

Pennsylvania

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EC97TCF-PA

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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Rick Kowalewski,
Deputy Director
Rolf R. Schmitt,
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Robert J. Shapiro,
Under Secretary for
Economic Affairs

U.S. CENSUS BUREAU
Kenneth Prewitt,
Director



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Administration**

Robert J. Shapiro,
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for Programs

Frederick T. Knickerbocker,
Associate Director
for Economic Programs

Thomas L. Mesenbourg,
Assistant Director
for Economic Programs

Carole A. Ambler,
Chief, Service Sector
Statistics Division



**BUREAU OF TRANSPORTATION
STATISTICS**

Dr. Ashish Sen,
Director

Rick Kowalewski,
Deputy Director

Rolf R. Schmitt,
Associate Director for
Transportation Studies

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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	297 308	100.0	548 166	100.0	75 869	100.0	481
Single modes	242 127	81.4	514 371	93.8	67 578	89.1	118
Truck ¹	220 639	74.2	428 616	78.2	41 741	55.0	106
For-hire truck	129 877	43.7	230 072	42.0	31 606	41.7	414
Private truck	89 144	30.0	186 983	34.1	9 370	12.3	44
Rail	6 525	2.2	45 926	8.4	20 653	27.2	432
Water	S	S	S	S	S	S	173
Shallow draft	S	S	S	S	S	S	173
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	9 605	3.2	215	-	223	.3	1 258
Pipeline ²	4 021	1.4	20 779	3.8	S	S	S
Multiple modes	44 168	14.9	11 066	2.0	5 606	7.4	820
Parcel, U.S. Postal Service or courier	42 762	14.4	1 298	.2	945	1.2	820
Truck and rail	735	.2	S	S	842	1.1	1 628
Truck and water	S	S	S	S	S	S	3 066
Rail and water	65	-	2 625	.5	918	1.2	374
Other multiple modes	320	.1	1 262	.2	S	S	S
Other and unknown modes	11 013	3.7	22 729	4.1	2 684	3.5	73

- 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	297 308	248 752	19.5	548 166	416 916	31.5	75 869	78 019	-2.8	481	361	33.5
Single modes	242 127	212 204	14.1	514 371	392 309	31.1	67 578	68 698	-1.6	118	138	-13.9
Truck ¹	220 639	200 520	10.0	428 616	302 035	41.9	41 741	36 039	15.8	106	123	-13.6
For-hire truck	129 877	114 900	13.0	230 072	130 394	76.4	31 606	26 874	17.6	414	441	-6.1
Private truck	89 144	85 455	4.3	186 983	170 476	9.7	9 370	9 066	3.4	44	47	-6.2
Rail	6 525	7 112	-8.3	45 926	70 319	-34.7	20 653	28 031	-26.3	432	480	-10.1
Water	S	1 747	S	S	19 780	S	S	4 554	S	173	290	-40.4
Shallow draft	S	1 734	S	S	19 767	S	S	4 517	S	173	214	-19.2
Great Lakes	-	-	-	-	-	-	-	-	-	-	-	-
Deep draft	-	S	S	-	S	S	-	S	S	-	2 241	-100.0
Air (includes truck and air)	9 605	2 792	244.0	215	62	246.2	223	73	204.8	1 258	1 280	-1.7
Pipeline ²	4 021	S	S	20 779	S	S	S	S	S	S	S	S
Multiple modes	44 168	29 450	50.0	11 066	16 040	-31.0	5 606	8 158	-31.3	820	554	48.2
Parcel, U.S. Postal Service or courier	42 762	28 327	51.0	1 298	907	43.1	945	536	76.4	820	553	48.2
Truck and rail	735	329	123.3	S	313	S	842	287	192.9	1 628	1 070	52.2
Truck and water	S	S	S	S	743	S	S	829	S	3 066	1 638	87.2
Rail and water	65	469	-86.1	2 625	14 072	-81.3	918	6 504	-85.9	374	577	-35.2
Other multiple modes	320	S	S	1 262	S	S	S	S	S	S	S	S
Other and unknown modes	11 013	7 097	55.2	22 729	8 567	165.3	2 684	1 163	130.8	73	187	-60.7

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

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

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

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

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

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

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

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	100.0	100.0	100.0	100.0	100.0	100.0
Single modes	81.4	85.3	93.8	94.1	89.1	88.1
Truck ¹	74.2	80.6	78.2	72.4	55.0	46.2
For-hire truck	43.7	46.2	42.0	31.3	41.7	34.4
Private truck	30.0	34.4	34.1	40.9	12.3	11.6
Rail	2.2	2.9	8.4	16.9	27.2	35.9
Water	S	.7	S	4.7	S	5.8
Shallow draft	S	.7	S	4.7	S	5.8
Great Lakes	-	-	-	-	-	-
Deep draft	-	S	-	S	-	S
Air (includes truck and air)	3.2	1.1	-	-	.3	-
Pipeline ²	1.4	S	3.8	S	S	S
Multiple modes	14.9	11.8	2.0	3.8	7.4	10.5
Parcel, U.S. Postal Service or courier	14.4	11.4	.2	.2	1.2	.7
Truck and rail .....	.2	.1	S	-	1.1	.4
Truck and water	S	S	S	.2	S	1.1
Rail and water	-	.2	.5	3.4	1.2	8.3
Other multiple modes .....	.1	S	.2	S	S	S
Other and unknown modes	3.7	2.9	4.1	2.1	3.5	1.5

- 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. 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	75 870	100.0	479
Truck	41 954	55.3	106
Rail	21 906	28.9	568
Shallow draft	5 255	6.9	779
Great Lakes	258	.3	618
Deep draft	S	S	6 976
Air	203	.3	1 158
Parcel, U.S. Postal Service or courier	945	1.2	820
Pipeline	S	S	S
Other and unknown modes	2 690	3.5	73

- 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	297 308	100.0	548 166	100.0	75 869	100.0
Less than 50 miles	87 684	29.5	381 862	69.7	7 585	10.0
50 to 99 miles	40 344	13.6	49 177	9.0	4 612	6.1
100 to 249 miles	52 111	17.5	62 497	11.4	16 847	22.2
250 to 499 miles	41 584	14.0	28 687	5.2	14 277	18.8
500 to 749 miles	25 463	8.6	11 992	2.2	10 037	13.2
750 to 999 miles	15 589	5.2	5 524	1.0	6 455	8.5
1,000 to 1,499 miles	14 702	4.9	4 774	.9	6 838	9.0
1,500 to 1,999 miles	4 053	1.4	941	.2	1 878	2.5
2,000 miles or more	15 777	5.3	2 714	.5	7 341	9.7
Single modes	242 127	100.0	514 371	100.0	67 578	100.0
Less than 50 miles	77 641	32.1	357 575	69.5	7 232	10.7
50 to 99 miles	34 399	14.2	48 056	9.3	4 488	6.6
100 to 249 miles	43 080	17.8	59 479	11.6	15 838	23.4
250 to 499 miles	32 828	13.6	27 170	5.3	13 426	19.9
500 to 749 miles	19 689	8.1	10 265	2.0	8 369	12.4
750 to 999 miles	11 349	4.7	4 683	.9	5 143	7.6
1,000 to 1,499 miles	10 201	4.2	4 291	.8	6 038	8.9
1,500 to 1,999 miles	2 383	1.0	849	.2	1 695	2.5
2,000 miles or more	10 557	4.4	2 003	.4	5 348	7.9
Truck¹	220 639	100.0	428 616	100.0	41 741	100.0
Less than 50 miles	71 417	32.4	320 821	74.9	6 611	15.8
50 to 99 miles	30 069	13.6	43 370	10.1	3 959	9.5
100 to 249 miles	40 217	18.2	32 142	7.5	6 388	15.3
250 to 499 miles	30 629	13.9	17 506	4.1	7 513	18.0
500 to 749 miles	18 671	8.5	7 095	1.7	5 193	12.4
750 to 999 miles	10 768	4.9	2 953	.7	2 996	7.2
1,000 to 1,499 miles	7 729	3.5	2 365	.6	3 256	7.8
1,500 to 1,999 miles	2 052	.9	623	.1	1 239	3.0
2,000 miles or more	9 086	4.1	1 740	.4	4 586	11.0
For-hire truck	129 877	100.0	230 072	100.0	31 606	100.0
Less than 50 miles	17 590	13.5	156 474	68.0	3 495	11.1
50 to 99 miles	15 067	11.6	24 629	10.7	2 263	7.2
100 to 249 miles	27 807	21.4	21 807	9.5	4 487	14.2
250 to 499 miles	25 597	19.7	14 217	6.2	6 166	19.5
500 to 749 miles	16 854	13.0	6 187	2.7	4 520	14.3
750 to 999 miles	9 914	7.6	2 650	1.2	2 684	8.5
1,000 to 1,499 miles	6 579	5.1	1 946	.8	2 658	8.4
1,500 to 1,999 miles	1 914	1.5	555	.2	1 105	3.5
2,000 miles or more	8 556	6.6	1 607	.7	4 227	13.4
Private truck	89 144	100.0	186 983	100.0	9 370	100.0
Less than 50 miles	53 502	60.0	153 894	82.3	2 779	29.7
50 to 99 miles	18 830	16.6	18 319	9.8	1 657	17.7
100 to 249 miles	11 945	13.4	10 082	5.4	1 847	19.7
250 to 499 miles	4 798	5.4	3 041	1.6	1 232	13.1
500 to 749 miles	1 611	1.8	782	.4	583	6.2
750 to 999 miles	793	.9	296	.2	305	3.3
1,000 to 1,499 miles	1 124	1.3	410	.2	585	6.2
1,500 to 1,999 miles	136	.2	68	—	133	1.4
2,000 miles or more	405	.5	93	—	248	2.7
Rail	6 525	100.0	45 926	100.0	20 653	100.0
Less than 50 miles	1 217	18.7	4 554	9.9	218	1.1
50 to 99 miles	91	1.4	1 656	3.6	218	1.1
100 to 249 miles	1 708	26.2	26 226	57.1	9 001	43.6
250 to 499 miles	1 341	20.6	7 663	16.7	3 946	19.1
500 to 749 miles	617	9.4	2 965	6.5	946	4.6
750 to 999 miles	302	4.6	S	S	S	S
1,000 to 1,499 miles	732	11.2	703	1.5	1 164	5.6
1,500 to 1,999 miles	S	S	222	.5	447	2.2
2,000 miles or more	321	4.9	225	.5	662	3.2
Water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	69	5.2	3 017	16.0	310	9.4
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	69	5.2	3 017	16.0	310	9.4
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	9 605	100.0	215	100.0	223	100.0
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	12	5.7	2	.7
100 to 249 miles	1 120	11.7	77	35.6	S	S
250 to 499 miles	813	8.5	41	18.8	27	12.3
500 to 749 miles	397	4.1	17	8.1	S	S
750 to 999 miles	279	2.9	16	7.4	19	8.5
1,000 to 1,499 miles	S	S	10	4.9	15	6.7
1,500 to 1,999 miles	135	1.4	4	2.0	9	4.1
2,000 miles or more	1 150	12.0	38	17.5	99	44.4
Pipeline²	4 021	100.0	20 779	100.0	S	S
Less than 50 miles	3 821	95.0	19 567	94.2	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	200	5.0	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	44 168	100.0	11 066	100.0	5 606	100.0
Less than 50 miles	5 226	11.8	S	S	S	S
50 to 99 miles	4 952	11.2	632	5.7	78	1.4
100 to 249 miles	7 532	17.1	2 465	22.3	897	16.0
250 to 499 miles	7 669	17.4	904	8.2	595	10.6
500 to 749 miles	5 106	11.6	S	S	S	S
750 to 999 miles	3 673	8.3	S	S	S	S
1,000 to 1,499 miles	3 593	8.1	306	2.8	544	9.7
1,500 to 1,999 miles	1 534	3.5	31	.3	62	1.1
2,000 miles or more	4 883	11.1	303	2.7	884	15.8
Parcel, U.S. Postal Service or courier	42 762	100.0	1 298	100.0	945	100.0
Less than 50 miles	5 075	11.9	162	12.5	5	.6
50 to 99 miles	4 919	11.5	148	11.4	14	1.5
100 to 249 miles	7 279	17.0	251	19.4	51	5.4
250 to 499 miles	7 644	17.9	189	14.5	84	8.9
500 to 749 miles	4 915	11.5	153	11.8	111	11.7
750 to 999 miles	3 535	8.3	148	11.4	147	15.6
1,000 to 1,499 miles	3 386	7.9	90	6.9	126	13.4
1,500 to 1,999 miles	1 531	3.6	30	2.3	60	6.3
2,000 miles or more	4 479	10.5	127	9.8	346	36.6
Truck and rail	735	100.0	S	S	842	100.0
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	95	12.9	50	1.3	46	5.4
750 to 999 miles	75	10.2	S	S	S	S
1,000 to 1,499 miles	98	13.3	87	2.2	134	16.0
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	397	54.1	174	4.4	525	62.3
Truck and water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	S	S	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	65	100.0	2 625	100.0	918	100.0
Less than 50 miles	20	31.2	736	28.0	105	11.5
50 to 99 miles	9	13.6	357	13.6	51	5.5
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	16	25.1	683	26.0	487	53.1
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	—	—	—	—	—	—
Other multiple modes	320	100.0	1 262	100.0	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	—	—	—	—	—	—
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	—	—	—	—	—	—
Other and unknown modes	11 013	100.0	22 729	100.0	2 684	100.0
Less than 50 miles	4 817	43.7	19 700	86.7	182	6.8
50 to 99 miles	993	9.0	488	2.1	45	1.7
100 to 249 miles	1 500	13.6	552	2.4	111	4.1
250 to 499 miles	1 088	9.9	613	2.7	255	9.5
500 to 749 miles	668	6.1	466	2.1	344	12.8
750 to 999 miles	567	5.1	262	1.2	261	9.7
1,000 to 1,499 miles	907	8.2	178	.8	256	9.5
1,500 to 1,999 miles	136	1.2	61	.3	121	4.5
2,000 miles or more	337	3.1	S	S	S	S

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

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

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

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

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

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
All modes	297 308	100.0	548 166	100.0	75 869	100.0	481
Less than 50 lb	44 569	15.0	1 216	.2	591	.8	552
50 to 99 lb	10 532	3.5	696	.1	208	.3	291
100 to 499 lb	33 827	11.4	4 126	.8	1 067	1.4	257
500 to 749 lb	7 711	2.6	1 866	.3	343	.5	184
750 to 999 lb	9 236	3.1	1 754	.3	S	S	320
1,000 to 9,999 lb	62 997	21.2	29 804	5.4	5 272	6.9	179
10,000 to 49,999 lb	102 632	34.5	248 884	45.4	31 904	42.1	141
50,000 to 99,999 lb	10 002	3.4	62 686	11.4	4 974	6.6	79
100,000 lb or more	15 801	5.3	197 135	36.0	30 941	40.8	S
Single modes	242 127	100.0	514 371	100.0	67 578	100.0	118
Less than 50 lb	12 844	5.3	552	.1	61	—	78
50 to 99 lb	4 848	2.0	455	—	65	.1	135
100 to 499 lb	26 545	11.0	3 598	.7	813	1.2	207
500 to 749 lb	6 920	2.9	1 775	.3	313	.5	176
750 to 999 lb	8 908	3.7	1 680	.3	S	S	325
1,000 to 9,999 lb	60 310	24.9	28 718	5.6	5 008	7.4	176
10,000 to 49,999 lb	97 790	40.4	241 872	47.0	29 858	44.2	136
50,000 to 99,999 lb	9 348	3.9	60 419	11.7	4 127	6.1	69
100,000 lb or more	14 613	6.0	175 301	34.1	26 780	39.6	S
Truck¹	220 639	100.0	428 616	100.0	41 741	100.0	106
Less than 50 lb	7 525	3.4	542	.1	50	.1	62
50 to 99 lb	4 369	2.0	450	.1	59	.1	123
100 to 499 lb	23 626	10.7	3 565	.8	771	1.8	197
500 to 749 lb	6 811	3.1	1 771	.4	306	.7	172
750 to 999 lb	8 797	4.0	1 675	.4	S	S	322
1,000 to 9,999 lb	59 692	27.1	28 640	6.7	4 899	11.7	172
10,000 to 49,999 lb	96 981	44.0	241 408	56.3	29 286	70.2	134
50,000 to 99,999 lb	8 915	4.0	59 993	14.0	3 707	8.9	64
100,000 lb or more	3 923	1.8	S	S	2 116	5.1	S
For-hire truck	129 877	100.0	230 072	100.0	31 606	100.0	414
Less than 50 lb	2 327	1.8	81	—	24	—	307
50 to 99 lb	1 567	1.2	71	—	42	.1	556
100 to 499 lb	13 587	10.5	987	.4	642	2.0	612
500 to 749 lb	3 671	2.8	410	.2	241	.8	586
750 to 999 lb	6 541	5.0	476	.2	S	S	1 021
1,000 to 9,999 lb	33 003	25.4	7 767	3.4	3 477	11.0	532
10,000 to 49,999 lb	63 304	48.7	142 590	62.0	22 896	72.4	191
50,000 to 99,999 lb	3 286	2.5	27 738	12.1	2 343	7.4	90
100,000 lb or more	2 591	2.0	49 951	21.7	1 452	4.6	S
Private truck	89 144	100.0	186 983	100.0	9 370	100.0	44
Less than 50 lb	5 193	5.8	461	.2	25	.3	41
50 to 99 lb	2 800	3.1	379	.2	17	.2	44
100 to 499 lb	9 961	11.2	2 575	1.4	128	1.4	49
500 to 749 lb	3 103	3.5	1 359	.7	64	.7	47
750 to 999 lb	2 254	2.5	1 198	.6	59	.6	49
1,000 to 9,999 lb	26 555	29.8	20 786	11.1	1 412	15.1	59
10,000 to 49,999 lb	32 447	36.4	94 131	50.3	5 882	62.8	64
50,000 to 99,999 lb	5 570	6.2	30 568	16.3	1 290	13.8	43
100,000 lb or more	1 261	1.4	S	S	494	5.3	S
Rail	6 525	100.0	45 926	100.0	20 653	100.0	432
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	2 968
500 to 749 lb	S	S	S	S	S	S	322
750 to 999 lb	S	S	S	S	S	S	2 307
1,000 to 9,999 lb	79	1.2	14	—	S	S	1 972
10,000 to 49,999 lb	657	10.1	415	.9	537	2.6	1 343
50,000 to 99,999 lb	409	6.3	397	.9	399	1.9	989
100,000 lb or more	5 365	82.2	45 099	98.2	19 683	95.3	473
Water	S	S	S	S	S	S	173
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	610
100 to 499 lb	S	S	S	S	S	S	14
500 to 749 lb	S	S	S	S	S	S	322
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	22
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	222
Shallow draft	S	S	S	S	S	S	173
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	S	S	S	S	S	S	610
100 to 499 lb	S	S	S	S	S	S	14
500 to 749 lb	S	S	S	S	S	S	322
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	22
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	222

