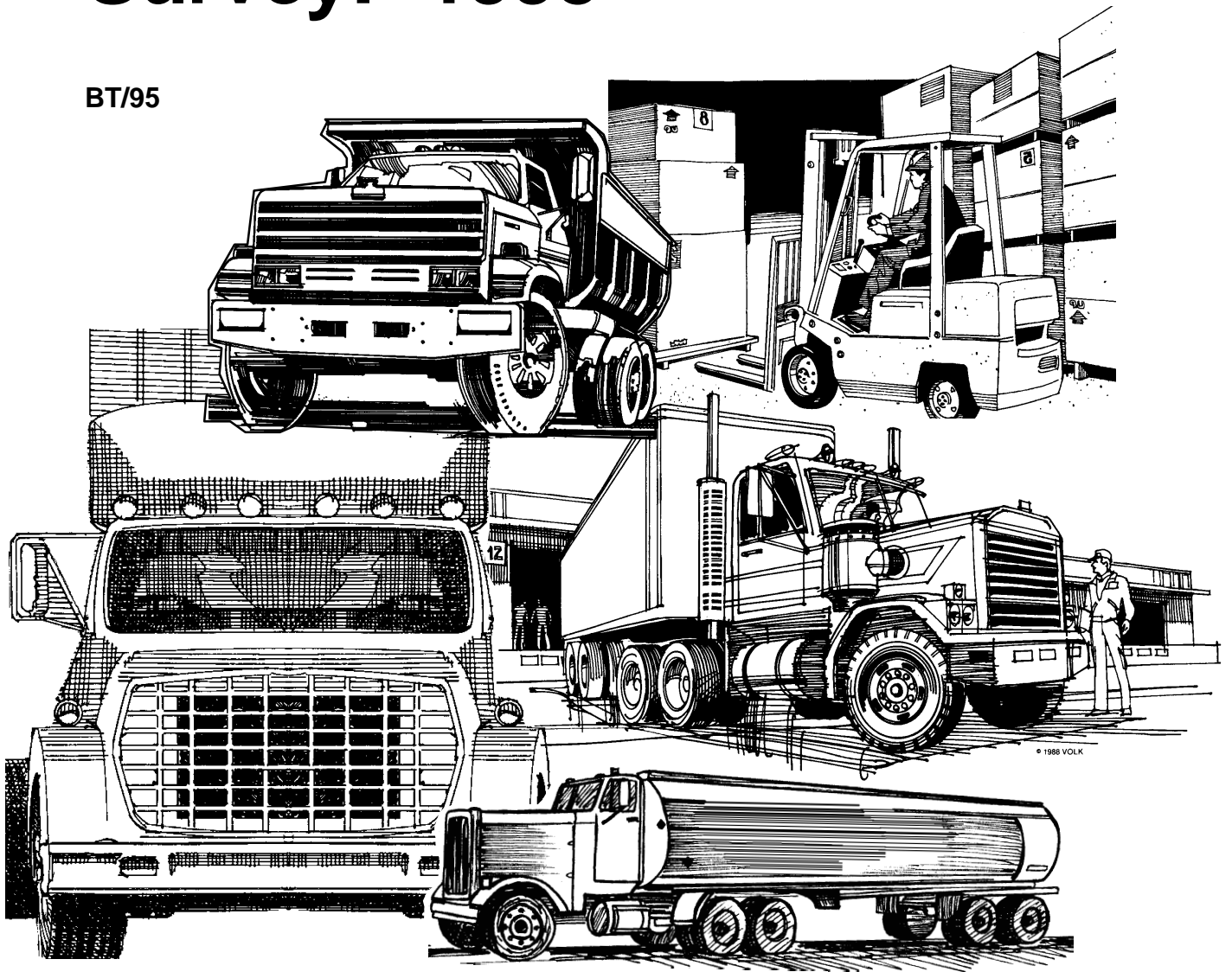


CURRENT BUSINESS REPORTS

# Motor Freight Transportation and Warehousing Survey: 1995

BT/95



# Motor Freight Transportation and Warehousing Survey: 1995

BT/95



Issued February 1997



**U.S. Department of Commerce**  
William M. Daley, Secretary

**Economics and Statistics Administration**  
Everett M. Ehrlich, Under Secretary  
for Economic Affairs

**BUREAU OF THE CENSUS**  
Martha Farnsworth Riche, Director

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# Introduction

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## Coverage

This report presents the results from the 1995 Motor Freight Transportation and Warehousing Survey. This annual sample survey represents all employer firms with one or more establishments that are primarily engaged in providing commercial motor freight transportation or public warehousing services. This includes firms furnishing local or long-distance trucking or transfer services, and those firms engaged in the storage of farm products, furniture or other household goods, or commercial goods of any nature.

This survey excludes private motor carriers that operate as auxiliary establishments to nontransportation companies, as well as independent owner-operators with no paid employees. As a result, the dollar volume estimates and estimates of year-to-year percentage change presented in this report should not be interpreted as representing measurements of total trucking industry activity.

Statistics in this report are summarized by kind-of-business classification based on the 1987 edition of the *Standard Industrial Classification Manual* issued by the Office of Management and Budget.

Appendix A provides estimated measures of sampling variability (coefficients of variation) for the dollar volume estimates and estimates of year-to-year ratios presented in the report. An explanation of the survey coverage, sampling, and estimation methodology appears in appendix B. Appendix C provides a description of each kind of business included in this report. Copies of the 1995 report forms are provided in appendix D.

## Dollar Values

All dollar values presented in this report are expressed in current dollars, that is, the estimates are not adjusted to a constant dollar series. Consequently, when comparing data to prior years, users also should consider price level changes.

## Unpublished Data

Estimates for some kinds of business not separately shown in this report are produced as a by-product of the published statistics. These additional data are not published because of their high sampling variability, poor response quality, or other factors that result in their failure to meet Census Bureau standards for publication. The Bureau of the Census, upon written request, will release such figures for individual use.

Note that some unpublished figures can be derived from this report by subtracting published data from their respective totals. However, such figures are subject to the limitations described above. These unpublished estimates are for internal use only.

## Census Disclosure Rules

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

**Table 1. Motor Freight Transportation and Warehousing Services (SIC 42)—Summary Statistics, by Kind of Business: 1991 Through 1995**

Item	Motor freight transportation and warehousing services <sup>1</sup> (SIC 42)	Trucking and courier services, except by air <sup>2</sup> (SIC 421)	Local trucking without storage (SIC 4212)	Trucking, except local (SIC 4213)	Local trucking with storage (SIC 4214)	Courier services, except by air (SIC 4215)	Public warehousing and storage (SIC 422)	Farm product warehousing and storage (SIC 4221)	Refrigerated warehousing and storage (SIC 4222)	General warehousing and storage (SIC 4225)	Special warehousing and storage (SIC 4226)
<b>Total Operating Revenue</b>											
Millions of dollars											
1995	176,259	165,271	41,393	95,814	4,410	23,654	10,941	781	2,271	5,060	2,829
1994	167,865	157,910	39,400	91,971	4,282	22,257	9,911	773	1,970	4,652	2,516
1993	152,694	143,601	35,953	82,558	4,259	20,831	9,056	718	1,805	4,352	2,181
1992	143,793	135,437	33,554	78,358	4,191	19,334	8,329	656	1,745	3,919	2,009
1991	134,259	126,772	30,890	73,982	4,022	17,878	7,440	566	1,554	3,568	1,752
Percent change											
1995/1994	5.0	4.7	5.1	4.2	3.0	6.3	10.4	1.0	15.3	8.8	12.4
1994/1993	9.9	10.0	9.6	11.4	0.5	6.8	9.4	7.7	9.1	6.9	15.4
1993/1992	6.2	6.0	7.1	5.4	1.6	7.7	8.7	9.5	3.4	11.0	8.6
1992/1991	7.1	6.8	8.6	5.9	4.2	8.1	11.9	15.9	12.3	9.8	14.7
<b>Total Operating Expenses</b>											
Millions of dollars											
1995	165,089	155,920	38,677	91,883	4,172	21,188	9,120	667	1,879	4,183	2,391
1994	156,227	147,911	36,444	87,078	4,131	20,258	8,271	652	1,667	3,803	2,149
1993	142,803	135,144	33,383	78,716	4,052	18,993	7,622	615	1,541	3,597	1,869
1992	134,752	127,687	31,047	75,061	3,930	17,649	7,041	573	1,482	3,242	1,744
1991	125,246	118,855	27,887	70,828	3,838	16,302	6,375	505	1,328	3,022	1,520
Percent change											
1995/1994	5.7	5.4	6.1	5.5	1.0	4.6	10.3	2.3	12.7	10.0	11.3
1994/1993	9.4	9.4	9.2	10.6	1.9	6.7	8.5	6.0	8.2	5.7	15.0
1993/1992	6.0	5.8	7.5	4.9	3.1	7.6	8.3	7.3	4.0	11.0	7.2
1992/1991	7.6	7.4	11.3	6.0	2.4	8.3	10.4	13.5	11.6	7.3	14.7
<b>Annual Payroll</b>											
Millions of dollars											
1995	49,347	46,535	9,853	26,590	1,360	8,732	2,794	160	599	1,278	757
1994	46,137	43,580	9,193	24,658	1,362	8,367	2,540	152	522	1,170	696
1993	42,266	39,889	8,434	22,277	1,351	7,827	2,364	144	488	1,120	612
1992	39,896	37,761	8,044	20,975	1,346	7,396	2,127	129	464	983	551
1991	37,914	36,012	7,521	20,043	1,324	7,124	1,896	116	423	885	472
Percent change											
1995/1994	7.0	6.8	7.2	7.8	-0.1	4.4	10.0	5.3	14.8	9.2	8.8
1994/1993	9.2	9.3	9.0	10.7	0.8	6.9	7.4	5.6	7.0	4.5	13.7
1993/1992	5.9	5.6	4.8	6.2	0.4	5.8	11.1	11.6	5.2	13.9	11.1
1992/1991	5.2	4.9	7.0	4.7	1.7	3.8	12.2	11.2	9.7	11.1	16.7
<b>Employer Contributions to Social Security and Other Supplemental Benefits</b>											
Millions of dollars											
1995	12,488	11,857	2,228	6,428	288	2,913	627	40	139	282	166
1994	12,101	11,502	2,159	6,228	301	2,814	596	39	135	265	157
1993	11,309	10,745	1,959	5,863	301	2,622	561	38	128	256	139
1992	10,647	10,125	1,835	5,583	310	2,397	520	36	131	226	127
1991	9,861	9,393	1,686	5,304	303	2,100	466	32	111	208	115
Percent change											
1995/1994	3.2	3.1	3.2	3.2	-4.3	3.5	5.2	2.6	3.0	6.4	5.7
1994/1993	7.0	7.0	10.2	6.2	0.0	7.3	6.2	2.6	5.5	3.5	12.9
1993/1992	6.2	6.1	6.8	5.0	-2.9	9.4	7.9	5.6	-2.3	13.3	9.4
1992/1991	8.0	7.8	8.8	5.3	2.3	14.1	11.6	12.5	18.0	8.7	10.4

<sup>1</sup>Includes terminal and joint terminal maintenance facilities for motor carrier transportation (SIC 4231) not shown separately.

<sup>2</sup>Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees.

Note: Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-1 provides estimated measures of sampling variability (coefficients of variation).



## Trucking and Courier Services

### Summary of Data

Total operating revenue in 1995 for the for-hire trucking and courier services industry (excluding air courier services) was estimated at \$165.3 billion, up 4.7 percent from 1994. Long-distance trucking, which accounted for more than 74 percent of all motor carrier revenue, was up 4.4 percent from 1994. Local trucking revenue rose 5 percent from 1994 to approximately \$40.1 billion in 1995. Truckload shipments accounted for approximately 63 percent of motor carrier revenue in 1995 and increased 4.4 percent from 1994.

