

# Chapter 7

## Vehicle Occupancy and Ridesharing



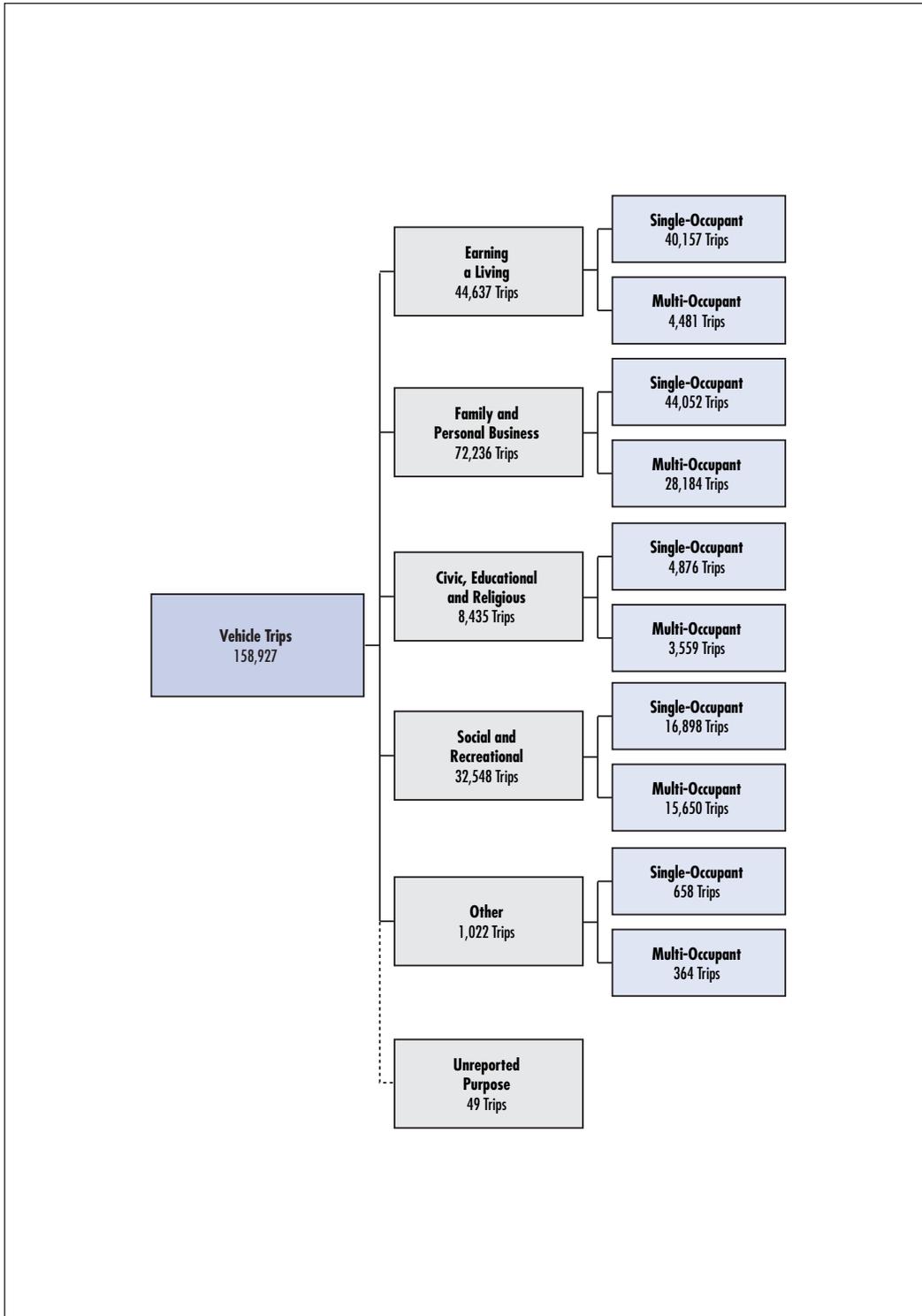
The number of single-occupant trips increased by 13% between 1977 and 1990, after accounting for the increase in total vehicle trips during the period.

Ridesharing was a function of:

- **Vehicle ownership.** There was more ridesharing in households with fewer vehicles.
- **Stage of life cycle.** There was more ridesharing in households with young children.
- **Trip purpose.** There was more ridesharing in social and recreational trips.
- **Trip length.** There was more ridesharing in longer trips.

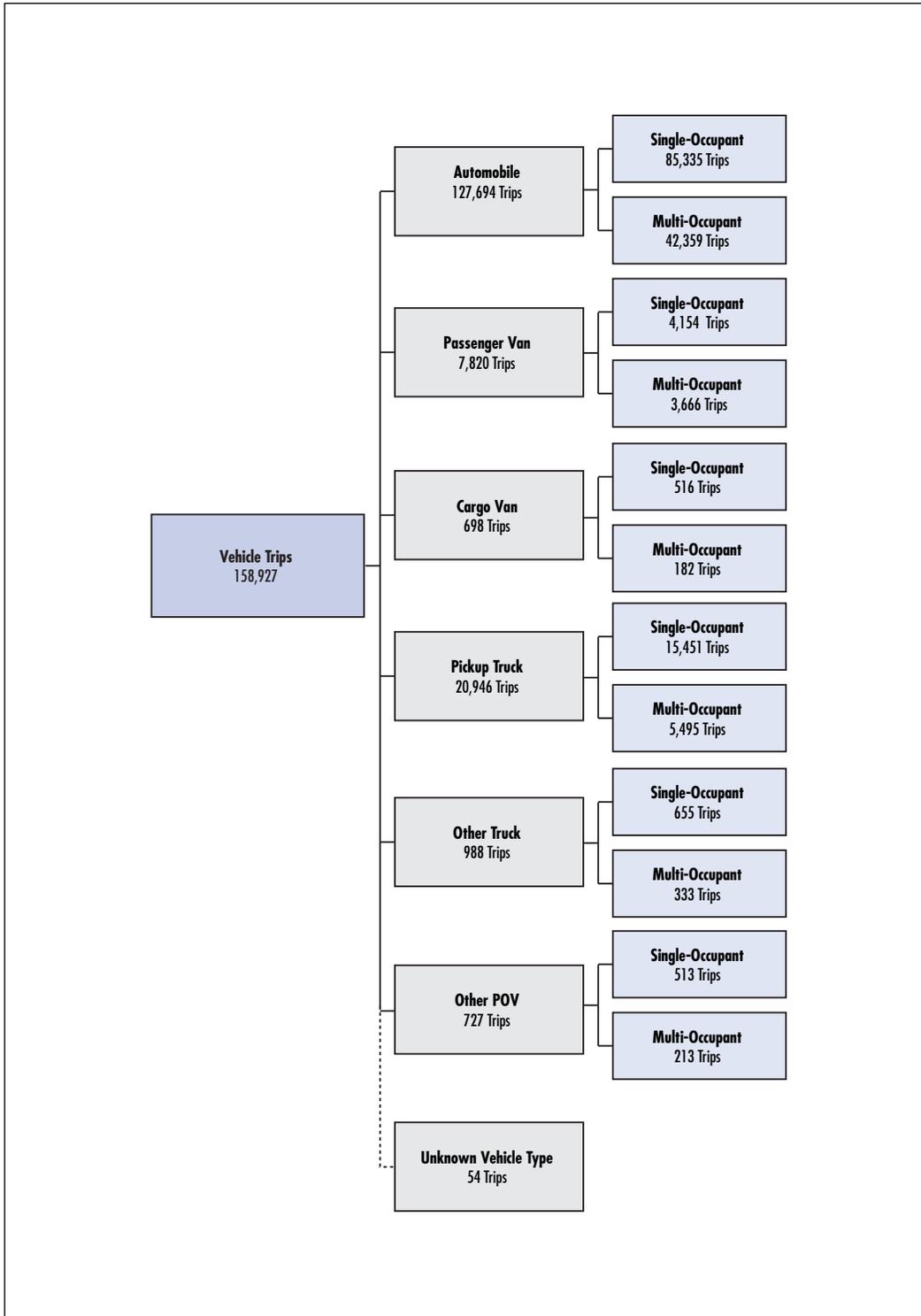
1990 VEHICLE TRIPS BY PURPOSE AND RIDESHARING STATUS

(MILLIONS)