See footnotes at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—
Air (includes truck and air)	9 605	100.0	215	100.0	223	100.0	1 258
Less than 50 lb	S	S	9	4.1	12	5.2	1 251
50 to 99 lb	479	5.0	5	2.2	6	2.7	1 236
100 to 499 lb	2 918	30.4	32	15.0	41	18.6	1 269
500 to 749 lb	108	1.1	4	1.8	6	2.9	1 561
750 to 999 lb	110	1.1	6	2.6	5	2.4	959
1,000 to 9,999 lb	514	5.4	59	27.4	S	S	1 620
10,000 to 49,999 lb	S	S	39	18.0	34	15.4	878
50,000 to 99,999 lb	S	S	S	S	S	S	695
100,000 lb or more	S	S	S	S	S	S	611
Pipeline²	4 021	100.0	20 779	100.0	S	S	S
Less than 50 lb	—	—	—	—	S	S	S
50 to 99 lb	—	—	—	—	S	S	S
100 to 499 lb	—	—	—	—	S	S	S
500 to 749 lb	—	—	—	—	S	S	S
750 to 999 lb	—	—	—	—	S	S	S
1,000 to 9,999 lb	—	—	—	—	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	S	S	S
100,000 lb or more	4 014	99.8	20 774	100.0	S	S	S
Multiple modes	44 168	100.0	11 066	100.0	5 606	100.0	820
Less than 50 lb	30 483	69.0	631	5.7	527	9.4	827
50 to 99 lb	5 365	12.1	199	1.8	141	2.5	685
100 to 499 lb	6 083	13.8	379	3.4	241	4.3	668
500 to 749 lb	616	1.4	41	.4	27	.5	662
750 to 999 lb	228	.5	45	.4	13	.2	295
1,000 to 9,999 lb	S	S	17	.2	15	.3	1 066
10,000 to 49,999 lb	715	1.6	663	6.0	931	16.6	1 517
50,000 to 99,999 lb	127	.3	454	4.1	119	2.1	S
100,000 lb or more	441	1.0	8 638	78.1	S	S	581
Parcel, U.S. Postal Service or courier	42 762	100.0	1 298	100.0	945	100.0	820
Less than 50 lb	30 480	71.3	631	48.6	527	55.8	827
50 to 99 lb	5 365	12.5	199	15.4	141	14.9	685
100 to 499 lb	6 064	14.2	378	29.1	237	25.1	661
500 to 749 lb	614	1.4	41	3.2	26	2.8	658
750 to 999 lb	227	.5	45	3.4	13	1.4	292
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	735	100.0	S	S	842	100.0	1 628
Less than 50 lb	S	S	S	S	S	S	1 825
50 to 99 lb	S	S	S	S	S	S	3 072
100 to 499 lb	S	S	S	S	S	S	2 394
500 to 749 lb	S	S	S	S	S	S	1 205
750 to 999 lb	S	S	S	S	S	S	3 094
1,000 to 9,999 lb	S	S	9	.2	13	1.5	1 886
10,000 to 49,999 lb	562	76.5	S	S	697	82.8	1 917
50,000 to 99,999 lb	28	3.7	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Truck and water	S	S	S	S	S	S	3 066
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	7 786
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	4 273
10,000 to 49,999 lb	S	S	S	S	S	S	1 893
50,000 to 99,999 lb	S	S	S	S	S	S	1 594
100,000 lb or more	S	S	S	S	S	S	1 224

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	65	100.0	2 625	100.0	918	100.0	374
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	126
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	65	100.0	2 625	100.0	918	100.0	376
Other multiple modes	320	100.0	1 262	100.0	S	S	S
Less than 50 lb	S	S	S	S	S	S	1 275
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	7
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	11
50,000 to 99,999 lb	S	S	S	S	S	S	19
100,000 lb or more	S	S	S	S	S	S	387
Other and unknown modes	11 013	100.0	22 729	100.0	2 684	100.0	73
Less than 50 lb	1 242	11.3	33	.1	2	—	52
50 to 99 lb	319	2.9	42	.2	2	—	41
100 to 499 lb	1 199	10.9	149	.7	12	.5	74
500 to 749 lb	174	1.6	49	.2	3	.1	73
750 to 999 lb	101	.9	29	.1	2	—	65
1,000 to 9,999 lb	2 576	23.4	1 069	4.7	249	9.3	245
10,000 to 49,999 lb	4 127	37.5	6 349	27.9	1 115	41.6	202
50,000 to 99,999 lb	527	4.8	1 813	8.0	729	27.2	420
100,000 lb or more	746	6.8	S	S	S	S	530

— 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	297 308	100.0	548 166	100.0	75 869	100.0	481
01	Live animals and live fish	80	—	81	—	57	—	685
02	Cereal grains	568	.2	1 491	.3	218	.3	S
03	Other agricultural products	4 700	1.6	7 331	1.3	872	1.1	S
04	Animal feed and products of animal origin, n.e.c.	1 260	.4	3 808	.7	328	.4	34
05	Meat, fish, seafood, and their preparations	5 897	2.0	2 441	.4	550	.7	61
06	Milled grain products and preparations, and bakery products	5 202	1.7	3 471	.6	1 416	1.9	S
07	Other prepared foodstuffs and fats and oils	22 543	7.6	18 375	3.4	3 204	4.2	46
08	Alcoholic beverages	1 909	.6	2 514	.5	323	.4	45
09	Tobacco products	2 166	.7	154	—	20	—	S
10	Monumental or building stone	S	S	S	S	S	S	268
11	Natural sands	102	—	11 094	2.0	361	.5	S
12	Gravel and crushed stone	824	.3	114 813	20.9	3 772	5.0	32
13	Nonmetallic minerals n.e.c.	281	—	S	S	575	.8	50
14	Metallic ores and concentrates	496	.2	720	.1	S	S	579
15	Coal	2 702	.9	103 683	18.9	20 348	26.8	58
17	Gasoline and aviation turbine fuel	7 285	2.5	30 385	5.5	610	.8	25
18	Fuel oils	4 681	1.6	21 821	4.0	910	1.2	20
19	Coal and petroleum products, n.e.c.	4 153	1.4	30 481	5.6	1 888	2.5	35
20	Basic chemicals	4 902	1.6	6 186	1.1	2 918	3.8	284
21	Pharmaceutical products	10 283	3.5	318	—	162	.2	593
22	Fertilizers	611	.2	S	S	S	S	121
23	Chemical products and preparations, n.e.c.	4 493	1.5	1 847	.3	909	1.2	217
24	Plastics and rubber	14 060	4.7	5 586	1.0	2 416	3.2	401
25	Logs and other wood in the rough	S	S	1 474	.3	176	.2	96
26	Wood products	4 134	1.4	7 885	1.4	1 653	2.2	403
27	Pulp, newsprint, paper, and paperboard	5 848	2.0	4 884	.9	1 978	2.6	214
28	Paper or paperboard articles	6 816	2.3	4 761	.9	1 066	1.4	302
29	Printed products	23 461	7.9	5 178	.9	1 902	2.5	359
30	Textiles, leather, and articles of textiles or leather	11 597	3.9	934	.2	495	.7	417
31	Nonmetallic mineral products	7 576	2.5	60 477	11.0	4 565	6.0	1 100
32	Base metal in primary or semifinished forms and in finished basic shapes	21 328	7.2	21 044	3.8	8 102	10.7	340
33	Articles of base metal	13 841	4.7	7 264	1.3	3 365	4.4	545
34	Machinery	15 337	5.2	1 722	.3	612	.8	250
35	Electronic and other electrical equipment and components and office equipment	31 359	10.5	1 787	.3	1 208	1.6	799
36	Motorized and other vehicles (including parts)	12 721	4.3	2 588	.5	1 221	1.6	180
37	Transportation equipment, n.e.c.	2 998	1.0	807	.1	800	1.1	948
38	Precision instruments and apparatus	4 873	1.6	94	—	54	—	516
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	4 069	1.4	692	.1	363	.5	393
40	Miscellaneous manufactured products	19 493	6.6	S	S	1 188	1.6	845
41	Waste and scrap	2 399	.8	12 569	2.3	S	S	97
43	Mixed freight	8 900	3.0	4 705	.9	437	.6	240
--	Commodity unknown	941	.3	S	S	161	.2	615

— 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	297 308	100.0	548 166	100.0	75 869	100.0	481
Single modes	242 127	81.4	514 371	93.8	67 578	89.1	118
Truck ¹	220 639	74.2	428 616	78.2	41 741	55.0	106
For-hire truck	129 877	43.7	230 072	42.0	31 606	41.7	414
Private truck	89 144	30.0	186 983	34.1	9 370	12.3	44
Rail	6 525	2.2	45 926	8.4	20 653	27.2	432
Water	S	S	S	S	S	S	173
Shallow draft	S	S	S	S	S	S	173
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	9 605	3.2	215	-	223	.3	1 258
Pipeline ²	4 021	1.4	20 779	3.8	S	S	S
Multiple modes	44 168	14.9	11 066	2.0	5 606	7.4	820
Parcel, U.S. Postal Service or courier	42 762	14.4	1 298	.2	945	1.2	820
Truck and rail	735	.2	S	S	842	1.1	1 628
Truck and water	S	S	S	S	S	S	3 066
Rail and water	65	-	2 625	.5	918	1.2	374
Other multiple modes	320	.1	1 262	.2	S	S	S
Other and unknown modes	11 013	3.7	22 729	4.1	2 684	3.5	73
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	80	100.0	81	100.0	57	100.0	685
Single modes	75	93.8	77	94.4	54	94.7	602
Truck ¹	75	93.8	77	94.4	54	94.7	602
For-hire truck	50	62.6	62	75.8	48	84.6	794
Private truck	25	31.2	15	18.5	S	S	502
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	1 918
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 918
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	668
SCTG 02, CEREAL GRAINS							
Total	568	100.0	1 491	100.0	218	100.0	S
Single modes	490	86.2	1 427	95.7	145	66.5	S
Truck ¹	393	69.2	1 389	93.2	118	54.1	S
For-hire truck	267	47.0	409	27.4	91	41.7	293
Private truck	125	22.0	970	65.1	27	12.3	S
Rail	S	S	S	S	S	S	717
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	593
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	58
Truck and rail	S	S	S	S	S	S	1 686
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	52

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	4 700	100.0	7 331	100.0	872	100.0	S
Single modes	4 598	97.8	7 248	98.9	859	98.6	S
Truck ¹	4 580	97.4	7 247	98.9	857	98.4	S
For-hire truck	S	S	4 134	56.4	626	71.8	S
Private truck	2 709	57.6	S	S	227	26.0	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 546
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	3	—	2	.2	635
Parcel, U.S. Postal Service or courier	S	S	3	—	2	.2	635
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	1 260	100.0	3 808	100.0	328	100.0	34
Single modes	1 130	89.7	3 350	88.0	326	99.5	42
Truck ¹	1 130	89.7	3 350	88.0	326	99.5	42
For-hire truck	280	22.2	555	14.6	163	49.8	S
Private truck	849	67.4	2 795	73.4	163	49.7	33
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	92
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	92
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	2	.5	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	5 897	100.0	2 441	100.0	550	100.0	61
Single modes	5 732	97.2	2 382	97.6	528	95.9	56
Truck ¹	5 732	97.2	2 382	97.6	528	95.9	56
For-hire truck	1 450	24.6	571	23.4	236	42.9	S
Private truck	4 264	72.3	1 791	73.4	288	52.4	45
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	1 227
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 206
Truck and rail	S	S	S	S	S	S	3 247
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 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	5 202	100.0	3 471	100.0	1 416	100.0	S
Single modes	5 103	98.1	3 415	98.4	1 315	92.9	S
Truck ¹	4 990	95.9	3 346	96.4	1 192	84.2	S
For-hire truck	2 583	49.6	1 616	46.6	961	67.9	566
Private truck	2 279	43.8	1 567	45.2	172	12.2	32
Rail	112	2.2	69	2.0	123	8.7	1 774
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	480
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	97	1.9	55	1.6	100	7.1	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	619
Truck and rail	78	1.5	50	1.4	97	6.9	2 004
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	156
Other and unknown modes	S	S	S	S	S	S	488
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	22 543	100.0	18 375	100.0	3 204	100.0	46
Single modes	21 829	96.8	17 737	96.5	3 009	93.9	44
Truck ¹	21 768	96.6	17 690	96.3	2 951	92.1	44
For-hire truck	9 789	43.4	5 484	29.8	1 865	58.2	S
Private truck	11 940	53.0	12 095	65.8	1 071	33.4	28
Rail	S	S	S	S	S	S	1 827
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	5 035
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	25	.1	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	1	—	399
Truck and rail	S	S	S	S	S	S	2 487
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	147	4.6	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	1 909	100.0	2 514	100.0	323	100.0	45
Single modes	1 881	98.6	2 489	99.0	297	92.1	46
Truck ¹	1 875	98.2	2 477	98.5	293	90.8	46
For-hire truck	328	17.2	689	27.4	244	75.6	365
Private truck	1 544	80.9	1 784	71.0	49	15.2	44
Rail	S	S	S	S	S	S	349
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	3
Truck and rail	S	S	S	S	S	S	2 467
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	8

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	2 166	100.0	154	100.0	20	100.0	S
Single modes	1 938	89.5	150	97.4	18	90.6	S
Truck ¹	1 938	89.5	150	97.4	18	90.6	S
For-hire truck	173	8.0	12	7.8	9	46.3	938
Private truck	1 765	81.5	138	89.6	9	44.3	31
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	202	9.3	3	2.1	2	9.3	746
Parcel, U.S. Postal Service or courier	202	9.3	3	2.1	2	9.3	746
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	S	S	S	S	268
Single modes	S	S	S	S	S	S	147
Truck ¹	S	S	S	S	S	S	147
For-hire truck	S	S	S	S	S	S	375
Private truck	S	S	S	S	S	S	114
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	2 906
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	202
Truck and rail	S	S	S	S	S	S	3 169
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	623
SCTG 11, NATURAL SANDS							
Total	102	100.0	11 094	100.0	361	100.0	S
Single modes	102	99.9	11 094	100.0	361	100.0	S
Truck ¹	94	92.4	10 677	96.2	232	64.3	S
For-hire truck	57	56.1	S	S	161	44.5	S
Private truck	37	36.3	5 096	45.9	71	19.8	17
Rail	8	7.5	417	3.8	129	35.7	309
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	31
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	105

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	824	100.0	114 813	100.0	3 772	100.0	32
Single modes	794	96.3	110 465	96.2	3 708	98.3	33
Truck ¹	766	93.0	108 566	94.6	3 362	89.1	32
For-hire truck	508	61.6	64 425	56.1	2 381	63.1	39
Private truck	253	30.7	42 936	37.4	975	25.9	24
Rail	27	3.3	1 898	1.7	346	9.2	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	353
Truck and rail	S	S	S	S	S	S	17
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	7	.9	1 041	.9	S	S	10
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	281	100.0	S	S	575	100.0	50
Single modes	260	92.4	S	S	557	96.8	37
Truck ¹	260	92.4	S	S	557	96.8	37
For-hire truck	S	S	2 124	15.3	138	24.1	84
Private truck	104	37.0	2 923	21.0	94	16.4	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	472
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	435
Truck and rail	S	S	S	S	S	S	2 817
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	16
Other and unknown modes	S	S	S	S	S	S	110
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	496	100.0	720	100.0	S	S	579
Single modes	448	90.3	483	67.1	S	S	386
Truck ¹	447	90.2	483	67.1	S	S	379
For-hire truck	438	88.4	465	64.6	S	S	412
Private truck	7	1.4	13	1.8	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	569
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	493
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	493
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	1 581