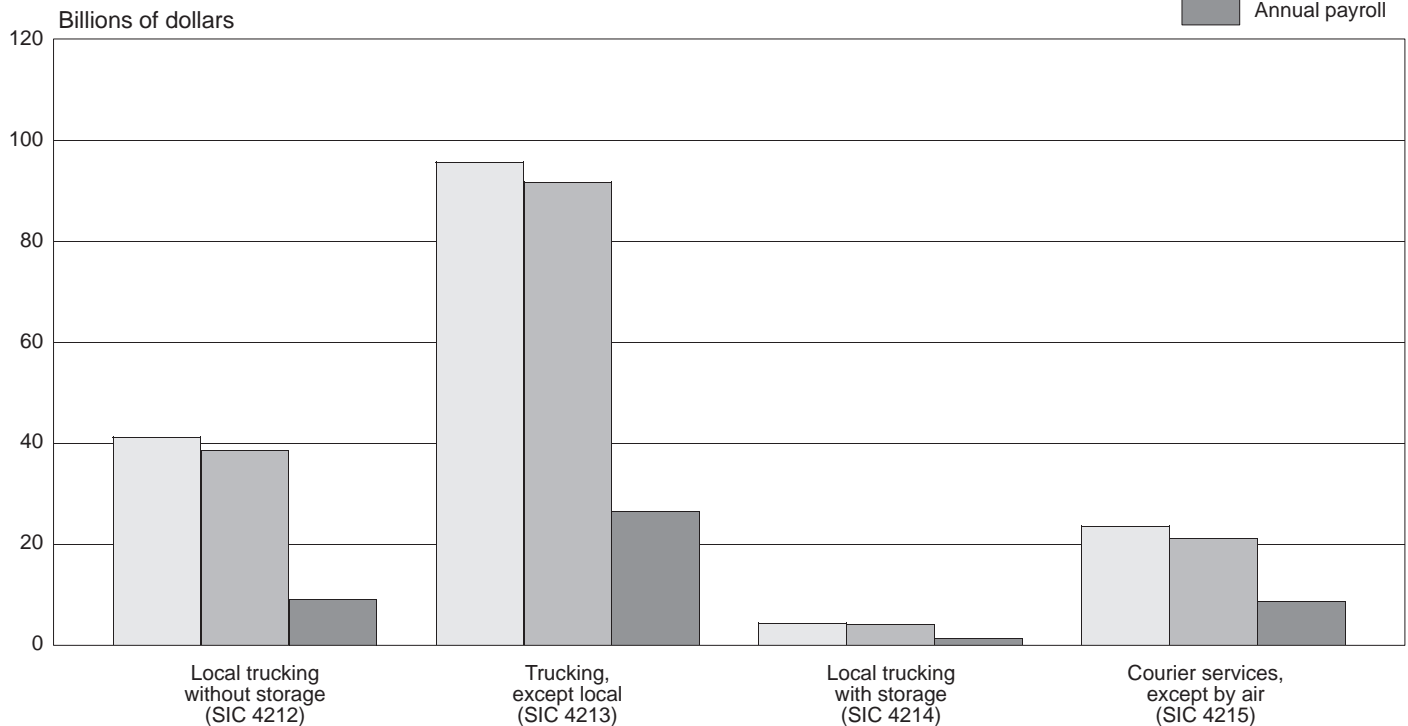
Approximately 47 percent of motor carrier revenue came from transporting manufactured products, such as furniture, hardware, glass products, textiles and apparel, and the delivery of small packages. Revenue in 1995 from the transport of household goods rose 11.4 percent from 1994.

Total operating expenses were estimated at \$155.9 billion in 1995, up 5.4 percent from 1994. Annual payroll accounted for nearly 30 percent of all trucking expenses, totaling \$46.5 billion for 1995. Purchased transportation rose 3.6 percent from 1994, while the cost of purchased fuels rose 5.5 percent.

Total operating revenue for long-distance trucking, SIC 4213, rose 4.2 percent from 1994 to approximately \$96 billion in 1995. Total operating expenses were estimated at \$91.9 billion in 1995 and were up 5.5 percent over 1994. Annual payroll accounted for nearly 29 percent of the industry's expenses in 1995 and was up 7.8 percent from 1994.

Figure 1.

### Trucking and Courier Services (SIC 421)—Estimated Revenue, Expenses, and Annual Payroll, by Kind of Business: 1995



Note: See appendix A, table A-1 for estimated measures of sampling variability (coefficients of variation). Estimates are not adjusted for price changes. Expenses include annual payroll.

Source: U.S. Bureau of the Census, *Motor Freight Transportation and Warehousing Survey: 1995*

**Table 2. Trucking and Courier Services (SIC 421)—Estimated Operating Revenue and Expenses for All Carriers, by Kind of Business: 1991 Through 1995**

[Millions of dollars.]

Item	Trucking and courier services, except by air (SIC 421)					Local trucking without storage (SIC 4212)					Trucking, except local (SIC 4213)					Local trucking with storage (SIC 4214)					Courier services, except by air (SIC 4215)				
	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991
<b>Operating Revenue</b>																									
Total . . . . .	165,271	157,910	143,601	135,437	126,772	41,393	39,400	35,953	33,554	30,890	95,814	91,971	82,558	78,358	73,982	4,410	4,282	4,259	4,191	4,022	23,654	22,257	20,831	19,334	17,878
Motor carrier . . . . .	155,971	149,160	135,383	127,049	117,732	38,244	36,342	33,026	30,450	27,322	90,950	87,553	78,533	74,386	69,800	3,350	3,192	3,133	3,030	2,845	23,427	22,073	20,691	19,183	17,765
Local trucking . . . . .	40,062	38,157	34,086	31,120	27,281	24,882	23,487	20,886	19,318	17,150	10,249	10,317	9,293	8,244	7,047	2,157	2,026	1,892	1,787	1,543	2,774	2,327	2,015	1,771	1,541
Long-distance trucking . . . . .	115,909	111,003	101,297	95,929	90,451	13,362	12,855	12,140	11,132	10,172	80,701	77,236	69,240	66,142	62,753	1,193	1,166	1,241	1,243	1,302	20,653	19,746	18,676	17,412	16,224
<b>Operating Expenses</b>																									
Total . . . . .	155,920	147,911	135,144	127,687	118,855	38,677	36,444	33,383	31,047	27,887	91,883	87,078	78,716	75,061	70,828	4,172	4,131	4,052	3,930	3,838	21,188	20,258	18,993	17,649	16,302
Annual payroll . . . . .	46,535	43,580	39,889	37,761	36,012	9,853	9,193	8,434	8,044	7,521	26,590	24,658	22,277	20,975	20,043	1,360	1,362	1,351	1,346	1,324	8,732	8,367	7,827	7,396	7,124
Employer contributions to Social Security and other supplemental benefits . . . . .	11,857	11,502	10,745	10,125	9,393	2,228	2,159	1,959	1,835	1,686	6,428	6,228	5,863	5,583	5,304	288	301	301	310	303	2,913	2,814	2,622	2,397	2,100
Purchased fuels . . . . .	14,018	13,287	12,119	11,345	10,203	3,835	3,727	3,389	2,922	2,376	8,428	7,968	7,179	6,941	6,558	210	199	214	210	187	1,545	1,393	1,337	1,272	1,082
Purchased transportation . . . . .	30,379	29,329	26,678	24,760	22,507	5,689	5,294	4,930	4,256	3,731	21,869	21,141	19,038	18,055	16,622	714	699	636	601	596	2,107	2,195	2,074	1,848	1,558
Lease and rental . . . . .	2,894	2,732	2,545	2,521	2,501	680	649	610	648	689	1,374	1,309	1,203	1,177	1,177	238	254	237	239	236	602	520	495	457	399
Insurance . . . . .	5,617	5,489	5,097	4,801	4,637	1,576	1,618	1,547	1,460	1,245	3,359	3,251	2,945	2,819	2,834	198	196	202	182	184	484	424	403	340	374
Maintenance and repair . . . . .	9,636	9,442	8,542	7,985	7,138	3,290	3,181	2,841	2,600	2,148	5,349	5,250	4,760	4,504	4,203	219	223	212	195	(S)	778	788	729	686	582
Depreciation . . . . .	8,948	8,218	7,450	6,998	6,610	2,570	2,478	2,253	2,062	1,808	5,070	4,551	4,061	3,860	3,764	172	148	163	170	152	1,136	1,041	973	906	886
Taxes and licenses . . . . .	3,931	3,676	3,351	3,212	2,839	909	885	808	732	593	2,552	2,385	2,161	2,116	1,932	76	78	75	69	59	394	328	307	295	255
Drug and alcohol testing and rehabilitation programs . . . . .	98	82	64	53	39	24	26	19	13	8	70	52	41	37	29	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Other operating expenses . . . . .	22,007	20,574	18,664	18,126	16,976	8,023	7,234	6,593	6,475	6,082	10,794	10,285	9,188	8,994	8,362	694	668	658	606	590	2,496	2,387	2,225	2,051	1,942

S Data do not meet publication standards because of high sampling variability or poor response quality. Some unpublished estimates can be derived from this table by subtracting published data from their respective totals. However, the figures obtained by such subtraction are subject to these same limitations. These unpublished data are for internal use only.

Note: Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees. Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-2 provides estimated measures of sampling variability (coefficients of variation).

Table 3. **Trucking and Courier Services (SIC 421)—Estimated Operating Revenue and Expenses, by Type of Carrier: 1991 Through 1995**

Item	Millions of dollars					Percent change			
	1995	1994	1993	1992	1991	1995/1994	1994/1993	1993/1992	1992/1991
<b>ALL CARRIERS</b>									
<b>Operating Revenue</b>									
Total	165,271	157,910	143,601	135,437	126,772	4.7	10.0	6.0	6.8
Motor carrier	155,971	149,160	135,383	127,049	117,732	4.6	10.2	6.6	7.9
Local trucking	40,062	38,157	34,086	31,120	27,281	5.0	11.9	9.5	14.1
Long-distance trucking	115,909	111,003	101,297	95,929	90,451	4.4	9.6	5.6	6.1
<b>Operating Expenses</b>									
Total	155,920	147,911	135,144	127,687	118,855	5.4	9.4	5.8	7.4
Annual payroll	46,535	43,580	39,889	37,761	36,012	6.8	9.3	5.6	4.9
Employer contributions to Social Security and other supplemental benefits	11,857	11,502	10,745	10,125	9,393	3.1	7.0	6.1	7.8
Purchased fuels	14,018	13,287	12,119	11,345	10,203	5.5	9.6	6.8	11.2
Purchased transportation	30,379	29,329	26,678	24,760	22,507	3.6	9.9	7.7	10.0
Lease and rental	2,894	2,732	2,545	2,521	2,501	5.9	7.3	1.0	0.8
Insurance	5,617	5,489	5,097	4,801	4,637	2.3	7.7	6.2	3.5
Maintenance and repair	9,636	9,442	8,542	7,985	7,138	2.1	10.5	7.0	11.9
Depreciation	8,948	8,218	7,450	6,998	6,610	8.9	10.3	6.5	5.9
Taxes and licenses	3,931	3,676	3,351	3,212	2,839	6.9	9.7	4.3	13.1
Drug and alcohol testing and rehabilitation programs	98	82	64	53	39	19.5	28.1	20.8	35.9
Other operating expenses	22,007	20,574	18,664	18,126	16,976	7.0	10.2	3.0	6.8
<b>SPECIALTY CARRIERS</b>									
<b>Operating Revenue</b>									
Total	42,944	41,205	38,335	36,729	34,884	4.2	7.5	4.4	5.3
Motor carrier	38,411	37,015	34,279	32,690	30,604	3.8	8.0	4.9	6.8
Local trucking	20,353	19,231	17,442	16,366	14,668	5.8	10.3	6.6	11.6
Long-distance trucking	18,058	17,784	16,837	16,324	15,936	1.5	5.6	3.1	2.4
<b>Operating Expenses</b>									
Total	40,325	38,403	35,902	34,101	32,072	5.0	7.0	5.3	6.3
Annual payroll	9,961	9,349	8,735	8,362	8,126	6.5	7.0	4.5	2.9
Employer contributions to Social Security and other supplemental benefits	2,317	2,283	2,042	1,973	1,876	1.5	11.8	3.5	5.2
Purchased fuels	2,566	2,498	2,314	2,111	1,923	2.7	8.0	9.6	9.8
Purchased transportation	7,977	7,906	7,586	6,805	6,093	0.9	4.2	11.5	11.7
Lease and rental	792	765	719	711	715	3.5	6.4	1.1	-0.6
Insurance	1,565	1,577	1,473	1,383	1,328	-0.8	7.1	6.5	4.1
Maintenance and repair	2,818	2,645	2,367	2,298	2,128	6.5	11.7	3.0	8.0
Depreciation	2,197	2,016	1,950	1,886	1,847	9.0	3.4	3.4	2.1
Taxes and licenses	803	746	688	667	584	7.6	8.4	3.1	14.2
Drug and alcohol testing and rehabilitation programs	25	23	18	15	11	8.7	27.8	20.0	36.4
Other operating expenses	9,304	8,595	8,010	7,890	7,441	8.2	7.3	1.5	6.0
<b>GENERAL CARRIERS</b>									
<b>Operating Revenue</b>									
Total	122,327	116,705	105,266	98,708	91,888	4.8	10.9	6.6	7.4
Motor carrier	117,560	112,145	101,104	94,359	87,128	4.8	10.9	7.1	8.3
Local trucking	19,709	18,926	16,644	14,754	12,613	4.1	13.7	12.8	17.0
Long-distance trucking	97,851	93,219	84,460	79,605	74,515	5.0	10.4	6.1	6.8
<b>Operating Expenses</b>									
Total	115,595	109,508	99,242	93,586	86,783	5.6	10.3	6.0	7.8
Annual payroll	36,574	34,231	31,154	29,399	27,886	6.8	9.9	6.0	5.4
Employer contributions to Social Security and other supplemental benefits	9,540	9,219	8,703	8,152	7,517	3.5	5.9	6.8	8.4
Purchased fuels	11,452	10,789	9,805	9,234	8,280	6.1	10.0	6.2	11.5
Purchased transportation	22,402	21,423	19,092	17,955	16,414	4.6	12.2	6.3	9.4
Lease and rental	2,102	1,967	1,826	1,810	1,786	6.9	7.7	0.9	1.3
Insurance	4,052	3,912	3,624	3,418	3,309	3.6	7.9	6.0	3.3
Maintenance and repair	6,818	6,797	6,175	5,687	5,010	0.3	10.1	8.6	13.5
Depreciation	6,751	6,202	5,500	5,112	4,763	8.9	12.8	7.6	7.3
Taxes and licenses	3,128	2,930	2,663	2,545	2,255	6.8	10.0	4.6	12.9
Drug and alcohol testing and rehabilitation programs	73	59	46	38	28	23.7	28.3	21.1	35.7
Other operating expenses	12,703	11,979	10,654	10,236	9,535	6.0	12.4	4.1	7.4

