to 1,499 miles	22.6	.1	17.2	-	15.6	.3
1,500 to 1,999 miles	29.1	.2	28.9	-	30.0	1.6
2,000 miles or more	43.9	-	S	S	S	S
Rail	13.9	-	17.0	-	9.2	-
Less than 50 miles	47.2	3.6	39.1	9.3	42.0	1.5
50 to 99 miles	44.5	.7	22.8	1.0	28.6	.2
100 to 249 miles	47.3	4.1	27.2	5.2	25.5	3.2
250 to 499 miles	16.6	2.8	14.6	3.5	17.6	1.8
500 to 749 miles	13.5	4.4	10.9	2.5	12.1	4.1
750 to 999 miles	23.6	1.4	36.4	1.8	33.9	2.2
1,000 to 1,499 miles	24.9	3.0	16.8	.8	17.3	1.5
1,500 to 1,999 miles	17.8	1.4	15.1	.6	15.4	1.6
2,000 miles or more	40.5	.6	S	S	S	S
Water	28.7	-	19.8	-	21.6	-
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	27.5	6.9	20.0	3.9	20.8	5.1
250 to 499 miles	S	S	24.1	6.7	23.2	7.7
500 to 749 miles	-	-	-	-	-	-
750 to 999 miles	-	-	-	-	-	-
1,000 to 1,499 miles	-	-	-	-	-	-
1,500 to 1,999 miles	-	-	-	-	-	-
2,000 miles or more	-	-	-	-	-	-
Shallow draft	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	-	-	-	-	-	-

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	28.7	—	19.8	—	21.6	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	27.5	6.9	20.0	3.9	20.8	5.1
250 to 499 miles	S	S	24.1	6.7	23.2	7.7
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	13.8	—	32.0	—	28.5	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	27.4	1.2	S	S	45.5	.8
100 to 249 miles	30.9	6.0	38.9	9.3	35.9	4.6
250 to 499 miles	35.2	4.6	S	S	S	S
500 to 749 miles	21.5	3.6	22.9	5.3	24.0	5.9
750 to 999 miles	17.6	1.0	S	S	S	S
1,000 to 1,499 miles	17.9	1.0	S	S	47.6	4.2
1,500 to 1,999 miles	29.3	3.0	19.3	1.7	18.7	3.5
2,000 miles or more	S	S	S	S	S	S
Pipeline	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	—	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	9.9	—	21.3	—	19.1	—
Less than 50 miles	10.3	1.1	16.9	.4	30.6	—
50 to 99 miles	13.1	.9	15.0	.3	17.0	—
100 to 249 miles	8.0	1.0	30.5	6.0	28.7	3.6
250 to 499 miles	20.0	1.9	24.4	6.0	22.8	6.5
500 to 749 miles	8.7	1.0	12.0	2.4	12.5	2.0
750 to 999 miles	17.4	.7	18.4	.2	18.5	.3
1,000 to 1,499 miles	21.1	1.8	18.2	.7	18.5	1.4
1,500 to 1,999 miles	13.6	1.1	24.2	1.5	24.3	3.3
2,000 miles or more	34.9	.4	31.8	—	32.0	.2
Parcel, U.S. Postal Service or courier	4.5	—	7.1	—	11.6	—
Less than 50 miles	9.5	1.3	4.8	1.5	6.0	.1
50 to 99 miles	15.0	1.2	11.4	1.0	15.6	.3
100 to 249 miles	6.8	1.1	7.2	.8	7.2	.6
250 to 499 miles	5.5	1.2	12.2	1.3	13.7	1.4
500 to 749 miles	8.2	1.2	13.4	1.0	14.4	.7
750 to 999 miles	21.0	.8	22.9	.8	22.8	1.2
1,000 to 1,499 miles	12.6	.8	13.9	.7	14.0	1.9
1,500 to 1,999 miles	12.7	.6	17.1	.6	17.3	1.6
2,000 miles or more	33.4	.4	24.1	.2	23.4	.8
Truck and rail	23.0	—	19.5	—	19.7	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	40.9	.4	39.5	—
100 to 249 miles	48.1	1.4	36.1	.9	31.5	.2
250 to 499 miles	38.0	4.6	31.1	3.4	33.1	2.0
500 to 749 miles	19.8	4.8	16.1	3.7	16.2	2.8
750 to 999 miles	37.1	1.4	22.0	2.2	21.9	1.6
1,000 to 1,499 miles	29.5	6.6	20.5	3.1	20.7	2.9
1,500 to 1,999 miles	20.1	5.0	26.0	3.2	25.9	4.0
2,000 miles or more	41.2	.5	34.9	.4	34.7	.9
Truck and water	S	S	31.3	—	29.7	—
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	35.3	10.2	32.5	11.0
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	S	S	S	S	S	S
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S
Other multiple modes	39.9	—	42.7	—	45.1	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	43.7	11.7	41.7	12.8	41.6	12.1
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other and unknown modes	32.6	—	S	S	32.4	—
Less than 50 miles	18.9	9.0	S	S	49.0	.9
50 to 99 miles	27.1	1.8	21.5	2.6	22.4	1.3
100 to 249 miles	31.3	1.4	49.8	4.6	44.2	4.2
250 to 499 miles	S	S	30.0	1.5	33.3	1.4
500 to 749 miles	S	S	23.2	2.3	26.2	5.3
750 to 999 miles	S	S	42.7	1.2	43.6	2.1
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	S	S	S	S