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	2 702	100.0	103 683	100.0	20 348	100.0	58
Single modes	2 164	80.1	87 786	84.7	19 011	93.4	54
Truck ¹	1 033	38.2	43 845	42.3	1 766	8.7	51
For-hire truck	897	33.2	39 953	38.5	1 529	7.5	52
Private truck	137	5.1	3 892	3.8	236	1.2	48
Rail	812	30.1	31 226	30.1	14 042	69.0	409
Water	318	11.8	12 715	12.3	S	S	194
Shallow draft	318	11.8	12 715	12.3	S	S	194
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	95	3.5	3 315	3.2	1 218	6.0	417
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	198
Truck and water	S	S	S	S	S	S	902
Rail and water	65	2.4	2 625	2.5	918	4.5	374
Other multiple modes	S	S	S	S	S	S	127
Other and unknown modes	443	16.4	S	S	S	S	S
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	7 285	100.0	30 385	100.0	610	100.0	25
Single modes	7 079	97.2	29 707	97.8	598	98.0	33
Truck ¹	4 480	61.5	16 159	53.2	560	91.8	33
For-hire truck	611	8.4	2 426	8.0	160	26.2	78
Private truck	3 868	53.1	13 733	45.2	400	65.6	26
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	2 599	35.7	13 548	44.6	S	S	S
Multiple modes	S	S	S	S	S	S	17
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	17
Other and unknown modes	S	S	S	S	7	1.1	S
SCTG 18, FUEL OILS							
Total	4 681	100.0	21 821	100.0	910	100.0	20
Single modes	4 242	90.6	19 926	91.3	535	58.7	21
Truck ¹	3 090	66.0	14 228	65.2	522	57.4	21
For-hire truck	166	3.5	1 030	4.7	S	S	105
Private truck	2 924	62.5	13 198	60.5	429	47.2	20
Rail	S	S	S	S	S	S	306
Water	S	S	S	S	S	S	—
Shallow draft	S	S	S	S	S	S	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline ²	1 068	22.8	5 299	24.3	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	806
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S
Other and unknown modes	S	S	S	S	S	S	9

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	4 153	100.0	30 481	100.0	1 888	100.0	35
Single modes	4 124	99.3	30 438	99.9	1 876	99.4	35
Truck ¹	2 635	63.4	21 211	69.6	894	47.4	33
For-hire truck	1 636	39.4	13 556	44.5	689	36.5	68
Private truck	988	23.8	7 506	24.6	205	10.8	23
Rail	433	10.4	2 795	9.2	879	46.5	433
Water	S	S	S	S	S	S	18
Shallow draft	S	S	S	S	S	S	18
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	S	S	S	S	868
Pipeline ²	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	207
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	207
Truck and rail	-	-	-	-	-	-	-
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	28	.7	42	.1	S	S	18
SCTG 20, BASIC CHEMICALS							
Total	4 902	100.0	6 186	100.0	2 918	100.0	284
Single modes	4 581	93.5	6 102	98.6	2 825	96.8	125
Truck ¹	4 097	83.6	4 041	65.3	727	24.9	122
For-hire truck	3 045	62.1	1 724	27.9	503	17.2	535
Private truck	1 014	20.7	S	S	S	S	43
Rail	S	S	S	S	S	S	S
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	S	S	S	S	929
Pipeline ²	200	4.1	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	459
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	459
Truck and rail	S	S	S	S	S	S	2 979
Truck and water	-	-	-	-	-	-	-
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	S	S	S	S	128
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	10 283	100.0	318	100.0	162	100.0	593
Single modes	5 389	52.4	289	90.8	144	88.6	198
Truck ¹	5 139	50.0	268	84.1	126	77.5	139
For-hire truck	3 902	37.9	206	64.6	119	73.0	205
Private truck	1 236	12.0	61	19.0	7	4.0	74
Rail	S	S	S	S	S	S	786
Water	-	-	-	-	-	-	-
Shallow draft	-	-	-	-	-	-	-
Great Lakes	-	-	-	-	-	-	-
Deep draft	-	-	-	-	-	-	-
Air (includes truck and air)	S	S	S	S	S	S	1 183
Pipeline ²	-	-	-	-	S	S	S
Multiple modes	4 787	46.6	26	8.2	17	10.6	632
Parcel, U.S. Postal Service or courier	4 785	46.5	26	8.1	15	9.3	631
Truck and rail	-	-	-	-	-	-	-
Truck and water	S	S	S	S	S	S	7 775
Rail and water	-	-	-	-	-	-	-
Other multiple modes	-	-	-	-	-	-	-
Other and unknown modes	S	S	3	1.0	S	S	349

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	611	100.0	S	S	S	S	121
Single modes	580	94.9	S	S	S	S	97
Truck ¹	580	94.9	S	S	S	S	96
For-hire truck	S	S	S	S	S	S	S
Private truck	200	32.6	487	23.7	35	11.3	53
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	512
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	1 076
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	1 080
Truck and rail	S	S	S	S	S	S	20
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	4 493	100.0	1 847	100.0	909	100.0	217
Single modes	4 119	91.7	1 748	94.6	865	95.1	188
Truck ¹	4 047	90.1	1 743	94.4	857	94.3	173
For-hire truck	2 908	64.7	1 150	62.3	734	80.8	546
Private truck	1 138	25.3	592	32.1	123	13.5	S
Rail	S	S	S	S	S	S	1 063
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	1	—	S	S	1 035
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	268	6.0	S	S	S	S	428
Parcel, U.S. Postal Service or courier	250	5.6	15	.8	6	.7	427
Truck and rail	S	S	S	S	S	S	1 012
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	106	2.4	55	3.0	8	.9	S
SCTG 24, PLASTICS AND RUBBER							
Total	14 060	100.0	5 586	100.0	2 416	100.0	401
Single modes	11 897	84.6	5 176	92.7	2 121	87.8	250
Truck ¹	11 035	78.5	4 108	73.5	1 937	80.2	229
For-hire truck	7 613	54.2	2 955	52.9	1 664	68.9	638
Private truck	3 417	24.3	1 153	20.6	273	11.3	54
Rail	S	S	S	S	180	7.4	1 324
Water	S	S	S	S	S	S	267
Shallow draft	S	S	S	S	S	S	267
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	3	—	4	.1	958
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	1 592	11.3	111	2.0	129	5.3	628
Parcel, U.S. Postal Service or courier	1 491	10.6	70	1.3	41	1.7	627
Truck and rail	100	.7	41	.7	88	3.6	2 189
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	571	4.1	299	5.4	166	6.9	93

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	S	S	1 474	100.0	176	100.0	96
Single modes	S	S	1 425	96.7	161	91.4	94
Truck ¹	S	S	1 360	92.3	130	74.2	91
For-hire truck	S	S	219	14.8	71	40.4	296
Private truck	117	34.4	S	S	59	33.8	S
Rail	S	S	S	S	S	S	521
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	152
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	152
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	144
SCTG 26, WOOD PRODUCTS							
Total	4 134	100.0	7 885	100.0	1 653	100.0	403
Single modes	3 810	92.2	7 266	92.1	1 250	75.6	159
Truck ¹	3 796	91.8	7 255	92.0	1 225	74.1	157
For-hire truck	1 736	42.0	2 897	36.7	803	48.6	483
Private truck	1 988	48.1	4 111	52.1	411	24.8	70
Rail	12	.3	10	.1	24	1.5	1 822
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 755
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	33	.4	58	3.5	654
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	654
Truck and rail	26	.6	21	.3	51	3.1	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	84	2.0	S	S	S	S	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	5 848	100.0	4 884	100.0	1 978	100.0	214
Single modes	5 696	97.4	4 836	99.0	1 957	99.0	123
Truck ¹	5 474	93.6	4 536	92.9	1 689	85.4	120
For-hire truck	3 925	67.1	3 304	67.6	1 519	76.8	224
Private truck	1 548	26.5	1 232	25.2	170	8.6	49
Rail	219	3.8	297	6.1	268	13.6	S
Water	S	S	S	S	S	S	8
Shallow draft	S	S	S	S	S	S	8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	—	—	S	S	1 349
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	S	S	30	.6	S	S	519
Parcel, U.S. Postal Service or courier	S	S	18	.4	3	.1	519
Truck and rail	S	S	S	S	S	S	495
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	38	.6	18	.4	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	6 816	100.0	4 761	100.0	1 066	100.0	302
Single modes	6 526	95.7	4 702	98.8	1 023	96.0	146
Truck ¹	6 512	95.5	4 697	98.7	1 017	95.4	142
For-hire truck	3 932	57.7	2 869	60.3	892	83.7	325
Private truck	2 579	37.8	1 828	38.4	125	11.7	49
Rail	S	S	S	S	S	S	861
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	1 229
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	217	3.2	29	.6	S	S	720
Parcel, U.S. Postal Service or courier	211	3.1	23	.5	10	.9	718
Truck and rail	S	S	S	S	S	S	3 175
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	74	1.1	29	.6	S	S	275
SCTG 29, PRINTED PRODUCTS							
Total	23 461	100.0	5 178	100.0	1 902	100.0	359
Single modes	18 283	77.9	4 732	91.4	1 588	83.5	S
Truck ¹	18 123	77.2	4 694	90.7	1 544	81.2	S
For-hire truck	S	S	2 753	53.2	S	S	517
Private truck	4 618	19.7	1 890	36.5	100	5.2	S
Rail	S	S	S	S	S	S	693
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	148	.6	37	.7	43	2.2	1 779
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	4 614	19.7	247	4.8	S	S	981
Parcel, U.S. Postal Service or courier	4 614	19.7	247	4.8	S	S	981
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	564	2.4	199	3.8	74	3.9	214
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	11 597	100.0	934	100.0	495	100.0	417
Single modes	8 331	71.8	796	85.2	418	84.3	568
Truck ¹	8 072	69.6	782	83.7	395	79.8	511
For-hire truck	6 073	52.4	497	53.2	351	70.9	804
Private truck	1 975	17.0	283	30.3	44	8.8	221
Rail	S	S	S	S	S	S	1 542
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	232	2.0	3	.4	6	1.2	1 272
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 843	24.5	112	12.0	68	13.7	403
Parcel, U.S. Postal Service or courier	2 797	24.1	110	11.8	65	13.0	403
Truck and rail	S	S	S	S	S	S	1 412
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	26	2.8	S	S	151

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	7 576	100.0	60 477	100.0	4 565	100.0	1 100
Single modes	6 792	89.6	60 022	99.2	4 241	92.9	155
Truck ¹	6 747	89.1	59 786	98.9	3 938	86.3	152
For-hire truck	4 516	59.6	S	S	2 926	64.1	268
Private truck	1 757	23.2	19 640	32.5	833	18.3	43
Rail	36	.5	213	.4	S	S	1 778
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	8	.1	S	S	S	S	1 062
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	558	7.4	26	—	48	1.1	1 596
Parcel, U.S. Postal Service or courier	548	7.2	22	—	S	S	1 596
Truck and rail	S	S	S	S	S	S	2 821
Truck and water	S	S	S	S	S	S	7 276
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	226	3.0	429	.7	275	6.0	188
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	21 328	100.0	21 044	100.0	8 102	100.0	340
Single modes	19 795	92.8	17 792	84.5	7 680	94.8	231
Truck ¹	17 988	84.3	14 706	69.9	5 609	69.2	220
For-hire truck	13 442	63.0	10 988	52.2	4 740	58.5	486
Private truck	4 434	20.8	3 332	15.8	738	9.1	62
Rail	1 719	8.1	3 022	14.4	2 029	25.0	736
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	65	.3	42	.5	1 115
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	727	3.4	S	S	S	S	732
Parcel, U.S. Postal Service or courier	624	2.9	41	.2	22	.3	726
Truck and rail	S	S	S	S	S	S	3 039
Truck and water	S	S	S	S	S	S	2 301
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	216	2.7	S
SCTG 33, ARTICLES OF BASE METAL							
Total	13 841	100.0	7 264	100.0	3 365	100.0	545
Single modes	11 388	82.3	6 760	93.1	2 946	87.5	199
Truck ¹	10 826	78.2	6 097	83.9	2 381	70.8	187
For-hire truck	6 931	50.1	4 053	55.8	1 955	58.1	528
Private truck	3 829	27.7	2 021	27.8	421	12.5	60
Rail	S	S	S	S	S	S	1 461
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	72	.5	S	S	S	S	1 048
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 068	14.9	143	2.0	S	S	934
Parcel, U.S. Postal Service or courier	1 930	13.9	63	.9	S	S	932
Truck and rail	S	S	S	S	S	S	3 356
Truck and water	S	S	S	S	S	S	3 453
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	7
Other and unknown modes	385	2.8	361	5.0	183	5.4	70

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 34, MACHINERY							
Total	15 337	100.0	1 722	100.0	612	100.0	250
Single modes	12 101	78.9	1 612	93.6	574	93.7	143
Truck ¹	11 683	76.2	1 601	93.0	567	92.7	122
For-hire truck	8 166	53.2	995	57.8	477	78.0	437
Private truck	3 474	22.6	604	35.1	90	14.7	47
Rail	S	S	S	S	S	S	3 081
Water	S	S	S	S	S	S	56
Shallow draft	S	S	S	S	S	S	56
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	388	2.5	5	.3	6	.9	1 154
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 706	17.6	60	3.5	26	4.2	376
Parcel, U.S. Postal Service or courier	2 699	17.6	59	3.5	25	4.2	376
Truck and rail	S	S	S	S	S	S	2 595
Truck and water	S	S	S	S	S	S	109
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	530	3.5	51	2.9	13	2.1	48
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	31 359	100.0	1 787	100.0	1 208	100.0	799
Single modes	22 136	70.6	1 627	91.0	1 094	90.5	208
Truck ¹	14 804	47.2	1 577	88.2	1 018	84.3	127
For-hire truck	11 577	36.9	1 316	73.7	973	80.5	628
Private truck	3 187	10.2	260	14.6	44	3.7	23
Rail	S	S	S	S	S	S	2 922
Water	S	S	S	S	S	S	610
Shallow draft	S	S	S	S	S	S	610
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	46	2.6	S	S	1 182
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	7 921	25.3	84	4.7	74	6.1	1 288
Parcel, U.S. Postal Service or courier	7 907	25.2	81	4.5	64	5.3	1 288
Truck and rail	S	S	S	S	S	S	2 718
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	1 275
Other and unknown modes	1 302	4.2	76	4.2	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	12 721	100.0	2 588	100.0	1 221	100.0	180
Single modes	9 849	77.4	2 058	79.5	966	79.2	102
Truck ¹	9 501	74.7	1 833	70.8	748	61.3	77
For-hire truck	4 545	35.7	1 064	41.1	552	45.2	617
Private truck	4 832	38.0	755	29.2	187	15.3	54
Rail	297	2.3	222	8.6	215	17.6	1 026
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	52	.4	2	—	3	.2	1 192
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	685	5.4	75	2.9	S	S	497
Parcel, U.S. Postal Service or courier	577	4.5	29	1.1	15	1.2	496
Truck and rail	S	S	S	S	S	S	1 444
Truck and water	S	S	S	S	S	S	7 756
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	2 187	17.2	454	17.5	176	14.5	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	2 998	100.0	807	100.0	800	100.0	948
Single modes	2 101	70.1	789	97.7	765	95.6	1 019
Truck ¹	1 133	37.8	490	60.7	S	S	732
For-hire truck	1 048	34.9	413	51.1	S	S	835
Private truck	85	2.8	S	S	S	S	331
Rail	597	19.9	297	36.8	332	41.4	1 155
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	372	12.4	2	.2	S	S	1 515
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	553	18.4	S	S	S	S	859
Parcel, U.S. Postal Service or courier	546	18.2	1	.2	1	.1	829
Truck and rail	S	S	S	S	S	S	2 302
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	747
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	4 873	100.0	94	100.0	54	100.0	516
Single modes	2 372	48.7	70	74.2	36	66.2	414
Truck ¹	2 198	45.1	68	72.2	34	62.9	291
For-hire truck	1 784	36.6	49	52.4	32	60.2	620
Private truck	414	8.5	S	S	S	S	32
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	174	3.6	2	2.0	2	3.3	1 081
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	2 204	45.2	18	19.2	13	24.8	555
Parcel, U.S. Postal Service or courier	2 200	45.1	18	19.0	13	24.1	555
Truck and rail	S	S	S	S	S	S	2 264
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	297	6.1	6	6.6	S	S	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	4 069	100.0	692	100.0	363	100.0	393
Single modes	3 879	95.3	664	96.0	343	94.3	456
Truck ¹	3 871	95.2	664	95.9	342	94.1	451
For-hire truck	1 920	47.2	328	47.4	291	80.1	968
Private truck	1 703	41.8	315	45.5	46	12.6	83
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	7	.2	1	—	S	S	1 447
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	126	3.1	S	S	9	2.5	S
Parcel, U.S. Postal Service or courier	121	3.0	S	S	5	1.3	S
Truck and rail	S	S	S	S	S	S	3 126
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	64	1.6	S	S	S	S	577