Note: Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees. Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-3 provides estimated measures of sampling variability (coefficients of variation).

Table 4. **Trucking and Courier Services (SIC 421)—Components of Operating Expense Estimates, by Type of Carrier: 1991 Through 1995**

Item	All carriers									
	Millions of dollars					Percent of total operating expenses				
	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991
<b>Operating Expenses</b>										
Total . . . . .	155,920	147,911	135,144	127,687	118,855	100.0	100.0	100.0	100.0	100.0
Annual payroll . . . . .	46,535	43,580	39,889	37,761	36,012	29.8	29.5	29.5	29.6	30.3
Employer contributions to Social Security and other supplemental benefits . . . . .	11,857	11,502	10,745	10,125	9,393	7.6	7.8	8.0	7.9	7.9
Plans required under Federal and State legislation . . . . .	6,435	6,169	5,739	5,467	5,070	4.1	4.2	4.2	4.3	4.3
Other fringe benefit plans . . . . .	5,422	5,333	5,006	4,658	4,323	3.5	3.6	3.7	3.6	3.6
Purchased fuels . . . . .	14,018	13,287	12,119	11,345	10,203	9.0	9.0	9.0	8.9	8.6
Trucks, truck-tractors, and other motor vehicles . . . . .	13,553	12,820	11,695	10,969	9,861	8.7	8.7	8.7	8.6	8.3
Heat, power, and generating electricity . . . . .	465	467	424	376	342	0.3	0.3	0.3	0.3	0.3
Purchased transportation . . . . .	30,379	29,329	26,678	24,760	22,507	19.5	19.8	19.7	19.4	18.9
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased with drivers . . . . .	20,089	19,356	17,811	16,323	15,136	12.9	13.1	13.2	12.8	12.7
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased without drivers . . . . .	5,647	5,434	4,980	4,772	4,346	3.6	3.7	3.7	3.7	3.7
Transportation purchased from railroads, airlines, water, and other motor carriers . . . . .	4,643	4,539	3,887	3,665	3,025	3.0	3.1	2.9	2.9	2.5
Lease and rental . . . . .	2,894	2,732	2,545	2,521	2,501	1.9	1.8	1.9	2.0	2.1
Buildings, offices, and structures . . . . .	2,301	2,169	2,038	1,999	1,994	1.5	1.5	1.5	1.6	1.7
Machinery and equipment (other than motor vehicles) . . . . .	593	563	507	522	507	0.4	0.4	0.4	0.4	0.4
Insurance . . . . .	5,617	5,489	5,097	4,801	4,637	3.6	3.7	3.8	3.8	3.9
Public liability and property damage insurance . . . . .	3,408	3,352	3,137	2,928	2,766	2.2	2.3	2.3	2.3	2.3
Insurance for loss of, or damage to, motor vehicles and their cargos . . . . .	1,864	1,816	1,664	1,589	1,579	1.2	1.2	1.2	1.2	1.3
Insurance for buildings, offices, structures, and machinery and equipment (other than motor vehicles) . . . . .	345	321	296	284	292	0.2	0.2	0.2	0.2	0.2
Maintenance and repair . . . . .	9,636	9,442	8,542	7,985	7,138	6.2	6.4	6.3	6.3	6.0
Motor vehicle parts for self-repair . . . . .	5,456	5,424	4,964	4,801	4,512	3.5	3.7	3.7	3.8	3.8
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	3,256	3,142	2,777	2,457	1,841	2.1	2.1	2.1	1.9	1.5
Buildings, offices, and structures . . . . .	403	378	323	275	308	0.3	0.3	0.2	0.2	0.3
Machinery and equipment (other than motor vehicles) . . . . .	521	498	478	452	477	0.3	0.3	0.4	0.4	0.4
Depreciation . . . . .	8,948	8,218	7,450	6,998	6,610	5.7	5.6	5.5	5.5	5.6
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	6,971	6,388	5,725	5,343	4,996	4.5	4.3	4.2	4.2	4.2
Buildings, offices, and structures . . . . .	972	883	828	779	778	0.6	0.6	0.6	0.6	0.7
Machinery and equipment (other than motor vehicles) . . . . .	1,005	947	897	876	836	0.6	0.6	0.7	0.7	0.7
Taxes and licenses . . . . .	3,931	3,676	3,351	3,212	2,839	2.5	2.5	2.5	2.5	2.4
Drug and alcohol testing and rehabilitation programs . . . . .	98	82	64	53	39	0.1	0.1	(Z)	(Z)	(Z)
Other operating expenses . . . . .	22,007	20,574	18,664	18,126	16,976	14.1	13.9	13.8	14.2	14.3

See footnotes at end of table.

Table 4. **Trucking and Courier Services (SIC 421)—Components of Operating Expense Estimates, by Type of Carrier: 1991 Through 1995—Continued**

Item	Specialty carriers									
	Millions of dollars					Percent of total operating expenses				
	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991
<b>Operating Expenses</b>										
Total . . . . .	40,325	38,403	35,902	34,101	32,072	100.0	100.0	100.0	100.0	100.0
Annual payroll . . . . .	9,961	9,349	8,735	8,362	8,126	24.7	24.3	24.3	24.5	25.3
Employer contributions to Social Security and other supplemental benefits . . . . .	2,317	2,283	2,042	1,973	1,876	5.7	5.9	5.7	5.8	5.8
Plans required under Federal and State legislation . . . . .	1,418	1,404	1,265	1,212	1,143	3.5	3.7	3.5	3.6	3.6
Other fringe benefit plans . . . . .	899	879	777	761	733	2.2	2.3	2.2	2.2	2.3
Purchased fuels . . . . .	2,566	2,498	2,314	2,111	1,923	6.4	6.5	6.4	6.2	6.0
Trucks, truck-tractors, and other motor vehicles . . . . .	2,441	2,379	2,204	2,018	1,851	6.1	6.2	6.1	5.9	5.8
Heat, power, and generating electricity . . . . .	125	119	110	93	72	0.3	0.3	0.3	0.3	0.2
Purchased transportation . . . . .	7,977	7,906	7,586	6,805	6,093	19.8	20.6	21.1	20.0	19.0
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased with drivers . . . . .	6,213	6,089	5,697	5,104	4,842	15.4	15.9	15.9	15.0	15.1
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased without drivers . . . . .	1,226	1,256	1,289	1,096	874	3.0	3.3	3.6	3.2	2.7
Transportation purchased from railroads, airlines, water, and other motor carriers . . . . .	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)	(S)
Lease and rental . . . . .	792	765	719	711	715	2.0	2.0	2.0	2.1	2.2
Buildings, offices, and structures . . . . .	614	590	568	547	556	1.5	1.5	1.6	1.6	1.7
Machinery and equipment (other than motor vehicles) . . . . .	178	175	151	164	159	0.4	0.5	0.4	0.5	0.5
Insurance . . . . .	1,565	1,577	1,473	1,383	1,328	3.9	4.1	4.1	4.1	4.1
Public liability and property damage insurance . . . . .	829	873	818	741	745	2.1	2.3	2.3	2.2	2.3
Insurance for loss of, or damage to, motor vehicles and their cargos . . . . .	627	594	550	539	482	1.6	1.5	1.5	1.6	1.5
Insurance for buildings, offices, structures, and machinery and equipment (other than motor vehicles) . . . . .	109	110	105	103	101	0.3	0.3	0.3	0.3	0.3
Maintenance and repair . . . . .	2,818	2,645	2,367	2,298	2,128	7.0	6.9	6.6	6.7	6.6
Motor vehicle parts for self-repair . . . . .	1,452	1,367	1,190	1,253	1,199	3.6	3.6	3.3	3.7	3.7
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	1,029	970	886	789	622	2.6	2.5	2.5	2.3	1.9
Buildings, offices, and structures . . . . .	133	120	104	93	106	0.3	0.3	0.3	0.3	0.3
Machinery and equipment (other than motor vehicles) . . . . .	204	188	187	163	201	0.5	0.5	0.5	0.5	0.6
Depreciation . . . . .	2,197	2,016	1,950	1,886	1,847	5.4	5.2	5.4	5.5	5.8
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	1,701	1,523	1,503	1,449	1,380	4.2	4.0	4.2	4.2	4.3
Buildings, offices, and structures . . . . .	179	174	158	149	166	0.4	0.5	0.4	0.4	0.5
Machinery and equipment (other than motor vehicles) . . . . .	317	319	289	288	301	0.8	0.8	0.8	0.8	0.9
Taxes and licenses . . . . .	803	746	688	667	584	2.0	1.9	1.9	2.0	1.8
Drug and alcohol testing and rehabilitation programs . . . . .	25	23	18	15	11	0.1	0.1	0.1	(Z)	(Z)
Other operating expenses . . . . .	9,304	8,595	8,010	7,890	7,441	23.1	22.4	22.3	23.1	23.2

See footnotes at end of table.