— 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	3.0	—	5.9	—	4.0	—	12.6
Less than 50 lb	4.8	.3	9.9	—	18.6	—	13.1
50 to 99 lb	10.0	.2	11.9	—	17.1	—	6.0
100 to 499 lb	5.2	.3	5.6	—	10.6	—	11.3
500 to 749 lb	7.1	.2	4.6	—	8.7	—	6.6
750 to 999 lb	5.4	.1	5.6	—	4.7	—	5.4
1,000 to 9,999 lb	5.7	1.3	7.6	.5	12.4	1.0	6.8
10,000 to 49,999 lb	2.8	1.7	8.9	2.2	5.4	2.1	6.3
50,000 to 99,999 lb	21.4	2.3	15.9	3.1	8.0	1.0	12.4
100,000 lb or more	19.8	.9	12.8	3.7	9.3	2.9	23.7
Single modes	4.1	—	6.5	—	4.8	—	6.9
Less than 50 lb	7.8	.3	12.2	—	18.1	—	20.7
50 to 99 lb	10.2	.2	11.7	—	20.7	—	9.8
100 to 499 lb	6.3	.5	6.7	—	11.6	—	13.1
500 to 749 lb	5.5	.1	4.8	—	7.3	—	5.4
750 to 999 lb	6.0	.1	6.0	—	5.7	—	6.2
1,000 to 9,999 lb	5.9	1.5	7.8	.6	13.4	1.0	7.1
10,000 to 49,999 lb	3.7	1.7	9.4	2.4	6.8	2.6	6.7
50,000 to 99,999 lb	27.4	2.5	16.9	3.3	10.8	1.3	7.0
100,000 lb or more	20.3	1.0	13.4	3.8	10.9	3.6	23.7
Truck	3.2	—	6.1	—	5.3	—	7.4
Less than 50 lb	8.7	.3	12.4	—	19.4	—	24.8
50 to 99 lb	10.3	.2	11.8	—	21.2	—	9.9
100 to 499 lb	6.5	.6	6.7	—	11.9	—	13.5
500 to 749 lb	5.6	.1	4.8	—	7.0	—	5.1
750 to 999 lb	5.8	.1	6.0	—	5.8	—	6.3
1,000 to 9,999 lb	4.8	1.1	7.7	.6	13.7	1.1	7.4
10,000 to 49,999 lb	2.9	1.2	9.6	2.7	6.2	1.9	6.2
50,000 to 99,999 lb	28.5	2.2	17.2	4.0	12.3	1.7	8.4
100,000 lb or more	28.0	.7	19.7	4.2	22.1	2.4	18.3
For-hire truck	3.5	—	11.1	—	6.9	—	7.6
Less than 50 lb	8.9	—	26.8	—	18.6	—	27.0
50 to 99 lb	11.9	—	9.7	—	15.9	—	15.7
100 to 499 lb	10.9	.6	10.9	—	14.6	—	6.8
500 to 749 lb	3.6	.1	13.4	—	9.2	—	6.4
750 to 999 lb	7.5	.1	7.6	—	6.8	—	5.6
1,000 to 9,999 lb	7.4	1.8	18.0	.7	16.0	1.3	2.9
10,000 to 49,999 lb	3.5	1.7	14.3	3.1	5.9	2.5	7.5
50,000 to 99,999 lb	22.2	1.6	16.1	4.3	18.0	1.7	13.5
100,000 lb or more	34.8	1.0	38.2	5.7	31.6	2.6	11.0
Private truck	5.5	—	12.4	—	7.5	—	11.2
Less than 50 lb	8.3	.6	13.1	—	24.6	—	22.4
50 to 99 lb	9.4	.3	11.8	—	16.2	—	5.9
100 to 499 lb	6.9	.9	9.9	.2	12.4	.2	10.3
500 to 749 lb	9.3	.2	6.8	—	9.8	.1	7.5
750 to 999 lb	7.2	.2	9.0	.1	12.8	.1	5.6
1,000 to 9,999 lb	1.8	1.2	4.4	1.9	9.2	1.3	9.9
10,000 to 49,999 lb	9.3	2.3	9.5	4.0	10.3	3.2	9.5
50,000 to 99,999 lb	37.6	3.1	27.6	4.2	17.7	3.2	9.3
100,000 lb or more	12.0	.2	29.0	4.6	28.7	3.3	45.4
Rail	13.9	—	17.0	—	9.2	—	5.0
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	S	S	S	S	S	S	S
100 to 499 lb	S	S	S	S	S	S	S
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	S
1,000 to 9,999 lb	40.7	5.5	37.1	.5	35.5	.9	18.7
10,000 to 49,999 lb	20.6	7.0	18.2	1.8	18.6	2.9	8.4
50,000 to 99,999 lb	29.2	5.7	9.5	1.9	12.9	2.6	12.7
100,000 lb or more	30.8	5.6	20.2	3.1	12.8	3.6	8.1
Water	28.7	—	19.8	—	21.6	—	6.2
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	28.7	—	19.8	—	21.6	—	5.9
Shallow draft	S	S	S	S	S	S	31.6
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—

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	28.7	—	19.8	—	21.6	—	5.9
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	28.7	—	19.8	—	21.6	—	5.9
Deep draft	S	S	S	S	S	S	31.6
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Air (includes truck and air)	13.8	—	32.0	—	28.5	—	3.5
Less than 50 lb	30.3	5.0	22.0	1.9	18.6	2.7	3.5
50 to 99 lb	27.0	4.9	11.9	.8	15.0	1.0	6.0
100 to 499 lb	17.3	5.1	18.6	5.7	15.2	4.6	8.4
500 to 749 lb	39.9	1.4	S	S	S	S	25.0
750 to 999 lb	44.6	1.5	30.0	.9	27.2	1.1	27.1
1,000 to 9,999 lb	37.9	2.4	25.0	7.0	27.5	6.7	24.4
10,000 to 49,999 lb	34.5	6.7	36.3	13.2	37.6	12.9	40.0
50,000 to 99,999 lb	S	S	S	S	S	S	29.9
100,000 lb or more	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	S	S	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Multiple modes	9.9	—	21.3	—	19.1	—	6.3
Less than 50 lb	5.4	3.0	10.7	.7	19.4	.6	6.9
50 to 99 lb	9.9	1.1	14.1	.4	16.5	.2	4.0
100 to 499 lb	12.4	1.9	6.2	.7	11.9	.6	7.7
500 to 749 lb	35.8	.6	33.2	.1	32.6	—	9.6
750 to 999 lb	37.2	.3	20.1	—	37.2	—	13.6
1,000 to 9,999 lb	28.2	4.2	28.6	1.8	26.8	2.1	10.4
10,000 to 49,999 lb	17.2	2.5	12.8	3.9	14.6	4.6	5.0
50,000 to 99,999 lb	S	S	S	S	S	S	23.4
100,000 lb or more	33.1	.2	24.0	7.3	22.5	6.3	24.7
Parcel, U.S. Postal Service or courier	4.5	—	7.1	—	11.6	—	6.6
Less than 50 lb	5.3	1.7	10.7	2.0	19.4	3.7	6.9
50 to 99 lb	9.8	.9	14.1	1.2	16.6	.9	4.4
100 to 499 lb	11.4	1.9	6.0	2.2	9.0	3.7	6.9
500 to 749 lb	36.2	.8	30.8	1.4	24.5	.8	20.2
750 to 999 lb	17.3	.1	15.2	.2	18.4	.4	18.5
1,000 to 9,999 lb	S	S	S	S	S	S	28.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	23.0	—	19.5	—	19.7	—	7.3
Less than 50 lb	S	S	44.0	—	S	S	20.4
50 to 99 lb	44.9	—	S	S	46.8	—	23.0
100 to 499 lb	S	S	39.3	.2	41.5	.3	17.3
500 to 749 lb	S	S	S	S	S	S	26.4
750 to 999 lb	S	S	S	S	S	S	26.6
1,000 to 9,999 lb	28.2	9.1	28.6	6.8	26.8	6.2	13.5
10,000 to 49,999 lb	17.2	10.4	12.8	6.8	14.6	6.5	5.0
50,000 to 99,999 lb	S	S	S	S	S	S	23.4
100,000 lb or more	S	S	S	S	S	S	28.1
Truck and water	S	S	31.3	—	29.7	—	26.2
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	31.3
1,000 to 9,999 lb	S	S	S	S	S	S	29.8
10,000 to 49,999 lb	S	S	S	S	S	S	31.6
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	31.3	10.5	29.7	10.5	49.4