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	19 493	100.0	S	S	1 188	100.0	845
Single modes	9 015	46.2	S	S	881	74.2	355
Truck ¹	8 697	44.6	S	S	865	72.8	328
For-hire truck	5 695	29.2	1 435	5.6	695	58.5	457
Private truck	2 969	15.2	S	S	168	14.2	243
Rail	17	—	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	300	1.5	4	—	5	.4	1 251
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	9 860	50.6	327	1.3	285	24.0	873
Parcel, U.S. Postal Service or courier	9 842	50.5	325	1.3	280	23.6	873
Truck and rail	S	S	S	S	S	S	1 945
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	619	3.2	94	.4	22	1.9	S
SCTG 41, WASTE AND SCRAP							
Total	2 399	100.0	12 569	100.0	S	S	97
Single modes	2 239	93.3	11 065	88.0	1 440	42.1	95
Truck ¹	1 850	77.1	8 399	66.8	915	26.7	85
For-hire truck	1 195	49.8	6 065	48.2	567	16.6	93
Private truck	651	27.1	2 301	18.3	S	S	72
Rail	389	16.2	2 666	21.2	S	S	224
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	500
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	346
Truck and rail	S	S	S	S	S	S	98
Truck and water	S	S	S	S	S	S	1 359
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	8 900	100.0	4 705	100.0	437	100.0	240
Single modes	8 234	92.5	4 569	97.1	393	89.8	57
Truck ¹	8 198	92.1	4 560	96.9	367	84.0	55
For-hire truck	S	S	S	S	S	S	S
Private truck	7 845	88.1	4 503	95.7	341	78.1	51
Rail	S	S	S	S	S	S	2 737
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	246
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	555	6.2	94	2.0	29	6.5	381
Parcel, U.S. Postal Service or courier	553	6.2	93	2.0	27	6.2	381
Truck and rail	S	S	S	S	S	S	2 326
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	111	1.2	S	S	S	S	S

See footnotes at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent	
COMMODITY UNKNOWN							
Total	941	100.0	S	S	161	100.0	615
Single modes	626	66.5	S	S	140	87.2	363
Truck ¹	597	63.4	S	S	117	72.7	258
For-hire truck	337	35.8	151	24.1	88	54.6	690
Private truck	259	27.5	S	S	29	18.2	S
Rail	S	S	S	S	S	S	2 062
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	17	1.8	—	—	1	.3	1 232
Pipeline ²	—	—	—	—	S	S	S
Multiple modes	174	18.5	S	S	S	S	754
Parcel, U.S. Postal Service or courier	172	18.3	S	S	S	S	754
Truck and rail	S	S	S	S	S	S	2 881
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	22	3.4	S	S	S

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

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

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

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

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

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

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

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

State of destination	Value		Tons		Ton-miles	
	Number (million dollars)	Percent	Number (thousands)	Percent	Number (millions)	Percent
Total	297 308	100.0	548 166	100.0	75 869	100.0
NEW ENGLAND STATES						
Connecticut	4 555	1.5	1 462	.3	383	.5
Maine	1 144	.4	490	—	251	.3
Massachusetts	5 485	1.8	2 323	.4	891	1.2
New Hampshire	867	.3	1 071	.2	679	.9
Rhode Island	777	.3	291	—	102	.1
Vermont	568	.2	347	—	137	.2
MIDDLE ATLANTIC STATES						
New Jersey	24 370	8.2	21 538	3.9	2 477	3.3
New York	22 890	7.7	21 365	3.9	5 690	7.5
Pennsylvania	102 859	34.6	404 315	73.8	13 926	18.4
EAST NORTH CENTRAL STATES						
Illinois	7 863	2.6	3 641	.7	2 391	3.2
Indiana	4 908	1.7	3 294	.6	1 922	2.5
Michigan	5 830	2.0	4 613	.8	2 064	2.7
Ohio	14 595	4.9	20 576	3.8	4 828	6.4
Wisconsin	2 257	.8	2 238	.4	1 702	2.2
WEST NORTH CENTRAL STATES						
Iowa	1 428	.5	541	.1	598	.8
Kansas	1 101	.4	426	—	467	.6
Minnesota	2 213	.7	601	.1	675	.9
Missouri	2 882	1.0	751	.1	672	.9
Nebraska	582	.2	207	—	228	.3
North Dakota	162	—	56	—	84	.1
South Dakota	125	—	19	—	23	—
SOUTH ATLANTIC STATES						
Delaware	3 296	1.1	6 410	1.2	435	.6
District of Columbia	409	.1	152	—	21	—
Florida	6 831	2.3	S	S	S	S
Georgia	6 268	2.1	1 765	.3	1 373	1.8
Maryland	11 147	3.7	17 412	3.2	3 835	5.1
North Carolina	6 348	2.1	3 060	.6	1 498	2.0
South Carolina	2 571	.9	881	.2	549	.7
Virginia	6 087	2.0	3 536	.6	892	1.2
West Virginia	3 727	1.3	6 027	1.1	609	.8
EAST SOUTH CENTRAL STATES						
Alabama	2 239	.8	766	.1	694	.9
Kentucky	3 039	1.0	1 681	.3	931	1.2
Mississippi	825	.3	269	—	279	.4
Tennessee	4 616	1.6	2 574	.5	2 471	3.3
WEST SOUTH CENTRAL STATES						
Arkansas	1 174	.4	S	S	S	S
Louisiana	1 530	.5	S	S	S	S
Oklahoma	813	.3	148	—	184	.2
Texas	9 649	3.2	3 674	.7	5 625	7.4
MOUNTAIN STATES						
Arizona	1 257	.4	219	—	491	.6
Colorado	1 113	.4	206	—	352	.5
Idaho	128	—	45	—	102	.1
Montana	129	—	34	—	69	—
Nevada	S	S	124	—	S	S
New Mexico	321	.1	21	—	40	—
Utah	1 090	.4	198	—	395	.5
Wyoming	S	S	S	S	S	S
PACIFIC STATES						
Alaska	44	—	3	—	6	—
California	10 459	3.5	1 965	.4	5 314	7.0
Hawaii	54	—	4	—	22	—
Oregon	1 334	.4	275	—	765	1.0
Washington	1 579	.5	268	—	739	1.0

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

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

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

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	285 107	100.0	553 646	100.0	92 290	100.0
NEW ENGLAND STATES						
Connecticut	3 813	1.3	1 846	.3	452	.5
Maine	919	.3	633	.1	419	.5
Massachusetts	3 882	1.4	999	.2	368	.4
New Hampshire	1 084	.4	242	—	108	.1
Rhode Island	654	.2	144	—	47	—
Vermont	301	.1	153	—	67	—
MIDDLE ATLANTIC STATES						
New Jersey	25 107	8.8	17 519	3.2	1 907	2.1
New York	16 439	5.8	11 582	2.1	2 269	2.5
Pennsylvania	102 859	36.1	404 315	73.0	13 926	15.1
EAST NORTH CENTRAL STATES						
Illinois	9 169	3.2	4 683	.8	3 293	3.6
Indiana	5 199	1.8	3 127	.6	1 948	2.1
Michigan	6 422	2.3	4 452	.8	2 227	2.4
Ohio	17 320	6.1	19 961	3.6	4 880	5.3
Wisconsin	6 292	2.2	2 092	.4	1 811	2.0
WEST NORTH CENTRAL STATES						
Iowa	2 120	.7	1 294	.2	1 218	1.3
Kansas	1 345	.5	514	—	699	.8
Minnesota	2 974	1.0	5 899	1.1	6 539	7.1
Missouri	3 905	1.4	1 956	.4	1 926	2.1
Nebraska	1 294	.5	503	—	621	.7
North Dakota	167	—	423	—	635	.7
South Dakota	S	S	129	—	188	.2
SOUTH ATLANTIC STATES						
Delaware	1 839	.6	3 964	.7	348	.4
District of Columbia	S	S	S	S	S	S
Florida	2 709	1.0	988	.2	1 083	1.2
Georgia	5 135	1.8	2 267	.4	1 802	2.0
Maryland	7 918	2.8	8 275	1.5	882	1.0
North Carolina	8 218	2.9	2 704	.5	1 322	1.4
South Carolina	2 535	.9	1 527	.3	981	1.1
Virginia	6 272	2.2	8 593	1.6	3 563	3.9
West Virginia	2 396	.8	19 346	3.5	4 283	4.6
EAST SOUTH CENTRAL STATES						
Alabama	1 793	.6	2 174	.4	2 264	2.5
Kentucky	3 660	1.3	8 356	1.5	S	S
Mississippi	845	.3	519	—	573	.6
Tennessee	4 331	1.5	1 732	.3	1 328	1.4
WEST SOUTH CENTRAL STATES						
Arkansas	1 288	.5	912	.2	1 056	1.1
Louisiana	1 123	.4	2 409	.4	3 857	4.2
Oklahoma	499	.2	253	—	345	.4
Texas	6 733	2.4	3 877	.7	6 460	7.0
MOUNTAIN STATES						
Arizona	S	S	42	—	97	.1
Colorado	727	.3	S	S	S	S
Idaho	473	.2	235	—	553	.6
Montana	100	—	58	—	132	.1
Nevada	185	—	51	—	129	.1
New Mexico	226	—	S	S	S	S
Utah	459	.2	64	—	124	.1
Wyoming	69	—	494	—	958	1.0
PACIFIC STATES						
Alaska	5	—	—	—	—	—
California	9 913	3.5	1 481	.3	4 069	4.4
Hawaii	S	S	—	—	—	—
Oregon	785	.3	228	—	666	.7
Washington	1 673	.6	276	—	780	.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.

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Appendix A.

Comparability With the 1993 Commodity Flow Survey

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

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

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

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

Appendix B.

Reliability of the Estimates

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

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

SAMPLING ERROR

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

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

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

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

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

NONSAMPLING ERROR

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

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

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

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

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

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

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

Mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
All modes	4.1	—	10.6	—	8.2	—	9.9
Single modes	4.0	1.0	11.6	2.3	7.7	2.0	25.2
Truck	4.3	1.6	13.6	3.6	3.8	3.6	26.8
For-hire truck	6.5	1.5	14.0	3.0	4.3	2.6	13.8
Private truck	3.3	1.2	13.7	2.5	4.9	.8	22.8
Rail	15.7	.4	15.6	1.5	21.7	3.6	28.7
Water	S	S	S	S	S	S	27.7
Shallow draft	S	S	S	S	S	S	27.7
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	39.4	1.1	24.5	—	25.0	—	4.7
Pipeline	33.1	.5	31.7	1.1	S	S	S
Multiple modes	9.2	1.1	37.1	.9	36.2	2.1	5.5
Parcel, U.S. Postal Service or courier	9.2	1.1	13.4	—	20.1	.2	5.5
Truck and rail	22.9	—	S	S	19.4	.2	14.2
Truck and water	S	S	S	S	S	S	29.8
Rail and water	32.8	—	33.8	.2	31.1	.3	18.0
Other multiple modes	47.8	—	47.0	.1	S	S	S
Other and unknown modes	12.9	.4	34.5	1.6	24.5	.9	25.5

— 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-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	4.1	2.9	6.0	10.6	6.2	16.2	8.2	10.8	13.1	9.9	10.3	19.1
Single modes	4.0	3.1	5.7	11.6	6.2	17.2	7.7	10.8	13.0	25.2	4.2	22.0
Truck	4.3	3.3	5.9	13.6	2.8	19.7	3.8	1.8	4.9	26.8	4.9	23.6
For-hire truck	6.5	1.9	7.6	14.0	4.0	25.7	4.3	2.5	5.9	13.8	4.3	13.6
Private truck	3.3	5.5	6.6	13.7	5.3	16.1	4.9	3.6	6.3	22.8	4.4	21.8
Rail	15.7	20.0	23.3	15.6	34.0	24.4	21.7	27.3	25.7	28.7	10.3	27.4
Water	S	48.6	S	S	32.6	S	S	32.1	S	27.7	31.0	24.8
Shallow draft	S	49.2	S	S	32.6	S	S	32.6	S	27.7	20.1	27.6
Great Lakes	—	—	—	—	—	—	—	—	—	—	—	—
Deep draft	—	S	S	—	S	S	—	S	S	—	29.8	—
Air (includes truck and air)	39.4	11.8	141.4	24.5	20.8	111.1	25.0	13.7	86.9	4.7	3.3	5.6
Pipeline	33.1	S	S	31.7	S	S	S	S	S	S	S	S
Multiple modes	9.2	8.3	18.5	37.1	31.5	33.6	36.2	34.1	34.2	5.5	9.9	16.8
Parcel, U.S. Postal Service or courier	9.2	9.0	19.4	13.4	9.2	23.3	20.1	9.8	39.5	5.5	9.9	16.8
Truck and rail	22.9	38.0	99.1	S	27.5	S	19.4	14.3	70.6	14.2	21.0	38.6
Truck and water	S	S	S	S	33.4	S	S	39.4	S	29.8	27.0	75.3
Rail and water	32.8	31.8	6.4	33.8	34.5	9.0	31.1	41.7	7.3	18.0	23.3	19.1
Other multiple modes	47.8	S	S	47.0	S	S	S	S	S	S	S	S
Other and unknown modes	12.9	8.9	24.3	34.5	22.9	109.9	24.5	13.4	64.5	25.5	16.6	11.9

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

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

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

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

Mode of transportation	Value (percent)		Tons (percent)		Ton-miles (percent)	
	1997	1993	1997	1993	1997	1993
All modes	—	—	—	—	—	—
Single modes	1.0	.9	2.3	1.3	2.0	3.2
Truck	1.6	1.0	3.6	3.8	3.6	4.6
For-hire truck	1.5	.8	3.0	2.2	2.6	3.7
Private truck	1.2	1.0	2.5	2.6	.8	1.0
Rail .....	.4	.5	1.5	4.0	3.6	5.9
Water	S	.4	S	1.5	S	2.2
Shallow draft	S	.4	S	1.5	S	2.2
Great Lakes	—	—	—	—	—	—
Deep draft	—	S	—	S	—	S
Air (includes truck and air)	1.1	.1	—	—	—	—
Pipeline .....	.5	S	1.1	S	S	S
Multiple modes	1.1	.8	.9	1.1	2.1	3.3
Parcel, U.S. Postal Service or courier	1.1	.9	—	—	.2	.1
Truck and rail	—	—	S	—	.2	—
Truck and water	S	S	S	—	S	.5
Rail and water	—	—	.2	1.1	.3	3.3
Other multiple modes	—	S	.1	S	S	S
Other and unknown modes .....	.4	.3	1.6	.6	.9	.2

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

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

Table B-2. Measures of Reliability for Shipment Characteristics by Total Modal Activity for the State of Origin: 1997

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

Mode of transportation	Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	
Total	8.2	—	9.9
Truck	3.9	3.6	26.4
Rail	21.6	3.9	27.5
Shallow draft	37.6	2.7	28.8
Great Lakes	46.3	.1	25.9
Deep draft	S	S	24.5
Air	25.4	—	4.9
Parcel, U.S. Postal Service or courier	20.1	.2	5.5
Pipeline	S	S	S
Other and unknown modes	24.5	.9	25.5