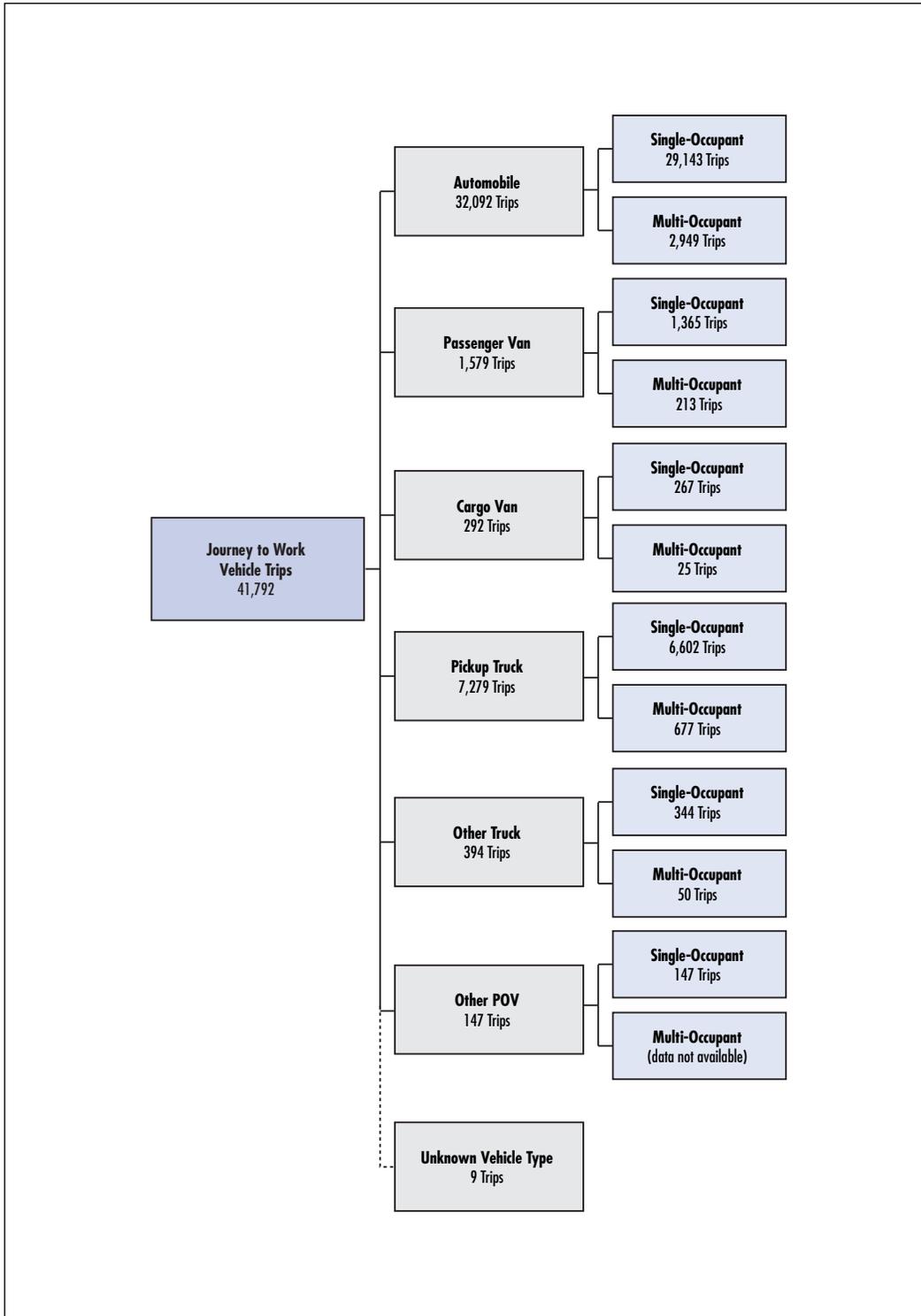
1990 VEHICLE TRIPS BY VEHICLE TYPE AND RIDESHARING STATUS

(MILLIONS)



1990 JOURNEY TO WORK VEHICLE TRIPS BY VEHICLE TYPE AND RIDESHARING STATUS

(MILLIONS)



# Contents

## Overview

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Summary .....	7-1
---------------	-----

## Household Characteristics

---

Vehicle Availability.....	7-3
Number of Household Members .....	7-5
Census Division.....	7-7
Census Region.....	7-9
Metropolitan Statistical Area (MSA) Size.....	7-9
Place of Residence.....	7-10
Population Density.....	7-15
Household Income .....	7-16
Household Composition .....	7-21

## Trip Characteristics

---

Trip Purpose .....	7-23
Vehicle Type .....	7-28
Trip Length .....	7-36

## Temporal Characteristics

---

Time of Day .....	7-43
-------------------	------

## List Of Tables

### Household Characteristics

---

Table 7.1	Number of Vehicle Trips by Number of Occupants and Number of Household Vehicles vs. Number of Drivers, 1990 NPTS.....	7-3
Table 7.2	Average Vehicle Occupancy by Number of Household Members and Type of Vehicle, 1990 NPTS .....	7-5
Table 7.3	Number of Vehicle Trips by Census Division and Ridesharing Status, 1990 NPTS.....	7-7
Table 7.4	Average Vehicle Occupancy for Journey to Work Trips by Census Region and MSA Size, 1990 NPTS.....	7-9
Table 7.5	Number of Vehicle Trips by MSA Size, Place of Residence and Ridesharing Status, 1990 NPTS.....	7-10
Table 7.6	Distribution of Vehicle Trips by MSA Size, Place of Residence and Ridesharing Status, 1990 NPTS.....	7-11
Table 7.7	Average Vehicle Occupancy by Place of Residence and Trip Purpose, 1990 NPTS.....	7-13
Table 7.8	Number of Vehicle Trips by Population Density, Place of Residence and Ridesharing Status, 1990 NPTS.....	7-15
Table 7.9	Number of Vehicle Trips by Number of Occupants and Household Income, 1990 NPTS .....	7-16
Table 7.10	Number of Journey to Work Vehicle Trips by Number of Occupants and Household Income, 1990 NPTS.....	7-17
Table 7.11	Average Journey to Work Vehicle Occupancy by Household Income, 1977, 1983, and 1990 NPTS.....	7-19
Table 7.12	Number of Vehicle Trips by Household Composition and Ridesharing Status, 1990 NPTS.....	7-21
Table 7.13	Average Vehicle Occupancy by Household Composition and Trip Purpose, 1990 NPTS .....	7-22

### Trip Characteristics

---

Table 7.14	Number of Vehicle Trips by Trip Purpose and Number of Persons in Vehicle, 1990 NPTS.....	7-23
Table 7.15	Number of Vehicle Trips by Trip Purpose and Ridesharing Status, 1990 NPTS.....	7-24
Table 7.16	Average Vehicle Occupancy by Trip Purpose, 1977, 1983, and 1990 NPTS.....	7-26
Table 7.17	Number of Vehicle Trips by Vehicle Type and Ridesharing Status, 1990 NPTS.....	7-28
Table 7.18	Number of Single-Occupant Vehicle Trips by Vehicle Type and Trip Purpose, 1990 NPTS .....	7-29

Table 7.19	Number of Multi-Occupant Vehicle Trips by Vehicle Type and Trip Purpose, 1990 NPTS .....	7-30
Table 7.20	Distribution of Vehicle Trips by Trip Purpose, Vehicle Type and Ridesharing Status, 1990 NPTS.....	7-31
Table 7.21	Number of Journey to Work Vehicle Trips by Vehicle Type and Ridesharing Status, 1990 NPTS.....	7-33
Table 7.22	Number of Journey to Work Vehicle Trips by Number of Occupants and Vehicle Type, 1990 NPTS.....	7-34
Table 7.23	Average Vehicle Occupancy by Trip Purpose and Vehicle Type, 1990 NPTS .....	7-35
Table 7.24	Number of Vehicle Trips by Number of Occupants and Trip Length, 1990 NPTS .....	7-36
Table 7.25	Number of Journey to Work Vehicle Trips by Number of Occupants and Trip Length, 1990 NPTS .....	7-38
Table 7.26	Average Journey to Work Vehicle Occupancy by Trip Length (Person per Vehicle Trip), 1977, 1983 and 1990 NPTS .....	7-40
Table 7.27	Average Journey to Work Vehicle Occupancy by Trip Length (Person Miles per Vehicle Mile), 1977, 1983, and 1990 NPTS .....	7-42

### Temporal Characteristics

Table 7.28	Number of Vehicle Trips by Number of Occupants and Time of Day, 1990 NPTS .....	7-43
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# List Of Figures

## Household Characteristics

---

Figure 7.1	Distribution of Vehicle Trips by Number of Occupants, Number of Household Vehicles and Number of Drivers, 1990 NPTS.....	7-4
Figure 7.2	Average Vehicle Occupancy by Vehicle Type, 1990 NPTS.....	7-6
Figure 7.3	Distribution of Vehicle Trips by Census Division and Ridesharing Status, 1990 NPTS.....	7-8
Figure 7.4	Distribution of Vehicle Trips by MSA Size and Ridesharing Status, 1990 NPTS.....	7-12
Figure 7.5	Average Vehicle Occupancy by Place of Residence and Trip Purpose, 1990 NPTS.....	7-14
Figure 7.6	Distribution of Journey to Work Vehicle Trips vs. Other Vehicle Trips by Number of Persons on the Trip.....	7-18
Figure 7.7	Average Journey to Work Vehicle Occupancy by Household Income, 1977, 1983 and 1990 NPTS.....	7-20

## Trip Characteristics

---

Figure 7.8	Distribution of Vehicle Trips by Trip Purpose and Ridesharing Status, 1990 NPTS.....	7-25
Figure 7.9	Average Vehicle Occupancy by Trip Purpose, 1977, 1983, and 1990 NPTS.....	7-27
Figure 7.10	Distribution of Vehicle Trips by Vehicle Type and Ridesharing Status, 1990 NPTS.....	7-32
Figure 7.11	Distribution of Vehicle Trips by Number of Occupants and Selected Trip Length, 1990 NPTS.....	7-37
Figure 7.12	Distribution of Journey to Work Vehicle Trips by Number of Occupants and Trip Length, 1990 NPTS.....	7-39
Figure 7.13	Average Journey to Work Vehicle Occupancy by Trip Length, 1977, 1983 and 1990 NPTS.....	7-41

## Temporal Characteristics

---

Figure 7.14	Distribution of Vehicle Trips by Number of Occupants and Time of Day, 1990 NPTS.....	7-44
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# Chapter 7 Vehicle Occupancy and Ridesharing

**T**HIS chapter presents trends in vehicle occupancy and ridesharing patterns. Vehicle occupancy is expressed in two different ways. One definition of vehicle occupancy is the average number of persons per vehicle trip. A second way of defining vehicle occupancy is the number of person miles of travel per vehicle mile of travel. The latter definition takes into account trip length and, therefore, may be a preferred measure for studying issues such as energy consumption and air quality. Throughout this chapter, the specific definition of vehicle occupancy being used is clearly stated on all tables.

The percentage of multi-occupant trips has declined since 1977. While 40.4 percent of the trips in 1977 were multi-occupant, this percentage was only 32.9 percent in 1990.