See footnote at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	S	S	S	S	S	S	S
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.6
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	27.9
Other multiple modes	39.9	—	42.7	—	45.1	—	23.7
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
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	41.2	10.3	42.7	10.5	45.1	10.5	24.3
Other and unknown modes	32.6	—	S	S	32.4	—	13.2
Less than 50 lb	14.2	2.7	28.8	.2	18.1	—	27.5
50 to 99 lb	22.9	.6	40.0	—	30.5	—	S
100 to 499 lb	16.0	1.5	14.9	.5	17.5	.2	22.7
500 to 749 lb	14.8	.4	21.5	.2	33.2	.1	36.7
750 to 999 lb	20.7	.6	17.5	.2	34.4	.1	48.8
1,000 to 9,999 lb	25.0	8.5	22.2	5.2	18.3	6.0	32.5
10,000 to 49,999 lb	29.4	5.6	24.6	7.3	18.5	9.1	29.7
50,000 to 99,999 lb	S	S	S	S	S	S	25.8
100,000 lb or more	35.3	.5	S	S	40.6	5.0	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	3.0	—	5.9	—	4.0	—	12.6
01	Live animals and live fish	22.6	—	23.1	—	24.8	—	7.4
02	Cereal grains	38.7	.3	24.4	.3	22.1	.8	S
03	Other agricultural products	16.5	.2	11.8	.2	33.5	.6	23.9
04	Animal feed and products of animal origin, n.e.c.	26.0	—	34.2	.3	41.6	.3	S
05	Meat, fish, seafood, and their preparations	19.6	.4	19.8	.1	33.6	.5	23.2
06	Milled grain products and preparations, and bakery products	13.9	.2	9.6	—	15.0	.2	S
07	Other prepared foodstuffs and fats and oils	5.7	.2	6.8	.3	10.5	.6	15.5
08	Alcoholic beverages	13.9	—	10.1	—	43.3	—	13.6
09	Tobacco products	42.5	—	S	S	S	S	18.2
10	Monumental or building stone	47.6	—	47.7	—	S	S	23.7
11	Natural sands	29.6	—	32.5	1.7	24.5	.4	36.3
12	Gravel and crushed stone	16.6	—	18.0	3.3	22.9	3.4	11.0
13	Nonmetallic minerals n.e.c.	21.7	—	23.9	.7	25.5	1.0	20.0
14	Metallic ores and concentrates	24.3	—	25.7	.9	41.7	1.7	S
15	Coal	S	S	S	S	S	S	31.1
17	Gasoline and aviation turbine fuel	48.4	1.4	40.2	2.9	34.7	.6	20.9
18	Fuel oils	25.1	.2	26.1	.9	32.9	.3	31.5
19	Coal and petroleum products, n.e.c.	31.9	.3	40.7	1.4	38.4	1.5	20.3
20	Basic chemicals	15.4	.1	26.0	.2	24.5	.2	S
21	Pharmaceutical products	18.7	.3	25.6	—	32.2	—	18.7
22	Fertilizers	26.0	—	30.4	.1	31.8	—	29.8
23	Chemical products and preparations, n.e.c.	16.2	.4	15.9	.1	23.1	.5	15.8
24	Plastics and rubber	10.8	.2	16.3	—	30.0	.5	6.7
25	Logs and other wood in the rough	29.3	—	33.6	.3	37.2	.4	38.9
26	Wood products	10.6	—	19.9	.2	23.2	.4	11.5
27	Pulp, newsprint, paper, and paperboard	13.1	.2	S	S	26.4	1.3	27.7
28	Paper or paperboard articles	15.8	.1	16.4	—	22.3	.1	23.3
29	Printed products	10.7	.2	15.5	—	24.3	.2	24.1
30	Textiles, leather, and articles of textiles or leather	25.7	.4	20.1	—	26.2	—	15.1
31	Nonmetallic mineral products	13.1	.1	23.6	1.6	27.8	1.1	33.5
32	Base metal in primary or semifinished forms and in finished basic shapes	15.1	.9	36.6	3.8	17.7	1.4	9.0
33	Articles of base metal	18.0	.7	27.5	.3	44.0	1.2	6.6
34	Machinery	6.4	.7	13.3	.2	18.5	.5	5.9
35	Electronic and other electrical equipment and components and office equipment	13.1	.6	12.7	—	16.4	.1	14.8
36	Motorized and other vehicles (including parts)	6.1	1.7	15.0	.9	12.0	1.6	23.6
37	Transportation equipment, n.e.c.	19.7	.1	39.1	—	35.9	—	12.0
38	Precision instruments and apparatus	17.2	.2	16.5	—	19.8	—	11.4
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	7.8	.3	15.7	—	30.5	.5	12.3
40	Miscellaneous manufactured products	7.5	.3	17.5	.1	12.1	.2	8.9
41	Waste and scrap	9.2	—	5.7	.2	9.4	.4	7.4
43	Mixed freight	22.7	.7	28.3	.3	25.4	.1	27.6
--	Commodity unknown	19.0	—	38.1	—	S	S	23.4

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

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

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
ALL COMMODITIES							
Total	3.0	—	5.9	—	4.0	—	12.6
Single modes	4.1	1.9	6.5	1.3	4.8	2.5	6.9
Truck	3.2	1.3	6.1	1.9	5.3	2.4	7.4
For-hire truck	3.5	1.3	11.1	3.6	6.9	2.4	7.6
Private truck	5.5	1.0	12.4	3.4	7.5	.8	11.2
Rail	13.9	1.2	17.0	.9	9.2	1.9	5.0
Water	28.7	—	19.8	1.5	21.6	2.6	6.2
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	28.7	—	19.8	1.5	21.6	2.6	5.9
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	13.8	.1	32.0	—	28.5	—	3.5
Pipeline	S	S	S	S	S	S	S
Multiple modes	9.9	1.1	21.3	1.0	19.1	2.4	6.3
Parcel, U.S. Postal Service or courier	4.5	.2	7.1	—	11.6	—	6.6
Truck and rail	23.0	1.0	19.5	.1	19.7	.7	7.3
Truck and water	S	S	31.3	.5	29.7	1.5	26.2
Rail and water	S	S	S	S	S	S	S
Other multiple modes	39.9	—	42.7	.4	45.1	.6	23.7
Other and unknown modes	32.6	1.9	S	S	32.4	.7	13.2
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	22.6	—	23.1	—	24.8	—	7.4
Single modes	22.6	—	23.1	—	24.9	—	7.4
Truck	22.6	—	23.1	—	24.9	—	7.4
For-hire truck	23.9	4.4	24.2	4.0	23.7	2.5	5.0
Private truck	24.3	4.4	23.6	4.0	38.8	2.5	24.2
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 02, CEREAL GRAINS							
Total	38.7	—	24.4	—	22.1	—	S
Single modes	38.3	4.4	25.9	2.2	25.9	5.7	49.2
Truck	41.9	9.0	31.1	9.4	32.8	12.5	S
For-hire truck	48.3	10.7	40.0	7.4	40.0	5.3	31.6
Private truck	27.1	10.8	26.4	9.9	33.0	10.6	33.9
Rail	35.2	10.8	29.7	10.0	31.3	13.8	14.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	41.8	2.3	44.2	5.8	25.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	28.0
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	16.5	—	11.8	—	33.5	—	23.9
Single modes	12.6	5.4	11.1	3.8	14.0	11.8	36.2
Truck	13.8	4.9	12.1	5.1	14.9	11.5	28.5
For-hire truck	31.6	8.9	39.7	10.5	24.7	9.7	S
Private truck	22.0	7.9	21.9	9.7	19.3	6.3	25.8
Rail	24.3	1.4	26.7	3.6	29.8	7.2	29.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	28.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	20.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	20.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	48.4	.3	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	26.0	—	34.2	—	41.6	—	S
Single modes	26.2	1.4	34.4	1.4	41.7	.4	44.6
Truck	26.9	1.7	36.7	4.1	S	S	44.9
For-hire truck	S	S	S	S	S	S	20.7
Private truck	32.3	9.6	49.3	8.8	36.8	11.7	36.7
Rail	S	S	S	S	S	S	26.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.9
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	29.2
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	19.6	—	19.8	—	33.6	—	23.2
Single modes	19.8	.6	19.7	.5	34.2	1.5	22.7
Truck	19.8	.6	19.7	.5	34.2	1.5	22.7
For-hire truck	34.3	6.6	34.3	5.7	39.9	4.8	12.9
Private truck	12.5	6.9	13.5	5.8	17.4	4.9	14.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	32.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	32.0
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	39.5	.6	47.9	.5	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	13.9	—	9.6	—	15.0	—	S
Single modes	14.1	.5	9.7	.2	15.4	.8	S
Truck	14.1	.5	9.7	.2	15.4	.8	S
For-hire truck	17.8	6.2	13.9	5.7	17.9	4.5	6.0
Private truck	20.0	6.0	16.2	5.7	23.6	4.1	34.0
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	48.2	.1	48.7	.8	28.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.0
Truck and rail	S	S	48.3	.1	48.7	.8	27.5
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	43.5	—	S	S	S
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	5.7	—	6.8	—	10.5	—	15.5
Single modes	6.3	1.0	7.2	.5	10.8	1.8	22.7
Truck	6.5	1.3	7.7	1.3	11.9	3.7	23.1
For-hire truck	12.8	4.0	12.3	3.5	16.8	6.3	16.2
Private truck	8.3	4.1	9.5	4.4	14.8	5.9	8.5
Rail	34.5	.6	43.3	1.1	29.1	2.9	22.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	45.5	.7	48.9	.4	47.5	2.0	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	47.2	.5	S	S	48.0	2.0	21.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42.3	.8	35.7	.4	47.3	.7	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	13.9	—	10.1	—	43.3	—	13.6
Single modes	13.2	1.6	9.9	.7	46.1	9.5	14.5
Truck	13.2	1.6	9.9	.7	46.1	9.5	14.5
For-hire truck	S	S	S	S	S	S	38.5
Private truck	13.4	3.9	10.5	2.5	S	S	15.0
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	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 09, TOBACCO PRODUCTS							
Total	42.5	—	S	S	S	S	18.2
Single modes	41.9	3.7	S	S	S	S	18.6
Truck	41.9	3.7	S	S	S	S	18.6
For-hire truck	—	—	—	—	—	—	—
Private truck	41.9	3.7	S	S	S	S	18.6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	26.9
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	47.6	—	47.7	—	S	S	23.7
Single modes	S	S	S	S	S	S	27.5
Truck	S	S	S	S	S	S	27.5
For-hire truck	—	—	—	—	—	—	—
Private truck	S	S	S	S	S	S	27.5
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	47.7	14.4	S	S	S	S	35.6
SCTG 11, NATURAL SANDS							
Total	29.6	—	32.5	—	24.5	—	36.3
Single modes	29.7	.2	32.6	.5	24.4	.2	36.2
Truck	31.7	4.6	34.5	4.7	28.3	7.6	30.7
For-hire truck	35.6	9.9	37.9	9.3	36.2	8.2	35.7
Private truck	42.3	9.9	42.9	10.0	34.5	9.8	26.2
Rail	30.1	4.6	25.3	4.5	30.2	7.6	16.8
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