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

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

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

[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	4.1	—	10.6	—	8.2	—
Less than 50 miles	3.4	1.2	15.9	3.0	13.3	1.4
50 to 99 miles	9.3	.9	9.7	1.1	8.4	.5
100 to 249 miles	4.0	.4	7.9	1.5	10.2	2.2
250 to 499 miles	4.6	.7	8.4	.5	11.1	2.0
500 to 749 miles	8.1	.5	12.9	.3	16.8	1.4
750 to 999 miles	12.6	.5	26.9	.3	30.3	1.6
1,000 to 1,499 miles	9.3	.3	17.3	.1	16.3	1.0
1,500 to 1,999 miles	13.8	.2	26.3	—	25.8	.6
2,000 miles or more	21.4	.8	12.2	—	12.2	.8
Single modes	4.0	—	11.6	—	7.7	—
Less than 50 miles	3.8	1.4	17.5	3.6	14.5	1.6
50 to 99 miles	10.4	1.3	9.9	1.1	8.6	.6
100 to 249 miles	4.4	.5	7.5	1.6	9.6	2.2
250 to 499 miles	5.8	.6	8.4	.6	11.6	2.1
500 to 749 miles	10.0	.6	12.9	.4	17.5	1.3
750 to 999 miles	13.5	.5	30.1	.4	34.4	1.6
1,000 to 1,499 miles	10.9	.4	19.5	.1	18.4	1.2
1,500 to 1,999 miles	12.6	.1	29.2	—	28.6	.8
2,000 miles or more	26.7	.9	13.3	—	13.2	.6
Truck	4.3	—	13.6	—	3.8	—
Less than 50 miles	3.3	1.3	18.5	2.9	15.6	2.0
50 to 99 miles	6.7	.6	12.3	1.4	11.2	.8
100 to 249 miles	4.7	.5	7.0	1.0	6.9	1.1
250 to 499 miles	6.2	.8	8.0	.6	7.8	1.3
500 to 749 miles	9.8	.6	4.5	.2	4.8	.6
750 to 999 miles	13.9	.5	6.4	.1	6.3	.5
1,000 to 1,499 miles	5.9	.1	4.6	—	5.7	.5
1,500 to 1,999 miles	11.0	.1	26.2	—	26.2	.7
2,000 miles or more	31.2	.9	14.2	.1	14.2	1.4
For-hire truck	6.5	—	14.0	—	4.3	—
Less than 50 miles	6.8	1.1	20.2	4.6	22.9	2.0
50 to 99 miles	11.6	.9	14.5	1.5	12.8	.7
100 to 249 miles	6.2	.9	8.6	1.8	8.4	1.2
250 to 499 miles	7.2	1.0	7.6	1.0	7.4	1.3
500 to 749 miles	11.1	1.0	4.1	.4	4.1	.7
750 to 999 miles	14.9	.8	6.4	.2	6.5	.6
1,000 to 1,499 miles	5.6	.2	3.3	.1	3.5	.6
1,500 to 1,999 miles	11.1	.2	24.6	—	24.8	.7
2,000 miles or more	33.3	1.4	16.0	.3	16.1	1.9
Private truck	3.3	—	13.7	—	4.9	—
Less than 50 miles	4.7	1.6	17.1	2.2	7.5	2.0
50 to 99 miles	6.7	.8	12.2	1.6	11.7	1.6
100 to 249 miles	5.9	.5	5.3	.5	4.6	1.1
250 to 499 miles	10.0	.7	11.6	.2	10.7	1.3
500 to 749 miles	11.8	.3	27.9	.1	29.3	1.5
750 to 999 miles	13.0	.1	16.8	—	16.1	.4
1,000 to 1,499 miles	18.9	.2	26.9	—	31.5	1.8
1,500 to 1,999 miles	26.5	—	45.0	—	43.5	.5
2,000 miles or more	21.9	.1	18.8	—	18.7	.6
Rail	15.7	—	15.6	—	21.7	—
Less than 50 miles	44.2	4.8	31.3	3.8	35.8	.7
50 to 99 miles	22.4	.6	34.0	1.0	35.8	.4
100 to 249 miles	15.8	3.2	17.6	5.1	18.1	6.0
250 to 499 miles	25.5	4.3	18.8	1.7	17.5	2.0
500 to 749 miles	28.4	2.3	46.8	1.7	S	S
750 to 999 miles	21.6	1.6	S	S	S	S
1,000 to 1,499 miles	19.2	2.4	12.4	.5	12.9	1.6
1,500 to 1,999 miles	S	S	44.5	.2	43.6	1.3
2,000 miles or more	26.8	1.2	20.4	.2	20.4	1.6
Water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	47.1	3.5	47.8	3.3	47.0	1.4
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Shallow draft	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	47.1	3.5	47.8	3.3	47.0	1.4
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Single modes—Con.						
Great Lakes	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	—	—	—	—	—	—
100 to 249 miles	—	—	—	—	—	—
250 to 499 miles	—	—	—	—	—	—
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Air (includes truck and air)	39.4	—	24.5	—	25.0	—
Less than 50 miles	—	—	—	—	—	—
50 to 99 miles	S	S	28.6	1.9	27.8	.2
100 to 249 miles	20.1	4.9	46.2	8.2	S	S
250 to 499 miles	29.2	3.1	42.9	8.2	42.9	7.1
500 to 749 miles	36.8	2.0	49.6	3.2	S	S
750 to 999 miles	30.3	1.3	29.7	1.8	30.2	2.0
1,000 to 1,499 miles	S	S	31.9	2.5	32.1	2.6
1,500 to 1,999 miles	18.3	.9	41.4	.4	44.3	.9
2,000 miles or more	18.9	3.9	37.3	5.6	36.1	6.4
Pipeline	33.1	—	31.7	—	S	S
Less than 50 miles	35.1	10.2	34.6	10.3	S	S
50 to 99 miles	—	—	—	—	S	S
100 to 249 miles	—	—	—	—	S	S
250 to 499 miles	—	—	—	—	S	S
500 to 749 miles	—	—	—	—	S	S
750 to 999 miles	—	—	—	—	S	S
1,000 to 1,499 miles	41.7	10.2	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	S	S
2,000 miles or more	—	—	—	—	S	S
Multiple modes	9.2	—	37.1	—	36.2	—
Less than 50 miles	15.1	1.2	S	S	S	S
50 to 99 miles	11.0	1.1	33.6	2.6	35.1	.7
100 to 249 miles	10.2	1.5	37.9	10.5	37.4	8.9
250 to 499 miles	9.7	1.3	28.3	4.8	33.0	4.7
500 to 749 miles	16.4	1.3	S	S	S	S
750 to 999 miles	16.2	.7	S	S	S	S
1,000 to 1,499 miles	17.2	1.1	46.5	3.1	49.4	5.1
1,500 to 1,999 miles	35.0	1.2	28.4	—	29.5	.4
2,000 miles or more	15.5	.9	14.0	1.1	13.6	5.4
Parcel, U.S. Postal Service or courier	9.2	—	13.4	—	20.1	—
Less than 50 miles	15.6	1.2	11.2	1.8	10.9	.1
50 to 99 miles	11.0	1.1	9.9	.9	9.9	.2
100 to 249 miles	10.3	1.6	13.8	1.4	12.8	.6
250 to 499 miles	9.7	1.3	8.9	1.2	8.1	1.3
500 to 749 miles	16.2	1.3	22.2	1.1	21.2	1.0
750 to 999 miles	16.1	.7	40.2	2.5	38.7	3.0
1,000 to 1,499 miles	17.5	.9	32.9	1.3	33.4	2.2
1,500 to 1,999 miles	35.1	1.3	29.5	.4	30.8	.9
2,000 miles or more	15.9	.9	23.9	1.1	23.6	2.9
Truck and rail	22.9	—	S	S	19.4	—
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	30.5	4.3	26.3	6.2	26.2	2.1
750 to 999 miles	25.7	2.5	S	S	S	S
1,000 to 1,499 miles	41.9	3.2	48.8	5.9	46.2	4.6
1,500 to 1,999 miles	S	S	S	S	S	S
2,000 miles or more	29.6	5.6	13.5	13.7	14.1	5.8
Truck and water	S	S	S	S	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	S	S	S	S	S	S
500 to 749 miles	S	S	S	S	S	S
750 to 999 miles	S	S	S	S	S	S
1,000 to 1,499 miles	S	S	S	S	S	S
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	S	S	S	S	S	S

See footnotes at end of table.

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

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

Mode of transportation and distance shipped (based on Great Circle Distance)	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Multiple modes—Con.						
Rail and water	32.8	—	33.8	—	31.1	—
Less than 50 miles	44.1	8.1	42.8	7.5	43.3	4.4
50 to 99 miles	49.5	6.4	49.4	6.3	45.2	4.3
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	37.0	9.0	38.3	8.7	41.3	9.9
500 to 749 miles	—	—	—	—	—	—
750 to 999 miles	—	—	—	—	—	—
1,000 to 1,499 miles	—	—	—	—	—	—
1,500 to 1,999 miles	—	—	—	—	—	—
2,000 miles or more	—	—	—	—	—	—
Other multiple modes	47.8	—	47.0	—	S	S
Less than 50 miles	S	S	S	S	S	S
50 to 99 miles	S	S	S	S	S	S
100 to 249 miles	S	S	S	S	S	S
250 to 499 miles	—	—	—	—	—	—
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	—	—	—	—	—	—
Other and unknown modes	12.9	—	34.5	—	24.5	—
Less than 50 miles	16.9	3.9	39.9	8.8	43.3	3.1
50 to 99 miles	20.5	1.3	24.3	1.8	24.0	.7
100 to 249 miles	13.6	2.2	17.0	2.5	14.9	1.3
250 to 499 miles	18.6	1.5	14.8	1.6	13.6	2.7
500 to 749 miles	27.1	.8	46.1	1.2	46.5	2.6
750 to 999 miles	33.5	1.0	25.8	.7	24.6	2.9
1,000 to 1,499 miles	32.9	2.5	25.7	1.4	27.9	5.4
1,500 to 1,999 miles	42.6	.5	45.1	.1	44.4	2.2
2,000 miles or more	22.7	.6	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	4.1	—	10.6	—	8.2	—	9.9
Less than 50 lb	13.4	1.8	8.5	—	21.7	.2	9.4
50 to 99 lb	11.0	.3	11.3	—	29.5	—	11.0
100 to 499 lb	14.6	1.1	7.4	—	26.6	.2	12.2
500 to 749 lb	4.9	.2	8.3	—	11.6	—	9.3
750 to 999 lb	26.6	.7	7.8	—	S	S	36.1
1,000 to 9,999 lb	4.5	.8	5.6	.7	4.3	.6	15.0
10,000 to 49,999 lb	3.4	1.3	12.2	5.0	6.2	2.6	6.2
50,000 to 99,999 lb	9.6	.3	14.6	1.6	8.5	1.0	12.4
100,000 lb or more	15.8	.9	28.0	5.7	16.1	3.7	S
Single modes	4.0	—	11.6	—	7.7	—	25.2
Less than 50 lb	29.4	1.5	8.6	—	28.1	—	44.8
50 to 99 lb	10.1	.1	9.9	—	25.6	—	11.4
100 to 499 lb	15.1	1.2	7.6	.1	26.6	.2	11.3
500 to 749 lb	4.5	.2	8.2	—	11.2	—	9.1
750 to 999 lb	27.9	.8	8.5	—	S	S	36.0
1,000 to 9,999 lb	4.4	.7	5.5	.7	4.1	.6	15.4
10,000 to 49,999 lb	2.7	1.6	12.7	5.1	5.6	2.7	6.8
50,000 to 99,999 lb	10.5	.4	15.1	1.7	9.1	1.0	13.8
100,000 lb or more	17.7	1.0	31.3	5.8	16.8	3.7	S
Truck	4.3	—	13.6	—	3.8	—	26.8
Less than 50 lb	7.0	.2	8.9	—	30.0	—	48.4
50 to 99 lb	9.5	.1	10.0	—	28.0	—	12.8
100 to 499 lb	16.8	1.2	7.7	.2	28.5	.5	12.5
500 to 749 lb	4.8	.2	8.2	—	11.5	—	9.2
750 to 999 lb	28.4	.9	8.5	—	S	S	36.4
1,000 to 9,999 lb	4.4	.8	5.6	.8	4.0	.5	15.8
10,000 to 49,999 lb	2.8	1.4	12.7	5.9	5.6	2.3	6.8
50,000 to 99,999 lb	10.7	.4	15.2	1.9	8.6	.8	11.9
100,000 lb or more	14.2	.2	S	S	23.9	1.2	S
For-hire truck	6.5	—	14.0	—	4.3	—	13.8
Less than 50 lb	11.9	.3	20.5	—	26.0	—	30.6
50 to 99 lb	19.7	.2	13.2	—	38.4	—	17.4
100 to 499 lb	28.8	1.8	23.3	.2	34.3	.6	6.6
500 to 749 lb	7.4	.3	8.4	—	14.6	.1	8.1
750 to 999 lb	39.2	1.5	30.4	.1	S	S	16.4
1,000 to 9,999 lb	7.8	.9	5.4	.6	6.1	.7	8.3
10,000 to 49,999 lb	3.7	2.4	18.1	6.5	6.0	2.4	9.9
50,000 to 99,999 lb	11.9	.3	23.4	1.9	11.0	.8	18.2
100,000 lb or more	15.4	.3	47.7	6.4	25.6	1.2	S
Private truck	3.3	—	13.7	—	4.9	—	22.8
Less than 50 lb	6.9	.3	10.2	—	35.2	—	49.8
50 to 99 lb	11.4	.3	10.6	—	15.9	—	15.9
100 to 499 lb	5.3	.6	5.5	.2	7.9	.1	8.2
500 to 749 lb	6.3	.3	9.2	.1	5.7	—	11.0
750 to 999 lb	7.5	.2	10.7	.1	7.5	—	11.1
1,000 to 9,999 lb	5.0	1.2	7.2	1.5	7.6	1.4	5.3
10,000 to 49,999 lb	4.9	1.2	9.0	5.6	7.5	2.6	5.6
50,000 to 99,999 lb	17.1	.9	11.2	1.9	13.4	1.7	4.4
100,000 lb or more	33.3	.4	S	S	38.6	1.9	S
Rail	15.7	—	15.6	—	21.7	—	28.7
Less than 50 lb	S	S	S	S	S	S	S
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.0
500 to 749 lb	S	S	S	S	S	S	31.6
750 to 999 lb	S	S	S	S	S	S	28.7
1,000 to 9,999 lb	44.6	.6	44.5	—	S	S	22.2
10,000 to 49,999 lb	21.8	1.9	18.3	.5	15.5	1.1	8.9
50,000 to 99,999 lb	32.2	3.1	33.9	1.1	39.8	2.4	18.0
100,000 lb or more	18.4	4.7	16.1	1.6	23.2	3.6	10.4
Water	S	S	S	S	S	S	27.7
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	S	S	S	S	S	S	31.6
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	31.0
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	26.4
Shallow draft	S	S	S	S	S	S	27.7
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	S	S	S	S	S	S	31.6
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	31.0
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	S	S	S	S	S	S	26.4

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	
Single modes—Con.							
Great Lakes	—	—	—	—	—	—	—
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	—	—	—	—	—	—	—
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	—	—	—	—	—	—	—
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—
Air (includes truck and air)	39.4	—	24.5	—	25.0	—	4.7
Less than 50 lb	S	S	12.5	1.9	21.8	1.9	5.5
50 to 99 lb	28.2	2.2	17.4	1.2	15.6	1.2	4.3
100 to 499 lb	45.4	7.2	28.0	6.0	31.5	7.6	6.6
500 to 749 lb	17.9	.8	22.6	.8	36.2	.9	14.3
750 to 999 lb	42.9	.7	34.4	1.3	40.4	1.5	30.1
1,000 to 9,999 lb	22.7	3.0	42.0	6.3	S	S	12.0
10,000 to 49,999 lb	S	S	35.9	8.3	31.7	7.4	26.1
50,000 to 99,999 lb	S	S	S	S	S	S	28.9
100,000 lb or more	S	S	S	S	S	S	29.5
Pipeline	33.1	—	31.7	—	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
10,000 to 49,999 lb	S	S	S	S	S	S	S
50,000 to 99,999 lb	—	—	—	—	S	S	S
100,000 lb or more	33.1	.1	31.7	—	S	S	S
Multiple modes	9.2	—	37.1	—	36.2	—	5.5
Less than 50 lb	9.5	3.0	18.5	2.7	23.5	4.5	5.5
50 to 99 lb	17.0	1.7	22.5	.5	32.7	.9	5.7
100 to 499 lb	18.4	1.4	12.9	1.2	29.5	1.6	11.3
500 to 749 lb	19.1	.3	16.0	.2	22.7	.4	18.3
750 to 999 lb	24.0	.2	34.2	.3	26.3	—	45.5
1,000 to 9,999 lb	S	S	24.7	.2	34.1	.2	44.9
10,000 to 49,999 lb	23.4	.6	17.9	4.2	23.6	6.2	15.2
50,000 to 99,999 lb	40.4	.1	46.1	4.8	43.6	1.8	S
100,000 lb or more	43.2	.3	46.5	11.5	S	S	19.2
Parcel, U.S. Postal Service or courier	9.2	—	13.4	—	20.1	—	5.5
Less than 50 lb	9.5	3.0	18.5	3.4	23.5	5.4	5.5
50 to 99 lb	17.0	1.8	22.5	1.8	32.7	1.8	5.7
100 to 499 lb	18.5	1.4	13.0	1.6	30.0	3.2	11.4
500 to 749 lb	19.2	.3	16.0	.8	22.7	1.3	18.4
750 to 999 lb	24.0	.2	34.3	1.1	26.7	.6	46.2
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	—	—	—	—	—	—	—
50,000 to 99,999 lb	—	—	—	—	—	—	—
100,000 lb or more	—	—	—	—	—	—	—
Truck and rail	22.9	—	S	S	19.4	—	14.2
Less than 50 lb	S	S	S	S	S	S	31.3
50 to 99 lb	S	S	S	S	S	S	31.6
100 to 499 lb	S	S	S	S	S	S	30.0
500 to 749 lb	S	S	S	S	S	S	33.5
750 to 999 lb	S	S	S	S	S	S	31.6
1,000 to 9,999 lb	S	S	33.1	1.1	37.4	.6	20.1
10,000 to 49,999 lb	20.7	6.9	S	S	16.6	4.3	7.5
50,000 to 99,999 lb	47.2	4.8	S	S	S	S	S
100,000 lb or more	S	S	S	S	S	S	S
Truck and water	S	S	S	S	S	S	29.8
Less than 50 lb	—	—	—	—	—	—	—
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	27.9
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	31.9
10,000 to 49,999 lb	S	S	S	S	S	S	33.6
50,000 to 99,999 lb	S	S	S	S	S	S	30.5
100,000 lb or more	S	S	S	S	S	S	28.9

See footnote at end of table.