## Vehicle availability

For households that have at least one vehicle available per driver, the proportion of trips that were single-occupant was significantly greater than that for other households. This observation suggests that vehicle ownership affects the level of ridesharing.

## Household characteristics

Based on households that provided income information, there seems to be little evidence that sharing rides is related to household income alone. However, the likelihood of sharing rides to and from work is somewhat affected by household income. Households with income less than \$20,000 tended to share their rides to and from work more than households with higher income.

Having children in a household affects the prevalence of multi-occupant vehicle trips, particularly, if the children are very young (under 6 years old). As children grow older and more independent, the percentage of multi-occupant trips drop.

## Trip purpose

The likelihood of sharing rides differed depending on the trip purpose. Trips for social and recreational purposes were most likely to be multi-occupant, while trips for earning a living were least likely to be multi-occupant. Consequently, vehicle occupancy in journey to work and work-related trips was the lowest while vehicle occupancy in social and recreational trips was the highest.

	Single-Occupant Vehicle Trips (000)	Multi-Occupant Vehicle Trips (000)	TOTAL (000)
<b>1977</b>	<b>64,860,296</b>	<b>43,965,704</b>	<b>108,826,000</b>
	(59.6%)	(40.4%)	(100.0%)
<b>1983</b>	<b>83,356,218</b>	<b>43,517,782</b>	<b>126,874,000</b>
	(65.7%)	(34.3%)	(100.0%)
<b>1990</b>	<b>106,670,900</b>	<b>52,256,713</b>	<b>158,927,613</b>
	(67.1%)	(32.9%)	(100.0%)

Of all journey to work trips, 70 percent were single-occupant in automobiles, 16 percent were single-occupant in pickup trucks and 4 percent were single-occupant in other vehicle types. Only 10 percent of journey to work vehicle trips were multi-occupant, and more than half of those were by automobile. Sharing rides to and from work was more common as trip distance increased.

### Type of vehicle

Trips by passenger vans and recreational vehicles had the highest vehicle occupancy rate. This pattern reflects the occupant-carrying capacity of different types of vehicles. Vehicle occupancy rate increased with household size for almost all types of privately owned vehicles, except for the motorcycle and moped categories.

### Trip length

Trip length also affects the proportion of vehicle trips that were rideshared. About 66 to 67 percent of vehicle trips that were less than 30 miles long were single-occupant. However, this percentage decreased to 58 percent for trips 30 miles or longer.

There was a significantly larger percentage of single-occupant vehicle trips by households that have at least one vehicle available per driver than by households in which there are

more drivers than vehicles. This pattern suggests that vehicle ownership greatly affects the level of ridesharing.

**TABLE 7.1**  
**NUMBER OF VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND NUMBER OF HOUSEHOLD VEHICLES**  
**VS. NUMBER OF DRIVERS**  
**1990 NPTS**  
**(THOUSANDS)**

Household Vehicles vs. Drivers	Number of Persons on Trip						TOTAL
	1	2	3	4	5-10	11 or More	
More drivers than vehicles	12,307,402 (60.5%)	5,501,422 (27.1%)	1,478,482 (7.3%)	666,607 (3.3%)	382,182 (1.9%)	**	<b>20,336,096</b> (100.0%)
Vehicles equal to drivers	63,943,246 (67.7%)	19,857,891 (21.0%)	6,114,586 (6.5%)	2,884,608 (3.1%)	1,593,109 (1.7%)	26,702 (0.0%)	<b>94,420,143</b> (100.0%)
More vehicles than drivers	30,420,148 (68.9%)	9,044,374 (20.5%)	2,684,714 (6.1%)	1,364,796 (3.1%)	652,402 (1.5%)	4,795 (0.0%)	<b>44,171,228</b> (100.0%)
<b>TOTAL</b>	<b>106,670,797</b> (67.1%)	<b>34,403,687</b> (21.6%)	<b>10,277,782</b> (6.5%)	<b>4,916,011</b> (3.1%)	<b>2,627,693</b> (1.7%)	<b>31,497</b> (0.0%)	<b>158,927,467</b> (100.0%)

\*\* Indicates data not reported.

**FIGURE 7.1**

**DISTRIBUTION OF VEHICLE TRIPS BY NUMBER OF OCCUPANTS,  
NUMBER OF HOUSEHOLD VEHICLES AND NUMBER OF DRIVERS  
1990 NPTS**