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	16.6	—	18.0	—	22.9	—	11.0
Single modes	18.9	5.3	20.2	5.0	25.4	8.5	8.7
Truck	21.5	8.7	23.6	10.2	27.5	13.2	8.4
For-hire truck	34.2	8.2	25.8	7.0	31.4	9.1	23.4
Private truck	34.4	7.9	33.0	8.2	39.6	4.2	12.7
Rail	S	S	S	S	S	S	31.6
Water	28.4	5.3	25.9	6.6	27.1	11.9	18.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	28.4	5.3	25.9	6.6	27.1	11.9	18.7
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	31.3	3.5	31.0	3.5	32.1	8.7	22.1
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	38.7	1.5	37.5	2.0	40.4	8.5	23.9
Rail and water	—	—	—	—	—	—	—
Other multiple modes	44.5	3.4	45.1	3.3	48.6	4.1	25.9
Other and unknown modes	S	S	S	S	S	S	S
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	21.7	—	23.9	—	25.5	—	20.0
Single modes	16.1	5.8	26.8	8.5	26.4	9.8	28.1
Truck	19.3	8.6	45.4	11.5	15.7	11.7	27.2
For-hire truck	23.1	8.9	22.2	12.2	19.1	11.6	13.3
Private truck	35.8	9.9	S	S	47.2	1.2	34.8
Rail	39.5	3.9	29.2	4.5	28.9	5.8	17.3
Water	S	S	39.4	11.8	37.8	12.7	23.3
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	39.4	11.8	37.8	12.7	23.3
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	39.5	1.8	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	S
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	29.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	24.3	—	25.7	—	41.7	—	S
Single modes	33.5	14.0	37.6	14.7	31.4	19.5	20.7
Truck	38.0	11.2	41.5	14.3	39.1	13.6	25.7
For-hire truck	39.6	11.7	49.2	13.7	31.6	13.6	35.1
Private truck	S	S	S	S	S	S	26.1
Rail	35.5	13.3	37.7	18.0	31.7	16.6	34.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	18.5
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	23.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	S	S	S	S	S	S	27.9
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	32.3