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

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

Mode of transportation and shipment size	Value		Tons		Ton-miles		Average miles per shipment— coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
Multiple modes—Con.							
Rail and water	32.8	—	33.8	—	31.1	—	18.0
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	32.8	—	33.8	—	31.1	—	18.3
Other multiple modes	47.8	—	47.0	—	S	S	S
Less than 50 lb	S	S	S	S	S	S	31.6
50 to 99 lb	—	—	—	—	—	—	—
100 to 499 lb	S	S	S	S	S	S	31.6
500 to 749 lb	—	—	—	—	—	—	—
750 to 999 lb	—	—	—	—	—	—	—
1,000 to 9,999 lb	S	S	S	S	S	S	S
10,000 to 49,999 lb	S	S	S	S	S	S	29.9
50,000 to 99,999 lb	S	S	S	S	S	S	30.4
100,000 lb or more	S	S	S	S	S	S	28.8
Other and unknown modes	12.9	—	34.5	—	24.5	—	25.5
Less than 50 lb	21.9	2.7	21.0	—	27.2	—	40.3
50 to 99 lb	22.2	.7	41.2	.1	23.0	—	45.1
100 to 499 lb	26.7	2.9	25.9	.4	22.6	.2	31.5
500 to 749 lb	22.2	.3	23.0	.1	31.2	—	33.6
750 to 999 lb	28.1	.3	27.0	.1	30.8	—	34.5
1,000 to 9,999 lb	12.1	3.4	19.2	2.9	14.2	3.4	20.9
10,000 to 49,999 lb	27.2	5.4	42.0	8.4	27.8	4.6	44.6
50,000 to 99,999 lb	35.9	1.8	41.0	5.6	44.4	5.3	39.1
100,000 lb or more	25.9	1.6	S	S	S	S	32.3

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

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

Table B-5. Measures of Reliability for Shipment Characteristics by Two-Digit Commodity for State of Origin: 1997

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

SCTG code	Commodity description	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
		Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
	All commodities	4.1	—	10.6	—	8.2	—	9.9
01	Live animals and live fish	34.7	—	37.9	—	36.8	—	24.4
02	Cereal grains	36.2	—	25.8	.1	41.4	—	S
03	Other agricultural products	42.4	.6	42.5	.7	35.4	.5	S
04	Animal feed and products of animal origin, n.e.c.	20.6	—	24.9	.2	32.3	.2	45.7
05	Meat, fish, seafood, and their preparations	13.0	.3	14.6	—	16.3	.1	48.9
06	Milled grain products and preparations, and bakery products	14.2	.3	19.6	.1	20.5	.4	S
07	Other prepared foodstuffs and fats and oils	9.6	.8	12.7	.7	7.9	.5	22.1
08	Alcoholic beverages	12.6	—	16.3	.1	33.7	.2	20.3
09	Tobacco products	26.6	.2	32.2	—	22.6	—	S
10	Monumental or building stone	S	S	S	S	S	S	30.4
11	Natural sands	24.5	—	34.4	.6	27.5	.1	S
12	Gravel and crushed stone	16.8	—	18.8	3.1	32.1	1.3	8.4
13	Nonmetallic minerals n.e.c.	42.0	—	S	S	47.0	.4	26.5
14	Metallic ores and concentrates	35.4	—	33.0	—	S	S	21.3
15	Coal	13.3	—	12.5	2.6	22.3	3.7	16.6
17	Gasoline and aviation turbine fuel	16.8	.4	20.3	.9	17.4	.2	24.3
18	Fuel oils	10.5	.2	10.2	.6	28.9	.4	15.8
19	Coal and petroleum products, n.e.c.	23.5	.3	27.9	1.6	22.6	.5	36.4
20	Basic chemicals	27.9	.4	30.1	.3	35.6	1.1	21.2
21	Pharmaceutical products	22.6	.8	24.2	—	28.1	—	11.5
22	Fertilizers	42.2	—	S	S	S	S	15.2
23	Chemical products and preparations, n.e.c.	12.0	.2	14.6	—	24.5	.2	18.2
24	Plastics and rubber	8.3	.5	16.9	.1	9.3	.4	11.5
25	Logs and other wood in the rough	S	S	38.1	.1	22.1	—	43.7
26	Wood products	7.2	.1	11.6	.2	21.4	.6	19.4
27	Pulp, newsprint, paper, and paperboard	12.1	.2	9.0	.1	10.8	.3	28.0
28	Paper or paperboard articles	11.5	.3	15.9	.2	32.9	.5	16.5
29	Printed products	45.7	2.7	20.0	.3	46.6	.7	35.5
30	Textiles, leather, and articles of textiles or leather	8.3	.3	14.0	—	13.4	.1	22.9
31	Nonmetallic mineral products	5.9	.2	34.4	2.1	9.4	1.0	27.0
32	Base metal in primary or semifinished forms and in finished basic shapes	5.9	.5	15.5	.7	10.2	1.4	12.5
33	Articles of base metal	7.4	.2	14.6	.3	13.5	.9	26.1
34	Machinery	6.9	.4	17.0	.1	8.6	.1	12.7
35	Electronic and other electrical equipment and components and office equipment	15.8	1.5	10.8	—	10.0	.2	23.4
36	Motorized and other vehicles (including parts)	10.6	.5	14.6	—	19.6	.3	17.4
37	Transportation equipment, n.e.c.	21.2	.2	21.3	—	44.4	.4	9.0
38	Precision instruments and apparatus	20.3	.3	31.8	—	23.9	—	11.9
39	Furniture, mattresses and mattress supports, lamps, lighting fittings, and illuminated signs	10.8	.2	13.1	—	16.2	.1	14.0
40	Miscellaneous manufactured products	11.5	.9	S	S	13.7	.3	10.2
41	Waste and scrap	25.2	.2	28.4	.7	S	S	23.3
43	Mixed freight	14.0	.4	16.0	.2	18.0	.2	21.1
--	Commodity unknown	19.0	—	S	S	36.4	.1	13.7

— 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-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	4.1	—	10.6	—	8.2	—	9.9
Single modes	4.0	1.0	11.6	2.3	7.7	2.0	25.2
Truck	4.3	1.6	13.6	3.6	3.8	3.6	26.8
For-hire truck	6.5	1.5	14.0	3.0	4.3	2.6	13.8
Private truck	3.3	1.2	13.7	2.5	4.9	.8	22.8
Rail	15.7	.4	15.6	1.5	21.7	3.6	28.7
Water	S	S	S	S	S	S	27.7
Shallow draft	S	S	S	S	S	S	27.7
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	39.4	1.1	24.5	—	25.0	—	4.7
Pipeline	33.1	.5	31.7	1.1	S	S	S
Multiple modes	9.2	1.1	37.1	.9	36.2	2.1	5.5
Parcel, U.S. Postal Service or courier	9.2	1.1	13.4	—	20.1	.2	5.5
Truck and rail	22.9	—	S	S	19.4	.2	14.2
Truck and water	S	S	S	S	S	S	29.8
Rail and water	32.8	—	33.8	.2	31.1	.3	18.0
Other multiple modes	47.8	—	47.0	.1	S	S	S
Other and unknown modes	12.9	.4	34.5	1.6	24.5	.9	25.5
SCTG 01, LIVE ANIMALS AND LIVE FISH							
Total	34.7	—	37.9	—	36.8	—	24.4
Single modes	34.6	2.5	37.7	2.1	36.9	2.1	24.8
Truck	34.6	2.5	37.7	2.1	36.9	2.1	24.8
For-hire truck	42.5	7.6	41.6	8.4	41.6	9.3	25.8
Private truck	49.7	7.8	37.2	8.7	S	S	29.5
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6
SCTG 02, CEREAL GRAINS							
Total	36.2	—	25.8	—	41.4	—	S
Single modes	33.6	7.8	27.6	6.1	33.8	8.6	S
Truck	30.4	9.0	28.6	6.8	30.9	11.5	S
For-hire truck	48.7	9.6	41.2	10.3	44.1	8.0	24.1
Private truck	44.4	14.0	44.3	12.4	44.2	15.6	S
Rail	S	S	S	S	S	S	28.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	39.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	43.5
Truck and rail	S	S	S	S	S	S	28.4
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	29.4

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 03, OTHER AGRICULTURAL PRODUCTS							
Total	42.4	—	42.5	—	35.4	—	S
Single modes	42.8	2.0	42.5	1.1	35.8	1.6	S
Truck	42.6	2.0	42.5	1.1	35.9	1.7	S
For-hire truck	S	S	48.2	12.8	46.6	11.8	S
Private truck	39.0	8.1	S	S	46.5	11.2	S
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	S	S	49.2	—	49.6	.3	17.5
Parcel, U.S. Postal Service or courier	S	S	49.2	—	49.6	.3	17.5
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 04, ANIMAL FEED AND PRODUCTS OF ANIMAL ORIGIN, N.E.C.							
Total	20.6	—	24.9	—	32.3	—	45.7
Single modes	18.7	4.2	22.3	5.0	32.3	.3	34.5
Truck	18.7	4.2	22.3	5.0	32.3	.3	34.5
For-hire truck	40.0	8.5	46.6	6.5	44.0	10.8	S
Private truck	19.5	8.4	21.7	6.5	24.8	10.6	29.3
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	30.1
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.1
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	47.4	.3	S
SCTG 05, MEAT, FISH, SEAFOOD, AND THEIR PREPARATIONS							
Total	13.0	—	14.6	—	16.3	—	48.9
Single modes	13.1	1.4	14.8	1.2	16.0	1.2	29.2
Truck	13.1	1.4	14.8	1.2	16.0	1.2	29.2
For-hire truck	19.6	3.6	20.8	3.5	22.0	7.2	S
Private truck	12.4	4.5	14.7	4.2	20.8	7.4	23.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.9
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.2
Truck and rail	S	S	S	S	S	S	29.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 06, MILLED GRAIN PRODUCTS AND PREPARATIONS, AND BAKERY PRODUCTS							
Total	14.2	—	19.6	—	20.5	—	S
Single modes	14.5	.9	19.6	.6	21.7	3.5	S
Truck	14.1	1.0	19.4	.8	22.4	4.5	S
For-hire truck	18.9	4.0	18.9	3.1	25.8	6.1	9.4
Private truck	11.3	3.4	20.1	3.0	21.4	1.6	25.7
Rail	46.3	.8	48.2	.8	47.3	4.2	26.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	32.7
Pipeline	—	—	—	—	S	S	S
Multiple modes	32.3	.9	32.8	.6	39.1	3.4	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	48.3
Truck and rail	34.8	.5	35.7	.4	40.2	3.2	16.7
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	S	S	S	S	S	S	31.7
SCTG 07, OTHER PREPARED FOODSTUFFS AND FATS AND OILS							
Total	9.6	—	12.7	—	7.9	—	22.1
Single modes	9.0	1.2	12.5	1.5	8.2	2.0	23.9
Truck	9.0	1.3	12.5	1.5	8.8	2.6	24.0
For-hire truck	14.3	5.7	12.1	3.5	8.1	2.8	S
Private truck	16.5	5.5	16.3	3.2	14.1	2.8	27.9
Rail	S	S	S	S	S	S	28.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	46.3	—	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	37.4	—	47.4
Truck and rail	S	S	S	S	S	S	26.3
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	45.3	1.8	S
SCTG 08, ALCOHOLIC BEVERAGES							
Total	12.6	—	16.3	—	33.7	—	20.3
Single modes	12.6	.6	16.4	.5	35.6	4.7	20.8
Truck	12.6	.8	16.4	.8	36.2	4.8	20.9
For-hire truck	38.6	4.8	39.2	7.3	40.2	18.2	25.0
Private truck	8.1	5.0	9.8	7.5	18.7	20.0	22.5
Rail	S	S	S	S	S	S	31.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	26.4

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 09, TOBACCO PRODUCTS							
Total	26.6	—	32.2	—	22.6	—	S
Single modes	27.6	8.9	32.8	9.9	23.3	9.7	S
Truck	27.6	8.9	32.8	9.9	23.3	9.7	S
For-hire truck	27.1	8.6	30.1	8.6	36.8	11.4	19.5
Private truck	31.0	12.0	36.1	13.0	40.9	11.0	28.4
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	47.8	4.8	40.0	4.7	42.5	6.1	17.1
Parcel, U.S. Postal Service or courier	47.8	4.8	40.0	4.7	42.5	6.1	17.1
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 10, MONUMENTAL OR BUILDING STONE							
Total	S	S	S	S	S	S	30.4
Single modes	S	S	S	S	S	S	45.2
Truck	S	S	S	S	S	S	45.2
For-hire truck	S	S	S	S	S	S	29.3
Private truck	S	S	S	S	S	S	27.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.4
SCTG 11, NATURAL SANDS							
Total	24.5	—	34.4	—	27.5	—	S
Single modes	24.5	.5	34.4	—	27.5	.2	S
Truck	25.5	3.1	35.9	3.6	25.3	9.7	S
For-hire truck	35.7	11.4	S	S	34.0	10.1	S
Private truck	36.9	12.3	40.3	12.2	40.6	13.2	47.4
Rail	42.8	3.2	42.7	3.6	41.2	9.8	26.1
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.6
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.6

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 12, GRAVEL AND CRUSHED STONE							
Total	16.8	—	18.8	—	32.1	—	8.4
Single modes	17.9	3.3	20.2	4.3	33.0	2.5	8.4
Truck	17.9	3.7	20.3	4.3	35.4	4.5	8.5
For-hire truck	25.8	6.2	29.3	6.6	37.8	4.5	11.7
Private truck	18.2	6.0	21.1	6.2	31.7	3.3	12.4
Rail	33.6	.8	21.5	.3	23.5	3.6	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	49.5	.5	49.5	.4	S	S	41.1
SCTG 13, NONMETALLIC MINERALS N.E.C.							
Total	42.0	—	S	S	47.0	—	26.5
Single modes	40.9	2.6	S	S	48.6	2.4	18.3
Truck	40.9	2.6	S	S	48.6	2.4	18.3
For-hire truck	S	S	31.0	8.9	26.9	11.2	45.9
Private truck	47.6	9.5	30.1	13.5	26.4	8.8	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	32.6
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	S	S	S	S	S	S	29.9
SCTG 14, METALLIC ORES AND CONCENTRATES							
Total	35.4	—	33.0	—	S	S	21.3
Single modes	31.1	3.0	25.4	11.2	S	S	17.9
Truck	31.1	3.0	25.5	11.2	S	S	17.8
For-hire truck	31.8	2.8	25.7	10.7	S	S	16.5
Private truck	37.7	.9	41.4	1.2	S	S	S
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.4
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.4
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	31.8

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 15, COAL							
Total	13.3	—	12.5	—	22.3	—	16.6
Single modes	10.5	4.5	9.9	3.8	22.6	1.0	17.8
Truck	18.1	6.2	17.4	6.9	21.9	4.3	18.9
For-hire truck	19.2	5.8	18.3	6.7	21.3	3.6	18.4
Private truck	30.9	1.2	37.8	1.0	31.7	.8	36.4
Rail	23.9	7.3	24.4	8.0	33.6	10.5	8.7
Water	41.7	4.7	44.9	4.7	S	S	27.8
Shallow draft	41.7	4.7	44.9	4.7	S	S	27.8
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.1	1.1	25.9	.9	24.1	1.1	21.7
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	S	S	S	S	S	S	27.5
Rail and water	32.8	.9	33.8	.9	31.1	1.2	18.0
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	48.0	5.2	S	S	S	S	S
SCTG 17, GASOLINE AND AVIATION TURBINE FUEL							
Total	16.8	—	20.3	—	17.4	—	24.3
Single modes	17.0	1.2	20.5	1.1	17.4	.8	15.7
Truck	15.0	9.1	14.4	9.7	18.8	4.1	15.7
For-hire truck	21.0	2.8	21.2	3.1	27.4	6.3	15.9
Private truck	17.0	7.9	16.6	8.2	24.4	5.6	10.5
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	42.8	9.2	42.3	9.8	S	S	S
Multiple modes	S	S	S	S	S	S	30.8
Parcel, U.S. Postal Service or courier	—	—	—	—	—	—	—
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	30.8
Other and unknown modes	S	S	S	S	38.0	.7	S
SCTG 18, FUEL OILS							
Total	10.5	—	10.2	—	28.9	—	15.8
Single modes	11.8	5.3	11.2	4.6	22.9	13.4	16.6
Truck	13.0	7.5	15.4	8.0	23.8	12.2	16.6
For-hire truck	39.9	1.9	39.3	2.3	S	S	22.5
Private truck	13.9	7.6	15.7	7.9	23.2	12.4	15.5
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	28.4	7.1	27.9	8.1	S	S	S
Multiple modes	S	S	S	S	S	S	S
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	S
Other and unknown modes	S	S	S	S	S	S	25.9

