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# LARGE-TRUCK POPULATION ESTIMATES BASED ON THE 1987 TRUCK INVENTORY AND USE SURVEY

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Center for National Truck Statistics

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#### 1 Introduction

The Truck Inventory and Use Survey (TIUS) is conducted every five years by the Bureau of the Census as part of the Census of Transportation. Trucks are randomly selected from each state's motor vehicle registration files as maintained by R.L. Polk. Unlicensed and government-owned vehicles, as well as ambulances, motor homes, buses, farm tractors, and open utility vehicles are excluded from TIUS samples. The most recent TIUS survey was drawn from the July 1, 1987 version of the Polk files. Owners of 104,606 selected trucks responded to mailed survey forms asking them to characterize the typical physical configuration and use of their trucks over the previous year. Except for some data included with the Polk vehicle registration lists on which the sample was based, all of the TIUS information is self-reported.

This report concerns the TIUS data relating to medium- and heavy-duty trucks, those where the power unit has a gross vehicle weight rating (GVWR) over 10,000 pounds. The GVWR indicates what a truck would weigh if loaded to the rated capacity of its axles. Since TIUS collects data on trucks of all GVWR classes, the first task was to exclude light trucks from the analysis file. Unlike previous releases of TIUS, the 1987 version does not include a GVWR variable. The file does contain an "average" gross vehicle weight variable, which refers to the combined weight of the vehicle combination and the cargo when carrying a typical payload. The average GVW variable cannot reliably be used as a surrogate for GVWR, however. For example, many class 3 (GVWR of 10,001 to 14,000 pounds) straight trucks typically operate with a GVW under 10,000 pounds. Cross-tabulations of average GVW against other variables in the TIUS file suggested that if light trucks were defined as having an average GVW of 10,000 pounds or less, then many large trucks would be misclassified as light trucks.

Several substitute-GVWR classifications were tested on the data, but none was found that would confidently distinguish between light trucks and medium/heavy trucks for all cases in the file. The best choice seemed to be a conservative scheme for excluding vehicles thought to be light trucks. All cases identified as a pickup or van on the sample strata variable or as a pickup, van, minivan, station wagon on truck chassis, or utility vehicle on the body type variable were excluded. In addition, a vehicle was excluded if its empty combination weight was 6,000 pounds or less and if the power unit was coded as having only four tires. This classification should ensure that virtually all of the exclusions are class 1 and 2 vehicles. However, it is likely that not all of the light trucks in the file were excluded, which would inflate the population estimates for medium and heavy trucks. This is expected to affect the straight truck estimates much more than the tractor-trailer estimates.

TIUS travel data include off-road mileage, so a set of adjustments was made to restrict the analysis to travel on public roads. First, all vehicles coded as accumulating 100% of their mileage off-road were excluded from the analysis. Second, the number of off-road miles logged by each vehicle was subtracted from that vehicle's total annual mileage.

The objective of this report is to present a statistical profile of the truck population in Federal Highway Administration (FHWA) field region 5 and compare it with a similar profile of the national truck population. Region 5 comprises the six midwestern states shown in Figure 1.1. In the next section of this report, population estimates of large trucks are presented for all of the FHWA

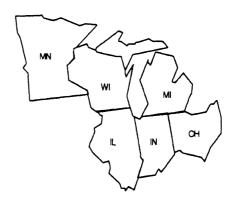


Fig. 1.1 - Field Region 5

field regions. Figure 1.2 indicates which states are included in each region. The remainder of the report compares trucks registered in the Region 5 states with the national large truck population in terms of power unit type, cargo body style, average and maximum gross combination weight, carrier type, area of operation, out-of-state mileage, major use, and principal cargo.

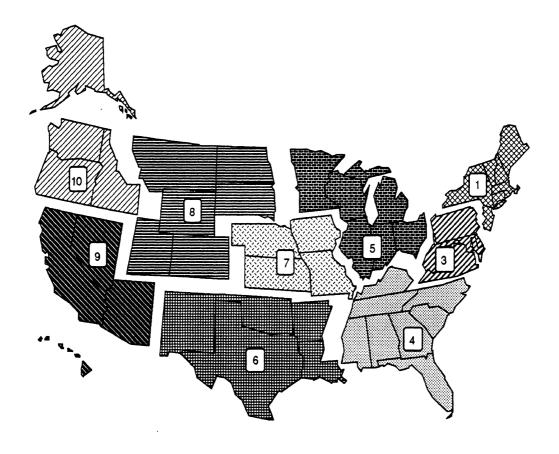


Fig. 1.2 - Field Regions of the FHWA

### 2 Population Estimates

The first series of comparisons concerns population estimates of the total number of registered large trucks, their total annual mileage, and the average annual mileage per vehicle. Table 2.1 shows the total number of large trucks according to power unit type for each of the FHWA field regions. Region 5 contains more straight trucks and tractors than any other region. Overall, 21.4% of the nation's large trucks are registered in Region 5.

Table 2.1 - Number of Registered Large Trucks by Power Unit Type and Region

	Stra	aight	Tra	ctor	TOTAL		
	Number	Percent	Number	Percent	Number	Percent	
Region 1	419,726	12.92	89,603	8.60	509,329	11.87	
Region 3	349,110	10.74	87,928	8.44	437,038	10.18	
Region 4	548,958	16.89	197,243	18.93	746,202	17.39	
Region 5	635,661	19.56	282,318	27.10	917,979	21.39	
Region 6	351,734	10.82	124,989	12.00	476,722	11.11	
Region 7	294,808	9.07	90,124	8.65	384,932	8.97	
Region 8	208,542	6.42	29,535	2.83	238,078	5.55	
Region 9	314,791	9.69	105,096	10.09	419,887	9.78	
Region 10	125,943	3.88	35,024	3.36	160,967	3.75	
NATION	3,249,274	100.00	1,041,860	100.00	4,291,133	100.00	

Table 2.2 indicates the annual mileage accumulated by all straight trucks and tractor combinations registered in each region. All of the mileage estimates describe overall travel, not travel within a particular region, since it is not possible to isolate regional travel in the TIUS data. Region 5 straight trucks account for 18% of the national straight truck mileage, second only to Region 4. Region 5 tractors account for more tractor mileage than any other region, with over 28% of the total. Nearly one-quarter of all large truck travel is logged by trucks registered in Region 5.

Table 2.2 - Total Annual Mileage (Millions) by Power Unit Type and Region

	Stra	night	Tra	ctor	TOTAL		
	Number	Percent	Number	Percent	Number	Percent	
Region 1	4,996	13.92	4,286	7.31	9,282	9.82	
Region 3	4,394	12.24	4,535	7.73	8,929	9.44	
Region 4	6,728	18.75	12,078	20.59	18,806	19.89	
Region 5	6,509	18.14	16,642	28.38	23,151	24.49	
Region 6	4,147	11.55	6,549	11.17	10,696	11.31	
Region 7	2,247	6.26	5,596	9.54	7,843	8.30	
Region 8	1,246	3.47	1,587	2.71	2,833	3.00	
Region 9	4,574	12.74	5,748	9.80	10,321	10.92	
Region 10	1,047	2.92	1,630	2.78	2,676	2.83	
NATION	35,887	100.00	58,650	100.00	94,536	100.00	

Region 5 vehicle counts and mileage estimates as a percentage of the national totals are summarized graphically in Figure 2.1. In terms of both the number of registered vehicles and annual travel, Region 5 tractors account for a higher percentage of the national total than do Region 5 straight trucks.