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 15, COAL							
Total	S	S	S	S	S	S	31.1
Single modes	S	S	S	S	S	S	31.6
Truck	S	S	S	S	S	S	31.6
For-hire truck	—	—	—	—	—	—	—
Private truck	S	S	S	S	S	S	31.6
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	48.4	—	40.2	—	34.7	—	20.9
Single modes	48.6	.8	40.4	.6	34.8	.4	17.9
Truck	S	S	42.6	3.3	36.2	3.3	17.9
For-hire truck	46.7	7.0	39.8	5.9	37.5	6.8	12.5
Private truck	S	S	45.0	4.7	37.4	6.2	21.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	30.8
SCTG 18, FUEL OILS							
Total	25.1	—	26.1	—	32.9	—	31.5
Single modes	25.6	1.8	26.6	1.7	33.1	1.2	30.4
Truck	25.8	7.1	23.7	7.8	31.3	9.0	30.5
For-hire truck	31.7	6.9	33.1	7.8	43.6	8.8	18.4
Private truck	31.0	7.3	22.2	7.5	24.2	10.1	37.0
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	S	S	S	S	S	S	S
Multiple modes	—	—	—	—	—	—	—
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	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 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	31.9	—	40.7	—	38.4	—	20.3
Single modes	32.0	.4	40.7	—	38.4	—	20.9
Truck	36.7	6.7	46.7	6.2	45.2	9.9	21.1
For-hire truck	49.2	7.3	S	S	48.5	8.4	28.9
Private truck	20.9	5.9	29.3	9.6	34.0	5.5	18.7
Rail	31.5	4.3	40.0	4.4	38.0	10.8	16.5
Water	S	S	S	S	S	S	29.2
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	S	S	S	S	29.2
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.1
Pipeline	S	S	S	S	S	S	S
Multiple modes	47.4	.2	S	S	36.9	—	36.7
Parcel, U.S. Postal Service or courier	47.4	.2	S	S	36.9	—	36.7
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43.4	.2	42.7	—	40.2	—	S
SCTG 20, BASIC CHEMICALS							
Total	15.4	—	26.0	—	24.5	—	S
Single modes	16.1	3.2	26.5	1.4	25.7	2.6	S
Truck	17.1	4.0	27.1	2.3	32.1	7.4	S
For-hire truck	29.6	8.9	47.3	8.8	41.3	6.9	10.5
Private truck	20.4	7.6	35.3	9.0	28.7	4.8	S
Rail	S	S	S	S	42.9	7.6	31.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.2
Pipeline	S	S	S	S	S	S	S
Multiple modes	27.6	3.2	S	S	S	S	24.2
Parcel, U.S. Postal Service or courier	38.8	3.5	39.9	—	S	S	23.9
Truck and rail	S	S	S	S	S	S	30.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	42.3	.6	S	S	S	S	S
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	18.7	—	25.6	—	32.2	—	18.7
Single modes	20.9	5.6	26.5	2.9	34.4	4.2	36.2
Truck	22.0	6.4	26.6	3.1	34.8	4.7	16.3
For-hire truck	21.7	5.4	16.8	11.1	28.3	13.4	S
Private truck	25.8	6.7	36.0	11.9	49.0	15.5	22.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	44.3	.7	15.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	20.5	5.7	27.0	2.7	27.6	4.1	14.9
Parcel, U.S. Postal Service or courier	21.2	5.8	28.8	2.8	28.7	4.2	14.9
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	26.0	—	30.4	—	31.8	—	29.8
Single modes	25.0	3.6	28.6	3.9	31.6	2.3	27.5
Truck	25.6	3.8	29.4	4.0	30.7	5.8	27.1
For-hire truck	36.3	6.8	45.9	8.4	40.2	8.2	25.8
Private truck	28.4	7.0	33.3	8.1	37.4	10.6	26.7
Rail	S	S	S	S	S	S	29.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	44.4	—	33.4	—	37.3	.1	S
Parcel, U.S. Postal Service or courier	44.4	—	33.4	—	37.3	.1	S
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	48.1
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	16.2	—	15.9	—	23.1	—	15.8
Single modes	15.1	4.2	15.4	2.0	19.5	5.7	17.0
Truck	15.8	4.4	16.5	4.0	20.8	5.5	17.2
For-hire truck	13.8	3.9	14.0	4.1	20.4	6.3	11.6
Private truck	19.6	3.1	25.6	4.7	29.8	2.1	11.7
Rail	43.7	1.2	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	23.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	37.5	4.0	35.1	1.9	38.0	6.2	12.9
Parcel, U.S. Postal Service or courier	47.2	2.4	38.8	.4	44.3	.5	14.7
Truck and rail	S	S	39.8	2.0	39.6	6.4	13.7
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	33.0	.7	24.2	.3	44.7	1.0	S
SCTG 24, PLASTICS AND RUBBER							
Total	10.8	—	16.3	—	30.0	—	6.7
Single modes	11.6	1.7	16.7	.8	32.3	2.7	7.0
Truck	11.0	1.5	15.0	1.1	28.1	2.8	6.9
For-hire truck	14.8	3.1	20.6	3.9	30.7	3.4	6.0
Private truck	7.9	3.1	12.9	4.1	28.8	2.7	9.8
Rail	S	S	S	S	S	S	28.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	31.7	.1	19.5	—	28.2	—	11.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.2	1.2	14.2	.3	15.2	1.4	11.2
Parcel, U.S. Postal Service or courier	16.7	1.2	22.8	.4	17.0	1.0	11.1
Truck and rail	25.2	.1	30.7	.2	31.3	.9	17.3
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.1	.8	20.8	.6	S	S	29.0

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 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	29.3	—	33.6	—	37.2	—	38.9
Single modes	29.1	3.1	33.0	1.5	38.2	7.1	44.2
Truck	29.1	3.1	33.0	1.5	38.2	7.1	44.2
For-hire truck	49.4	9.6	S	S	48.5	11.8	S
Private truck	29.8	13.6	42.1	13.3	S	S	36.7
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.4
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	30.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	29.8
SCTG 26, WOOD PRODUCTS							
Total	10.6	—	19.9	—	23.2	—	11.5
Single modes	11.5	1.9	20.6	1.2	25.0	4.6	14.5
Truck	11.3	1.9	20.5	1.3	22.2	4.7	14.6
For-hire truck	14.1	5.0	24.2	5.3	24.6	4.6	11.5
Private truck	15.4	5.1	24.5	5.4	21.6	3.6	9.1
Rail	37.8	.4	36.5	.6	43.3	2.4	22.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	14.5
Parcel, U.S. Postal Service or courier	31.3	.2	26.6	—	32.5	—	14.6
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	31.9	1.1	34.0	1.0	S	S	40.1
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	13.1	—	S	S	26.4	—	27.7
Single modes	14.0	2.1	S	S	28.7	4.6	28.8
Truck	13.9	4.1	S	S	42.0	7.6	29.5
For-hire truck	19.1	4.9	S	S	43.2	7.5	36.5
Private truck	23.4	3.9	28.0	4.6	28.8	.5	48.6
Rail	23.4	4.5	22.5	6.2	23.4	7.9	6.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	25.9
Pipeline	S	S	S	S	S	S	S
Multiple modes	36.8	1.0	29.6	.5	33.1	1.5	20.2
Parcel, U.S. Postal Service or courier	S	S	41.9	.1	S	S	22.8
Truck and rail	S	S	36.6	.5	34.4	1.5	23.7
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	48.0

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 28, PAPER OR PAPERBOARD ARTICLES							
Total	15.8	—	16.4	—	22.3	—	23.3
Single modes	17.0	3.1	16.7	.9	23.0	2.0	17.5
Truck	17.0	3.1	16.7	.9	23.0	2.1	16.7
For-hire truck	28.7	6.0	19.2	6.1	26.5	7.7	17.6
Private truck	18.4	5.9	24.8	6.0	21.4	7.0	14.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	20.9	1.5	20.5	.3	26.0	.5	15.4
Parcel, U.S. Postal Service or courier	20.9	1.5	20.5	.3	26.0	.5	15.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	29.5
SCTG 29, PRINTED PRODUCTS							
Total	10.7	—	15.5	—	24.3	—	24.1
Single modes	12.3	3.0	16.7	1.6	25.6	3.2	25.4
Truck	12.3	3.1	16.7	1.6	23.2	2.8	21.6
For-hire truck	13.6	3.6	22.8	6.8	24.9	2.8	S
Private truck	17.6	3.8	26.3	6.7	35.3	2.1	13.2
Rail	S	S	S	S	S	S	29.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	33.5	—	S	S	16.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	19.7	3.1	16.9	1.4	24.0	2.8	8.5
Parcel, U.S. Postal Service or courier	19.8	3.1	16.9	1.4	24.4	2.8	8.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	15.7	.9	18.8	.9	40.3	1.1	S
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	25.7	—	20.1	—	26.2	—	15.1
Single modes	22.7	5.8	20.3	5.9	20.4	8.4	23.2
Truck	22.9	5.9	20.4	5.9	21.1	8.9	23.5
For-hire truck	13.5	3.4	20.9	4.4	23.2	8.0	17.9
Private truck	23.5	6.1	34.9	7.1	32.3	3.3	34.0
Rail	S	S	S	S	S	S	27.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	28.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	38.2	4.8	34.6	4.3	S	S	13.2
Parcel, U.S. Postal Service or courier	38.3	4.8	34.8	4.3	S	S	13.2
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	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	13.1	—	23.6	—	27.8	—	33.5
Single modes	13.5	1.2	24.2	1.1	28.3	2.1	25.9
Truck	14.4	3.7	23.5	4.6	18.4	11.2	26.4
For-hire truck	14.8	4.6	30.4	4.2	19.3	7.7	20.1
Private truck	24.4	5.7	29.6	6.6	39.3	7.4	11.3
Rail	29.9	.6	30.8	.7	30.0	2.9	32.7
Water	S	S	S	S	S	S	26.1
Shallow draft	—	—	—	—	—	—	—
Great Lakes	S	S	S	S	S	S	26.1
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	49.3	.9	S	S	S	S	13.7
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	13.6
Truck and rail	S	S	S	S	S	S	S
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	20.7	.7	22.7	.9	39.0	1.6	S
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	15.1	—	36.6	—	17.7	—	9.0
Single modes	15.2	1.1	37.0	.8	18.3	1.4	8.3
Truck	15.8	2.2	38.8	2.8	21.5	4.8	8.3
For-hire truck	14.3	3.8	43.6	5.4	20.8	4.7	16.1
Private truck	23.3	3.9	26.3	4.6	30.3	3.4	9.8
Rail	34.9	1.5	28.4	2.5	28.2	4.5	30.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	23.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	48.2	.7	S	S	S	S	24.7
Parcel, U.S. Postal Service or courier	44.5	.4	43.8	—	20.5	—	25.1
Truck and rail	S	S	S	S	S	S	36.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	29.7	.9	23.9	.8	39.0	1.3	S
SCTG 33, ARTICLES OF BASE METAL							
Total	18.0	—	27.5	—	44.0	—	6.6
Single modes	20.7	2.3	28.8	2.7	46.2	4.8	13.4
Truck	20.7	2.3	28.7	2.7	46.0	4.7	14.5
For-hire truck	26.2	4.8	38.1	5.1	47.6	5.0	5.3
Private truck	14.4	3.8	12.6	3.7	38.5	2.1	15.7
Rail	S	S	S	S	S	S	30.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	28.6	.2	35.2	—	40.0	.2	9.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	13.1	1.9	18.2	.5	28.5	2.0	7.3
Parcel, U.S. Postal Service or courier	13.4	1.9	22.0	.4	21.2	.5	7.3
Truck and rail	34.4	.1	46.2	.2	S	S	21.6
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	26.3	.8	37.8	2.8	48.3	4.6	29.8