Table 4. **Trucking and Courier Services (SIC 421)—Components of Operating Expense Estimates, by Type of Carrier: 1991 Through 1995—Continued**

Item	General carriers									
	Millions of dollars					Percent of total operating expenses				
	1995	1994	1993	1992	1991	1995	1994	1993	1992	1991
<b>Operating Expenses</b>										
Total . . . . .	115,595	109,508	99,242	93,586	86,783	100.0	100.0	100.0	100.0	100.0
Annual payroll . . . . .	36,574	34,231	31,154	29,399	27,886	31.6	31.3	31.4	31.4	32.1
Employer contributions to Social Security and other supplemental benefits . . . . .	9,540	9,219	8,703	8,152	7,517	8.3	8.4	8.8	8.7	8.7
Plans required under Federal and State legislation . . . . .	5,017	4,765	4,474	4,255	3,927	4.3	4.4	4.5	4.5	4.5
Other fringe benefit plans . . . . .	4,523	4,454	4,229	3,897	3,590	3.9	4.1	4.3	4.2	4.1
Purchased fuels . . . . .	11,452	10,789	9,805	9,234	8,280	9.9	9.9	9.9	9.9	9.5
Trucks, truck-tractors, and other motor vehicles . . . . .	11,112	10,441	9,491	8,951	8,010	9.6	9.5	9.6	9.6	9.2
Heat, power, and generating electricity . . . . .	340	348	314	283	270	0.3	0.3	0.3	0.3	0.3
Purchased transportation . . . . .	22,402	21,423	19,092	17,955	16,414	19.4	19.6	19.2	19.2	18.9
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased with drivers . . . . .	13,876	13,267	12,114	11,219	10,294	12.0	12.1	12.2	12.0	11.9
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased without drivers . . . . .	4,421	4,178	3,691	3,676	3,472	3.8	3.8	3.7	3.9	4.0
Transportation purchased from railroads, airlines, water, and other motor carriers . . . . .	4,105	3,978	3,287	3,060	2,648	3.6	3.6	3.3	3.3	3.1
Lease and rental . . . . .	2,102	1,967	1,826	1,810	1,786	1.8	1.8	1.8	1.9	2.1
Buildings, offices, and structures . . . . .	1,687	1,579	1,470	1,452	1,438	1.5	1.4	1.5	1.6	1.7
Machinery and equipment (other than motor vehicles) . . . . .	415	388	356	358	348	0.4	0.4	0.4	0.4	0.4
Insurance . . . . .	4,052	3,912	3,624	3,418	3,309	3.5	3.6	3.7	3.7	3.8
Public liability and property damage insurance . . . . .	2,579	2,479	2,319	2,187	2,021	2.2	2.3	2.3	2.3	2.3
Insurance for loss of, or damage to, motor vehicles and their cargos . . . . .	1,237	1,222	1,114	1,050	1,097	1.1	1.1	1.1	1.1	1.3
Insurance for buildings, offices, structures, and machinery and equipment (other than motor vehicles) . . . . .	236	211	191	181	191	0.2	0.2	0.2	0.2	0.2
Maintenance and repair . . . . .	6,818	6,797	6,175	5,687	5,010	5.9	6.2	6.2	6.1	5.8
Motor vehicle parts for self-repair . . . . .	4,004	4,057	3,774	3,548	3,313	3.5	3.7	3.8	3.8	3.8
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	2,227	2,172	1,891	1,668	1,219	1.9	2.0	1.9	1.8	1.4
Buildings, offices, and structures . . . . .	270	258	219	182	202	0.2	0.2	0.2	0.2	0.2
Machinery and equipment (other than motor vehicles) . . . . .	317	310	291	289	276	0.3	0.3	0.3	0.3	0.3
Depreciation . . . . .	6,751	6,202	5,500	5,112	4,763	5.8	5.7	5.5	5.5	5.5
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	5,270	4,865	4,222	3,894	3,616	4.6	4.4	4.3	4.2	4.2
Buildings, offices, and structures . . . . .	793	709	670	630	612	0.7	0.6	0.7	0.7	0.7
Machinery and equipment (other than motor vehicles) . . . . .	688	628	608	588	535	0.6	0.6	0.6	0.6	0.6
Taxes and licenses . . . . .	3,128	2,930	2,663	2,545	2,255	2.7	2.7	2.7	2.7	2.6
Drug and alcohol testing and rehabilitation programs . . . . .	73	59	46	38	28	0.1	0.1	(Z)	(Z)	(Z)
Other operating expenses . . . . .	12,703	11,979	10,654	10,236	9,535	11.0	10.9	10.7	10.9	11.0

Z Less than .05 percent. S Data do not meet publication standards because of high sampling variability or poor response quality. Some unpublished estimates can be derived from this table by subtracting published data from their respective totals. However, the figures obtained by such subtraction are subject to these same limitations. These unpublished data are for internal use only.

Note: Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees. Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-4 provides estimated measures of sampling variability (coefficients of variation).

Table 5. **Trucking and Courier Services (SIC 421)—Estimated Motor Carrier Revenue, by Size of Shipments, Commodities Handled, and Origin and Destination of Shipments: 1991 Through 1995**

Item	Millions of dollars					Percent change				Percent of total motor carrier revenue				
	1995	1994	1993	1992	1991	1995/ 1994	1994/ 1993	1993/ 1992	1992/ 1991	1995	1994	1993	1992	1991
Total Motor Carrier Revenue .....	155,971	149,160	135,383	127,049	117,732	4.6	10.2	6.6	7.9	100.0	100.0	100.0	100.0	100.0
<b>Size of Shipments</b>														
Less-than-truckload .....	58,147	55,445	52,075	49,119	46,626	4.9	6.5	6.0	5.3	37.3	37.2	38.5	38.7	39.6
Truckload .....	97,824	93,715	83,308	77,930	71,106	4.4	12.5	6.9	9.6	62.7	62.8	61.5	61.3	60.4
<b>Commodities Handled</b>														
Agricultural and food products .....	23,156	21,795	19,941	19,390	17,850	6.2	9.3	2.8	8.6	14.8	14.6	14.7	15.3	15.2
Mining products, unrefined .....	3,125	2,631	2,259	1,890	1,748	18.8	16.5	19.5	8.1	2.0	1.8	1.7	1.5	1.5
Building materials .....	8,502	8,904	8,477	7,247	5,966	-4.5	5.0	17.0	21.5	5.5	6.0	6.3	5.7	5.1
Forestry, wood, and paper products .....	11,613	10,959	9,304	8,441	7,559	6.0	17.8	10.2	11.7	7.4	7.3	6.9	6.6	6.4
Chemicals and allied products .....	7,431	7,049	6,607	6,350	6,071	5.4	6.7	4.0	4.6	4.8	4.7	4.9	5.0	5.2
Petroleum and petroleum products .....	3,888	4,044	3,746	3,734	3,954	-3.9	8.0	0.3	-5.6	2.5	2.7	2.8	2.9	3.4
Metals and metal products .....	14,085	13,193	12,018	11,038	10,697	6.8	9.8	8.9	3.2	9.0	8.8	8.9	8.7	9.1
Household goods .....	10,886	9,772	8,647	8,144	7,416	11.4	13.0	6.2	9.8	7.0	6.6	6.4	6.4	6.3
Other manufactured products .....	21,818	21,842	18,696	17,109	15,733	-0.1	16.8	9.3	8.7	14.0	14.6	13.8	13.5	13.4
Other goods .....	51,467	48,971	45,688	43,706	40,738	5.1	7.2	4.5	7.3	33.0	32.8	33.7	34.4	34.6
<b>Origin and Destination of Shipments</b>														
U.S. to U.S. ....	153,642	147,045	(NA)	(NA)	(NA)	4.5	(NA)	(NA)	(NA)	98.5	98.6	(NA)	(NA)	(NA)
U.S. to Canada .....	889	789	(NA)	(NA)	(NA)	12.7	(NA)	(NA)	(NA)	0.6	0.5	(NA)	(NA)	(NA)
Canada to U.S. ....	696	664	(NA)	(NA)	(NA)	4.8	(NA)	(NA)	(NA)	0.4	0.4	(NA)	(NA)	(NA)
Other .....	744	663	(NA)	(NA)	(NA)	12.2	(NA)	(NA)	(NA)	0.5	0.4	(NA)	(NA)	(NA)

NA Not available.

Note: Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees. Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-5 provides estimated measures of sampling variability (coefficients of variation).

Table 6. **Trucking and Courier Services (SIC 421)—Estimated Inventories of Revenue Generating Equipment, by Type of Carrier, as of December 31: 1991 Through 1995**

Equipment	All carriers			Specialty carriers			General carriers		
	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased
<b>Trucks</b>									
Units (Thousands)									
1995 .....	295	252	(S)	154	124	(S)	141	128	13
1994 .....	287	247	(S)	147	120	(S)	140	127	13
1993 .....	260	224	(S)	131	105	(S)	129	119	10
1992 .....	246	211	(S)	112	89	(S)	134	122	12
1991 .....	235	197	38	103	79	24	132	118	14
Percent change									
1995/1994 .....	2.8	2.0	(S)	4.8	3.3	(S)	0.7	0.8	0.0
1994/1993 .....	10.4	10.3	(S)	12.2	14.3	(S)	8.5	6.7	30.0
1993/1992 .....	5.7	6.2	(S)	17.0	18.0	(S)	-3.7	-2.5	-16.7
1992/1991 .....	4.7	7.1	(S)	8.7	12.7	(S)	1.5	3.4	-14.3
<b>Truck-tractors</b>									
Units (Thousands)									
1995 .....	758	593	165	150	117	33	608	476	132
1994 .....	681	535	146	133	103	30	548	432	116
1993 .....	622	491	131	129	100	29	493	391	102
1992 .....	575	453	122	110	85	25	465	368	97
1991 .....	538	430	108	110	86	24	428	344	84
Percent change									
1995/1994 .....	11.3	10.8	13.0	12.8	13.6	10.0	10.9	10.2	13.8
1994/1993 .....	9.5	9.0	11.5	3.1	3.0	3.4	11.2	10.5	13.7
1993/1992 .....	8.2	8.4	7.4	17.3	17.6	16.0	6.0	6.3	5.2
1992/1991 .....	6.9	5.3	13.0	0.0	-1.2	4.2	8.6	7.0	15.5
<b>Trailers (Full and semi)</b>									
Units (Thousands)									
1995 .....	1,583	1,316	267	222	183	39	1,361	1,133	228
1994 .....	1,456	1,227	229	212	178	34	1,244	1,049	195
1993 .....	1,337	1,118	219	200	170	30	1,137	948	189
1992 .....	1,276	1,055	221	202	175	27	1,074	880	194
1991 .....	1,227	1,018	209	210	182	28	1,017	836	181
Percent change									
1995/1994 .....	8.7	7.3	16.6	4.7	2.8	14.7	9.4	8.0	16.9
1994/1993 .....	8.9	9.7	4.6	6.0	4.7	13.3	9.4	10.7	3.2
1993/1992 .....	4.8	6.0	-0.9	-1.0	-2.9	11.1	5.9	7.7	-2.6
1992/1991 .....	4.0	3.6	5.7	-3.8	-3.8	-3.6	5.6	5.3	7.2

S Data do not meet publication standards because of high sampling variability or poor response quality. Some unpublished estimates can be derived from this table by subtracting published data from their respective totals. However, the figures obtained by such subtraction are subject to these same limitations. These unpublished data are for internal use only.

Note: Excludes private motor carriers that operate as auxiliary establishments to nontransportation companies and independent owner-operators with no paid employees. Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-6 provides estimated measures of sampling variability (coefficients of variation).



## Public Warehousing Services

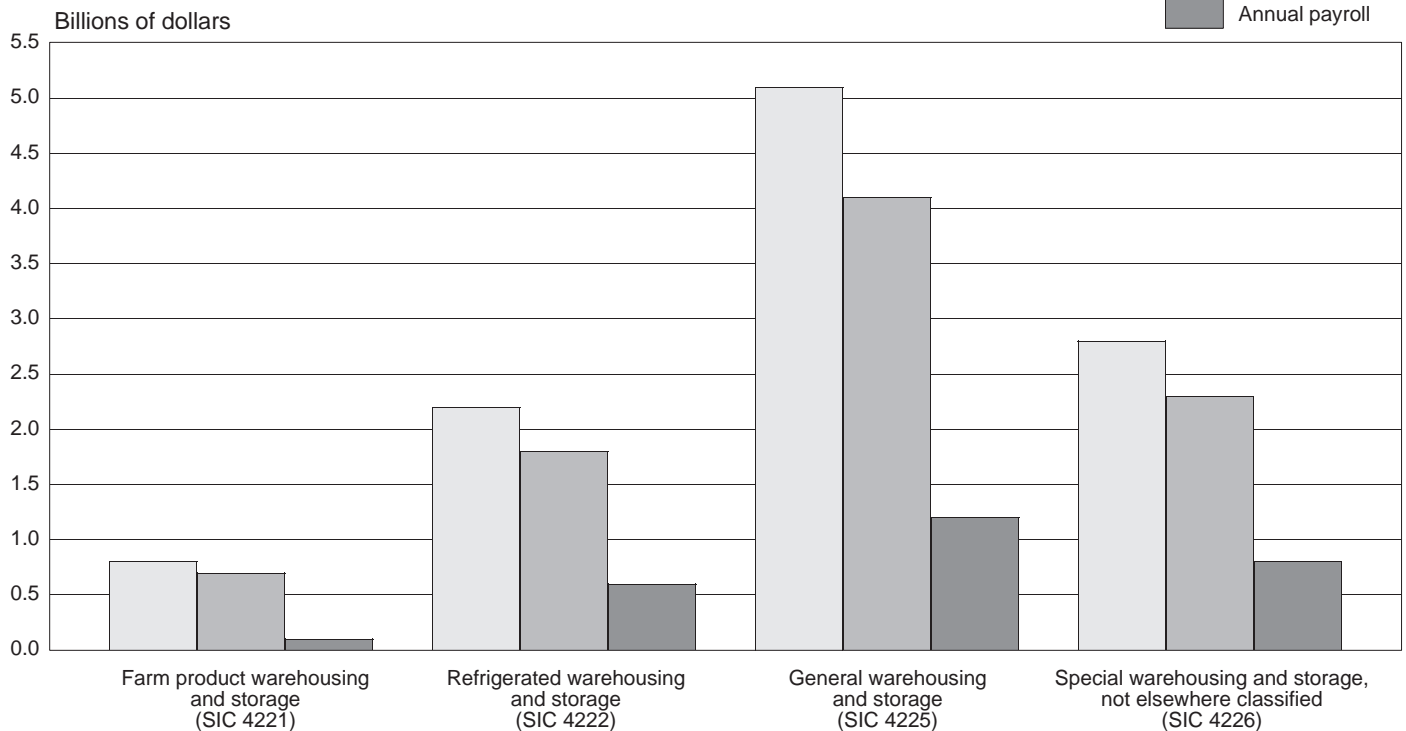
### Summary of Data

Total operating revenue for public warehousing services (SIC 422) increased 10.4 percent from 1994 to \$10.9 billion. Total operating expenses rose 10.3 percent to \$9.1 billion. Annual payroll was up 10 percent to 2.8 billion and represented more than 30 percent of the warehousing industry's total operating expenses.