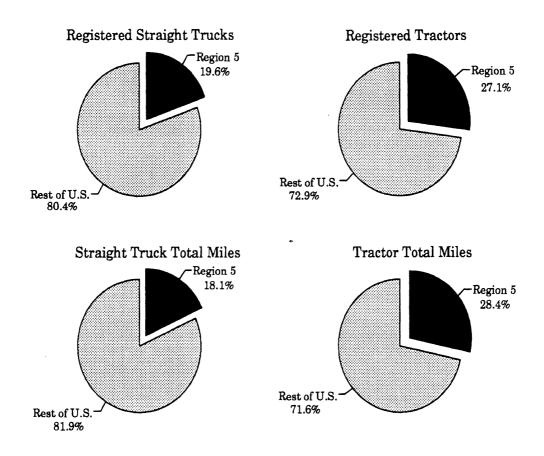


Fig. 2.1 - TIUS Population Estimates: Region 5 vs. Rest of Nation

Figure 2.2 compares the breakdown of registered large trucks by power unit type between Region 5 and the nation as a whole. Region 5 has relatively more tractors and fewer straight trucks. About 31% of the Region 5 large trucks are tractors compared to about 24% for the nation. Only 69% of Region 5's large trucks are straight trucks compared to 76% for the entire country.

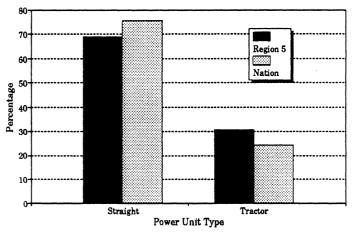


Fig. 2.2 - Registered Trucks by Power Unit Type

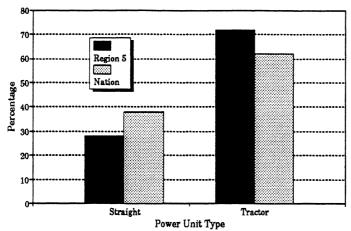


Fig. 2.3 - Total Annual Mileage by Power Unit Type

The same pattern holds for total annual mileage. About 72% of Region 5's large truck travel logged by tractors compared to just 62% of the national large truck travel. Straight trucks account for only 28% of the travel in Region 5 compared to 38% of the national travel.

TABLE 2.3 - Average Annual Mileage by Power Unit Type and Region

	Straight	Tractor	TOTAL
Region 1	11,902	47,833	18,223
Region 3	12,586	51,572	20,430
Region 4	12,256	61,233	25,202
Region 5	10,240	58,948	25,220
Region 6	11,789	52,397	22,436
Region 7	7,622	62,091	20,375
Region 8	5,976	53,729	11,900
Region 9	14,529	54,690	24,581
Region 10	8,310	46,529	16,626
NATION	11,045	56,293	22,031

Average annual mileage per vehicle was calculated for straight trucks and tractor combinations. Table 2.3 shows the average annual mileage for each of the FHWA regions and the nation. Figure compares the Region 5 and national average annual mileage estimates. Region 5 straight trucks have an average annual mileage of 10,240, which is about 7%

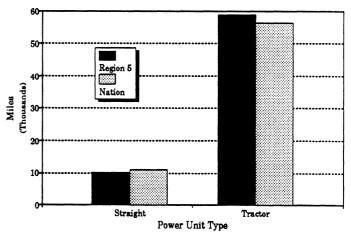


Fig. 2.4 - Avg. Annual Mileage by Power Unit Type

below the national average of 11,045. Region 5 tractors average 58,948 miles per year, which is almost 5% higher than the national average of 56,293. All large trucks combined average 25,220 miles per year in Region 5, which is 14.5% higher than the national average of 22,031.

To summarize the basic profile of large trucks in Region 5 compared to the national population profile, TIUS estimates indicate that more straight trucks and more tractors are registered in Region 5 than any other FHWA field region. The total annual mileage accumulated by Region 5 tractors is the highest of any region, and the Region 5 straight truck mileage is the second highest among the regions. Large trucks registered in Region 5 include relatively more tractors than for the nation as a whole, although straight trucks greatly outnumber tractors in both Region 5 and the rest of the country. Many more miles are logged each year by tractors than straight trucks, however, and tractors account for an even greater share of the large truck travel in Region 5 than they do in the nation overall. Finally, the Region 5 tractors average more miles per vehicle each year than do tractors nationally, while the Region 5 straight trucks have a slightly lower average annual mileage than the national figure. Because the large truck population in Region 5 is so strongly dominated by tractors, Region 5 average annual mileage for straight trucks and tractors combined exceeds the corresponding national figure by a larger margin than does average annual mileage for tractors alone.

All of the comparisons in this section have been presented according to power unit type. Tables A.1 - A.3 in the appendix to this report indicate the number of registered large trucks, their total annual mileage, and their average annual mileage, all according to typical configuration. The typical configuration is how the truck was most often operated in 1987, according to the owner. Straight truck power units are split into single-unit straight trucks and straight trucks pulling one or more trailers. Truck-tractor power units are divided into tractors hauling a semitrailer (singles); tractors hauling a semi- and a full trailer (doubles); and tractors hauling a semi- and two full trailers (triples). An additional category records tractors hauling an unknown number of trailers. No estimates are available for bobtails (tractors operating without a trailer) because bobtails are not a "typical" configuration.

Table A.1 indicates that about one-third of the tractors in the country typically operated as doubles are registered in Region 5. However, only 25.5% of the total annual mileage accumulated by doubles overall is produced by Region 5 doubles (Table A.2). This is because the average annual mileage of Region 5 doubles is only about 60,000 miles, while the national average exceeds 77,000 miles (Table A.3).

## 3 Physical Characteristics of Large Trucks

This section considers three variables related to the configuration of large trucks: cargo body style, average gross combination weight, and maximum gross combination weight. All three variables were coded based on the owner's characterization of how the truck was operated during the survey year. Distributions for trucks registered in Region 5 versus the national truck population were prepared for each of the variables according to power unit type.

Respondents to TIUS could choose from a long list the cargo body style most closely resembling their vehicle, or the trailer most often attached to it, if the power unit was a truck-tractor. To facilitate comparisons here between Region 5 and the national truck population, the various TIUS cargo body styles were combined into six groups for straight trucks: van, flatbed, tank, dump, refuse, and other. The same six groups were used for semitrailers hauled by tractors, except auto carrier was used in place of refuse truck.

Distributions Region 5 and the nation of the estimated number of straight trucks according to cargo body style are shown in Figure 3.1. The two distributions are strikingly similar. Tanks, dumps, and trucks refuse represent virtually identical proportions of the two populations. The national truck population is characterized by slightly higher percentages of vans and flatbeds, while Region 5 has relatively more "other" cargo body styles.

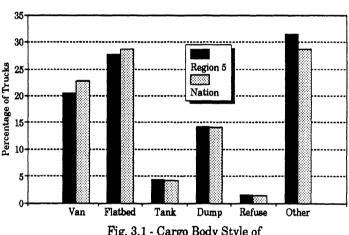


Fig. 3.1 - Cargo Body Style of Straight Trucks, Vehicle Counts

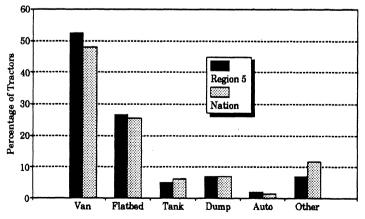


Fig. 3.2 - Cargo Body Style of Tractor Combinations, Vehicle Counts

As shown in Figure 3.2, the situation is similar for tractor-trailer combinations. The Region 5 cargo body style distribution differs little from the national distribution. gion 5 is characterized by a slightly higher percentage of tractors hauling vans, and the nation has proportionately more tractors hauling "other" trailers.

The more interesting comparison is between the two power unit types. For both Region 5 and the nation, about half of all tractors haul van trailers, while just over 20% of straight trucks have van cargo bodies. There are proportionately about twice as many dump cargo bodies among straight trucks as among tractor combinations, 14% to 7%. Straight trucks and tractor combinations are similar in their percentages of flatbed cargo bodies (26-29%) and tank cargo bodies (4-6%).