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	6.4	—	13.3	—	18.5	—	5.9
Single modes	7.6	1.8	13.9	1.4	20.0	3.1	21.4
Truck	7.1	1.7	12.9	1.9	11.4	5.2	24.6
For-hire truck	11.6	4.1	21.8	5.0	12.1	6.7	9.2
Private truck	10.7	3.3	13.2	4.9	33.9	4.3	23.8
Rail	S	S	47.0	1.6	S	S	27.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	20.1	.2	28.8	—	26.2	.1	9.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	12.5	1.8	29.3	.6	37.6	2.4	7.9
Parcel, U.S. Postal Service or courier	13.3	1.8	15.4	.3	17.4	.4	8.0
Truck and rail	35.5	.2	S	S	47.3	2.1	23.0
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.5	.9	41.4	1.0	S	S	28.2
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	13.1	—	12.7	—	16.4	—	14.8
Single modes	13.7	4.3	14.8	4.5	21.9	10.2	24.4
Truck	13.4	4.4	14.5	4.4	22.0	10.1	25.4
For-hire truck	20.9	5.2	20.3	6.3	24.4	9.3	6.2
Private truck	11.1	3.6	18.6	4.4	33.2	3.4	36.3
Rail	S	S	S	S	S	S	30.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	33.2	.2	35.6	.1	31.9	.1	6.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	15.2	2.5	27.0	2.6	44.2	8.9	7.7
Parcel, U.S. Postal Service or courier	13.9	2.2	15.4	.8	23.2	.9	9.2
Truck and rail	S	S	S	S	S	S	21.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	20.1
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	6.1	—	15.0	—	12.0	—	23.6
Single modes	9.1	4.5	16.9	2.3	16.8	4.5	32.7
Truck	9.2	2.6	13.3	2.8	10.5	2.5	36.7
For-hire truck	10.6	2.7	14.2	2.9	11.5	2.2	11.5
Private truck	12.7	.8	19.0	1.1	23.9	.7	36.2
Rail	15.2	3.7	30.2	3.5	22.7	5.1	7.4
Water	S	S	S	S	S	S	31.6
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	S	S	S	S	S	S	31.6
Air (includes truck and air)	31.4	.2	41.1	.2	41.1	.3	7.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.2	2.9	22.0	1.5	19.2	3.0	8.2
Parcel, U.S. Postal Service or courier	20.5	.2	25.3	—	34.8	.1	9.4
Truck and rail	27.3	2.8	23.1	1.5	19.9	3.0	7.2
Truck and water	S	S	S	S	S	S	31.6
Rail and water	S	S	S	S	S	S	31.6
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	49.5	4.7	38.7	2.1	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	19.7	—	39.1	—	35.9	—	12.0
Single modes	20.8	5.0	40.5	8.6	37.0	6.4	6.2
Truck	31.3	6.9	42.6	12.6	38.6	13.0	20.6
For-hire truck	34.8	7.0	42.8	10.7	42.6	11.6	17.4
Private truck	36.6	2.2	49.7	8.9	S	S	44.4
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	30.8	7.5	23.3	6.0	26.5	8.3	5.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	22.5	4.3	25.3	6.1	28.6	6.0	15.8
Parcel, U.S. Postal Service or courier	22.5	4.3	25.3	6.1	28.6	6.0	15.8
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	49.3	2.1	S	S	S	S	S
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	17.2	—	16.5	—	19.8	—	11.4
Single modes	33.9	7.8	21.8	6.4	24.5	8.0	24.7
Truck	34.1	7.5	22.0	6.3	25.1	7.9	25.3
For-hire truck	S	S	31.1	9.3	26.7	8.7	23.2
Private truck	31.0	5.3	35.5	6.4	43.8	1.3	37.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	41.9	.6	S	S	S	S	15.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.3	7.6	24.1	6.3	25.2	8.0	10.6
Parcel, U.S. Postal Service or courier	16.3	7.6	24.1	6.3	25.2	8.0	10.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	44.5	.5	38.7	—	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	7.8	—	15.7	—	30.5	—	12.3
Single modes	8.2	1.1	16.3	1.1	32.4	3.0	14.8
Truck	8.3	1.6	16.4	1.5	33.3	3.4	14.2
For-hire truck	12.2	5.1	15.5	5.4	35.7	5.0	6.3
Private truck	17.7	5.4	26.2	5.6	36.0	3.4	40.5
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	29.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	28.1	.6	28.8	.4	39.0	2.6	10.4
Parcel, U.S. Postal Service or courier	29.2	.3	22.0	.1	32.0	.4	11.6
Truck and rail	S	S	41.5	.4	45.0	2.6	24.5
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	35.3	.7	35.0	1.0	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	7.5	—	17.5	—	12.1	—	8.9
Single modes	8.9	2.4	18.2	1.3	10.7	2.2	10.2
Truck	9.0	2.5	18.5	1.7	10.8	2.2	10.6
For-hire truck	7.3	3.8	10.4	5.9	7.4	4.3	9.4
Private truck	23.0	4.3	35.7	6.6	37.2	3.7	22.0
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	32.2	—	40.7	.1	9.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	11.0	2.2	17.8	.9	23.1	1.9	5.8
Parcel, U.S. Postal Service or courier	12.0	2.4	16.6	.5	19.3	.8	5.9
Truck and rail	41.9	.7	38.6	.6	36.4	1.8	22.5
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	11.8	.4	18.7	.5	38.1	.9	S
SCTG 41, WASTE AND SCRAP							
Total	9.2	—	5.7	—	9.4	—	7.4
Single modes	9.8	1.4	5.9	.5	9.8	2.7	9.1
Truck	6.3	5.2	8.1	5.1	13.4	7.9	11.5
For-hire truck	9.9	4.5	9.2	3.5	14.9	6.0	11.2
Private truck	8.7	3.2	14.4	4.1	20.5	2.8	18.1
Rail	36.1	4.9	21.6	5.0	20.6	7.8	12.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	34.7	1.4	37.0	.5	30.6	2.7	40.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	34.7	1.4	37.0	.5	30.6	2.7	25.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 43, MIXED FREIGHT							
Total	22.7	—	28.3	—	25.4	—	27.6
Single modes	22.3	7.4	29.6	7.2	27.1	6.8	15.3
Truck	22.3	7.4	29.6	7.2	27.1	6.8	15.3
For-hire truck	32.9	.9	S	S	46.1	.9	S
Private truck	22.4	7.3	29.5	7.0	27.0	7.5	14.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	29.2	.2	32.2	—	48.7	.2	31.5
Parcel, U.S. Postal Service or courier	29.2	.2	32.2	—	48.7	.2	31.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	41.6	7.2	46.9	6.7	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	19.0	—	38.1	—	S	S	23.4
Single modes	18.7	4.7	39.6	7.0	S	S	26.7
Truck	15.1	5.1	36.8	8.9	42.7	11.4	26.8
For-hire truck	23.5	11.0	S	S	S	S	23.3
Private truck	35.8	9.3	48.6	12.0	S	S	S
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	37.1	4.3	S	S	S	S	34.6
Parcel, U.S. Postal Service or courier	42.4	4.2	34.1	.5	37.5	3.6	34.6
Truck and rail	S	S	S	S	S	S	29.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.7