More than 46 percent of all public warehousing services revenue (SIC 422) was from general warehousing and storage (SIC 4225). Revenue from refrigerated warehousing and storage (SIC 4222) increased 15.3 percent to \$2.3 billion. It accounted for more than 20 percent of the warehousing industry's total operating revenue in 1995. Total operating revenue in 1995 for farm product warehousing and storage (SIC 4221) represents approximately 7.1 percent of the warehousing industry's total operating revenue.

Figure 2.

### Public Warehousing Services (SIC 422)—Estimated Revenue, Expenses, and Annual Payroll, by Kind of Business: 1995



Note: See appendix A, table A-7 for estimated measures of sampling variability (coefficients of variation). Estimates are not adjusted for price changes. Expenses include annual payroll.

Source: U.S. Bureau of the Census, *Motor Freight Transportation and Warehousing Survey: 1995*

**Table 7. Public Warehousing Services (SIC 422)—Estimated Operating Revenue and Expenses, by Kind of Business: 1991 Through 1995**

Item	Total operating revenue	Operating expenses									
		Total operating expenses	Annual payroll	Employer contributions to Social Security and other supplemental benefits	Purchased fuels	Lease and rental	Insurance	Purchased repairs	Depreciation	Taxes and licenses	Other operating expenses
<b>Public Warehousing and Storage (SIC 422)</b>											
Millions of dollars											
1995	10,941	9,120	2,794	627	125	1,224	213	388	735	298	2,716
1994	9,911	8,271	2,540	596	123	1,078	195	348	668	285	2,438
1993	9,056	7,622	2,364	561	115	967	181	310	643	264	2,217
1992	8,329	7,041	2,127	520	101	889	170	278	612	233	2,111
1991	7,440	6,375	1,896	466	93	836	157	258	569	206	1,894
Percent change											
1995/1994	10.4	10.3	10.0	5.2	1.6	13.5	9.2	11.5	10.0	4.6	11.4
1994/1993	9.4	8.5	7.4	6.2	7.0	11.5	7.7	12.3	3.9	8.0	10.0
1993/1992	8.7	8.3	11.1	7.9	13.9	8.8	6.5	11.5	5.1	13.3	5.0
1992/1991	11.9	10.4	12.2	11.6	8.6	6.3	8.3	7.8	7.6	13.1	11.5
<b>Farm Product Warehousing and Storage (SIC 4221)</b>											
Millions of dollars											
1995	781	667	160	40	18	49	25	33	47	20	275
1994	773	652	152	39	18	45	24	33	45	20	276
1993	718	615	144	38	17	40	22	30	46	19	259
1992	656	573	129	36	16	36	22	29	43	18	244
1991	566	505	116	32	14	34	18	27	38	14	212
Percent change											
1995/1994	1.0	2.3	5.3	2.6	0.0	8.9	4.2	0.0	4.4	0.0	-0.4
1994/1993	7.7	6.0	5.6	2.6	5.9	12.5	9.1	10.0	-2.2	5.3	6.6
1993/1992	9.5	7.3	11.6	5.6	6.3	11.1	0.0	3.4	7.0	5.6	6.1
1992/1991	15.9	13.5	11.2	12.5	14.3	5.9	22.2	7.4	13.2	28.6	15.1
<b>Refrigerated Warehousing and Storage (SIC 4222)</b>											
Millions of dollars											
1995	2,271	1,879	599	139	26	145	38	95	202	49	586
1994	1,970	1,667	522	135	26	132	35	78	195	48	496
1993	1,805	1,541	488	128	27	127	32	68	179	45	447
1992	1,745	1,482	464	131	27	124	28	66	170	45	427
1991	1,554	1,328	423	111	22	104	26	62	150	41	389
Percent change											
1995/1994	15.3	12.7	14.8	3.0	0.0	9.8	8.6	21.8	3.6	2.1	18.1
1994/1993	9.1	8.2	7.0	5.5	-3.7	3.9	9.4	14.7	8.9	6.7	11.0
1993/1992	3.4	4.0	5.2	-2.3	0.0	2.4	14.3	3.0	5.3	0.0	4.7
1992/1991	12.3	11.6	9.7	18.0	22.7	19.2	7.7	6.5	13.3	9.8	9.8
<b>General Warehousing and Storage (SIC 4225)</b>											
Millions of dollars											
1995	5,060	4,183	1,278	282	39	701	86	155	279	147	1,216
1994	4,652	3,803	1,170	265	39	621	78	139	231	133	1,127
1993	4,352	3,597	1,120	256	38	591	73	124	235	120	1,040
1992	3,919	3,242	983	226	30	544	70	103	216	104	966
1991	3,568	3,022	885	208	32	524	66	97	215	93	902
Percent change											
1995/1994	8.8	10.0	9.2	6.4	0.0	12.9	10.3	11.5	20.8	10.5	7.9
1994/1993	6.9	5.7	4.5	3.5	2.6	5.1	6.8	12.1	-1.7	10.8	8.4
1993/1992	11.0	11.0	13.9	13.3	26.7	8.6	4.3	20.4	8.8	15.4	7.7
1992/1991	9.8	7.3	11.1	8.7	-6.3	3.8	6.1	6.2	0.5	11.8	7.1
<b>Special Warehousing and Storage (SIC 4226)</b>											
Millions of dollars											
1995	2,829	2,391	757	166	42	329	64	105	207	82	639
1994	2,516	2,149	696	157	40	280	58	98	197	84	539
1993	2,181	1,869	612	139	33	209	54	88	183	80	471
1992	2,009	1,744	551	127	28	185	50	80	183	66	474
1991	1,752	1,520	472	115	25	174	47	72	166	58	391
Percent change											
1995/1994	12.4	11.3	8.8	5.7	5.0	17.5	10.3	7.1	5.1	-2.4	18.6
1994/1993	15.4	15.0	13.7	12.9	21.2	34.0	7.4	11.4	7.7	5.0	14.4
1993/1992	8.6	7.2	11.1	9.4	17.9	13.0	8.0	10.0	0.0	21.2	-0.6
1992/1991	14.7	14.7	16.7	10.4	12.0	6.3	6.4	11.1	10.2	13.8	21.2

Note: Detail may not add to total due to rounding. Estimates are not adjusted for price changes. Appendix A, table A-7 provides estimated measures of sampling variability (coefficients of variation).

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## Appendix A. Measures of Sampling Variability

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### RELIABILITY OF DATA

There are two types of errors possible in an estimate based on a sample survey—sampling and nonsampling. Sampling errors occur because observations are made on a sample, not on the entire population. Nonsampling errors can be attributed to many sources in the collection and processing of the data. The accuracy of a survey result is determined by the joint effect of sampling and nonsampling errors.

### MEASURES OF SAMPLING VARIABILITY

Because the estimates were based on a sample, exact agreement with the results that would be obtained from a complete census of the trucking and warehousing industries using the same enumeration procedure was not expected. However, because each firm in the United States in the specified Standard Industrial Classifications (SIC's) had a chance of being selected for the sample and because the probability of selection for each firm in the sample was known, it was possible to estimate the sampling variability of the estimates made from the sample.

The standard error of the estimate is a measure of the variability among the estimates from all possible samples of the same size and design and, thus, is a measure of the precision with which an estimate from a particular sample approximates the results of a complete enumeration. The coefficient of variation (expressed as a percent) is the standard error of the estimate times 100 percent divided by the value being estimated. Note that 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. Coefficients of variation for dollar volume estimates and year-to-year ratios are shown in tables A-1 through A-7 in this appendix.

The coefficients of variation presented in these tables permit certain confidence statements about the sample estimates. The particular sample used in this survey was one of a large number of samples of the same size that could have been selected using the same design. In about two out of three of these samples, the estimates would differ from a complete enumeration by less than the corresponding percentages for that estimate shown in the sampling variability tables. In about 9 out of 10 of these samples, the estimates would differ from the results of a complete enumeration by less than 1.65 times the percentages shown.

To illustrate the computations involved in the above confidence statements as related to dollar volume estimates, assume that an estimate of revenue published in table 1 of this publication is \$10.7 million for a particular year and that the coefficient of variation for this estimate, as given in table A-1 of this appendix, is 1.8 percent or 0.018. Multiplying \$10.7 million by 0.018 yields \$193 thousand. Therefore, a 67-percent confidence interval is \$10.5 million to \$10.9 million (\$10.7 million plus or minus \$193 thousand). If corresponding confidence intervals were constructed for all possible samples of the same size and design, approximately 2 out of 3 (67 percent) of the intervals would contain the figure obtained from a complete enumeration. Typical practice is to construct a 90- or 95-percent confidence interval. Using the same illustration, a 90-percent confidence interval would be \$10.4 million to \$11.2 million (\$10.7 million plus or minus \$318 thousand). The \$318 thousand is computed by multiplying \$10.7 million by 0.018 by 1.65).

### NONSAMPLING ERRORS

As calculated for this report, the coefficient of variation measures sampling errors but does not measure all nonsampling error in the data. Nonsampling error consists of both a variance component and a bias component. Bias is the difference, averaged over all possible samples of the same size and design, between the estimate and the true value being estimated.

Nonsampling errors can be attributed to many sources: (1) inability to obtain information about all cases in the sample, (2) response errors, (3) definitional difficulties, (4) differences in the interpretation of questions, (5) mistakes in recording or coding the data obtained, and (6) other errors of collection, response, coverage, and estimation for missing data. These nonsampling errors also occur in complete censuses.

Although no direct measurement of the biases due to nonsampling errors has been obtained, precautionary steps were taken in all phases of the collection, processing, and tabulation of the data in an effort to minimize their influence.

The major source of bias in the published estimates is due to imputing for nonrespondents, for late reporters, and for data which failed edit. For all kinds of business combined, imputed revenue amounts to about 17 percent of the national revenue estimates.