Cargo body style distributions were also prepared on the basis of total annual mileage and average annual mileage. In both instances the Region 5 profile was very similar to that of the nation. Strong differences in average annual mileage per vehicle were noted among the different cargo body styles. Among straight trucks, in both Region 5 and nationally, refuse and van cargo bodies had the highest average annual travel, in the range of 17,000 - 19,000 miles. Flatbed and "other" cargo bodies averaged the lowest, with about 8,000 miles per year. Among tractor combinations, van trailers were associated with the highest average annual mileage, about 67,000 - 68,000. Tanks were next with 60,000 - 65,000. Dumps, flatbeds, and "others" all had much lower average annual mileages, in the range of 43,000 - 47,000 miles.

Tables A.4 and A.5 in the appendix contain vehicle counts, total miles, and average miles by power unit type for the nation and Region 5 according to the full list of cargo body styles used by TIUS. As those tables indicate, the main difference between the national and Region 5 straight truck populations is in the percentage of grain body trucks. These comprise 10.3% of Region 5 straight trucks compared to just 6.8% nationally. Among tractor combinations, enclosed vans are overrepresented in Region 5 compared to the nation, 38% to 33%, while logging trucks are under-represented in Region 5, 0.3% to 2.3%.

The next set of distributions concerns average gross combination weight. Average GCW refers to the combined weight of the power unit, any trailers typically hauled by that power unit, and the cargo when carrying a typical payload. The average GCW distributions shown here are based on total annual mileage. Figure 3.3 shows the average GCW distributions for straight trucks

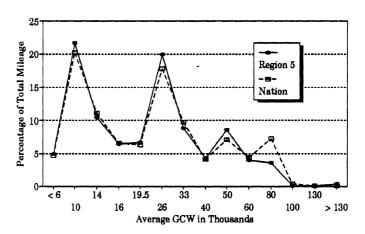


Fig. 3.3 - Average GCW of Straight Trucks, Total Annual Mileage

registered in Region 5 and those nationwide. The labels on the x-axis indicate the top weight for each GCW range, in thousands of pounds. Starting from the left, the categories are less than 6,001 lbs., 6,001 - 10,000 lbs., 10,001 - 14,000 lbs., etc. The Region 5 and national distributions for straight trucks are similar. For both Region 5 and the nation, about 20-22% of straight truck mileage is conducted by trucks with an average GCW of 6,001 - 10,000 lbs., and about 18-20% of the mileage is logged by trucks with an average GCW of 19,501 - 26,000 pounds. Nearly 79% of the straight truck travel by Region 5 trucks is by trucks with an average GCW of 33,000 pounds or less and the same is true for 77% of the travel by straight trucks nationwide. The

main difference between the Region 5 and national travel distributions is in the 60,001 - 80,000 pounds average GCW category. Only 3.6% of Region 5 straight truck travel is produced by trucks in this range, compared to 7.2% of national straight truck travel.

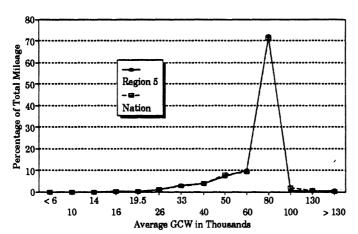


Fig. 3.4 - Average GCW of Tractor Combinations, Total Annual Mileage

Figure 3.4 presents average GCW mileage distributions for tractor combinations. The Region 5 and national distributions virtually indis-Whereas the tinguishable. straight truck distributions had several peaks, tractor distributions have only one peak, at the 60,001 80,000 pound average GCW range. Region 5 tractors with this average GCW account for 72.0% of the

total mileage, as do 71.5% of tractors nationwide. Tables A.6 and A.7 in the appendix include more detailed data concerning average GCW distributions. One item of note is that Region 5 has 84% of all tractor combinations in the country with average GCW greater than 130,000 pounds and 85% of the mileage accumulated by such tractors. This is no doubt due to the higher allowable weight laws in Michigan.

Information on maximum **GCW** was also by collected the TIUS survey. Maximum GCW refers to the maximum gross operating weight reached by the vehicle combination and its cargo during the survey year. Figure 3.5 shows the maximum GCW total annual mileage distributions for straight trucks, excluding cases with unknown maximum GCW. The peak at the 6,001 -

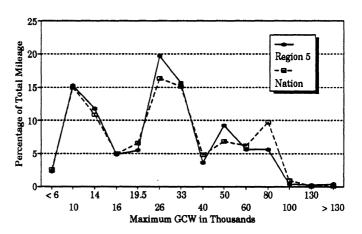


Fig. 3.5 - Maximum GCW of Straight Trucks, Total Annual Mileage

10,000 pound range observed for average GCW has declined somewhat to about 15% for both the Region 5 and national distributions. Some of the heavier GCW ranges account for a higher share of travel according to maximum GCW than they did for average GCW. For example, 5.6% of Region 5 straight truck travel was produced by trucks with a maximum GCW in the 60,001 - 80,000 pound range, as was 9.7% of national straight truck travel.

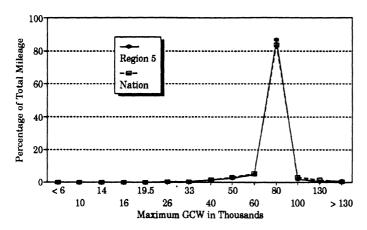


Fig. 3.6 - Maximum GCW of Tractor Combinations, Total Annual Mileage

As was the case for the average GCW distributions, the maximum GCW distributions for tractors in Region 5 and the nation are essentially the same (Figure 3.6). The main differences in these curves compared to the average GCW curves are a flattening in the portion from 19,500 -60,000 pounds and an increase at the peak from 60,001 - 80,000 pounds. About 87% of travel by

Region 5 tractors was logged by tractors with a maximum GCW of 60,001 - 80,000 lbs. as was 83% of the national tractor travel. Additional information on maximum GCW distributions is presented in Tables A.8 and A.9 in the appendix.

### 4 Use of Large Trucks

This section considers several variables relating to trucking operations. Again the information comes from the truck owner's characterization of the typical use of the truck. As in the last section, large trucks registered in Region 5 will be compared with the national large truck population according to power unit type. For the variables considered, Region 5 straight trucks are more similar to the national population than are Region 5 tractors.

The first comparison concerns carrier type. Carriers can be split into private and for-hire companies. In the TIUS data, for-hire carriers can be further divided into interstate and intrastate carriers. Interstate for-hire carriers are subject to the Interstate Commerce Commission (ICC), and intrastate for-hire carriers are governed by state public service commission regulations. Interstate for-hire are also separated into authorized carriers—the common and contract carriers—and those hauling exempt commodities. TIUS cases of for-hire carriers that did not indicate whether they were interstate or intrastate are simply labeled "for-hire" in the graphs. An additional category is used by TIUS for daily rental vehicles because they are extremely difficult to classify since the carrier type may change with every new rental.

Figure 4.1 shows the carrier type distributions for straight trucks in Region 5 and the nation, based on vehicle counts. The two distributions are virtually indistinguishable. Close to 90% of straight trucks in both Region 5 and the nation are operated by private carriers.

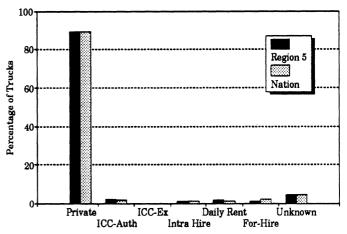


Fig. 4.1 - Straight Truck Carrier Type

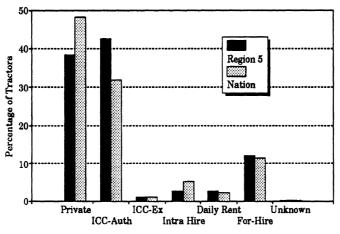


Fig. 4.2 - Tractor Carrier Type

There are several differences in the tractor carrier type distributions between Region 5 and the (Figure nation Nationally, 48% of tractors are operated by private carriers, compared to just 38% of Region 5 tractors. Conversely, 43% of Region 5 tractors are ICC-authorized carriers, compared to just 32% of tractors in the entire Proportionately, country. close to twice as many tractors in the nation are

intrastate for-hire as in Region 5, although this is a minor category of carrier type in both populations. Carrier type distributions are presented in tabular form in the Appendix (Tables A.10 and A.11).