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 19, COAL AND PETROLEUM PRODUCTS, N.E.C.							
Total	23.5	—	27.9	—	22.6	—	36.4
Single modes	23.8	.7	27.9	.3	22.9	1.9	46.8
Truck	21.3	8.7	36.3	10.0	27.1	7.7	49.5
For-hire truck	23.4	5.6	38.3	7.5	29.1	5.3	34.6
Private truck	21.0	5.2	36.1	6.2	26.9	3.9	12.0
Rail	27.1	4.1	31.6	4.7	27.9	8.1	36.6
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	30.1
Pipeline	S	S	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	27.2
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	27.2
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43.4	.7	49.0	.3	S	S	25.2
SCTG 20, BASIC CHEMICALS							
Total	27.9	—	30.1	—	35.6	—	21.2
Single modes	29.1	3.1	30.7	2.2	37.4	6.4	36.8
Truck	31.4	4.1	38.6	9.4	30.3	10.6	37.0
For-hire truck	37.7	7.4	43.7	5.2	24.5	5.7	8.8
Private truck	46.0	6.5	S	S	S	S	27.7
Rail	S	S	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	26.7
Pipeline	41.7	3.8	S	S	S	S	S
Multiple modes	S	S	S	S	S	S	38.7
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	29.8
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	40.0
SCTG 21, PHARMACEUTICAL PRODUCTS							
Total	22.6	—	24.2	—	28.1	—	11.5
Single modes	27.9	6.3	27.5	4.3	33.1	6.9	38.4
Truck	27.4	6.2	27.0	3.5	32.8	6.0	35.8
For-hire truck	37.8	6.0	26.9	3.9	32.8	5.5	41.3
Private truck	37.8	3.4	39.6	5.1	45.7	1.3	18.2
Rail	S	S	S	S	S	S	29.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	24.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	22.1	6.3	21.8	4.3	29.9	7.0	10.2
Parcel, U.S. Postal Service or courier	22.0	6.3	21.5	4.3	24.3	6.2	10.2
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	49.0	.3	S	S	25.7

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 22, FERTILIZERS							
Total	42.2	—	S	S	S	S	15.2
Single modes	43.0	1.9	S	S	S	S	19.7
Truck	43.0	1.9	S	S	S	S	19.8
For-hire truck	S	S	S	S	S	S	S
Private truck	48.8	13.0	31.4	16.9	36.9	16.5	15.9
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	31.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	31.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.0
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 23, CHEMICAL PRODUCTS AND PREPARATIONS, N.E.C.							
Total	12.0	—	14.6	—	24.5	—	18.2
Single modes	13.3	1.6	15.3	1.4	25.9	1.7	22.4
Truck	13.9	2.4	15.3	1.5	26.1	2.2	24.4
For-hire truck	20.7	6.6	24.9	6.1	29.2	4.7	12.5
Private truck	10.1	4.8	12.9	5.6	23.9	4.4	S
Rail	S	S	S	S	S	S	31.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	32.9	—	S	S	20.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	12.9	1.5	S	S	S	S	15.0
Parcel, U.S. Postal Service or courier	15.8	1.6	25.6	.3	22.1	.3	14.9
Truck and rail	S	S	S	S	S	S	33.8
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	22.6	.5	35.2	1.0	42.6	.6	S
SCTG 24, PLASTICS AND RUBBER							
Total	8.3	—	16.9	—	9.3	—	11.5
Single modes	7.8	2.2	17.3	2.9	7.1	3.0	10.3
Truck	5.5	3.6	6.2	7.4	7.5	2.9	9.8
For-hire truck	8.3	3.5	9.6	6.1	8.4	4.3	6.3
Private truck	11.0	2.9	12.5	4.1	25.2	2.2	17.6
Rail	S	S	S	S	25.0	2.1	20.9
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	23.5	—	20.4	—	23.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	15.7	1.2	19.9	.4	24.2	1.3	12.0
Parcel, U.S. Postal Service or courier	17.1	1.3	20.3	.3	22.8	.3	12.0
Truck and rail	38.0	.3	36.9	.3	36.6	1.4	24.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	41.6	1.7	48.5	2.6	45.4	2.4	41.2

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 25, LOGS AND OTHER WOOD IN THE ROUGH							
Total	S	S	38.1	—	22.1	—	43.7
Single modes	S	S	39.2	4.5	23.1	4.6	45.0
Truck	S	S	41.8	9.1	28.5	10.5	42.7
For-hire truck	S	S	39.7	9.1	41.0	10.3	20.8
Private truck	32.5	14.6	S	S	34.3	14.3	S
Rail	S	S	S	S	S	S	28.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.3
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	30.3
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	36.6
SCTG 26, WOOD PRODUCTS							
Total	7.2	—	11.6	—	21.4	—	19.4
Single modes	6.3	2.8	10.3	2.8	13.3	7.8	10.2
Truck	6.3	2.8	10.2	2.8	13.4	7.9	10.2
For-hire truck	10.4	3.1	14.9	6.1	15.1	6.4	15.1
Private truck	5.0	2.6	20.0	5.8	17.3	3.5	5.4
Rail	42.3	.1	45.8	—	49.6	.7	27.7
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	S	S	S	S	29.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	35.7	.2	34.0	1.6	12.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	11.9
Truck and rail	46.3	.3	47.6	.1	36.7	1.6	S
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	14.4	.2	S	S	S	S	S
SCTG 27, PULP, NEWSPRINT, PAPER, AND PAPERBOARD							
Total	12.1	—	9.0	—	10.8	—	28.0
Single modes	11.7	.7	9.2	.2	11.0	.6	14.1
Truck	12.3	1.1	9.7	1.2	14.0	5.0	14.7
For-hire truck	14.7	3.7	13.2	3.7	15.8	5.3	31.1
Private truck	16.0	3.4	11.3	3.0	21.1	1.9	25.3
Rail	17.0	.9	17.7	1.1	29.5	4.6	S
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	48.2	—	S	S	30.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	34.7	.2	S	S	26.8
Parcel, U.S. Postal Service or courier	S	S	44.9	.2	43.4	—	26.9
Truck and rail	S	S	S	S	S	—	29.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	43.5	.4	35.9	.2	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 28, PAPER OR PAPERBOARD ARTICLES							
Total	11.5	—	15.9	—	32.9	—	16.5
Single modes	11.9	1.5	16.2	.7	34.4	2.7	17.7
Truck	11.9	1.5	16.2	.7	34.7	2.8	17.8
For-hire truck	19.4	6.3	24.1	7.2	38.7	4.8	16.8
Private truck	15.2	6.8	22.6	7.3	27.0	3.6	20.4
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	31.9
Pipeline	—	—	—	—	S	S	S
Multiple modes	36.1	1.0	32.8	.3	S	S	18.1
Parcel, U.S. Postal Service or courier	37.7	1.1	39.3	.3	35.0	.8	17.9
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	49.0	1.1	41.4	.6	S	S	35.2
SCTG 29, PRINTED PRODUCTS							
Total	45.7	—	20.0	—	46.6	—	35.5
Single modes	46.2	3.7	19.7	1.2	46.7	2.4	S
Truck	46.6	3.6	20.0	1.0	48.2	2.7	S
For-hire truck	S	S	27.9	6.8	S	S	23.9
Private truck	20.8	6.1	31.1	7.0	36.3	4.0	S
Rail	S	S	S	S	S	S	30.3
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	44.0	.6	47.5	.6	39.5	2.5	13.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	49.6	3.7	47.3	.9	S	S	13.6
Parcel, U.S. Postal Service or courier	49.6	3.7	47.3	.9	S	S	13.6
Truck and rail	—	—	—	—	—	—	—
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	23.7	.8	32.2	1.3	46.2	2.2	21.5
SCTG 30, TEXTILES, LEATHER, AND ARTICLES OF TEXTILES OR LEATHER							
Total	8.3	—	14.0	—	13.4	—	22.9
Single modes	11.6	4.0	16.4	2.9	15.8	3.4	12.7
Truck	11.5	3.8	16.8	3.1	17.2	4.3	13.4
For-hire truck	15.1	5.3	16.5	5.8	18.2	4.6	5.5
Private truck	23.2	2.9	34.2	5.5	27.4	1.8	31.8
Rail	S	S	S	S	S	S	29.8
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	33.0	.5	28.7	.1	29.4	.4	17.1
Pipeline	—	—	—	—	S	S	S
Multiple modes	14.6	4.5	12.6	3.0	11.5	3.5	26.2
Parcel, U.S. Postal Service or courier	14.7	4.5	13.1	3.0	12.6	3.5	26.2
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	39.3	.8	S	S	17.0

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 31, NONMETALLIC MINERAL PRODUCTS							
Total	5.9	—	34.4	—	9.4	—	27.0
Single modes	5.0	2.8	34.6	.5	9.9	1.5	12.0
Truck	5.1	2.8	34.8	.7	9.4	2.3	11.9
For-hire truck	6.4	3.8	S	S	12.9	3.6	13.1
Private truck	13.3	2.3	23.9	7.4	18.3	3.3	11.3
Rail	39.3	.2	36.6	.3	S	S	22.5
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	42.4	—	S	S	S	S	11.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	43.0	2.5	30.9	—	43.4	.3	20.7
Parcel, U.S. Postal Service or courier	43.5	2.5	34.2	—	S	S	20.7
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	33.4	1.1	15.2	.5	23.2	1.6	34.5
SCTG 32, BASE METAL IN PRIMARY OR SEMIFINISHED FORMS AND IN FINISHED BASIC SHAPES							
Total	5.9	—	15.5	—	10.2	—	12.5
Single modes	6.3	2.6	9.3	6.1	9.8	1.8	10.0
Truck	5.8	3.2	7.8	7.3	7.6	5.9	9.9
For-hire truck	7.0	2.7	9.3	4.5	8.3	4.8	5.1
Private truck	15.9	3.2	21.2	4.6	33.8	3.5	17.5
Rail	33.5	2.3	35.5	4.0	29.2	5.0	18.0
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	44.2	.2	47.2	.3	13.5
Pipeline	—	—	—	—	S	S	S
Multiple modes	33.1	.9	S	S	S	S	12.0
Parcel, U.S. Postal Service or courier	37.2	.9	32.6	.1	40.6	.1	12.5
Truck and rail	S	S	S	S	S	S	29.8
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	42.6	1.0	S
SCTG 33, ARTICLES OF BASE METAL							
Total	7.4	—	14.6	—	13.5	—	26.1
Single modes	7.5	2.4	15.1	1.6	15.1	3.5	7.0
Truck	7.3	3.2	15.7	4.5	16.1	5.8	5.5
For-hire truck	11.8	4.4	22.8	6.5	20.3	5.9	7.1
Private truck	12.4	3.1	21.5	5.9	17.7	3.6	15.5
Rail	S	S	S	S	S	S	19.2
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	48.1	.2	S	S	S	S	25.8
Pipeline	—	—	—	—	S	S	S
Multiple modes	19.1	2.3	43.1	.8	S	S	22.2
Parcel, U.S. Postal Service or courier	20.7	2.5	22.0	.1	S	S	22.3
Truck and rail	S	S	S	S	S	S	25.9
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	18.0	.4	36.0	1.2	35.8	2.8	41.0

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 34, MACHINERY							
Total	6.9	—	17.0	—	8.6	—	12.7
Single modes	8.5	2.7	18.3	1.5	8.6	1.1	12.3
Truck	8.5	2.6	18.5	1.9	8.6	1.1	13.1
For-hire truck	8.9	2.7	9.9	4.5	9.1	3.5	13.8
Private truck	13.6	2.4	40.9	5.4	28.2	3.8	23.3
Rail	S	S	S	S	S	S	31.6
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	16.3	.4	8.4	—	20.3	.2	5.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	16.6	2.6	12.5	.6	15.1	.6	14.1
Parcel, U.S. Postal Service or courier	16.6	2.7	12.2	.6	15.2	.6	14.1
Truck and rail	S	S	S	S	S	S	30.3
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	21.7	1.0	26.0	1.0	33.9	.6	39.3
SCTG 35, ELECTRONIC AND OTHER ELECTRICAL EQUIPMENT AND COMPONENTS AND OFFICE EQUIPMENT							
Total	15.8	—	10.8	—	10.0	—	23.4
Single modes	22.2	5.7	11.5	2.1	10.1	2.1	17.6
Truck	18.3	5.3	11.4	2.0	9.8	3.0	22.5
For-hire truck	23.0	4.5	12.2	2.6	9.9	2.8	8.9
Private truck	12.3	2.1	22.7	2.8	36.0	1.2	13.7
Rail	S	S	S	S	S	S	27.9
Water	S	S	S	S	S	S	31.6
Shallow draft	S	S	S	S	S	S	31.6
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	S	S	37.4	.7	S	S	3.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	9.4	4.0	12.7	.9	17.2	1.7	17.2
Parcel, U.S. Postal Service or courier	9.4	4.0	13.6	.8	18.4	1.6	17.2
Truck and rail	S	S	S	S	S	S	28.0
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	S	S	S	S	S	S	31.6
Other and unknown modes	42.4	2.5	34.9	1.6	S	S	S
SCTG 36, MOTORIZED AND OTHER VEHICLES (INCLUDING PARTS)							
Total	10.6	—	14.6	—	19.6	—	17.4
Single modes	8.1	4.0	13.6	3.1	18.3	4.1	17.0
Truck	8.0	3.9	13.3	4.8	17.7	5.9	15.3
For-hire truck	16.1	5.2	22.4	5.6	22.7	5.7	7.3
Private truck	12.4	5.4	14.4	6.1	22.0	3.3	23.6
Rail	35.0	.8	32.0	2.5	33.7	4.8	18.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	43.1	.2	45.7	.1	42.6	.6	11.3
Pipeline	—	—	—	—	S	S	S
Multiple modes	25.8	1.2	44.1	.8	S	S	14.9
Parcel, U.S. Postal Service or courier	31.0	1.3	29.9	.3	26.5	.4	14.9
Truck and rail	S	S	S	S	S	S	27.1
Truck and water	S	S	S	S	S	S	31.6
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	40.6	4.0	27.0	2.7	39.8	3.0	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 37, TRANSPORTATION EQUIPMENT, N.E.C.							
Total	21.2	—	21.3	—	44.4	—	9.0
Single modes	18.3	7.7	20.6	.7	42.4	1.3	14.8
Truck	17.3	6.1	29.6	8.9	S	S	15.4
For-hire truck	18.1	5.8	28.1	7.8	S	S	14.4
Private truck	27.1	1.0	S	S	S	S	34.0
Rail	42.9	8.5	39.9	9.0	33.8	11.3	22.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	38.4	3.6	45.1	.2	S	S	11.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	33.6	6.8	S	S	S	S	7.8
Parcel, U.S. Postal Service or courier	34.2	6.8	24.3	—	22.8	.3	8.4
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	28.8
SCTG 38, PRECISION INSTRUMENTS AND APPARATUS							
Total	20.3	—	31.8	—	23.9	—	11.9
Single modes	23.2	5.2	40.7	7.9	35.8	8.9	14.5
Truck	24.5	5.6	41.0	8.1	36.5	9.2	23.7
For-hire truck	26.6	5.6	35.2	7.0	36.2	8.7	11.5
Private truck	27.3	2.2	S	S	S	S	29.1
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	26.8	1.2	39.2	.7	35.8	1.6	7.6
Pipeline	—	—	—	—	S	S	S
Multiple modes	20.3	4.0	19.3	4.3	28.4	7.1	14.8
Parcel, U.S. Postal Service or courier	20.4	4.1	19.7	4.3	29.7	7.3	14.8
Truck and rail	S	S	S	S	S	S	30.1
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.2	1.9	40.5	5.6	S	S	S
SCTG 39, FURNITURE, MATTRESSES AND MATTRESS SUPPORTS, LAMPS, LIGHTING FITTINGS, AND ILLUMINATED SIGNS							
Total	10.8	—	13.1	—	16.2	—	14.0
Single modes	10.8	1.5	13.3	1.5	15.2	1.9	12.9
Truck	10.8	1.5	13.3	1.5	15.2	1.8	13.2
For-hire truck	14.0	5.7	15.2	5.4	17.4	4.0	7.7
Private truck	15.1	4.0	18.3	4.0	12.6	1.9	18.3
Rail	—	—	—	—	—	—	—
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	35.5	—	41.0	—	S	S	27.2
Pipeline	—	—	—	—	S	S	S
Multiple modes	45.8	1.3	S	S	41.7	1.8	S
Parcel, U.S. Postal Service or courier	47.7	1.3	S	S	40.7	.7	S
Truck and rail	S	S	S	S	S	S	27.9
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	47.8	.8	S	S	S	S	33.8

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
SCTG 40, MISCELLANEOUS MANUFACTURED PRODUCTS							
Total	11.5	—	S	S	13.7	—	10.2
Single modes	9.4	5.4	S	S	15.4	5.3	17.3
Truck	10.0	5.4	S	S	15.7	5.4	19.0
For-hire truck	12.5	3.9	17.4	14.5	16.8	4.7	16.7
Private truck	8.3	2.1	S	S	19.2	1.8	34.0
Rail	49.3	—	S	S	S	S	S
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	27.5	.5	25.9	—	28.0	—	5.4
Pipeline	—	—	—	—	S	S	S
Multiple modes	19.8	6.0	28.0	5.3	30.6	5.5	9.4
Parcel, U.S. Postal Service or courier	19.9	6.1	28.3	5.3	31.5	5.7	9.4
Truck and rail	S	S	S	S	S	S	29.2
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	30.6	1.4	29.7	1.8	34.0	1.1	S
SCTG 41, WASTE AND SCRAP							
Total	25.2	—	28.4	—	S	S	23.3
Single modes	24.9	3.0	25.8	4.7	27.3	18.3	24.0
Truck	24.1	6.0	23.3	8.5	26.6	17.8	17.2
For-hire truck	34.8	7.5	31.5	9.6	29.5	14.2	27.0
Private truck	37.5	8.9	27.5	11.1	S	S	19.1
Rail	43.8	4.6	46.5	6.4	S	S	44.6
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	—	—	—	—	—	—	—
Pipeline	—	—	—	—	S	S	S
Multiple modes	S	S	S	S	S	S	30.0
Parcel, U.S. Postal Service or courier	S	S	S	S	S	S	31.6
Truck and rail	S	S	S	S	S	S	31.5
Truck and water	S	S	S	S	S	S	30.8
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	S	S	S	S	S
SCTG 43, MIXED FREIGHT							
Total	14.0	—	16.0	—	18.0	—	21.1
Single modes	15.2	4.1	16.7	2.4	20.0	5.5	20.9
Truck	15.1	4.0	16.6	2.4	17.0	5.7	16.2
For-hire truck	S	S	S	S	S	S	S
Private truck	15.4	4.3	16.5	2.4	16.7	6.5	12.0
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	43.4	4.2	46.4	2.5	37.6	5.4	24.8
Parcel, U.S. Postal Service or courier	43.8	4.2	46.8	2.5	40.8	5.4	25.0
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	48.4	.7	S	S	S	S	S

See footnote at end of table.