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

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

Table B-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	3.0	—	5.9	—	4.0	—
NEW ENGLAND STATES						
Connecticut	15.2	—	40.9	—	43.3	.3
Maine	42.0	—	34.2	—	24.5	—
Massachusetts	18.1	.2	10.3	—	10.4	—
New Hampshire	13.6	—	28.0	—	25.2	—
Rhode Island	31.4	—	38.7	—	41.1	—
Vermont	33.0	—	37.4	—	39.8	—
MIDDLE ATLANTIC STATES						
New Jersey	13.0	.3	7.4	—	9.1	.2
New York	9.9	.2	21.8	.1	24.2	.3
Pennsylvania	13.8	.3	12.6	.2	13.2	.4
EAST NORTH CENTRAL STATES						
Illinois	9.7	.5	16.4	.5	17.3	1.0
Indiana	8.5	.2	16.5	.5	20.1	1.1
Michigan	4.1	1.0	7.0	1.4	8.2	1.4
Ohio	13.4	.8	11.1	.7	14.7	1.2
Wisconsin	6.6	.1	21.0	.4	21.3	.6
WEST NORTH CENTRAL STATES						
Iowa	18.6	—	21.7	—	26.1	.2
Kansas	17.2	—	22.3	—	22.8	.1
Minnesota	11.9	.1	26.4	.3	25.7	.9
Missouri	10.1	.3	8.9	—	9.2	.2
Nebraska	45.4	.2	20.2	—	20.5	—
North Dakota	30.5	—	15.5	—	17.1	—
South Dakota	32.9	—	28.5	—	27.2	—
SOUTH ATLANTIC STATES						
Delaware	16.6	—	S	S	S	S
District of Columbia	28.4	—	42.9	—	43.2	—
Florida	15.9	.3	16.6	—	17.0	.3
Georgia	13.3	.3	12.5	—	14.4	.4
Maryland	21.1	.2	34.2	.1	43.9	.9
North Carolina	13.6	.1	21.1	.1	25.7	.8
South Carolina	13.9	—	31.7	—	33.5	.4
Virginia	9.2	.1	14.3	—	15.6	.2
West Virginia	21.3	—	39.6	—	34.6	.1
EAST SOUTH CENTRAL STATES						
Alabama	17.4	—	29.1	—	29.8	.4
Kentucky	8.0	.1	12.9	—	14.9	.2
Mississippi	15.2	—	24.5	—	24.2	—
Tennessee	9.9	.1	10.2	—	9.7	.1
WEST SOUTH CENTRAL STATES						
Arkansas	16.0	—	15.2	—	15.1	—
Louisiana	23.2	.1	13.4	—	13.3	—
Oklahoma	24.1	.2	43.7	.1	44.5	.7
Texas	10.7	.4	7.2	—	6.1	.5
MOUNTAIN STATES						
Arizona	18.0	.1	13.2	—	13.2	.1
Colorado	22.5	.1	23.3	—	23.7	.1
Idaho	43.2	—	22.9	—	23.3	—
Montana	38.1	—	37.5	—	38.6	—
Nevada	30.1	—	22.3	—	22.8	—
New Mexico	36.4	—	31.9	—	32.0	—
Utah	48.2	.2	25.9	—	25.9	.1
Wyoming	39.1	—	S	S	S	S
PACIFIC STATES						
Alaska	44.6	—	34.5	—	29.9	—
California	13.7	.4	8.3	—	8.7	.5
Hawaii	S	S	S	S	S	S
Oregon	13.6	—	23.1	—	24.0	.3
Washington	16.8	.2	19.1	—	18.5	.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-8. Measures of Reliability for Inbound Shipment Characteristics by State of Origin for State of Destination: 1997

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

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	2.0	—	5.1	—	11.3	—
NEW ENGLAND STATES						
Connecticut	12.0	—	7.7	—	8.6	—
Maine	30.1	—	21.7	—	31.5	—
Massachusetts	9.3	—	19.5	—	18.1	—
New Hampshire	40.9	.1	21.1	—	22.4	—
Rhode Island	33.7	—	20.9	—	20.3	—
Vermont	30.9	—	S	S	S	S
MIDDLE ATLANTIC STATES						
New Jersey	25.5	.4	19.9	—	20.6	.2
New York	12.6	.3	13.3	—	13.2	.2
Pennsylvania	9.3	.2	17.8	.2	17.7	.5
EAST NORTH CENTRAL STATES						
Illinois	6.9	.4	22.4	.6	17.8	1.1
Indiana	11.7	.7	9.8	.3	9.5	.4
Michigan	4.1	1.5	7.0	2.0	8.2	2.2
Ohio	7.6	.7	10.5	.6	11.8	.7
Wisconsin	16.1	.4	19.9	.3	10.4	.2
WEST NORTH CENTRAL STATES						
Iowa	7.2	—	10.7	—	11.3	.2
Kansas	7.5	—	11.0	—	15.4	—
Minnesota	8.3	—	S	S	S	S
Missouri	13.7	.2	10.4	—	10.4	.1
Nebraska	10.9	—	22.0	—	21.4	.1
North Dakota	20.6	—	28.8	—	29.8	.1
South Dakota	S	S	17.4	—	18.2	.2
SOUTH ATLANTIC STATES						
Delaware	28.8	—	21.2	—	18.7	—
District of Columbia	S	S	S	S	S	S
Florida	10.4	—	20.6	—	22.5	.3
Georgia	9.8	.1	11.1	—	10.4	.3
Maryland	25.1	—	29.9	—	33.0	—
North Carolina	5.4	—	12.6	—	12.3	.2
South Carolina	14.1	.1	14.6	—	19.9	.1
Virginia	16.7	.1	21.8	—	25.1	.1
West Virginia	24.5	.1	38.2	.7	36.3	1.1
EAST SOUTH CENTRAL STATES						
Alabama	16.1	.1	13.7	—	13.2	.3
Kentucky	16.0	.4	27.2	.3	29.9	.8
Mississippi	15.7	—	24.8	—	26.0	.1
Tennessee	8.2	.1	10.8	—	10.5	.2
WEST SOUTH CENTRAL STATES						
Arkansas	9.7	—	9.8	—	9.5	.1
Louisiana	17.4	—	27.9	—	27.5	.3
Oklahoma	8.3	—	18.8	—	19.3	.1
Texas	45.1	1.4	S	S	S	S
MOUNTAIN STATES						
Arizona	25.1	—	S	S	S	S
Colorado	31.4	.1	S	S	S	S
Idaho	30.9	—	40.8	—	41.6	.2
Montana	29.2	—	S	S	S	S
Nevada	27.1	—	25.3	—	25.2	—
New Mexico	25.7	—	27.4	—	27.9	—
Utah	31.9	—	39.0	—	38.9	—
Wyoming	28.5	—	41.4	.3	41.1	1.6
PACIFIC STATES						
Alaska	46.1	—	S	S	S	S
California	11.7	.3	11.2	—	11.6	.9
Hawaii	S	S	S	S	S	S
Oregon	12.3	—	28.9	—	29.0	.5
Washington	19.6	—	19.9	—	20.7	.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 C Is this establishment's physical location the same as the address shown in the label? (PO boxes or rural routes are not physical locations.)