The next distributions characterize area of operation. TIUS respondents break down their mileage into the percent traveled off-road, within a 50-mile radius of home base, within a 50-200 mile radius, and beyond a 200-mile radius. The sum of these four percentages totals 100% in each case. Figures 4.3 and 4.4 split the cases according to the category representing the greatest percentage of annual mileage. For example, if a truck accumulates 50% of its mileage on trips within a 50-200 mile radius of home base, 25% of its mileage on trips within 50 miles of home base, and 25% on trips over 200 miles from home base, it would fall in the 50-200 mile category. As noted earlier, vehicles with all of their miles off-road were excluded from the analysis.

The area of operdistributions straight trucks, based on vehicle counts, are shown in Figure 4.3. The Region 5 and national distributions are quite similar, although there is a slightly greater tendency  $\mathbf{for}$ Region 5 straight trucks to involved in short-haul oper-About 79% of ations. Region 5 straight trucks travel mostly within a 50mile radius of home base,

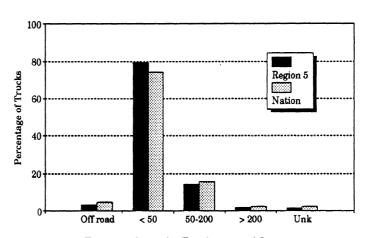


Fig. 4.3 - Straight Truck Area of Operation

compared to 74% of the national population. Conversely, 18% of straight trucks nationwide conduct most of their travel at a radius of at least 50 miles from home base, compared to 16% of the Region 5 straight trucks.

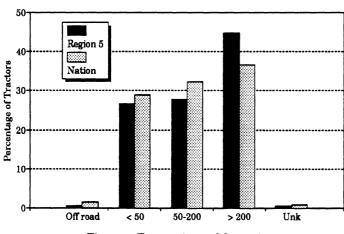


Fig. 4.4 - Tractor Area of Operation

In contrast straight trucks, Region 5 tractors show a greater tendency for long-haul operations than do tractors nationwide (Figure 44.6% of Region 5 tractors conduct most of their travel beyond a 200-mile radius of home base, compared to just 36.5% of tractors in the nation. Higher shares of tractors nationwide travel mostly within a 50-mile radius or a 50-200 mile radius compared to Region 5 tractors.

Tables A.12 and A.13 in the appendix show area of operation distributions according to vehicle counts and mileage. All mileage estimates include only travel

on public roads, even for trucks that conducted most of their travel off-road. All the mileage estimates in the tables pertain to overall mileage, not just mileage appropriate to the particular area of operation category.

For the next comtrucks parison. were classified according to the percentage of annual mileage outside their base state. The categories used were 0% (all travel in-state), 1-20%, 21-50%, 51-80%, and 81-100%. Missing data excluded. were The straight truck distributions, based on vehicle counts, are shown Figure inRegion 5 straight trucks are very similar to those in the

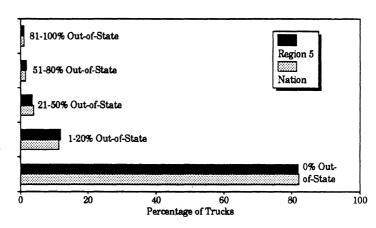


Fig. 4.5 - Percent Out-of-State Mileage, Straight Trucks

nation overall in terms of out-of-state mileage. About 82% of straight trucks in Region 5 and in the whole country conducted all of their travel within their base state.

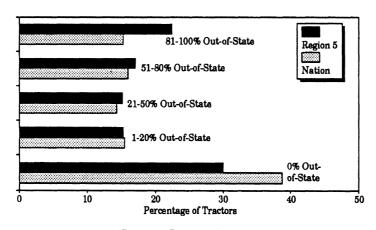


Fig. 4.6 - Percent Out-of-State Mileage, Tractors

out-of-state The mileage distributions for tractors are quite different from the straight truck distributions, and there is some variation between the Region 5 and national tractor distributions. higher proportion of Region 5 tractors conducted more of their travel outside their base state compared to tractors nationwide. example, 22.4% of Region 5 tractors put on 81-100% of

their mileage outside their base state, compared to just 15.3% of tractors in the whole country. On the other hand, 39% of tractors nationwide conducted all of their travel in-state, compared to just 30% of Region 5 tractors. Table A.14 in the appendix lists the out-of-state distributions, including unknown cases.

As mentioned before, TIUS does not include information on travel within particular states. However, since straight trucks accumulate most of their mileage instate, the total annual travel figure for straight trucks registered in Region 5 (discussed in Section 2) probably approximates the actual straight truck travel that occurs in Region 5. Because tractor combinations log much of their mileage out-of-state, it is impossible to estimate the actual tractor travel that occurs within Region 5.

One question included in the TIUS survey concerns the major use of the vehicle, or the type of business in which the truck was used. The major use of Region 5 and national straight trucks is depicted in Figures 4.7 and 4.8. There are

only minor differences between the two distributions, and these are largely expected. For example, more Region 5 straight trucks (28%) are involved in agricultural businesses compared to straight trucks nationwide (24%). A smaller proportion of Region 5 straight trucks (2.9%) are used in the forestry and mining industries compared to straight trucks in the whole country (3.9%).

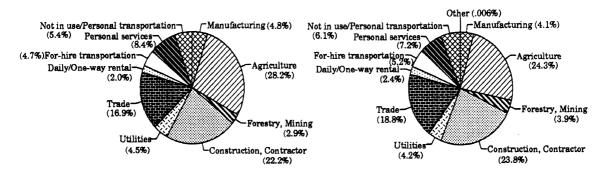
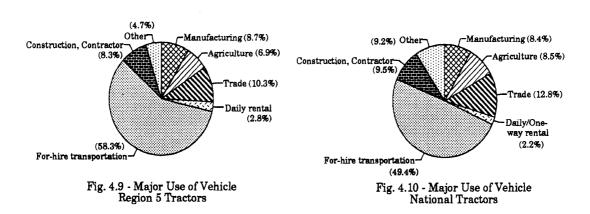


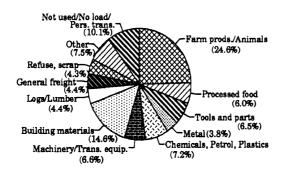
Fig. 4.7 - Major Use of Vehicle Region 5 Straight Trucks

Fig. 4.8 - Major Use of Vehicle National Straight Trucks

In sharp contrast to straight trucks, the bulk of tractors are used as for-hire transportation (Figures 4.9 and 4.10). Only 5% of straight trucks nationally and in Region 5 were coded for-hire under major use. This compares to 49% of tractors nationally and 58% of tractors in Region 5. Somewhat surprisingly, only 6.9% of Region 5 tractors are used in the agricultural industry compared to 8.5% of tractors nationwide. The pie graphs here have condensed some of the major use categories coded by TIUS. Full tables with all the code levels are included in the Appendix (Tables A.15 and A.16).



The final set of comparisons concerns the principal product carried by the vehicle. The straight truck distributions are shown in Figures 4.11 and 4.12. As was the case with the major use distributions, the principal product distributions are quite similar for Region 5 and national straight trucks. Farm products and live animals are carried by a higher proportion of Region 5 straight trucks (24.6%) than straight trucks in the whole country (21.4%). Processed food (7.1%) and tools and parts (7.3%) are the principal products for a higher percentage of national straight trucks than straight trucks in Region 5 (6.0% for processed food and 6.5% for tools and parts).