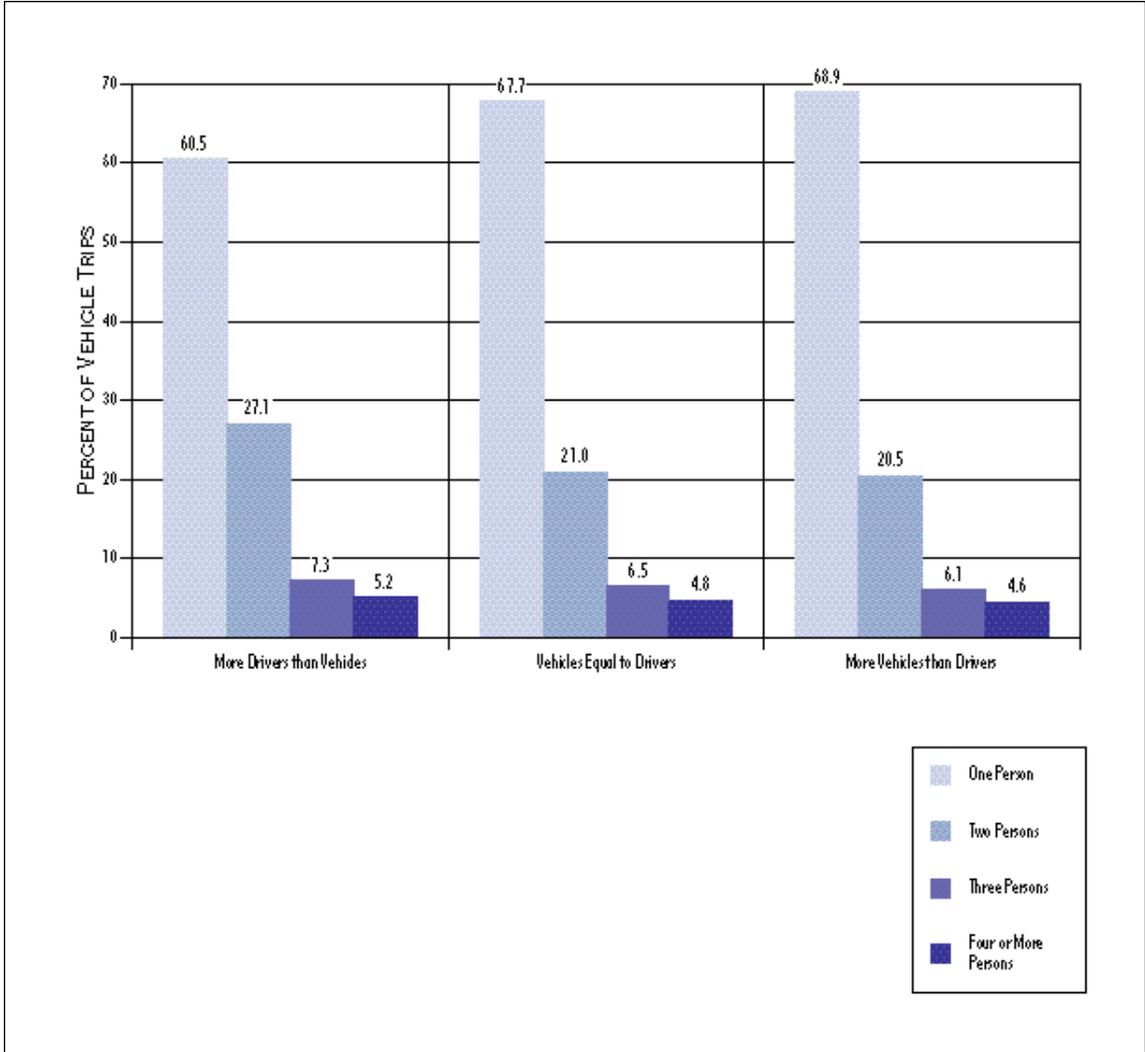




FIGURE 7.2

AVERAGE VEHICLE OCCUPANCY BY VEHICLE TYPE  
1990 NPTS

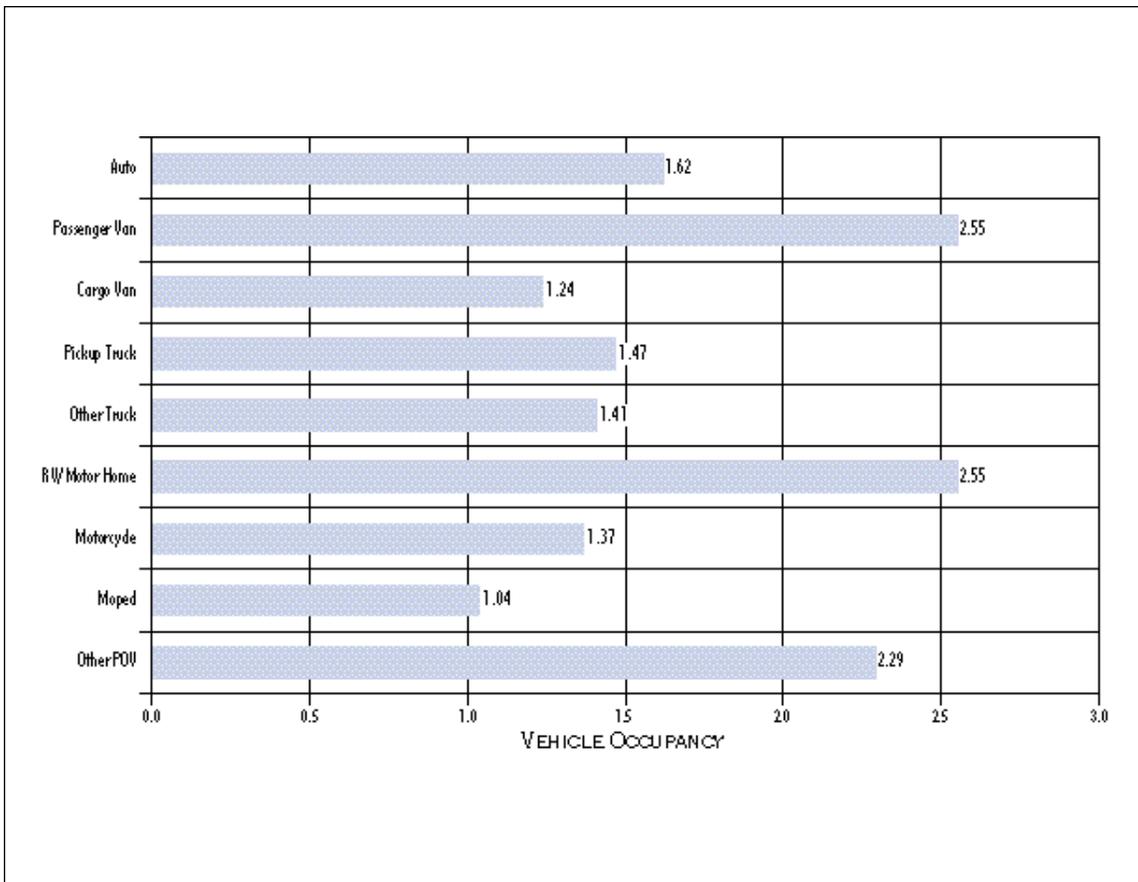


TABLE 7.3

**NUMBER OF VEHICLE TRIPS BY CENSUS DIVISION<sup>1</sup> AND RIDESHARING STATUS  
1990 NPTS  
(THOUSANDS)**

	Single-Occupant Trips	Multi-Occupant Trips	TOTAL
New England	5,757,432 (68.1%)	2,695,473 (31.9%)	<b>8,452,905</b> (100.0%)
Middle Atlantic	14,047,533 (68.3%)	6,517,040 (31.7%)	<b>20,564,573</b> (100.0%)
<b>Subtotal - Northeast</b>	<b>19,804,965</b> (68.3%)	<b>9,212,513</b> (31.7%)	<b>29,017,478</b> (100.0%)
East North Central	18,805,067 (67.3%)	9,154,376 (32.7%)	<b>27,959,443</b> (100.0%)
West North Central	8,087,290 (65.7%)	4,229,592 (34.3%)	<b>12,316,882</b> (100.0%)
<b>Subtotal - North Central</b>	<b>26,892,357</b> (66.8%)	<b>13,383,968</b> (33.2%)	<b>40,276,325</b> (100.0%)
South Atlantic	19,183,748 (68.2%)	8,942,013 (31.8%)	<b>28,125,761</b> (100.0%)
East South Central	6,550,672 (65.0%)	3,520,571 (35.0%)	<b>10,071,243</b> (100.0%)
West South Central	12,083,674 (67.3%)	5,858,298 (32.7%)	<b>17,941,972</b> (100.0%)
<b>Subtotal - South</b>	<b>37,818,094</b> (67.4%)	<b>18,320,882</b> (32.6%)	<b>56,138,976</b> (100.0%)
Mountain	6,155,061 (63.7%)	3,510,949 (36.3%)	<b>9,666,009</b> (100.0%)
Pacific	16,000,319 (67.1%)	7,828,359 (32.9%)	<b>23,828,678</b> (100.0%)
<b>Subtotal - West</b>	<b>22,155,380</b> (66.1%)	<b>11,339,308</b> (33.9%)	<b>33,494,687</b> (100.0%)
<b>TOTAL</b>	<b>106,670,797</b> (67.1%)	<b>52,256,670</b> (32.9%)	<b>158,927,467</b> (100.0%)

<sup>1</sup> See glossary for a listing of states in each Census Division.

On average, two-thirds of vehicles trips were single-occupant. This average did not vary significantly by Census Division.

**FIGURE 7.3**  
**DISTRIBUTION OF VEHICLE TRIPS BY CENSUS DIVISION AND RIDESHARING STATUS**  
**1990 NPTS**

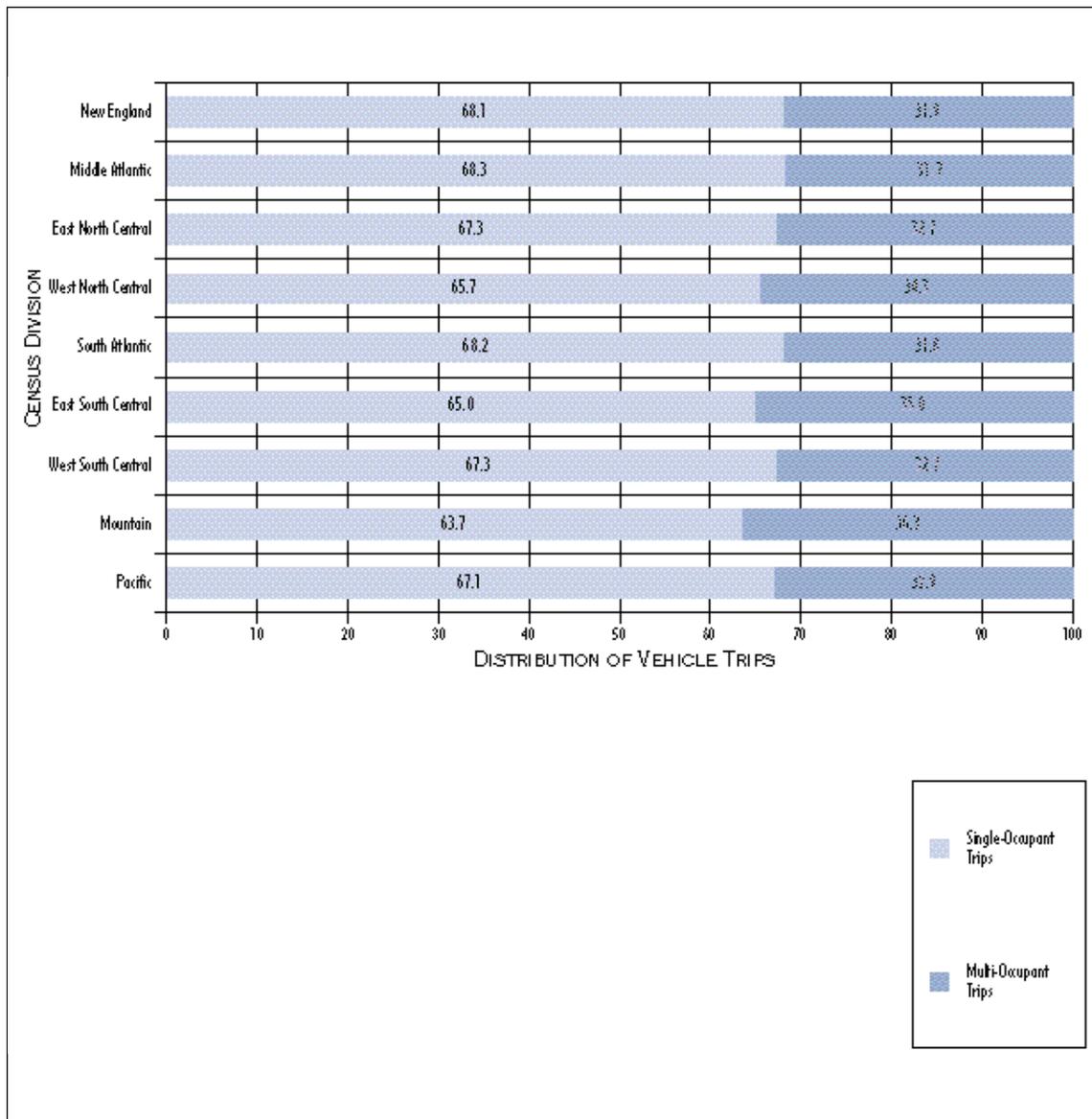


TABLE 7.4

**AVERAGE VEHICLE OCCUPANCY FOR JOURNEY TO WORK TRIPS BY CENSUS REGION AND MSA SIZE  
(PERSON MILES PER VEHICLE MILE)  
1990 NPTS**

MSA Size	Northeast	North Central	South	West	ALL
< 250,000	1.12	1.14	1.18	1.19	<b>1.16</b>
250,000-499,999	1.16	1.05	1.12	1.14	<b>1.11</b>
500,000-999,999	1.18	1.15	1.11	1.11	<b>1.12</b>
1,000,000-2,999,999	1.11	1.08	1.11	1.14	<b>1.11</b>
3,000,000 or more	1.13	1.08	1.11	1.16	<b>1.13</b>
Not in MSA	1.11	1.09	1.25	1.30	<b>1.19</b>
<b>ALL</b>	<b>1.13</b>	<b>1.09</b>	<b>1.16</b>	<b>1.18</b>	<b>1.14</b>