Table A-1. **Motor Freight Transportation and Warehousing Services (SIC 42)—Estimated Coefficients of Variation for Summary Statistics, by Kind of Business: 1994 and 1995**

Item	Motor freight transportation and warehousing services (SIC 42)	Trucking and courier services, except by air (SIC 421)	Local trucking without storage (SIC 4212)	Trucking, except local (SIC 4213)	Local trucking with storage (SIC 4214)	Courier services, except by air (SIC 4215)	Public warehousing and storage (SIC 422)	Farm product warehousing and storage (SIC 4221)	Refrigerated warehousing and storage (SIC 4222)	General warehousing and storage (SIC 4225)	Special warehousing and storage (SIC 4226)
<b>Total Operating Revenue</b>											
Dollar volume											
1995 .....	1.9	2.0	4.5	2.6	11.7	4.1	4.4	9.7	4.8	8.3	6.9
1994 .....	1.7	1.8	4.0	2.4	12.2	3.8	4.0	7.9	4.9	7.0	7.7
Year-to-year ratio 1995/1994 ..	0.8	0.9	2.8	0.9	4.4	0.8	1.5	3.0	2.9	2.9	1.7
<b>Total Operating Expenses</b>											
Dollar volume											
1995 .....	1.9	2.0	4.8	2.5	12.4	4.0	4.5	11.0	4.6	8.4	7.4
1994 .....	1.8	1.9	4.2	2.4	12.2	3.8	4.1	9.0	4.1	7.5	7.5
Year-to-year ratio 1995/1994 ..	0.8	0.9	2.7	0.9	3.6	0.8	1.3	3.7	2.7	2.4	1.6
<b>Annual Payroll</b>											
Dollar volume											
1995 .....	1.9	2.0	5.3	2.6	12.6	3.1	3.5	11.5	4.4	4.6	9.7
1994 .....	1.6	1.7	4.3	2.2	13.3	2.7	3.6	9.6	3.9	4.9	9.6
Year-to-year ratio 1995/1994 ..	0.9	1.0	3.5	1.0	4.2	0.9	1.5	4.6	3.2	2.4	2.6
<b>Employer Contributions to Social Security and Other Supplemental Benefits</b>											
Dollar volume											
1995 .....	2.0	2.1	6.7	2.8	16.0	2.7	2.9	10.7	4.3	4.0	7.4
1994 .....	1.7	1.8	5.4	2.4	14.6	2.6	3.4	9.3	4.7	3.5	10.3
Year-to-year ratio 1995/1994 ..	1.0	1.0	4.6	0.9	5.7	0.4	1.9	4.8	1.8	3.0	4.3

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

Table A-2. **Trucking and Courier Services (SIC 421)—Estimated Coefficients of Variation for Operating Revenue and Expenses for All Carriers, by Kind of Business: 1994 and 1995**

Item	All carriers (Dollar volume)									
	Trucking and courier services, except by air (SIC 421)		Local trucking without storage (SIC 4212)		Trucking, except local (SIC 4213)		Local trucking with storage (SIC 4214)		Courier services, except by air (SIC 4215)	
	1995	1994	1995	1994	1995	1994	1995	1994	1995	1994
<b>Operating Revenue</b>										
Total .....	2.0	1.8	4.5	4.0	2.6	2.4	11.7	12.2	4.1	3.8
Motor carrier .....	2.2	1.9	5.3	4.1	2.8	2.6	12.4	12.9	4.0	3.8
Local trucking .....	4.1	3.2	5.8	3.9	5.4	6.2	13.6	13.0	18.5	18.2
Long-distance trucking .....	2.4	2.2	9.9	8.7	2.9	2.7	17.7	18.4	3.3	3.4
<b>Operating Expenses</b>										
Total .....	2.0	1.9	4.8	4.2	2.5	2.4	12.4	12.2	4.0	3.8
Annual payroll .....	2.0	1.7	5.3	4.3	2.6	2.2	12.6	13.3	3.1	2.7
Employer contributions to Social Security and other supplemental benefits .....	2.1	1.8	6.7	5.4	2.8	2.4	16.0	14.6	2.7	2.6
Purchased fuels .....	3.5	3.1	7.4	6.0	4.5	4.1	20.5	20.3	6.8	6.7
Purchased transportation .....	2.9	3.1	9.9	10.9	2.9	3.1	13.4	14.3	12.2	12.4
Lease and rental .....	3.1	3.3	6.2	5.2	4.8	5.6	15.1	14.9	4.9	4.2
Insurance .....	3.0	2.8	7.1	6.0	3.5	3.3	13.8	14.8	9.4	8.6
Maintenance and repair .....	3.0	2.7	6.7	5.5	3.3	3.5	15.8	15.4	5.7	5.4
Depreciation .....	3.6	3.4	8.7	6.4	4.5	4.8	22.7	21.7	4.2	3.9
Taxes and licenses .....	2.9	3.0	6.4	6.2	3.7	4.0	13.6	13.6	3.5	3.8
Drug and alcohol testing and rehabilitation programs .....	7.8	6.1	9.1	15.9	10.2	4.6	(S)	(S)	(S)	(S)
Other operating expenses .....	2.6	2.6	5.1	5.6	3.2	3.1	15.4	14.1	5.7	5.7

S Data do not meet publication standards because of high sampling variability or poor response quality.

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

**Table A-3. Trucking and Courier Services (SIC 421)—Estimated Coefficients of Variation for Operating Revenue and Expenses, by Type of Carrier: 1994 and 1995**

Item	Dollar volume		Year-to-year ratio 1995/1994
	1995	1994	
<b>ALL CARRIERS</b>			
<b>Operating Revenue</b>			
Total	2.0	1.8	0.9
Motor carrier	2.2	1.9	0.9
Local trucking	4.1	3.2	2.8
Long-distance trucking	2.4	2.2	0.8
<b>Operating Expenses</b>			
Total	2.0	1.9	0.9
Annual payroll	2.0	1.7	1.0
Employer contributions to Social Security and other supplemental benefits	2.1	1.8	1.0
Purchased fuels	3.5	3.1	1.3
Purchased transportation	2.9	3.1	1.7
Lease and rental	3.1	3.3	1.6
Insurance	3.0	2.8	1.3
Maintenance and repair	3.0	2.7	1.5
Depreciation	3.6	3.4	1.3
Taxes and licenses	2.9	3.0	1.3
Drug and alcohol testing and rehabilitation programs	7.8	6.1	7.2
Other operating expenses	2.6	2.6	1.3
<b>SPECIALTY CARRIERS</b>			
<b>Operating Revenue</b>			
Total	3.8	3.5	1.7
Motor carrier	3.9	3.3	2.0
Local trucking	4.4	4.3	3.3
Long-distance trucking	6.2	5.2	1.7
<b>Operating Expenses</b>			
Total	3.8	3.5	1.5
Annual payroll	5.0	4.7	2.2
Employer contributions to Social Security and other supplemental benefits	4.7	5.2	3.4
Purchased fuels	6.2	5.2	2.4
Purchased transportation	5.3	5.8	3.3
Lease and rental	6.1	6.1	2.4
Insurance	5.6	4.9	2.5
Maintenance and repair	4.6	4.2	2.1
Depreciation	4.7	4.2	2.6
Taxes and licenses	5.8	5.1	3.4
Drug and alcohol testing and rehabilitation programs	8.6	9.4	6.5
Other operating expenses	4.5	4.2	2.1
<b>GENERAL CARRIERS</b>			
<b>Operating Revenue</b>			
Total	2.8	2.7	0.8
Motor carrier	2.9	2.7	0.8
Local trucking	6.9	5.9	3.6
Long-distance trucking	2.9	2.7	0.9
<b>Operating Expenses</b>			
Total	2.8	2.7	0.9
Annual payroll	2.5	2.2	0.9
Employer contributions to Social Security and other supplemental benefits	2.5	2.2	0.8
Purchased fuels	4.7	4.4	1.4
Purchased transportation	4.1	4.5	1.7
Lease and rental	4.4	4.6	2.0
Insurance	4.3	4.1	1.5
Maintenance and repair	4.6	4.2	1.8
Depreciation	5.1	4.9	1.6
Taxes and licenses	3.9	4.1	1.5
Drug and alcohol testing and rehabilitation programs	10.4	8.5	9.2
Other operating expenses	4.8	4.8	1.8

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

**Table A-4. Trucking and Courier Services (SIC 421)—Estimated Coefficients of Variation for Components of Operating Expenses, by Type of Carrier: 1994 and 1995**

Item	All carriers				Specialty carriers				General carriers			
	Dollar volume		Percent of total operating expenses		Dollar volume		Percent of total operating expenses		Dollar volume		Percent of total operating expenses	
	1995	1994	1995	1994	1995	1994	1995	1994	1995	1994	1995	1994
<b>Operating Expenses</b>												
Total . . . . .	2.0	1.9	(X)	(X)	3.8	3.5	(X)	(X)	2.8	2.7	(X)	(X)
Annual payroll . . . . .	2.0	1.7	1.3	1.3	5.0	4.7	2.9	2.8	2.5	2.2	2.2	2.3
Employer contributions to Social Security and other supplemental benefits . . . . .	2.1	1.8	1.7	1.6	4.7	5.2	3.2	3.5	2.5	2.2	2.6	2.6
Plans required under Federal and State legislation . . . . .	2.5	2.2	2.0	1.8	5.4	5.5	3.8	3.7	2.9	2.7	2.7	2.7
Other fringe benefit plans . . . . .	1.9	1.7	1.8	1.8	4.7	6.2	4.1	5.1	2.4	2.2	2.9	2.9
Purchased fuels . . . . .	3.5	3.1	2.0	1.8	6.2	5.2	3.9	3.9	4.7	4.4	2.3	2.1
Trucks, truck-tractors, and other motor vehicles . . . . .	3.6	3.2	2.1	1.9	6.3	5.3	4.1	4.0	4.8	4.5	2.4	2.2
Heat, power, and generating electricity . . . . .	5.3	5.2	5.3	5.3	7.9	8.8	7.0	8.3	7.3	7.1	6.9	6.8
Purchased transportation . . . . .	2.9	3.1	2.2	2.2	5.3	5.8	4.2	4.5	4.1	4.5	2.9	3.1
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased with drivers . . . . .	4.3	4.5	3.6	3.7	6.2	6.8	5.3	5.8	5.6	6.0	4.4	4.6
Trucks, truck-tractors, trailers, and other motor vehicles rented or leased without drivers . . . . .	9.0	8.9	8.8	9.0	10.2	10.6	9.4	10.1	11.5	11.6	11.0	11.2
Transportation purchased from railroads, airlines, water, and other motor carriers . . . . .	3.8	4.5	4.0	4.2	(S)	(S)	(S)	(S)	3.9	4.6	4.3	4.8
Lease and rental . . . . .	3.1	3.3	2.9	3.1	6.1	6.1	4.5	4.7	4.4	4.6	3.8	4.1
Buildings, offices, and structures . . . . .	3.6	3.7	3.6	3.7	6.8	7.0	5.5	5.8	4.8	4.9	4.5	4.5
Machinery and equipment (other than motor vehicles) . . . . .	4.9	4.3	4.0	3.8	7.9	8.6	6.7	7.6	6.6	6.3	5.5	5.5
Insurance . . . . .	3.0	2.8	1.7	1.6	5.6	4.9	2.8	3.1	4.3	4.1	2.2	2.0
Public liability and property damage insurance . . . . .	3.9	3.5	2.7	2.5	7.7	6.5	5.7	5.2	5.0	4.6	3.1	2.6
Insurance for loss of, or damage to, motor vehicles and their cargos . . . . .	3.2	3.1	2.2	2.4	5.8	5.2	4.0	4.1	5.0	4.8	3.1	3.2
Insurance for buildings, offices, structures, and machinery and equipment (other than motor vehicles) . . . . .	6.6	7.1	6.7	7.3	12.2	12.1	11.1	11.0	9.0	10.2	9.1	10.5
Maintenance and repair . . . . .	3.0	2.7	1.8	1.6	4.6	4.2	2.8	3.4	4.6	4.2	2.4	2.1
Motor vehicle parts for self-repair . . . . .	3.4	3.4	2.4	2.5	6.0	5.5	5.4	5.6	4.6	4.7	2.7	3.0
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	4.5	3.7	3.3	2.9	6.7	5.8	5.0	4.6	6.8	6.0	4.8	4.5
Buildings, offices, and structures . . . . .	4.6	5.3	4.8	5.1	7.8	7.2	6.7	6.2	6.6	7.6	6.3	7.0
Machinery and equipment (other than motor vehicles) . . . . .	4.7	4.3	5.0	4.5	9.0	10.3	7.7	8.9	6.7	4.6	6.2	4.2
Depreciation . . . . .	3.6	3.4	2.3	2.0	4.7	4.2	3.4	3.0	5.1	4.9	2.8	2.8
Trucks, truck-tractors, trailers, and other motor vehicles . . . . .	4.4	4.0	3.0	2.7	5.6	4.9	4.5	4.1	5.9	5.6	3.6	3.5
Buildings, offices, and structures . . . . .	2.6	2.3	2.6	1.9	6.6	6.4	4.6	5.0	4.0	3.8	3.9	3.4
Machinery and equipment (other than motor vehicles) . . . . .	4.8	3.9	4.6	3.5	8.7	6.3	8.3	5.5	6.0	5.4	5.4	4.6
Taxes and licenses . . . . .	2.9	3.0	2.0	1.9	5.8	5.1	3.7	3.9	3.9	4.1	2.4	2.2
Drug and alcohol testing and rehabilitation programs . . . . .	7.8	6.1	7.0	5.1	8.6	9.4	7.3	8.2	10.4	8.5	9.1	6.8
Other operating expenses . . . . .	2.6	2.6	1.7	1.9	4.5	4.2	2.9	2.9	4.8	4.8	3.0	3.2

X Not applicable.