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

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

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

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

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

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

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

1 Yes
2 No — *Enter correct name.* ↗

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

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

Month	Day	Year

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

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. ↗

Item F SHIPMENT CHARACTERISTICS

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

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

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

2 — Private truck
3 — For-hire truck

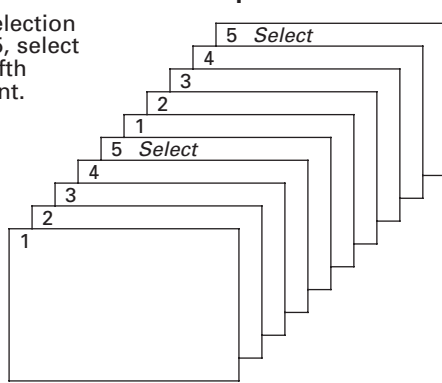
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

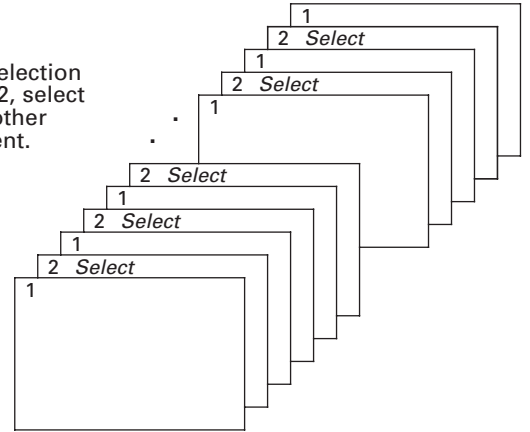
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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


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

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

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

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued 

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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

Item G

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

Yes

No

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

Yes

No

If yes to item G1 or item G2:

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

Yes

No

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

Total value in whole dollars

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

Yes

No

Item J CERTIFICATION

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

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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Remarks

THANK YOU FOR COMPLETING YOUR REPORT

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

Please return by:

RETURN TO
▼
BUREAU OF THE CENSUS
1201 East 10th Street
Jeffersonville IN 47132-0001

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

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

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

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

1 Yes
2 No — *Enter physical location below.* ↘

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

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

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

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

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

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

1 Yes
2 No — *Enter correct name.* ↘

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

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

Month	Day	Year

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

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Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. ↗

Item F SHIPMENT CHARACTERISTICS

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

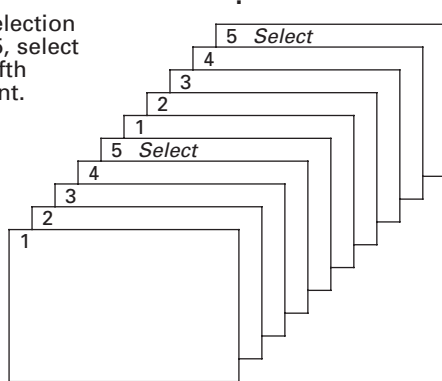
Mode of transport codes for columns (k) and (n) 1 — Parcel delivery, courier, or U.S. Postal Service 2 — Private truck 3 — For-hire truck 4 — Railroad Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

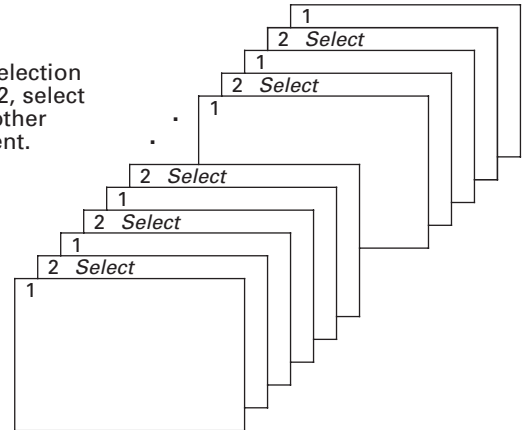
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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

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

Containerized? (Y/N)	U.S. destination <i>(Complete for all shipments.)</i>			Mode(s) of transport to U.S. destination <i>Enter all that apply in order used. Use codes below.</i>	Export? (Y/N)	Foreign destination <i>(for export shipments only)</i> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode	Line No.
	(i)	(j)				(k)	(l)			(m)		(n)	(o)
	City	State	ZIP Code			City	Country		
N	Los Angeles	CA	90040	2, 4, 3	N				0
N	New York	NY	10454	5	Y	London	England	6	00
									1
									2
									3
									4
									5
									6
									7
									8
									9

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

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

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

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

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

Total value in whole dollars

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

Yes

No

Item I AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

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

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

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

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

Item J USE OF OFF-SITE SHIPPING FACILITIES

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

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

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

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

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

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

Item L TRANSPORTATION DECISIONS

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

1 Your company2 Receiver of shipment3 Other

Remarks

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

Date

Signature

Title

Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

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

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

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

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

Why are you conducting the CFS?

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

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

Who reports in the CFS?

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

Why is my participation important?

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

Your report helps ensure quality results.

Is this survey mandatory?

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

Will my data be kept confidential?

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

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

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

How often must I report?

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

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

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

Item D

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

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

What we mean by a "shipment":

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

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

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

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

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

A special note about "shipments":

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

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

Item E: Sampling Instructions

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

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

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

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

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

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

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

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

Mode of transport codes for columns (k) and (n) ▶	1 — Parcel delivery, courier, or U.S. Postal Service	2 — Private truck	4 — Railroad
	3 — For-hire truck	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 <i>Enter all that apply using codes shown below.</i> (k)
		City	State	ZIP Code	
	N	Los Angeles	C A	9 | 0 | 0 | 4 | 0	2, 4, 3
| | | |	N	New York	N Y	1 | 0 | 4 | 5 | 4	5

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics – Continued

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

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

Items G – I

Please enter the information requested.

Item J: Certification

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

PART III – MODE DEFINITIONS

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

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

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

Railroad– Any common carrier or private railroad.

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

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

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

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

Other mode – Any mode not listed above.

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

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

PART IV -- STATE ABBREVIATION LIST

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

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