TABLE 7.5

**NUMBER OF VEHICLE TRIPS BY MSA SIZE, PLACE OF RESIDENCE AND RIDESHARING STATUS  
1990 NPTS  
(THOUSANDS)**

MSA Size	Single-Occupant	Multi-Occupant	TOTAL
<b>Less than 250,000</b>			
Central City	6,064,986 (55.4%)	3,002,026 (54.5%)	9,067,012 (55.1%)
Non-Central City	4,875,120 (44.6%)	2,510,342 (45.5%)	7,385,462 (44.9%)
<b>TOTAL</b>	<b>10,940,107</b> (100.0%)	<b>5,512,368</b> (100.0%)	<b>16,452,474</b> (100.0%)
<b>250,000-499,999</b>			
Central City	4,623,552 (48.1%)	2,240,255 (46.3%)	6,863,807 (47.5%)
Non-Central City	4,979,162 (51.9%)	2,603,485 (53.7%)	7,582,647 (52.5%)
<b>TOTAL</b>	<b>9,602,714</b> (100.0%)	<b>4,843,740</b> (100.0%)	<b>14,446,454</b> (100.0%)
<b>500,000-999,999</b>			
Central City	4,825,446 (47.2%)	2,383,758 (45.7%)	7,209,205 (46.7%)
Non-Central City	5,403,282 (52.8%)	2,833,949 (54.3%)	8,237,231 (53.3%)
<b>TOTAL</b>	<b>10,228,728</b> (100.0%)	<b>5,217,707</b> (100.0%)	<b>15,446,435</b> (100.0%)
<b>1,000,000-2,999,999</b>			
Central City	9,889,800 (45.4%)	4,869,971 (45.6%)	14,759,771 (45.5%)
Non-Central City	11,904,546 (54.6%)	5,799,374 (54.4%)	17,703,919 (54.5%)
<b>TOTAL</b>	<b>21,794,346</b> (100.0%)	<b>10,669,344</b> (100.0%)	<b>32,463,690</b> (100.0%)
<b>3,000,000 or more</b>			
Central City	10,521,347 (34.6%)	4,632,584 (33.4%)	15,153,931 (34.3%)
Non-Central City	19,845,514 (65.4%)	9,218,594 (66.6%)	29,064,109 (65.7%)
<b>TOTAL</b>	<b>30,366,861</b> (100.0%)	<b>13,851,178</b> (100.0%)	<b>44,218,039</b> (100.0%)

There was no large difference in ridesharing among small to medium size MSA's (with population less than three million). However, in MSA's with population more than three million, the proportion of vehicle trips that

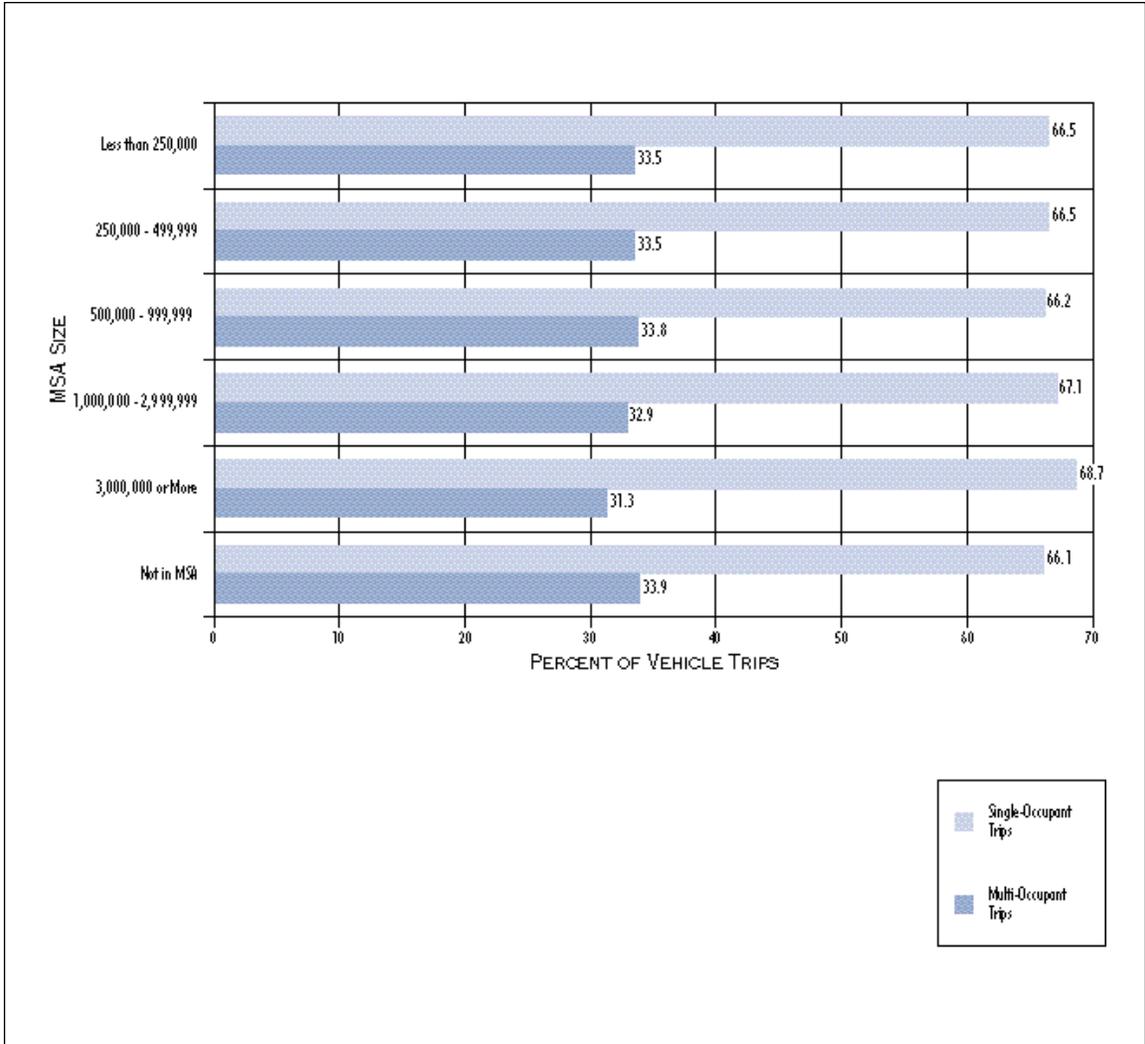
were multi-occupant decreased. People residing outside the central city tended to share rides slightly more than those residing inside the central city.

**TABLE 7.6**  
**DISTRIBUTION OF VEHICLE TRIPS BY MSA SIZE, PLACE OF RESIDENCE AND RIDESHARING STATUS**  
**1990 NPTS**  
**(WITHIN MSA SIZE)**

MSA Size	Single-Occupant	Multi-Occupant	TOTAL
<b>Less than 250,000</b>			
Central City	66.9	33.1	100.0
Non-Central City	66.0	34.0	100.0
<b>TOTAL</b>	66.5	33.5	100.0
<b>250,000-499,999</b>			
Central City	67.4	32.6	100.0
Non-Central City	65.7	34.3	100.0
<b>TOTAL</b>	66.5	33.5	100.0
<b>500,000-999,999</b>			
Central City	66.9	33.1	100.0
Non-Central City	65.6	34.4	100.0
<b>TOTAL</b>	66.2	33.8	100.0
<b>1,000,000-2,999,999</b>			
Central City	67.0	33.0	100.0
Non-Central City	67.3	32.8	100.0
<b>TOTAL</b>	67.1	32.9	100.0
<b>3,000,000 or more</b>			
Central City	69.4	30.6	100.0
Non-Central City	68.3	31.7	100.0
<b>TOTAL</b>	68.7	31.3	100.0

FIGURE 7.4

DISTRIBUTION OF VEHICLE TRIPS BY MSA SIZE AND RIDESHARING STATUS  
1990 NPTS



Vehicle occupancy rates vary with the purpose of travel. Travel to work and work related travel combined has the lowest rate of

occupancy of all personal travel, particularly for trips taken by people who live inside the central city.

TABLE 7.7

**AVERAGE VEHICLE OCCUPANCY BY PLACE OF RESIDENCE AND TRIP PURPOSE  
(PERSON MILES PER VEHICLE MILE)  
1990 NPTS**

	In MSA, in Central City		In MSA, not in Central City		Not in MSA		ALL	
	Avg. Occupancy	% of VMT	Avg. Occupancy	% of VMT	Avg. Occupancy	% of VMT	Avg. Occupancy	% of VMT
Earning a Living	1.13	33.7	1.16	37.4	1.22	32.5	<b>1.16</b>	35.1
Family & Personal Business	1.80	32.1	1.75	32.1	1.82	34.8	<b>1.78</b>	32.8
Civic, Educational, & Religious	1.58	4.4	1.72	4.1	1.67	5.0	<b>1.67</b>	4.4
Social & Recreational	1.98	28.4	2.09	25.8	2.17	27.1	<b>2.08</b>	26.9
Other	1.41	1.3	1.47	0.6	1.74	0.5	<b>1.49</b>	0.8
<b>ALL</b>	<b>1.61</b>	100.0	<b>1.62</b>	100.0	<b>1.71</b>	100.0	<b>1.64</b>	100.0