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

Table A-5. **Trucking and Courier Services (SIC 421)—Estimated Coefficients of Variation for Motor Carrier Revenue, by Size of Shipments, Commodities Handled, and Origin and Destination of Shipments: 1994 and 1995**

Item	Dollar volume		Year-to-year ratio 1995/1994	Percent of total motor carrier revenue	
	1995	1994		1995	1994
Total Motor Carrier Revenue .....	2.2	1.9	0.9	(X)	(X)
<b>Size of Shipments</b>					
Less-than-truckload .....	2.6	2.5	0.9	2.4	2.2
Truckload .....	3.1	2.6	1.3	1.5	1.3
<b>Commodities Handled</b>					
Agricultural and food products .....	4.8	4.5	2.4	3.9	3.7
Mining products, unrefined .....	17.3	16.4	5.9	17.4	16.5
Building materials .....	6.1	8.8	6.2	5.8	8.8
Forestry, wood, and paper products .....	6.7	5.1	3.5	5.9	4.5
Chemicals and allied products .....	4.9	5.3	2.5	4.8	5.4
Petroleum and petroleum products .....	8.2	8.6	3.8	8.2	8.6
Metals and metal products .....	6.5	6.3	2.1	5.7	5.9
Household goods .....	6.2	6.2	3.9	5.6	5.8
Other manufactured products .....	4.6	4.6	1.8	3.5	3.4
Other goods .....	2.1	2.1	1.0	2.0	2.0
<b>Origin and Destination of Shipments</b>					
U.S. to U.S. ....	2.2	1.9	0.9	0.1	0.1
U.S. to Canada .....	7.7	4.7	5.7	7.4	5.0
Canada to U.S. ....	9.1	8.7	3.9	9.1	8.5
Other .....	11.7	9.2	10.3	11.7	9.5

X Not applicable.

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.



Table A-6. **Trucking and Courier Services (SIC 421)—Estimated Coefficients of Variation for Inventories of Revenue Generating Equipment, by Type of Carrier, as of December 31: 1994 and 1995**

Equipment	All carriers			Specialty carriers			General carriers		
	Total	Owned	Leased	Total	Owned	Leased	Total	Owned	Leased
<b>Trucks</b>									
Units									
1995 .....	5.1	5.0	(S)	8.4	8.5	(S)	5.8	5.9	14.6
1994 .....	6.1	6.4	(S)	11.4	12.2	(S)	4.6	5.0	16.0
Year-to-year ratio 1995/1994 .....	3.9	4.0	(S)	6.8	7.6	(S)	2.8	2.6	16.1
<b>Truck-tractors</b>									
Units									
1995 .....	3.7	4.0	7.0	8.1	7.0	20.6	4.3	4.6	7.9
1994 .....	3.3	3.8	5.5	7.2	6.7	15.0	4.2	4.7	6.0
Year-to-year ratio 1995/1994 .....	1.9	2.0	4.3	2.9	3.4	9.6	2.1	2.2	4.9
<b>Trailers (Full and semi)</b>									
Units									
1995 .....	3.7	3.7	10.1	7.1	7.1	16.9	4.4	4.3	12.6
1994 .....	3.3	3.5	6.6	6.6	6.7	14.5	4.1	4.2	8.1
Year-to-year ratio 1995/1994 .....	1.5	1.2	6.1	3.7	3.8	11.5	1.6	1.3	7.0

S Data do not meet publication standards because of high sampling variability or poor response quality.

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

Table A-7. **Public Warehousing Services (SIC 422)—Estimated Coefficients of Variation for Operating Revenue and Expenses, by Kind of Business: 1994 and 1995**

Item	Total operating revenue	Operating expenses									
		Total operating expenses	Annual payroll	Employer contributions to Social Security and other supplemental benefits	Purchased fuels	Lease and rental	Insurance	Purchased repairs	Depreciation	Taxes and licenses	Other operating expenses
<b>Public Warehousing and Storage (SIC 422)</b>											
Dollar volume											
1995 .....	4.4	4.5	3.5	2.9	6.9	8.1	6.1	5.0	6.6	7.4	6.1
1994 .....	4.0	4.1	3.6	3.4	6.1	7.3	5.2	3.9	6.1	6.4	5.3
Year-to-year ratio 1995/1994 ..	1.5	1.3	1.5	1.9	3.4	2.6	2.5	2.6	2.9	2.0	1.8
<b>Farm Product Warehousing and Storage (SIC 4221)</b>											
Dollar volume											
1995 .....	9.7	11.0	11.5	10.7	10.9	12.8	9.4	10.4	11.9	9.5	14.7
1994 .....	7.9	9.0	9.6	9.3	8.2	9.4	7.6	6.2	11.2	7.4	11.4
Year-to-year ratio 1995/1994 ..	3.0	3.7	4.6	4.8	4.0	8.4	4.4	5.8	4.0	3.4	5.0
<b>Refrigerated Warehousing and Storage (SIC 4222)</b>											
Dollar volume											
1995 .....	4.8	4.6	4.4	4.3	12.7	8.5	5.7	6.1	6.0	4.3	5.8
1994 .....	4.9	4.1	3.9	4.7	12.4	8.6	6.6	6.1	6.1	4.2	4.9
Year-to-year ratio 1995/1994 ..	2.9	2.7	3.2	1.8	3.2	4.6	8.0	4.6	3.0	3.1	3.0
<b>General Warehousing and Storage (SIC 4225)</b>											
Dollar volume											
1995 .....	8.3	8.4	4.6	4.0	13.2	12.9	12.2	10.9	15.0	12.8	12.3
1994 .....	7.0	7.5	4.9	3.5	10.6	11.4	9.8	7.9	14.4	11.0	10.6
Year-to-year ratio 1995/1994 ..	2.9	2.4	2.4	3.0	6.0	4.3	4.7	5.3	7.3	3.4	3.1
<b>Special Warehousing and Storage (SIC 4226)</b>											
Dollar volume											
1995 .....	6.9	7.4	9.7	7.4	13.9	11.3	10.9	6.3	10.0	14.1	7.7
1994 .....	7.7	7.5	9.6	10.3	13.0	11.6	10.1	6.3	10.0	12.9	6.1
Year-to-year ratio 1995/1994 ..	1.7	1.6	2.6	4.3	8.1	2.4	1.8	2.7	1.6	2.7	3.3

Note: Estimated coefficients of variation have not been computed for estimates prior to 1994 but approximate those previously published.

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## Appendix B. Explanatory Material

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### DEFINITION OF TERMS

#### Firm

A firm is a business entity consisting of one or more domestic establishments/locations under common ownership or control.

#### Operating Revenue

Billings for services rendered and any sales of merchandise during the survey year, even though payments may be received at a later date. Excludes income from interest, investments, gifts, loans, contributions or grants; the sale of securities, real estate, etc; sales taxes or other taxes collected from customers and remitted directly by the firm to a local, State, or Federal tax agency; revenue from the sale of merchandise and equipment from retail establishments; and revenue from a domestic parent organization, or from franchise locations owned by others and any franchise or license fees.

**Motor carrier revenue.** Billings for the transportation of freight by motor vehicles including the rental and leasing of vehicles with drivers.

**Warehousing, storage, and handling revenue.** Warehousing and storage revenue refers to billings for the storage of shipments in transit or permanent storage. Includes rental receipts from the operation of mini-warehouses and self-service storage facilities. Excludes revenue from subleasing of warehousing space to others. Warehouse handling revenue refers to amounts billed separately for labor, packing and crating, handling, loading and unloading, and other accessory services.

#### Other operating revenue

*Trucking firms.* Includes sales from the operation of lunchrooms and restaurants; revenue from parking and storage of vehicles; revenue from snowplow work; revenue from other carriers for the use of terminal facilities operated by the firm including amounts billed separately for repair services; revenue from the short-term rental or extended-term leasing (with or without maintenance) of trailers, trucks, and truck-tractors, without drivers; fair sales value of merchandise marketed under capital, finance or full-payout leases; revenue from commissions for providing

brokerage services, making payroll deductions, or collecting freight charges from other carriers. Excludes nonoperating revenue, such as income from investments, loans, the sale of securities, real estate, etc.

*Warehousing firms.* Includes revenue from compressing, bailing, etc., and the leasing of vehicles without drivers. Excludes the value of used equipment or vehicles sold, as well as revenue received from any equity or full-payout leasing arrangement (finance leasing); and nonoperating revenue, such as income from investments, loans, the sale of securities, real estate, etc.

#### Operating Expenses

Costs incurred during the survey year, even though payment may be made at a later date. Excludes interest on loans and sales taxes and other taxes collected from customers and paid directly to a taxing authority.

**Annual payroll.** All salaries, wages, commissions, bonuses, and allowances for vacation, holiday, and sick leave paid to employees during the survey year. For corporations, it includes amounts paid to officers and executives; for unincorporated businesses, it does not include payments to proprietors or partners. Annual payroll is reported before employee deductions for Social Security, withholding taxes, insurance, union dues, etc.

#### Employer contributions for employee benefit plans

*Plans required under Federal and State legislation.* The employer's cost for all legally required programs, such as Social Security, and Medicare (FICA), worker's compensation insurance, unemployment tax, State disability insurance programs, etc.

*Other fringe benefit plans.* The employer's cost for programs not required by law, such as pension plans, stock purchase plans, union-negotiated benefits, life insurance benefits, insurance premiums on hospital and medical plans, etc.

**Purchased fuels.** The cost of gasoline and other fuels (including all applicable Federal and State gasoline, diesel fuel and oil taxes) used for trucks and other motor vehicles. Warehousing firms include fuels consumed for heat, power, or generating electricity; trucking firms report these costs separately.

**Purchased transportation (trucking firms only)**

*Trucks, truck-tractors, trailers, and other motor vehicles rented or leased **with** drivers.* Payments made to other carriers for the rental of motor vehicles (trucks, truck-tractors, and trailers) with drivers for the exclusive use and control of the firm.

*Trucks, truck-tractors, trailers, and other motor vehicles rented or leased **without** drivers.* Payments made to other carriers for the rental of motor vehicles (trucks, truck-tractors, and trailers) without drivers for the exclusive use and control of the firm.

*Transportation purchased from railroads, airlines, water, and other motor carriers.* Payments made for individual shipments and part loads in the vehicles of other carriers when the hauling carrier retains control of the vehicle and driver; payments to railroads, water carriers, airlines, and others for the transportation of this firm's loaded or empty vehicles and containers; and payments for the delivery of small shipments by parcel post or messenger.

**Lease and rental.** Payments made to other companies for the rental and leasing of assets owned by them. Excludes payments to a parent company or organization or any of its subsidiaries, and installment payments for assets obtained through capital lease agreements.

*Buildings, offices, and structures.* Payments made to other companies for the rental or leasing of buildings, offices, and structures.

*Machinery and equipment.* Payments made to other companies for the rental and leasing of machinery and equipment. Warehousing firms include payments for the rental and leasing of motor vehicles. Trucking firms report these payments under purchased transportation.

**Insurance.** Trucking firms report these costs separately, while warehousing firms report a combined total.

*Public liability and property damage insurance.* The cost of commercial insurance to protect the company against liability for deaths or injuries of persons (excluding worker's compensation premiums) and damages to property of others resulting from the operation of owned and leased vehicles.

*Insurance for loss of, or damage to, motor vehicles and their cargos.* The cost of commercial insurance to protect the company against liability for claims resulting from loss, damage, or delay of property entrusted to it for transportation or storage; and losses from fire, theft, or collision damage to owned or leased vehicles.

*Insurance for buildings, offices, structures, and machinery and equipment (other than trucks and other motor vehicles).* The cost of commercial insurance to protect the company against loss or damage to buildings, structures, offices, machinery, and equipment (other than motor vehicles) caused by fire, flood, wind, boiler explosion, or any other cause.

**Maintenance and repair.** Excludes repair costs included as part of a lease or rental agreement, and improvements for which depreciation accounts are maintained.

*Motor vehicle parts for self-repair (including tires and tubes) (trucking firms only).* The amount paid for tires and tubes and parts used in repairs to company owned or leased vehicles by company employees.