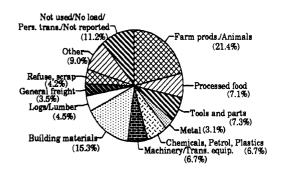
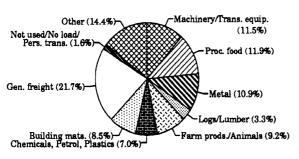


Fig. 4.11 - Principal Product Carried Region 5 Straight Trucks

Fig. 4.12 - Principal Product Carried National Straight Trucks

Finally, the principal product distributions for tractors are shown in Figures 4.13 and 4.14. Some minor differences between Region 5 and the nation are apparent. More tractors in Region 5 haul machinery and transportation equipment (11.5% to 9.9%) and metal (10.9% to 6.7%) than tractors nationwide. Tractors in the country as a whole haul more logs and lumber (7.0% to 3.3%) and farm products and live animals (11.6% to 9.2%) than Region 5 tractors. Complete listings of principal product are included in the Appendix (Tables A.17 and A.18).



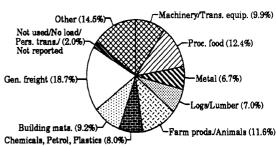


Fig. 4.13 - Principal Product Carried Region 5 Tractors

Fig. 4.14 - Principal Product Carried National Tractors

The comparisons in this section on the use of large trucks have highlighted some differences in the operation of straight trucks compared to tractor combinations. Most straight trucks are run by private carriers and they travel primarily in-state, in short-haul operations. Region 5 and national straight trucks are quite similar in terms of these parameters. In contrast to straight trucks, many more tractor combinations are run by for-hire companies. Tractors conduct a great deal of their travel interstate, on long-haul operations. All three of these characteristics are more pronounced for Region 5 tractors than for tractors in the country as a whole. In terms of major use of vehicles and principal product carried, Region 5 again is more similar to the national profile for straight trucks than for tractors.

## **APPENDIX**

Table A.1
Number of Registered Large Trucks by Typical Configuration and Region

Domina	Straight		Straight + Trailer Single		Double		Triple		Unknown Tractor		TOTAL			
Region	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Region 1	397,664	13.13%	22,062	9.96%	89,008	8.84%	497	1.46%	57	11.95%	41	3.98%	509,329	11.87%
Region 3	333,006	11.00	16,104	7.27	87,333	8.68	595	1.75	0	0.00	0	0.00	437,038	10.18
Region 4	511,875	16.91	37,083	16.74	194,649	19.34	2,317	6.81	0	0.00	278	27.00	746,202	17.39
Region 5	598,008	19.75	37,653	17.00	270,834	26.91	11,201	32.90	0	0.00	283	27.48	917,979	21.39
Region 6	307,999	10.17	43,735	19.74	124,006	12.32	973	2.86	5	1.05	5	0.49	476,722	11.11
Region 7	283,417	9.36	11,391	5.14	88,751	8.82	1,343	3.94	0	0.00	30	2.90	384,932	8.97
Region 8	197,065	6.51	11,477	5.18	28,856	2.87	644	1.89	35	7.32	0	0.00	238,078	5.55
Region 9	286,404	9.46	28,387	12.82	90,278	8.97	14,747	43.32	21	4.42	50	4.89	419,887	9.78
Region 10	112,328	3.71	13,615	6.15	32,597	3.24	1,724	5.07	360	75.26	342	33.25	160,967	3.75
NATION	3,027,766	100.00%	221,507	100.00%	1,006,312	100.00%	34,040	100.00%	479	100.00%	1,030	100.00%	4,291,133	100.00%

Table A.2
Total Annual Mileage (Millions) by Typical Configuration and Region

Straight		aight	Straight + Trailer		Sir	Single		Double		Triple		Unknown Tractor		TOTAL	
Region	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Region 1	4,770	14.66%	226	6.73%	4,256	7.61%	25	0.97%	1	3.34%	3	9.03%	9,282	9.82%	
Region 3	4,250	13.06	143	4.28	4,475	8.00	59	2.26	0	0.00	0	0.00	8,929	9.44	
Region 4	6,177	18.98	551	16.45	11,859	21.20	215	8.16	0	0.00	4	10.54	18,806	19.89	
Region 5	6,058	18.62	451	13.46	15,958	28.53	669	25.47	0	0.00	14	37.65	23,151	24.49	
Region 6	3,495	10.74	652	19.46	6,437	11.51	111	4.24	0	0.59	0	0.34	10,696	11.31	
Region 7	2,071	6.37	176	5.26	5,450	9.74	146	5.56	0	0.00	0	0.31	7,843	8.30	
Region 8	1,091	3.35	155	4.62	1,530	2.73	56	2.14	1	2.93	0	0.00	2,833	3.00	
Region 9	3,842	11.81	731	21.83	4,516	8.07	1,228	46.72	2	5.24	2	5.13	10,321	10.92	
Region 10	781	2.40	265	7.91	1,464	2.62	118	4.49	34	87.89	14	37.00	2,676	2.83	
NATION	32,536	100.00%	3,351	100.00%	55,945	100.00%	2,628	100.00%	38	100.00%	38	100.00%	94,536	100.00%	

Table A.3 Average Annual Mileage By Typical Configuration and Region

Region	Straight	Straight + Trailer	Single	Double	Triple	Unknown Tractor	TOTAL
Region 1	11,995	10,227	47,813	51,229	22,331	84,705	18,223
Region 3	12,764	8,908	51,244	99,675	0	0	20,430
Region 4	12,067	14,859	60,926	92,596	0	14,569	25,202
Region 5	10,130	11,982	58,923	59,750	0	51,156	25,220
Region 6	11,346	14,908	51,911	114,530	45,000	26,000	22,436
Region 7	7,307	15,463	61,403	108,827	0	4,000	20,375
Region 8	5,539	13,494	53,006	87,254	31,995	0	11,900
Region 9	13,415	25,764	50,025	83,244	94,777	39,197	24,581
Region 10	6,957	19,470	44,908	68,384	93,301	41,552	16,626
NATION	10,746	15,127	55,594	77,196	79,892	37,343	22,031

Table A.4 Cargo Body Style by Power Unit Type, National Estimates

		STRAI	GHT			TRAC	TOR	
CARGO BODY STYLE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Step van	281,892	8.68%	4,107.5	14,571	2,299	0.22%	163.0	70,888
Platform with devices	217,945	6.71	1,843.7	8,459	11,024	1.06	384.2	34,854
Low boy	19,026	0.59	229.5	12,062	71,556	6.87	1,525.9	21,324
Basic platform	913,275	28.11	7,476.5	8,186	195,300	18.75	10,219.0	52,324
Livestock truck	39,729	1.22	278.9	7,020	14,880	1.43	894.8	60,138
Insulated, non-refrig van	12,057	0.37	218.8	18,144	15,646	1.50	1,095.5	70,016
Insulated, refrig van	66,012	2.03	1,512.8	22,916	88,043	8.45	7,163.0	81,359
Drop frame van	28,201	0.87	467.1	16,562	36,276	3.48	1,964.0	54,139
Open top van	7,490	0.23	59.1	7,896	7,669	0.74	470.3	61,329
Enclosed van	300,639	9.25	5,808.7	19,321	343,738	32.99	22,774.2	66,255
Beverage truck	52,298	1.61	630.2	12,050	14,718	1.41	289.6	19,676
Utility truck	100,538	3.09	827.3	8,229	959	0.09	12.7	13,228
Winch or crane truck	43,900	1.35	516.5	11,764	2,341	0.22	84.5	36,092
Wrecker	96,317	2.96	1,108.1	11,504	803	0.08	10.9	13,615
Logging truck	26,641	0.82	401.2	15,059	23,717	2.28	1,008.3	42,515
Auto carrier	5,409	0.17	78.5	14,520	13,859	1.33	773.8	55,830
Service truck	75,583	2.33	954.1	12,624	76	0.01	0.5	6,663
Yard tractor	576	0.02	3.6	6,339	2,607	0.25	11.4	4,389
Oilfield truck	19,678	0.61	158.6	8,058	3,456	0.33	42.4	12,260
Grain body	221,183	6.81	647.1	2,926	29,586	2.84	1,161.7	39,265
Garbage truck	47,610	1.47	913.1	19,178	1,563	0.15	65.0	41,568
Dump truck	457,579	14.08	4,795.5	10,480	73,364	7.04	3,261.4	44,455
Tank – liquid/gas	139,348	4.29	1,821.1	13,068	64,386	6.18	3,865.7	60,040
Tank – dry bulk	13,203	0.41	148.8	11,272	17,501	1.68	1,185.6	67,741
Concrete mixer	54,277	1.67	703.0	12,953	365	0.04	10.6	28,918
Other	8,868	0.27	177.6	20,026	6,129	0.59	211.7	34,538
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.5 Cargo Body Style by Power Unit Type, Region 5 Estimates