**FIGURE 7.5**

**AVERAGE VEHICLE OCCUPANCY BY PLACE OF RESIDENCE AND TRIP PURPOSE  
(PERSON MILES PER VEHICLE MILE)  
1990 NPTS**

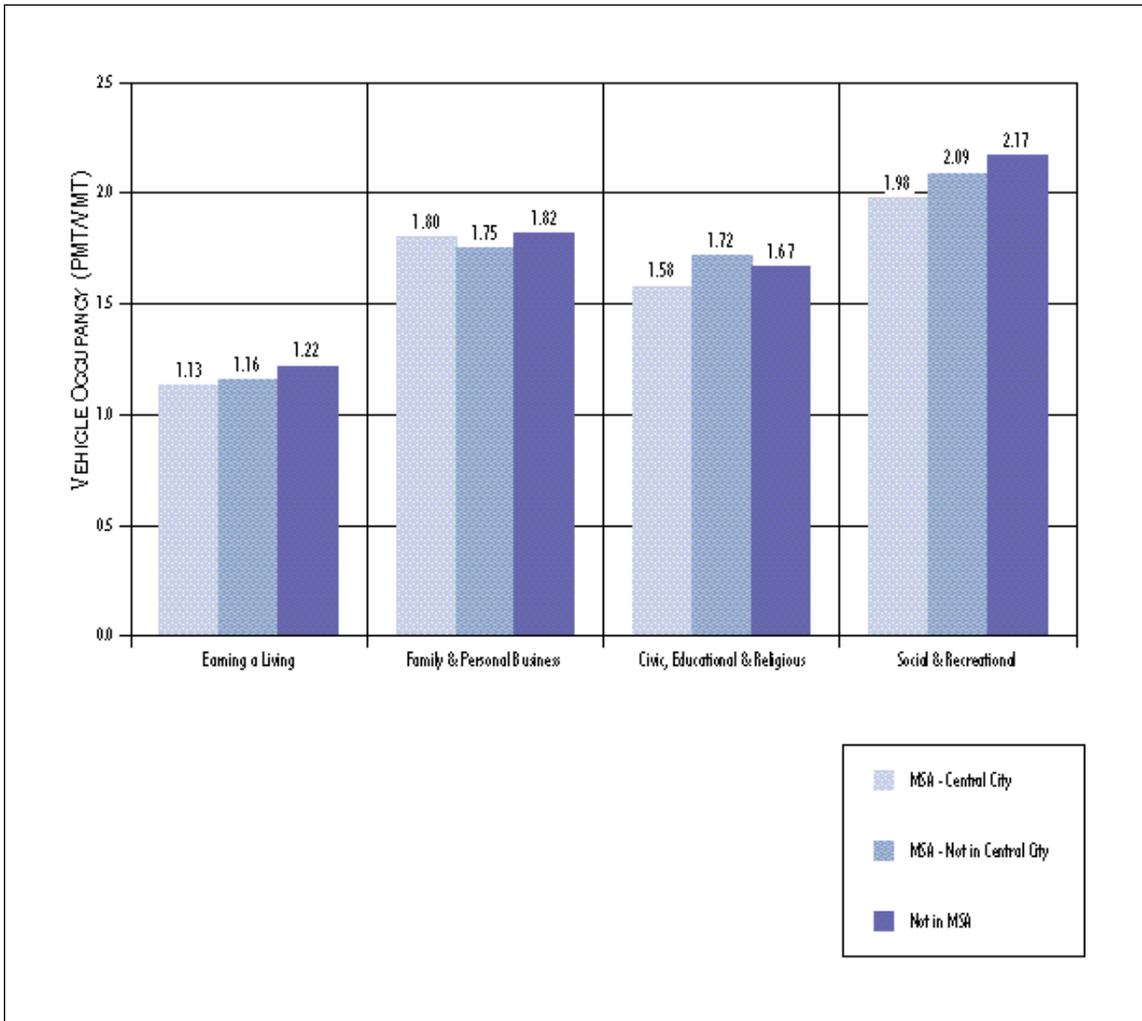


TABLE 7.8

**NUMBER OF VEHICLE TRIPS BY POPULATION DENSITY, PLACE OF RESIDENCE AND RIDESHARING STATUS  
1990 NPTS  
(THOUSANDS)**

Population Density <sup>1</sup>	Single-Occupant Trips	Multi-Occupant Trips	TOTAL
<b>In MSA, Within Central City</b>			
Less than 2,000	15,016,667 (41.8%)	7,288,361 (42.6%)	22,305,029 (42.0%)
2,000-3,999	7,990,562 (22.2%)	3,927,706 (22.9%)	11,918,267 (22.5%)
4,000-7,499	7,755,256 (21.6%)	3,498,570 (20.4%)	11,253,826 (21.2%)
7,500 or More	5,162,647 (14.4%)	2,413,957 (14.1%)	7,576,604 (14.3%)
<b>TOTAL</b>	<b>35,925,132</b> (100.0%)	<b>17,128,594</b> (100.0%)	<b>53,053,726</b> (100.0%)
<b>In MSA, Not in Central City</b>			
Less than 2,000	30,505,815 (64.9%)	15,140,571 (65.9%)	45,646,386 (65.2%)
2,000-3,999	8,473,917 (18.0%)	4,033,695 (17.6%)	12,507,613 (17.9%)
4,000-7,499	5,806,828 (12.4%)	2,778,799 (12.1%)	8,585,627 (12.3%)
7,500 or More	2,221,064 (4.7%)	1,012,678 (4.4%)	3,233,743 (4.6%)
<b>TOTAL</b>	<b>47,007,624</b> (100.0%)	<b>22,965,744</b> (100.0%)	<b>69,973,368</b> (100.0%)
<b>Not in MSA</b>			
Less than 2,000	23,329,034 (98.3%)	11,902,970 (97.9%)	35,232,003 (98.1%)
2,000-3,999	234,857 (1.0%)	128,585 (1.1%)	363,442 (1.0%)
4,000-7,499	83,571 (0.4%)	62,032 (0.5%)	145,603 (0.4%)
7,500 or More	90,579 (0.4%)	68,746 (0.6%)	159,325 (0.4%)
<b>TOTAL</b>	<b>23,738,041</b> (100.0%)	<b>12,162,333</b> (100.0%)	<b>35,900,373</b> (100.0%)
<sup>1</sup> Population Density is calculated as persons per square mile for the zip code in which the household is located.			

There seems to be little correlation between the likelihood of ridesharing and household income alone.

TABLE 7.9

NUMBER OF VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND HOUSEHOLD INCOME  
1990 NPTS  
(THOUSANDS)

Income	Number of Persons on Trip						TOTAL
	1	2	3	4	5-10	11 or More	
Under \$10,000	5,129,160 (66.0%)	1,624,274 (20.9%)	605,084 (7.8%)	295,147 (3.8%)	98,320 (1.3%)	16,416 (0.2%)	<b>7,768,401</b> (100.0%)
\$10,000 - \$19,999	11,546,347 (65.8%)	4,087,113 (23.3%)	1,127,235 (6.4%)	528,080 (3.0%)	259,430 (1.5%)	4,277 (0.0%)	<b>17,552,482</b> (100.0%)
\$20,000 - \$29,999	14,505,479 (65.9%)	5,030,125 (22.9%)	1,445,173 (6.6%)	618,049 (2.8%)	401,379 (1.8%)	1,982 (0.0%)	<b>22,002,187</b> (100.0%)
\$30,000 - \$39,999	15,689,180 (67.0%)	4,870,579 (20.8%)	1,601,044 (6.8%)	801,627 (3.4%)	445,420 (1.9%)	2,310 (0.0%)	<b>23,410,160</b> (100.0%)
\$40,000 and over	35,932,754 (66.5%)	11,878,304 (22.0%)	3,525,902 (6.5%)	1,749,016 (3.2%)	930,694 (1.7%)	6,512 (0.0%)	<b>54,023,181</b> (100.0%)
Unreported	23,867,877 (69.8%)	6,913,292 (20.2%)	1,973,344 (5.8%)	924,093 (2.7%)	492,450 (1.4%)	**	<b>34,171,056</b> (100.0%)
<b>TOTAL</b>	<b>106,670,797</b> (67.1%)	<b>34,403,687</b> (21.6%)	<b>10,277,782</b> (6.5%)	<b>4,916,011</b> (3.1%)	<b>2,627,693</b> (1.7%)	<b>31,497</b> (0.0%)	<b>158,927,467</b> (100.0%)

\*\* Indicates data not reported.

HOUSEHOLD CHARACTERISTICS

While there was little evidence supporting the relationship between household income and the likelihood of ridesharing in general, a pattern did emerge. Households with annual income less than \$20,000 shared their rides

to and from work more than those with higher income. Among higher income households, there was very little difference in the percentage of journey to work vehicle trips that were single-occupant.