*Purchased repairs for trucks, truck-tractors, trailers, and other motor vehicles (trucking firms only).* The amount paid to others for repair of company owned or leased vehicles, including parts and labor.

*Purchased repairs for buildings, offices, and structures.* The amount paid to others for repair of company owned or leased buildings, structures, and offices.

*Purchased repairs for machinery and equipment.* The amount paid to others for repair of company owned or leased machinery and equipment. Warehousing firms report repairs to motor vehicles here; trucking firms report these costs in the first two maintenance and repair costs above.

**Depreciation.** Depreciation charges on assets owned by the company. Includes depreciation on assets rented or leased to others by the company under an operating lease agreement. Also includes depreciation against assets owned by the company within leaseholds and assets obtained through capital lease agreements. Excludes depreciation by the company on intangible assets and assets leased to others under a capital lease agreement. These charges are not adjusted for the value of depreciable assets sold or traded for replacement purposes.

*Motor vehicles (trucking firms only).* Depreciation charges on trucks, truck-tractors, trailers, and other motor vehicles.

*Buildings, offices, and structures.* Depreciation charges on buildings, offices, and structures owned by the company (except machinery and equipment).

*Machinery and equipment.* Depreciation charges for machinery and equipment. Warehousing firms include depreciation of motor vehicles with other machinery and equipment. Trucking firms report motor vehicle charges separately.

**Taxes and licenses.** Includes payments for vehicle licensing and registration, tolls, and other vehicle use taxes. Also includes the cost of taxes, including real and personal property taxes (such as taxes on real estate, motor vehicles, machinery, equipment, and inventories). Excludes gasoline, diesel fuel, oil taxes and income, sales, payroll, excise taxes, and other taxes collected from customers and paid to local, State, or Federal government agencies.

**Drug and alcohol testing and rehabilitation programs.** The cost of testing employees for drugs and alcohol and employer-sponsored rehabilitation programs.

**Other operating expenses.** All other operating expenses not reported above, including booking commissions, land-fill expenses, the cost of purchased utilities (including electricity, water, sewer, etc.), communication services, advertising, office supplies, losses by damage or theft not covered by insurance, bad debt losses, etc. Excludes interest on loans, as well as sales taxes and other taxes collected directly from customers and paid directly to a taxing authority.

### Classification of Carrier (Trucking Firms Only)

**Specialty freight.** Carriers limited to transporting articles which, because of their size, shape, weight, or other inherent characteristics, require special equipment for loading, unloading, or transporting. These commodities include:

- Household goods
- Heavy machinery
- Refrigerated products
- Agricultural commodities
- Motor vehicles
- Building materials
- Dangerous or hazardous materials
- Forest products

**General freight.** Carriers capable of handling a wide variety of commodities including all or some of those listed above.

### Classification of Distance Traveled (Trucking Firms Only)

**Local trucking.** Carriers primarily engaged in furnishing trucking or transfer services, with or without storage, within a city, town, or other local area including adjoining municipalities or suburban areas.

**Long-distance trucking.** Carriers primarily engaged in furnishing “over-the-road” trucking services either as a common carrier or under special or individual contract or agreement.

### Classification of Shipment Size (Trucking Firms Only)

**Less-than-truckload.** Shipments with an actual weight of less than 10,000 pounds.

**Truckload.** Shipments with an actual weight of 10,000 pounds or more.

### Classification of Commodities Handled (Trucking Firms Only)

**Agricultural and food products.** Includes live animals (cattle, horses, poultry, hogs, etc.), seafood, fresh farm products (grain, flowers, nursing stocks, raw milk, etc.), and processed food and tobacco products (canned goods, prepared meats, frozen foods, beverages, cigarettes, etc.).

**Mining products, unrefined.** Includes crude oil, coal and metal ores.

**Building materials.** Includes gravel, sand, concrete, flat glass, etc. Excludes cut lumber.

**Forestry, wood, and paper products.** Includes logs and forest products, lumber and fabricated wood products (except furniture), paper and paper products.

**Chemicals and allied products (except petroleum).** Includes chemicals and drugs (fertilizers, pesticides, cosmetics, paints, etc.), plastics, and rubber products.

**Petroleum and petroleum products.** Includes paving and roofing materials.

**Metals and metal products.** Includes primary metal products (pipes, ingots, billets, sheets, etc.), fabricated metal products, machinery, and transportation equipment, vehicles, and parts.

**Household goods.** Includes household and office furniture from homes, offices, etc.

**Other manufactured products.** Includes furniture and hardware (not involved in household moving), glass products, textiles and apparels (fibers, leather products, carpets, clothing, etc.), and miscellaneous manufactured products (photographic goods, watches, clocks, jewelry, toys, etc.).

**Other.** Includes scrap, garbage, trash, septic tank waste, industrial water, mixed cargo (including delivery of small packages), etc.

### **Classification of Shipments by Origin and Destination (Trucking Firms Only)**

**U.S. to U.S.** Includes shipments that originated from and were destined to locations in the United States.

**U.S. to Canada.** Includes shipments that originated from the U.S. and were destined to locations in Canada.

**Canada to U.S.** Includes shipments that originated from Canada and were destined to locations in the U.S.

**Other.** Includes shipments that originated from and were destined to locations in each of the following country combinations: U.S. to Mexico, Canada to Canada, Canada to Mexico, Mexico to U.S., Mexico to Canada, and Mexico to Mexico.

### **SAMPLE DESIGN**

The Motor Freight Transportation and Warehousing Survey is based on a probability sample, selected from employers contained on the Census Bureau's Standard Statistical Establishment List (SSEL). The SSEL includes all employer businesses that make Social Security payments for employees under the Federal Insurance Contribution Act (FICA). The sample is updated quarterly to account for new employer businesses (births) and employers which go out of business (deaths). The sample was originally drawn from establishments on the SSEL as of December 31, 1989. The SSEL consisted of two lists. One list was composed of all Employer Identification Numbers (EIN's) for businesses with reported payroll for at least one quarter of 1989. The EIN is the primary taxpayer identifier used by employer business firms. The second list consisted of all establishments of known multiestablishment companies as of December 31, 1989. These lists contained information on sales or receipts, payroll, employment, name and address, kind-of-business classification, etc.

Before the sampling frame was available, a study was made using files from the 1989 SSEL and 1987 Census of Transportation. This study determined the stratification of the sampling units based on payroll and kind of business, and the optimal allocation of the sample necessary to meet specified sampling variability objectives for revenue of different kind-of-business groups. The primary stratum boundary determined in the study was the certainty cutoff to be used for each kind of business. The cutoff was particularly important since it often determined the type of sampling unit.

The sampling units consist of both companies and EIN's. If a company had total revenue (estimated from payroll) above the corresponding cutoff for its major kind of business, or total revenue for any minor kind of business above the corresponding cutoff for the minor kind of business, the company was selected into the sample with certainty. The company, which might consist of many EIN's, was then the sampling unit; therefore, any new establishments that the company might acquire, even if under new or different EIN's, were in the sample with certainty. The EIN was the sampling unit for all single-establishment companies, whether or not selected with certainty. All multiestablishment companies not selected with certainty were treated on an EIN basis; that is, the EIN was the sampling unit.

To be eligible for the initial sampling, an EIN had to be active (i.e., had payroll in 1989 and was on the latest available Internal Revenue Service (IRS) active mailing list for FICA taxpayers). The EIN's were then stratified according to their major kind of business and their estimated revenue. Within each stratum, a simple random sample of EIN's was selected. The sampling rates for these strata varied between 1 in 3 and 1 in 481.

For all EIN "births" after the initial selection, a two-phase selection procedure is used. EIN births are all new EIN's recently assigned by the IRS and on the latest available IRS mailing list for FICA taxpayers. In the first phase, births are arranged by kind of business and size (expected employment or quarterly payroll). A relatively large sample is then drawn and canvassed in order to obtain a more reliable measure of size (revenue of two recent months) and to correct or obtain a more detailed kind-of-business code, if needed.

Using this more reliable information, the births selected in phase one are subjected to probability proportional-to-size sampling with overall probabilities equivalent to those used in drawing the initial sample from the 1989 SSEL. Because of the lag in identifying births and the time needed to accomplish the two-phase birth selection procedures, births are actually added to the sample on an average of 9 to 12 months after they begin operation. The birth selection procedure is carried out quarterly.

The EIN births that are selected in the quarterly birth selection procedure in early November of the annual survey year are included in the main mailing of the annual survey questionnaires early in the following year.

To account for all EIN births in the annual survey year, we mail EIN births selected in subsequent quarterly birth selection procedures in June and August to supplement the main survey mailing.

Selected EIN's that were reactivated in the quarterly processing, were not included in the main mailing and had payroll in the annual survey year are treated in a similar manner to the EIN births.

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To be eligible for the sample canvass and tabulation, a business must meet both of the following requirements:

- a. It must be on the latest available IRS mailing list for FICA taxpayers from the previous quarter.
- b. It must have been selected from the SSEL or the file of employer births.

In the case of businesses that were selected into the sample with certainty, the first requirement is changed. These sampling units are not dropped from canvass and tabulation if they are no longer on the IRS mailing list.

Rather, these businesses are contacted, and if there are successor businesses, they are added to the survey.

## **ESTIMATION**

Annual estimates of revenue, expenses and inventories from the Motor Freight Transportation and Warehousing-Survey are based upon the summation of weighted data reported by the sampling units in the survey. The assigned weights of the sampling units are the reciprocal of the probability of selection (or, equivalently, the inverse of the sampling rate).

## Appendix C. Kind-of-Business Classifications

The motor freight transportation and warehousing industries included in the report are classified in accordance with the 1987 edition of the *Standard Industrial Classification Manual* issued by the Office of Management and Budget for purposes of providing a standard for the classification and presentation of data by all Federal agencies. Each establishment, firm, or organization is classified according to the major service (determined by the volume of revenue) it provides. Establishments, firms, and organizations owned and operated by Federal, State, or local governments are excluded. The following is a description of each kind-of-business classification presented in this report.

### **MOTOR FREIGHT TRANSPORTATION AND WAREHOUSING (SIC MAJOR GROUP 42)**

Establishments furnishing local or long-distance trucking or transfer services, or those engaged in the storage of farm products, furniture and other household goods, or commercial goods of any nature. The operation of terminal facilities for handling freight, with or without maintenance facilities, is also included.

#### **Local Trucking Without Storage (SIC 4212)**

Establishments primarily engaged in furnishing trucking or transfer services without storage for freight generally weighing more than 100 pounds, in a single municipality, contiguous municipalities, or a municipality and its suburban areas.

#### **Trucking, Except Local (SIC 4213)**

Establishments primarily engaged in furnishing long-distance (over-the-road) trucking services or trucking services and storage services, including household goods either as common carriers or under special or individual contracts or agreements, for freight generally weighing more than 100 pounds.

#### **Local Trucking With Storage (SIC 4214)**

Establishments primarily engaged in furnishing both trucking and storage services, including household goods.

### **Courier Services, Except by Air (SIC 4215)**

Establishments primarily engaged in the delivery of individually addressed letters, parcels, and packages (generally under 100 pounds), except by means of air transportation or by the United States Postal Service. Delivery is usually made by street or highway within a local area or between cities.

### **Farm Product Warehousing and Storage (SIC 4221)**

Establishments primarily engaged in the warehousing and storage of farm products.

### **Refrigerated Warehousing and Storage (SIC 4222)**

Establishments primarily engaged in the warehousing and storage of perishable goods under refrigeration. The establishments may also rent locker space for the storage of food products for individual households and provide incidental services for processing, preparing, or packaging such food for storage.

### **General Warehousing and Storage (SIC 4225)**

Establishments primarily engaged in the warehousing and storage of a general line of goods. General merchandise is defined as material or goods of many varieties which are packaged or are readily handled and do not require refrigeration, controlled humidity, or other special facilities.

### **Special Warehousing and Storage, Not Elsewhere Classified (SIC 4226)**

Establishments primarily engaged in the warehousing and storage of special products, not elsewhere classified, such as household goods, automobiles (dead storage only), furs (for the trade), textiles, whiskey, and goods at foreign trade zones.

### **Terminal and Joint Terminal Maintenance Facilities For Motor Freight Transportation (SIC 4231)**

Establishments primarily engaged in the operation of terminal facilities used by highway-type property carrying vehicles. Also included are terminals which provide maintenance and service for motor vehicles.



## Appendix D. Report Forms

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