		STRAI	GHT		TRACTOR				
CARGO BODY STYLE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	
Step van	47,670	7.50%	716.9	15,039	531	0.19%	36.5	68,672	
Platform with devices	41,753	6.57	350.4	8,392	1,643	0.58	52.4	31,889	
Low boy	1,938	0.30	22.2	11,480	18,325	6.49	433.4	23,648	
Basic platform	174,237	27.41	1,352.7	7,764	56,651	20.07	3,105.2	54,813	
Livestock truck	6,696	1.05	52.0	7,772	2,462	0.87	159.0	64,594	
Insulated, non-refrig van	2,095	0.33	47.8	22,835	4,711	1.67	310.6	65,936	
Insulated, refrig van	8,958	1.41	207.4	23,157	21,309	7.55	1,815.9	85,218	
Drop frame van	4,372	0.69	63.3	14,472	9,598	3.40	600.6	62,581	
Open top van	307	0.05	3.7	12,135	542	0.19	27.0	49,899	
Enclosed van	57,122	8.99	1,121.3	19,630	107,778	38.18	7,293.2	67,669	
Beverage truck	10,462	1.65	118.3	11,308	4,248	1.50	62.7	14,770	
Utility truck	22,240	3.50	188.6	8,479	26	0.01	1.2	45,000	
Winch or crane truck	6,384	1.00	100.5	15,741	506	0.18	9.7	19,283	
Wrecker	20,901	3.29	218.1	10,435	70	0.02	0.2	2,922	
Logging truck	1,453	0.23	17.4	11,962	757	0.27	30.0	39,575	
Auto carrier	1,592	0.25	18.1	11,348	5,601	1.98	305.0	54,448	
Service truck	13,873	2.18	181.2	13,064	0	0.00	0.0	0	
Yard tractor	88	0.01	1.0	11,400	406	0.14	0.9	2,157	
Oilfield truck	2,167	0.34	31.4	14,478	88	0.03	1.1	12,097	
Grain body	65,477	10.30	185.6	2,834	7,040	2.49	236.5	33,596	
Garbage truck	10,581	1.66	191.9	18,131	438	0.16	27.3	62,399	
Dump truck	90,131	14.18	749.1	8,311	19,758	7.00	856.8	43,364	
Tank – liquid/gas	28,140	4.43	362.8	12,893	14,287	5.06	935.0	65,447	
Tank – dry bulk	4,277	0.67	57.3	13,396	4,346	1.54	287.3	66,110	
Concrete mixer	11,847	1.86	136.7	11,541	175	0.06	6.2	35,350	
Other	900	0.14	13.3	14,749	1,021	0.36	48.3	47,334	
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948	

Table A.6
Average Gross Combination Weight by Power Unit Type, National Estimates

		STRAI	GHT			TRAC	TOR	
AVERAGE GCW RANGE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
< 6,001	203,377	6.26%	1,691.2	8,316	925	0.09%	23.1	24,998
6,001-10,000	716,465	22.05	7,270.7	10,148	1,746	0.17	57.2	32,740
10,001-14,000	403,373	12.41	4,001.0	9,919	3,496	0.34	61.6	17,630
14,001–16,000	213,320	6.57	2,343.3	10,985	3,278	0.31	106.2	32,411
16,001-19,500	233,022	7.17	2,262.1	9,708	4,725	0.45	93.3	19,752
19,501-26,000	688,457	21.19	6,391.4	9,284	32,206	3.09	674.8	20,952
26,001-33,000	313,084	9.64	3,523.5	11,254	48,899	4.69	1,596.0	32,638
33,001-40,000	127,510	3.92	1,476.1	11,576	73,119	7.02	2,459.1	33,631
40,001–50,000	174,614	5.37	2,537.9	14,534	109,566	10.52	4,753.0	43,380
50,001–60,000	82,439	2.54	1,595.2	19,350	101,725	9.76	5,342.8	52,522
60,001-80,000	85,676	2.64	2,588.8	30,216	630,107	60.48	41,911.7	66,515
80,001-100,000	5,836	0.18	148.7	25,482	22,087	2.12	1,034.5	46,839
100,001-130,000	1,091	0.03	36.0	32,962	6,736	0.65	379.5	56,341
> 130,000	1,009	0.03	21.0	20,830	3,245	0.31	156.9	48,340
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.7
Average Gross Combination Weight by Power Unit Type, Region 5 Estimates

		STRAI	GHT			TRAC	TOR	
AVERAGE GCW RANGE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
< 6,001	34,997	5.51%	319.3	9,123	231	0.08%	5.7	24,453
6,001–10,000	138,731	21.82	1,407.6	10,146	455	0.16	2.8	6,187
10,001-14,000	77,442	12.18	680.9	8,793	757	0.27	17.8	23,466
14,001-16,000	39,812	6.26	418.1	10,502	644	0.23	38.4	59,621
16,001-19,500	40,277	6.34	437.2	10,854	1,205	0.43	42.4	35,166
19,501-26,000	148,334	23.34	1,294.4	8,726	8,855	3.14	200.3	22,618
26,001–33,000	60,197	9.47	575.2	9,556	12,918	4.58	523.1	40,493
33,001-40,000	24,985	3.93	274.7	10,994	18,409	6.52	691.4	37,557
40,001–50,000	44,916	7.07	558.3	12,430	25,523	9.04	1,183.2	46,358
50,001–60,000	15,122	2.38	263.3	17,411	27,113	9.60	1,653.7	60,992
60,001–80,000	9,465	1.49	236.0	24,936	179,177	63.47	11,975.2	66,835
80,001-100,000	563	0.09	12.3	21,893	3,257	1.15	136.6	41,956
100,001-130,000	282	0.04	11.2	39,753	1,045	0.37	38.7	36,993
> 130,000	539	0.08	20.5	38,154	2,730	0.97	133.0	48,728
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948

Table A.8 Maximum Gross Combination Weight by Power Unit Type, National Estimates

		STRAI	GHT			TRAC	TOR	
MAXIMUM GCW RANGE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
< 6,001	100,632	3.10%	852.9	8,476	164	0.02%	4.7	28,901
6,001-10,000	477,753	14.70	5,066.5	10,605	1,582	0.15	64.3	40,672
10,001-14,000	342,701	10.55	3,661.7	10,685	958	0.09	7.3	7,639
14,001-16,000	171,283	5.27	1,676.4	9,787	1,027	0.10	8.9	8,646
16,001–19,500	219,681	6.76	2,236.0	10,178	2,640	0.25	31.9	12,099
19,501-26,000	640,785	19.72	5,532.9	8,635	11,945	1.15	161.0	13,482
26,001-33,000	446,296	13.74	5,109.0	11,447	18,682	1.79	390.0	20,874
33,001-40,000	145,966	4.49	1,601.8	10,974	40,619	3.90	881.0	21,689
40,001-50,000	185,566	5.71	2,330.6	12,559	64,584	6.20	1,857.2	28,757
50,001–60,000	114,493	3.52	2,084.2	18,204	82,660	7.93	2,977.2	36,017
60,001–80,000	119,445	3.68	3,299.7	27,625	728,794	69.95	48,274.6	66,239
80,001–100,000	13,803	0.42	326.3	23,639	41,675	4.00	2,017.1	48,400
100,001-130,000	2,275	0.07	57.7	25,348	18,352	1.76	928.9	50,616
> 130,000	2,911	0.09	58.0	19,928	6,834	0.66	293.6	42,953
Unknown	265,684	8.18	1,993.2	7,502	21,344	2.05	751.9	35,226
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.9
Maximum Gross Combination Weight by Power Unit Type, Region 5 Estimates