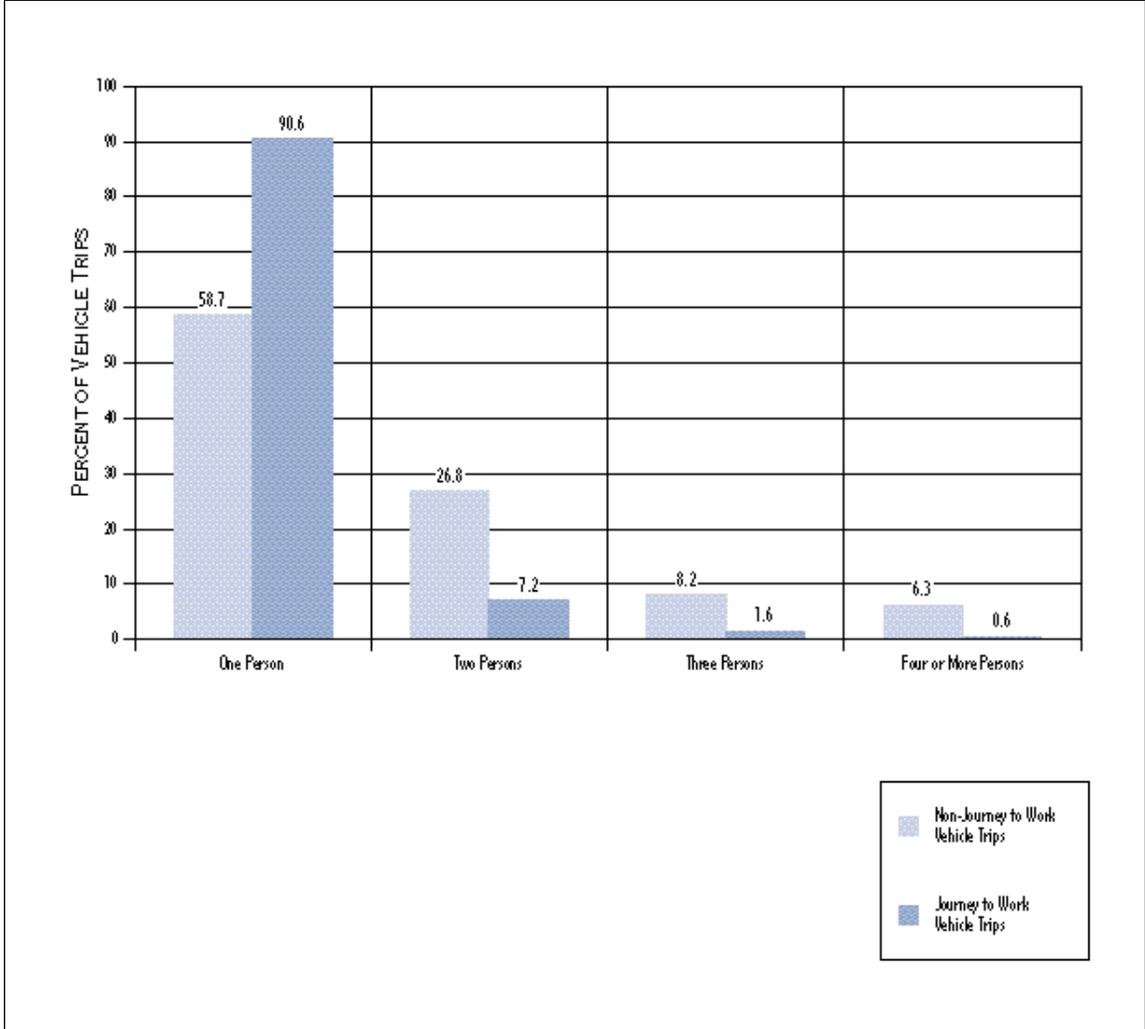
TABLE 7.10

NUMBER OF JOURNEY TO WORK VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND HOUSEHOLD INCOME  
1990 NPTS  
(THOUSANDS)

Income	Number of Persons on the Trip				TOTAL
	1	2	3	4 or More	
Under \$10,000	1,104,359 (86.7%)	122,962 (9.7%)	35,030 (2.8%)	10,739 (0.8%)	<b>1,273,090</b> (100.0%)
\$10,000 - \$19,999	3,616,610 (86.7%)	409,656 (9.8%)	100,875 (2.4%)	46,014 (1.1%)	<b>4,173,155</b> (100.0%)
\$20,000 - \$29,999	5,120,417 (91.5%)	369,802 (6.6%)	91,498 (1.6%)	16,526 (0.3%)	<b>5,598,244</b> (100.0%)
\$30,000 - \$39,999	5,810,781 (91.2%)	441,760 (6.9%)	80,984 (1.3%)	38,350 (0.6%)	<b>6,371,875</b> (100.0%)
\$40,000 and over	13,670,007 (90.9%)	1,014,540 (6.7%)	251,980 (1.7%)	95,731 (0.6%)	<b>15,032,258</b> (100.0%)
Unreported	8,554,516 (91.6%)	633,996 (6.8%)	110,925 (1.2%)	44,074 (0.5%)	<b>9,343,511</b> (100.0%)
<b>TOTAL</b>	<b>37,876,690</b> (90.6%)	<b>2,992,716</b> (7.2%)	<b>671,291</b> (1.6%)	<b>251,435</b> (0.6%)	<b>41,792,133</b> (100.0%)

FIGURE 7.6

DISTRIBUTION OF JOURNEY TO WORK VEHICLE TRIPS VS. OTHER VEHICLE TRIPS BY NUMBER OF PERSONS ON THE TRIP 1990 NPTS



Vehicle occupancy of journey to work trips has declined since 1983 across all income groups. However, trips taken by lower income

households have a slightly higher occupancy rate than those of higher income households.

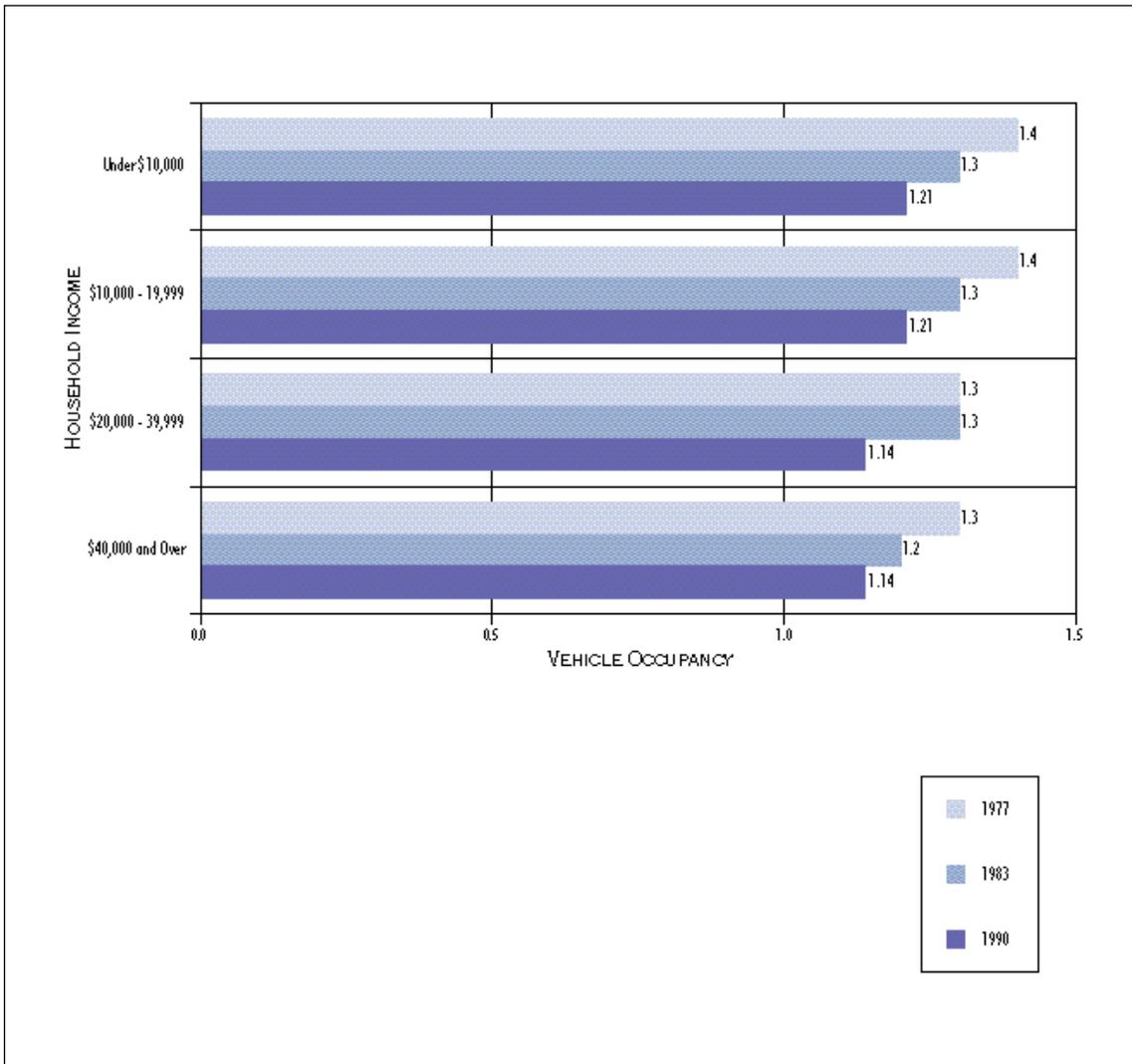
TABLE 7.11

**AVERAGE JOURNEY TO WORK VEHICLE OCCUPANCY BY HOUSEHOLD INCOME  
(PERSON MILES PER VEHICLE MILE)  
1977, 1983, AND 1990 NPTS<sup>1</sup>**

	Under \$10,000	\$10,000- 19,999	\$20,000- 39,999	\$40,000 and over	All Income Groups
1977 <sup>2</sup>	1.4	1.4	1.3	1.3	<b>1.3</b>
1983 <sup>2</sup>	1.3	1.3	1.3	1.2	<b>1.3</b>
1990	1.21	1.21	1.14	1.14	<b>1.14</b>
<sup>1</sup> For more information on comparing 1983 and 1990 NPTS survey data, see Section 4 of Chapter 1.			<sup>2</sup> Occupancy rates from 1977 and 1983 were calculated to tenths, not hundredths.		

FIGURE 7.7

AVERAGE JOURNEY TO WORK VEHICLE OCCUPANCY BY HOUSEHOLD INCOME  
(PERSON MILES PER VEHICLE MILE)  
1977, 1983 AND 1990 NPTS



Having children in a household affects the prevalence of multi-occupant vehicle trips, particularly, if the children are very young

(under 6 years old). As children grow older and more independent, the percentage of multi-occupant trips drop.