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

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

SCTG code, description, and mode of transportation	Value		Tons		Ton-miles		Average miles per shipment—coefficient of variation
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	
COMMODITY UNKNOWN							
Total	19.0	—	S	S	36.4	—	13.7
Single modes	31.4	10.0	S	S	44.2	12.9	23.7
Truck	32.5	10.5	S	S	39.2	11.0	25.4
For-hire truck	32.0	7.6	35.0	8.7	38.1	10.6	13.9
Private truck	39.3	9.3	S	S	48.5	6.1	S
Rail	S	S	S	S	S	S	30.9
Water	—	—	—	—	—	—	—
Shallow draft	—	—	—	—	—	—	—
Great Lakes	—	—	—	—	—	—	—
Deep draft	—	—	—	—	—	—	—
Air (includes truck and air)	33.4	1.1	43.1	—	45.0	.6	25.0
Pipeline	—	—	—	—	S	S	S
Multiple modes	30.0	7.2	S	S	S	S	14.4
Parcel, U.S. Postal Service or courier	30.0	7.2	S	S	S	S	14.4
Truck and rail	S	S	S	S	S	S	31.6
Truck and water	—	—	—	—	—	—	—
Rail and water	—	—	—	—	—	—	—
Other multiple modes	—	—	—	—	—	—	—
Other and unknown modes	S	S	47.6	6.6	S	S	S

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

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

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

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

State of destination	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	4.1	—	10.6	—	8.2	—
NEW ENGLAND STATES						
Connecticut	19.2	.3	14.4	—	14.6	—
Maine	20.9	.1	25.7	—	22.8	.1
Massachusetts	6.9	.1	7.9	—	7.8	.1
New Hampshire	8.5	—	23.5	—	32.4	.3
Rhode Island	16.1	—	10.7	—	9.7	—
Vermont	23.2	—	24.4	—	25.1	—
MIDDLE ATLANTIC STATES						
New Jersey	12.6	.8	10.2	.6	10.9	.4
New York	8.8	.6	9.6	.6	12.1	1.0
Pennsylvania	2.9	1.1	14.9	2.6	10.7	1.6
EAST NORTH CENTRAL STATES						
Illinois	8.3	.2	12.0	—	12.6	.3
Indiana	8.3	.1	21.6	.1	23.5	.7
Michigan	9.3	.2	17.8	.2	17.7	.5
Ohio	5.1	.3	9.8	.4	10.3	.7
Wisconsin	7.9	—	14.8	—	12.8	.3
WEST NORTH CENTRAL STATES						
Iowa	26.2	.1	33.7	—	46.7	.5
Kansas	14.1	—	25.0	—	23.1	.2
Minnesota	11.6	—	12.4	—	13.1	—
Missouri	21.6	.2	9.4	—	9.6	.1
Nebraska	14.2	—	22.6	—	20.8	.1
North Dakota	22.5	—	22.4	—	24.2	—
South Dakota	23.7	—	35.2	—	35.0	—
SOUTH ATLANTIC STATES						
Delaware	15.1	.2	18.9	.3	14.2	.1
District of Columbia	16.9	—	19.9	—	20.8	—
Florida	17.8	.4	S	S	S	S
Georgia	25.4	.5	9.9	—	9.5	.3
Maryland	8.7	.3	13.3	.6	22.0	1.1
North Carolina	16.2	.3	28.0	.2	28.4	.4
South Carolina	12.2	.1	13.8	—	13.6	—
Virginia	5.1	—	11.3	—	10.2	.1
West Virginia	21.0	.3	16.2	.2	15.0	.2
EAST SOUTH CENTRAL STATES						
Alabama	22.3	.2	21.9	—	22.5	.3
Kentucky	9.9	.1	26.6	—	25.3	.3
Mississippi	16.8	—	19.0	—	19.2	.1
Tennessee	13.1	.2	31.9	.1	42.8	1.5
WEST SOUTH CENTRAL STATES						
Arkansas	14.4	—	S	S	S	S
Louisiana	20.1	.1	S	S	S	S
Oklahoma	16.9	—	9.2	—	9.4	—
Texas	13.4	.4	21.2	.1	18.7	1.1
MOUNTAIN STATES						
Arizona	24.1	—	35.7	—	33.3	.2
Colorado	14.4	—	15.3	—	16.3	.1
Idaho	16.2	—	42.6	—	42.9	—
Montana	19.0	—	38.2	—	37.4	—
Nevada	S	S	49.5	—	S	S
New Mexico	36.8	—	32.1	—	32.1	—
Utah	47.8	.2	47.9	—	46.9	.2
Wyoming	S	S	S	S	S	S
PACIFIC STATES						
Alaska	22.5	—	43.2	—	43.5	—
California	15.4	.4	13.4	—	13.6	.7
Hawaii	30.2	—	22.7	—	23.7	—
Oregon	34.3	.1	22.3	—	21.1	.1
Washington	14.3	—	9.4	—	9.2	—

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

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

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

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

State of origin	Value		Tons		Ton-miles	
	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage	Coefficient of variation of number	Standard error of percentage
Total	2.4	-	11.4	-	5.8	-
NEW ENGLAND STATES						
Connecticut	16.9	.2	11.3	-	13.3	-
Maine	12.8	-	13.4	-	11.9	-
Massachusetts	15.0	.2	15.3	-	13.6	-
New Hampshire	25.1	.1	22.6	-	22.2	-
Rhode Island	12.4	-	35.1	-	29.6	-
Vermont	10.4	-	24.3	-	27.0	-
MIDDLE ATLANTIC STATES						
New Jersey	9.3	.7	19.1	.7	20.6	.4
New York	8.8	.4	17.4	.4	12.0	.3
Pennsylvania	2.9	.6	14.9	2.2	10.7	1.1
EAST NORTH CENTRAL STATES						
Illinois	4.7	.1	10.8	.1	12.0	.5
Indiana	15.3	.2	14.6	-	15.8	.3
Michigan	13.8	.3	12.6	.1	13.2	.3
Ohio	4.8	.4	12.9	.5	15.6	.9
Wisconsin	12.9	.3	14.9	-	15.5	.3
WEST NORTH CENTRAL STATES						
Iowa	20.5	.2	10.7	-	8.9	.2
Kansas	17.7	-	28.2	-	32.7	.2
Minnesota	7.8	-	38.5	.4	38.5	2.7
Missouri	9.9	.1	17.7	-	16.7	.4
Nebraska	16.2	-	18.6	-	19.1	.1
North Dakota	25.8	-	32.8	-	34.0	.2
South Dakota	S	S	29.8	-	32.1	-
SOUTH ATLANTIC STATES						
Delaware	11.5	-	23.1	.2	15.9	-
District of Columbia	S	S	S	S	S	S
Florida	12.7	.1	18.6	-	18.8	.2
Georgia	14.9	.2	17.3	-	16.8	.4
Maryland	9.9	.3	14.1	.3	11.1	.1
North Carolina	7.8	.2	7.2	-	7.3	.1
South Carolina	4.7	-	13.3	-	14.4	.2
Virginia	10.8	.3	21.7	.4	24.7	1.1
West Virginia	3.7	-	13.7	.6	24.7	1.1
EAST SOUTH CENTRAL STATES						
Alabama	13.5	-	34.1	.2	38.6	1.0
Kentucky	15.1	.2	46.9	.8	S	S
Mississippi	7.5	-	16.9	-	17.4	.1
Tennessee	18.4	.2	9.1	-	9.3	.2
WEST SOUTH CENTRAL STATES						
Arkansas	10.1	-	11.4	-	11.4	.1
Louisiana	17.0	-	27.9	.1	30.1	1.4
Oklahoma	16.6	-	21.0	-	21.7	-
Texas	11.1	.3	19.5	.1	20.7	1.3
MOUNTAIN STATES						
Arizona	S	S	31.8	-	31.8	-
Colorado	18.0	-	S	S	S	S
Idaho	28.7	-	15.9	-	16.0	.1
Montana	20.2	-	38.9	-	41.9	-
Nevada	14.9	-	18.4	-	18.3	-
New Mexico	27.7	-	S	S	S	S
Utah	29.5	-	24.4	-	23.6	-
Wyoming	28.4	-	31.8	-	31.9	.4
PACIFIC STATES						
Alaska	39.3	-	35.6	-	37.2	-
California	17.7	.6	24.5	-	23.5	.8
Hawaii	S	S	37.9	-	37.5	-
Oregon	12.1	-	17.5	-	16.6	.1
Washington	31.9	.2	16.9	-	17.2	.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.

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

Appendix C.

Sample Design, Data Collection, and Estimation

INTRODUCTION

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

SAMPLE DESIGN

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

First Stage

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

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

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

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

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

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

Second Stage

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

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

Third Stage

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

DATA COLLECTION

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

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

ESTIMATION

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

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

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

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

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

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

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

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

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

Appendix D.

Standard Classification of Transported Goods Code Information

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

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

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

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

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

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

Appendix E.

Sample Report Forms and Instructions

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

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

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

Please return by:

RETURN TO

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

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

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

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

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

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

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

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

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

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

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

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

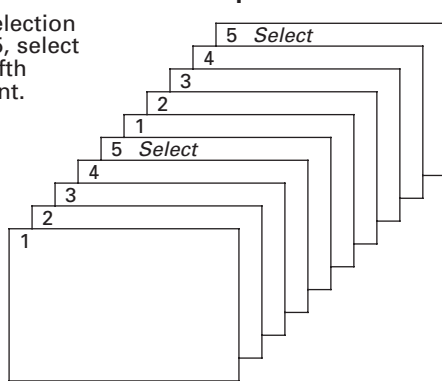
4 — Railroad
Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

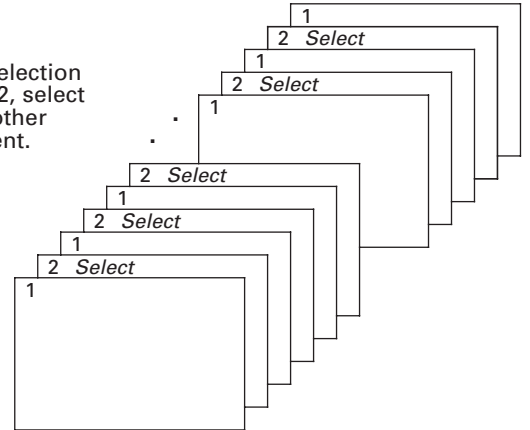
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment 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
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									19
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									22
									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

Item G

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

Yes

No

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

Yes

No

If yes to item G1 or item G2:

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

Yes

No

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

Total value in whole dollars

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

Yes

No

Item J CERTIFICATION

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

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

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

Remarks

THANK YOU FOR COMPLETING YOUR REPORT

**1997 COMMODITY FLOW SURVEY
CENSUS OF TRANSPORTATION**

Reporting period:

Please return by:

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

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

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

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

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

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

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

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

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

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

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

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

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

--

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

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

Month	Day	Year

DO NOT PROCEED UNTIL YOU HAVE COMPLETED ITEM D.

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

Item E SAMPLING INSTRUCTIONS

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

FINDING YOUR SELECTION RATE

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

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

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

Please enter your selection rate. →

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

CONTINUE ON NEXT PAGE. ↗

Item F SHIPMENT CHARACTERISTICS

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

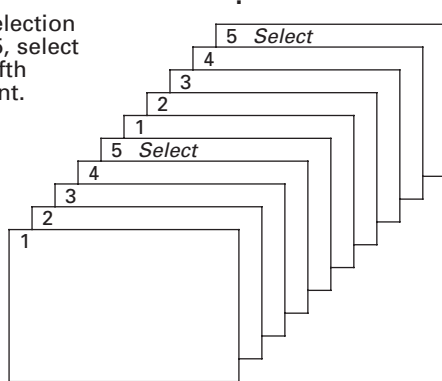
Mode of transport codes for columns (k) and (n) **1** — Parcel delivery, courier, or U.S. Postal Service **2** — Private truck **3** — For-hire truck **4** — Railroad
 Continued →

SELECTING YOUR SAMPLE OF SHIPMENTS

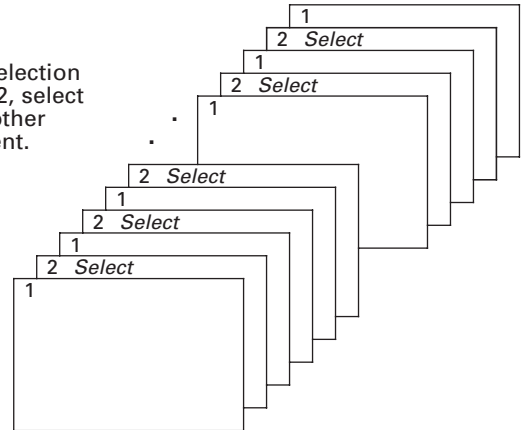
1. Use the file or combination of files that best reflects your full range of outbound shipping activities.
2. Begin with the first shipment. Count the shipments until you reach your selection rate. Select this shipment to report on in item F.
3. Continue counting with the next shipment. Count this shipment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

In the following examples, each rectangle represents one shipment.

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



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



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


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

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

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

Item F SHIPMENT CHARACTERISTICS — Continued

Line No. (a)	Shipment ID Number (b)	Shipment date (c)		Shipment value (excluding shipping costs) in whole dollars (d)	Shipment weight in pounds (e)	Commodity code from SCTG Manual (f)	Commodity description (g)	If a hazardous material, enter the "UN" or "NA" number (h)
		Month	Day					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
21								
22								
23								
24								
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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> Note: In column (j) enter the U.S. port, airport, or border crossing of exit.		Export mode (n)	Line No. (o)
	(j)					(m)			
(i)	City	State	ZIP Code	(k)	(l)	City	Country	(n)	(o)
									10
									11
									12
									13
									14
									15
									16
									17
									18
									19
									20
									21
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									23
									24
									25
									26
									27
									28
									29
									30
									31
									32
									33
									34

5 — Shallow draft vessel
6 — Deep draft vessel

7 — Pipeline
8 — Air

9 — Other mode
0 — Unknown

Item F SHIPMENT CHARACTERISTICS — Continued

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

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

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

2 — Private truck
3 — For-hire truck

4 — Railroad
Continued →

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

Total value in whole dollars

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

Yes

No

Item I AVAILABILITY AND USE OF ON-SITE SHIPPING FACILITIES

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

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

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

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

Item J USE OF OFF-SITE SHIPPING FACILITIES

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

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

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

PLEASE CONTINUE ON PAGE 8.

Item K USE AND AVAILABILITY OF TRANSPORTATION EQUIPMENT

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

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

Item L TRANSPORTATION DECISIONS

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

1 Your company 2 Receiver of shipment 3 Other

Remarks

Item M CERTIFICATION

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

Instructions for Completing the Commodity Flow Survey

TIPS FOR COMPLETING THE CFS QUESTIONNAIRE

Please read all instructions.

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

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

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

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

Why are you conducting the CFS?

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

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

Who reports in the CFS?

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

Why is my participation important?

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

Your report helps ensure quality results.

Is this survey mandatory?

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

Will my data be kept confidential?

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

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

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

How often must I report?

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

The CFS will not be conducted again until 2002.

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE

Items A – C

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

Item D

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

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

What we mean by a "shipment":

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

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

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

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

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

A special note about "shipments":

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

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

Item E: Sampling Instructions

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

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

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

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

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

PART II – INSTRUCTIONS FOR COMPLETING YOUR QUESTIONNAIRE – Continued

Item F: Shipment Characteristics

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

Item F SHIPMENT CHARACTERISTICS							
Line No.	Shipment ID Number	Shipment date		Shipment value (excluding shipping costs) in whole dollars	Shipment weight in pounds	Commodity code from SCTG Manual	Commodity description
		Month	Day				
(a)	(b)	(c)	(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.