		STRAI	GHT			TRAC	TOR	
MAXIMUM GCW RANGE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
< 6,001	17,059	2.68%	142.1	8,330	0	0.00%	0.0	0
6,001-10,000	89,144	14.02	953.6	10,697	328	0.12	5.7	17,237
10,001-14,000	73,534	11.57	731.9	9,953	53	0.02	0.0	750
14,001-16,000	35,179	5.53	296.3	8,422	143	0.05	2.9	20,101
16,001-19,500	29,363	4.62	345.7	11,772	555	0.20	0.0	72
19,501-26,000	142,012	22.34	1,229.9	8,660	2,779	0.98	36.4	13,092
26,001-33,000	97,056	15.27	974.8	10,043	4,424	1.57	95.2	21,507
33,001-40,000	22,879	3.60	230.1	10,057	10,160	3.60	217.3	21,384
40,001-50,000	50,528	7.95	579.2	11,462	14,926	5.29	465.4	31,181
50,001-60,000	21,539	3.39	348.8	16,192	20,242	7.17	790.3	39,044
60,001-80,000	15,645	2.46	348.5	22,275	208,620	73.90	14,227.8	68,200
80,001-100,000	1,249	0.20	27.3	21,889	7,314	2.59	310.0	42,385
100,001-130,000	670	0.11	16.8	25,032	3,141	1.11	116.0	36,938
> 130,000	539	0.08	20.5	38,154	3,630	1.29	148.7	40,968
Unknown	39,266	6.18	263.8	6,719	6,004	2.13	226.5	37,723
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948

Table A.10 Carrier Type by Power Unit Type, National Estimates

		STRAI	GHT			TRAC	TOR	
CARRIER TYPE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Private	2,888,904	88.91%	30,262.2	10,475	499,908	47.98%	20,752.0	41,512
ICC-Authorized	54,596	1.68	1,340.3	24,549	333,499	32.01	24,998.7	74,959
ICC-Exempt	1,889	0.06	75.8	40,109	11,000	1.06	795.2	72,289
Intrastate For-Hire	50,038	1.54	1,266.8	25,317	54,305	5.21	2,994.3	55,139
Daily Rental	46,048	1.42	983.5	21,358	22,821	2.19	1,512.6	66,283
For-Hire	63,156	1.94	1,374.5	21,763	118,672	11.39	7,574.7	63,829
Unknown	144,644	4.45	583.8	4,036	1,655	0.16	22.1	13,370
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.11 Carrier Type by Power Unit Type, Region 5 Estimates

		STRAI	GHT			TRAC	TOR	
CARRIER TYPE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Private	568,317	89.41%	5,519.0	9,711	108,504	38.43%	4,375.9	40,329
ICC-Authorized	12,402	1.95	245.5	19,797	120,449	42.66	8,837.6	73,373
ICC-Exempt	0	0.00	0.0	0	2,934	1.04	211.4	72,075
Intrastate For-Hire	8,425	1.33	208.8	24,785	7,960	2.82	395.5	49,680
Daily Rental	10,567	1.66	241.7	22,873	7,866	2.79	576.7	73,316
For-Hire	8,973	1.41	186.1	20,740	34,293	12.15	2,239.4	65,300
Unknown	26,978	4.24	108.0	4,002	311	0.11	5.6	18,099
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948

Table A.12 Area of Operation by Power Unit Type, National Estimates

		STRAI	GHT		TRACTOR			
AREA OF OPERATION	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Off road	162,157	4.99%	275.3	1,698	14,148	1.36%	75.7	5,352
< 50 mile radius	2,414,255	74.30	23,154.8	9,591	300,969	28.89	7,557.7	25,111
50–200 mile radius	509,713	15.69	9,947.7	19,516	337,062	32.35	17,783.4	52,760
> 200 mile radius	80,363	2.47	2,027.8	25,234	380,709	36.54	33,172.8	87,134
Unknown	82,787	2.55	481.2	5,813	8,972	0.86	60.0	6,690
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.13
Area of Operation by Power Unit Type, Region 5 Estimates

		STRAI	GHT		TRACTOR			
AREA OF OPERATION	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Off road	20,689	3.25%	28.1	1,359	1,409	0.50%	6.9	4,932
< 50 mile radius	502,865	79.11	4,428.6	8,807	75,122	26.61	1,894.2	25,215
50–200 mile radius	89,710	14.11	1,708.4	19,044	78,380	27.76	4,175.1	53,267
> 200 mile radius	13,472	2.12	319.0	23,676	125,835	44.57	10,565.8	83,966
Unknown	8,925	1.40	25.0	2,798	1,572	0.56	0,0	9
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948

Table A.14
Percent Out-of-State Mileage by Power Unit Type

PERCENT OF ANNUAL MILEAGE OUT OF	NATIO	ONAL ESTIM	ATES	REGION 5 ESTIMATES			
BASE STATE	Straight	Tractor	TOTAL	Straight	Tractor	TOTAL	
0%	75.13%	35.67%	65.55%	76.16%	27.77%	61.28%	
1–20%	10.44	14.30	11.38	10.97	14.19	11.96	
21–50%	3.55	13.23	5.90	3.23	14.04	6.56	
51–80%	1.46	14.74	4.68	1.63	15.86	6.00	
81–100%	0.98	14.07	4.16	0.95	20.76	7.04	
Unknown	8.45	7.99	8.33	7.06	7.39	7.16	
TOTAL	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	

Table A.15
Major Use of Vehicle by Power Unit Type, National Estimates

·		STRAI	GHT			TRAC	TOR	
MAJOR USE OF VEHICLE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Agriculture	790,671	24.33%	3,591.6	4,542	88,530	8.50%	3,077.3	34,760
Forestry/Lumbering	67,858	2.09	782.3	11,528	37,477	3.60	1,737.2	46,354
Construction work	479,001	14.74	5,464.9	11,409	84,598	8.12	2,231.9	26,383
Contractor activities	293,215	9.02	3,002.4	10,240	14,726	1.41	419.7	28,504
Manufacturing	134,069	4.13	2,098.0	15,648	87,148	8.36	5,038.9	57,820
Wholesale trade	307,365	9.46	5,714.7	18,593	93,922	9.01	4,789.6	50,996
Retail trade	304,631	9.38	4,171.1	13,692	39,547	3.80	1,914.8	48,420
Business/Pers. services	235,132	7.24	3,119.1	13,265	23,575	2.26	821.9	34,864
Utilities	135,112	4.16	1,185.6	8,775	4,620	0.44	100.1	21,663
Mining/Quarrying.	59,012	1.82	669.6	11,346	20,369	1.96	636.8	31,265
Daily rental	46,056	1.42	984.2	21,370	22,558	2.17	1,497.4	<b>66,38</b> 1
Government	74	0.00	0.6	8,000	0	0.00	0.0	0
Not in use	59,045	1.82	11.0	186	8,449	0.81	5.8	689
For-hire transportation	168,678	5.19	4,052.5	24,025	514,210	49.35	36,320.6	70,634
Other	136	0.00	1.4	10,123	60	0.01	3.1	52,611
One-way rental	31,630	0.97	469.5	14,845	645	0.06	37.9	58,732
Personal transportation	137,590	4.23	568.4	4,131	1,427	0.14	16.4	11,496
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.16
Major Use of Vehicle by Power Unit Type, Region 5 Estimates

		STRAI	GHT			TRAC	TOR	
MAJOR USE OF VEHICLE	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Agriculture	179,471	28.23%	837.3	4,665	19,430	6.88%	588.7	30,301
Forestry/Lumbering	11,239	1.77	95.8	8,522	3,073	1.09	94.8	30,842
Construction work	90,641	14.26	861.6	9,506	20,862	7.39	493.6	23,661
Contractor activities	50,427	7.93	500.9	9,933	2,640	0.94	60.2	22,807
Manufacturing	30,684	4.83	515.1	16,788	24,571	8.70	1,393.0	56,693
Wholesale trade	56,287	8.85	982.7	17,458	22,643	8.02	1,231.3	54,380
Retail trade	50,912	8.01	639.1	12,554	6,474	2.29	266.6	41,186
Business/Pers. services	53,301	8.39	706.7	13,259	5,780	2.05	186.4	32,257
Utilities	28,608	4.50	249.4	8,717	722	0.26	15.6	21,577
Mining/Quarrying	7,089	1.12	102.5	14,457	1,856	0.66	72.7	39,175
Daily rental	10,567	1.66	241.7	22,873	7,866	2.79	576.7	73,316
Government	0	0.00	0.0	0	0	0.00	0.0	o
Not in use	8,333	1.31	0.5	57	1,623	0.57	0.0	10
For-hire transportation	29,836	4.69	640.6	21,471	164,466	58.26	11,656.7	70,876
Other	0	0.00	0.0	0	0	0.00	0.0	0
One-way rental	2,433	0.38	27.8	11,426	0	0.00	0.0	o
Personal transportation	25,831	4.06	107.4	4,158	311	0.11	5.6	18,099
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948

Table A.17
Principal Product Carried by Power Unit Type, National Estimates

DDDAGDAI		STRAI	GHT			TRAC	TOR	
PRINCIPAL PRODUCT CARRIED	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Fresh farm products	591,078	18.19%	2,825.6	4,780	96,709	9.28%	4,941.6	51,098
Live animals	103,314	3.18	727.8	7,045	24,393	2.34	1,363.4	55,896
Processed food	229,909	7.08	4,000.3	17,400	128,911	12.37	8,537.3	66,226
Mining products	18,422	0.57	355.1	19,277	15,678	1.50	867.8	55,349
Building materials	495,744	15.26	6,119.9	12,345	96,241	9.24	4,691.5	48,748
Logs/Forest products	64,007	1.97	690.9	10,795	38,295	3.68	1,816.6	47,437
Lumber	83,121	2.56	1,067.4	12,841	34,766	3.34	1,946.3	55,984
Paper	33,524	1.03	674.7	20,126	29,605	2.84	1,969.9	66,540
Chemicals/Drugs	71,402	2.20	780.9	10,937	30,977	2.97	1,888.8	60,974
Petroleum	127,276	3.92	1,715.3	13,477	38,936	3.74	2,385.6	61,268
Plastics/Rubber	19,218	0.59	338.7	17,622	13,486	1.29	982.6	72,859
Primary metal	32,879	1.01	460.2	13,997	42,761	4.10	2,586.9	60,497
Fabricated metal	67,333	2.07	904.0	13,425	26,560	2.55	1,639.1	61,714
Machinery	93,078	2.86	997.2	10,713	66,521	6.38	1,633.6	24,558
Transportation equip.	125,687	3.87	1,729.9	13,764	36,968	3.55	1,756.7	47,519
Furniture/Hardware	50,189	1.54	909.4	18,119	17,309	1.66	1,150.3	66,459
Textiles/Apparels	38,755	1.19	655.9	16,923	13,267	1.27	1,023.0	77,110
Household goods	70,873	2.18	1,102.2	15,551	27,801	2.67	1,323.4	47,601
Tools and parts	237,502	7.31	2,477.8	10,433	5,025	0.48	134.1	26,681
General freight	114,426	3.52	2,432.2	21,256	194,370	18.66	12,962.6	66,690
Refuse, scrap	137,024	4.22	1,826.2	13,328	12,223	1.17	455.3	37,251
Other	17,780	0.55	372.7	20,960	6,177	0.59	566.3	91,677
No load carried	168,031	5.17	1,183.1	7,041	10,736	1.03	434.3	40,456
Personal trans.	137,881	4.24	568.4	4,123	1,427	0.14	16.4	11,496
Not in use	57,194	1.76	14.2	248	8,304	0.80	5.6	671
Glass products	6,865	0.21	151.8	22,109	3,948	0.38	299.1	75,773
Misc. manu. products	33,501	1.03	614.8	18,352	13,611	1.31	935.1	68,700
Industrial water	21,664	0.67	157.7	7,279	3,524	0.34	94.6	26,827
Hazardous waste	1,445	0.04	32.3	22,349	3,313	0.32	241.6	72,911
Not reported	153	0.00	0.2	1,500	17		0.2	13,846
TOTAL	3,249,274	100.00%	35,886.8	11,045	1,041,860	100.00%	58,649.6	56,293

Table A.18
Principal Product Carried by Power Unit Type, Region 5 Estimates

PRINCIPAL PRODUCT CARRIED	STRAIGHT				TRACTOR			
	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles	Number of Vehicles	Column Percent	Total Miles (Millions)	Average Miles
Fresh farm products	140,515	22.11%	635.6	4,523	21,957	7.78%	989.1	45,045
Live animals	16,015	2.52	101.0	6,306	3,890	1.38	226.2	58,158
Processed food	38,020	5.98	641.6	16,875	33,697	11.94	2,349.6	69,727
Mining products	2,243	0.35	41.0	18,284	4,377	1.55	276.6	63,205
Building materials	92,715	14.59	952.4	10,272	23,933	8.48	1,134.0	47,381
Logs/Forest products	9,799	1.54	79.3	8,095	3,167	1.12	115.3	36,405
Lumber	17,977	2.83	180.0	10,012	6,076	2.15	300.8	49,508
Paper	7,899	1.24	182.0	23,039	12,257	4.34	914.4	74,604
Chemicals/Drugs	18,662	2.94	165.9	8,891	7,000	2.48	471.7	67,389
Petroleum	25,034	3.94	273.8	10,938	7,929	2.81	479.4	60,458
Plastics/Rubber	2,153	0.34	36.9	17,114	4,811	1.70	388.9	80,839
Primary metal	7,467	1.17	104.7	14,025	20,299	7.19	1,225.1	60,355
Fabricated metal	17,000	2.67	232.0	13,648	10,355	3.67	723.0	69,818
Machinery	14,472	2.28	177.7	12,280	18,624	6.60	566.0	30,391
Transportation equip.	27,526	4.33	327.9	11,912	13,969	4.95	772.4	55,292
Furniture/Hardware	8,012	1.26	164.2	20,501	3,582	1.27	254.4	71,045
Textiles/Apparels	3,090	0.49	52.7	17,066	591	0.21	32.8	55,511
Household goods	10,104	1.59	167.9	16,622	8,301	2.94	495.2	59,656
Tools and parts	41,147	6.47	410.7	9,981	589	0.21	13.1	22,302
General freight	27,828	4.38	552.4	19,851	61,352	21.73	4,126.3	67,256
Refuse, scrap	27,113	4.27	379.0	13,978	3,485	1.23	150.5	43,186
Other	3,142	0.49	74.0	23,549	1,668	0.59	127.6	76,505
No load carried	30,467	4.79	237.8	7,805	2,718	0.96	147.6	54,289
Personal trans.	25,831	4.06	107.4	4,158	311	0.11	5.6	18,099
Not in use	8,109	1.28	0.5	59	1,596	0.57	0.0	10
Glass products	648	0.10	12.4	19,211	1,090	0.39	62.4	57,228
Misc. manu. products	8,599	1.35	179.1	20,825	3,552	1.26	219.0	61,666
Industrial water	4,075	0.64	39.1	9,589	205	0.07	6.8	33,402
Hazardous waste	0	0.00	0.0	0	937	0.33	68.1	72,716
Not reported	0	0.00	0.0	0	0	0.00	0.0	0
TOTAL	635,661	100.00%	6,509.1	10,240	282,318	100.00%	16,642.1	58,948