**TABLE 7.12**  
**NUMBER OF VEHICLE TRIPS BY HOUSEHOLD COMPOSITION AND RIDESHARING STATUS**  
**1990 NPTS**  
**(THOUSANDS)**

Household Composition	Single-Occupant Trips	Multi-Occupant Trips	TOTAL
Single Adult, No Children	13,855,580 (84.4%)	2,563,009 (15.6%)	16,418,589 (100.0%)
Two or More Adults, No Children	32,675,966 (73.2%)	11,936,660 (26.8%)	44,612,626 (100.0%)
Single Adult, Youngest Child Under 6	858,718 (43.1%)	1,134,998 (56.9%)	1,993,716 (100.0%)
Two or More Adults, Youngest Child Under 6	16,100,621 (53.7%)	13,865,190 (46.3%)	29,965,811 (100.0%)
Single Adult, Youngest Child 6-15	2,123,436 (56.9%)	1,606,134 (43.1%)	3,729,570 (100.0%)
Two or More Adults, Youngest Child 6-15	18,736,117 (61.7%)	11,641,908 (38.3%)	30,378,025 (100.0%)
Single Adult, Youngest Child 16 or Older	1,207,615 (73.2%)	442,499 (26.8%)	1,650,114 (100.0%)
Two or More Adults, Youngest Child 16 or Older	9,009,426 (71.6%)	3,581,826 (28.4%)	12,591,251 (100.0%)
Single Adult, Retired - No Children	3,545,559 (83.2%)	714,485 (16.8%)	4,260,045 (100.0%)
Two or More Adults, Retired - No Children	7,957,608 (63.5%)	4,569,394 (36.5%)	12,527,002 (100.0%)
<b>TOTAL<sup>1</sup></b>	<b>106,670,797</b> (67.1%)	<b>52,256,670</b> (32.9%)	<b>158,927,467</b> (100.0%)

<sup>1</sup> Includes trips where household composition was unreported.

TABLE 7.13

**AVERAGE VEHICLE OCCUPANCY BY HOUSEHOLD COMPOSITION AND TRIP PURPOSE  
(PERSON MILES PER VEHICLE MILE)  
1990 NPTS**

	Earning a Living	Family and Personal Business	Civic, Educational, and Religious	Social/ Recreational	Other	<b>ALL</b>
Single Adult, No Children	1.07	1.40	1.36	1.54	1.06	<b>1.34</b>
Two or More Adults, No Children	1.14	1.61	1.40	1.84	1.40	<b>1.48</b>
Single Adult, Youngest Child Under 6	1.22	2.45	1.55	2.61	3.31	<b>2.22</b>
Two or More Adults, Youngest Child Under 6	1.24	2.27	2.32	2.83	1.94	<b>1.98</b>
Single Adult, Youngest Child 6-15	1.13	1.80	1.78	2.12	*	<b>1.69</b>
Two or More Adults, Youngest Child 6-15	1.18	1.92	1.84	2.66	1.95	<b>1.77</b>
Single Adult, Youngest Child 16 or Older	1.05	1.51	1.47	1.44	*	<b>1.35</b>
Two or More Adults, Youngest Child 16 or Older	1.16	1.61	1.34	1.90	1.19	<b>1.50</b>
Single Adult, Retired - No Children	1.02	1.28	1.42	1.51	1.34	<b>1.36</b>
Two or More Adults, Retired - No Children	1.11	1.58	1.61	1.86	1.38	<b>1.64</b>
<b>ALL</b>	<b>1.16</b>	<b>1.78</b>	<b>1.67</b>	<b>2.08</b>	<b>1.49</b>	<b>1.64</b>
* Indicates insufficient data reported.						



The likelihood of sharing rides differed depending on the trip purpose. While social and recreational trips were most likely to be shared (48%), trips for earning a living were

least likely to involve ridesharing (10.0%). Of all multi-occupant trips, family and personal trips accounted for more than half (54%).

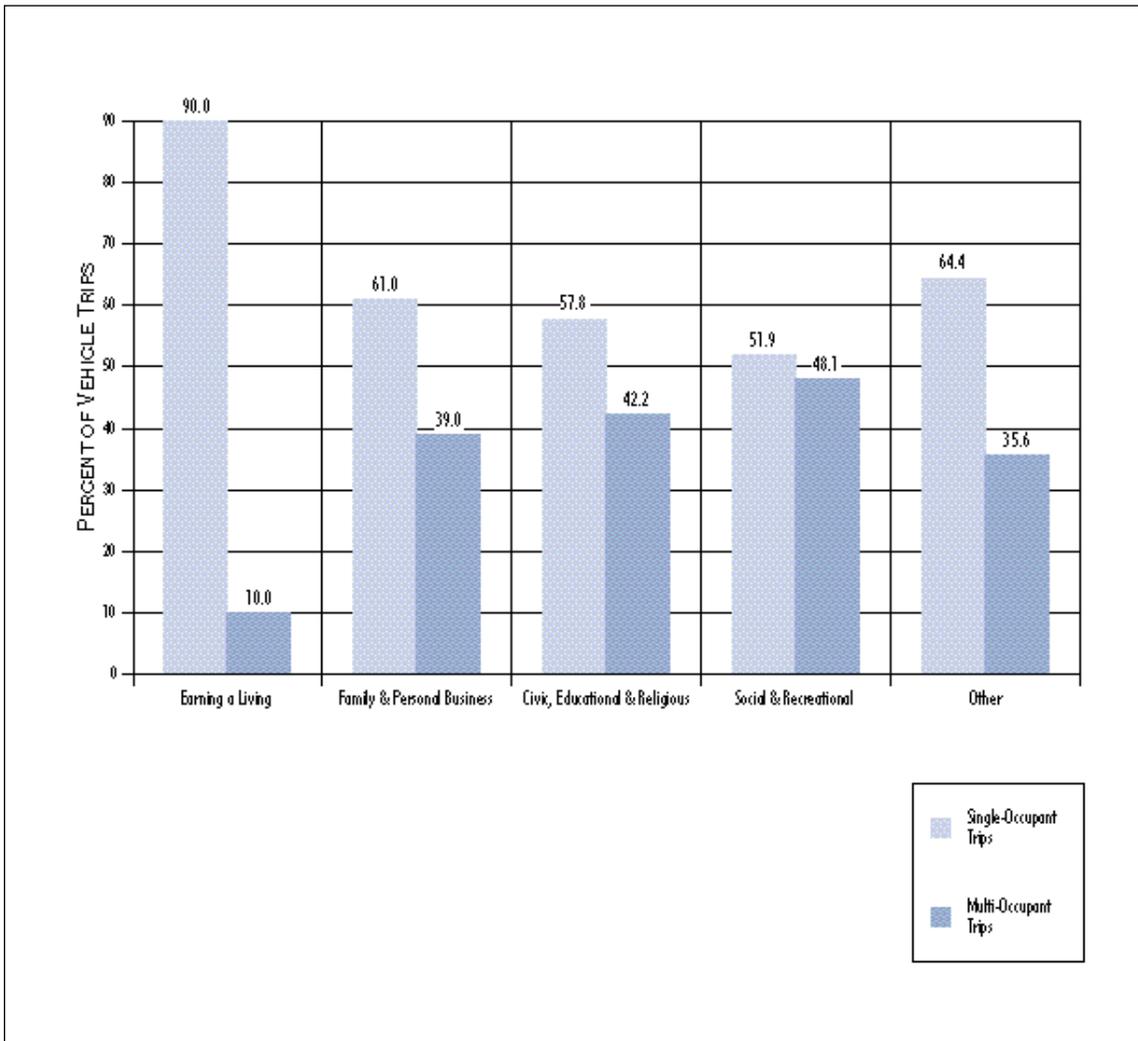
**TABLE 7.15**  
**NUMBER OF VEHICLE TRIPS BY TRIP PURPOSE AND RIDESHARING STATUS**  
**1990 NPTS**  
**(THOUSANDS)**

	Earning a Living	Family and Personal Business	Civic, Educational and Religious	Social and Recreational	Other	TOTAL <sup>1</sup>
<b>Number of Vehicle Trips</b>						
Single-Occupant	40,156,697 (90.0%)	44,052,476 (61.0%)	4,875,928 (57.8%)	16,897,704 (51.9%)	657,635 (64.4%)	<b>106,670,797</b> (67.1%)
Multi-Occupant	4,480,781 (10.0%)	28,184,104 (39.0%)	3,558,705 (42.2%)	15,650,023 (48.1%)	364,077 (35.6%)	<b>52,256,670</b> (32.9%)
<b>TOTAL</b>	<b>44,637,479</b> (100.0%)	<b>72,236,579</b> (100.0%)	<b>8,434,633</b> (100.0%)	<b>32,547,726</b> (100.0%)	<b>1,021,713</b> (100.0%)	<b>158,927,467</b> (100.0%)
<b>Distribution of Vehicle Trips</b>						
Single-Occupant	(37.6%)	(41.4%)	(4.6%)	(15.8%)	(0.6%)	(100.0%)
Multi-Occupant	(8.6%)	(53.9%)	(6.8%)	(30.0%)	(0.7%)	(100.0%)
<b>TOTAL</b>	<b>(28.1%)</b>	<b>(45.5%)</b>	<b>(5.3%)</b>	<b>(20.5%)</b>	<b>(0.6%)</b>	<b>(100.0%)</b>

<sup>1</sup> Includes trips where trip purpose was unreported.

FIGURE 7.8

DISTRIBUTION OF VEHICLE TRIPS BY TRIP PURPOSE AND RIDESHARING STATUS  
1990 NPTS



Vehicle occupancy rate, calculated as person miles of travel per vehicle mile of travel, declined steadily from 1977 to 1990. This decline was evident in trips of all purposes. Trips for social and recreational purposes continued to have the highest vehicle occupancy

rate. In air quality non-attainment areas, trips to work are targeted for transportation control measures to encourage ridesharing. This is because trips to work account for about one-third of all vehicle miles of travel and have the lowest average occupancy rate (1.14).

TABLE 7.16

AVERAGE VEHICLE OCCUPANCY BY TRIP PURPOSE  
(PERSON MILES PER VEHICLE MILE)  
1977, 1983, AND 1990 NPTS<sup>1</sup>

Trip Purpose	1977		1983		1990	
	Average Occupancy	Percent of VMT	Average Occupancy	Percent of VMT	Average Occupancy	Percent of VMT
<b>EARNING A LIVING</b>	<b>1.32</b>	39.3	<b>1.32</b>	34.3	<b>1.16</b>	35.1
To or from Work	1.30	31.7	1.29	30.2	1.14	32.1
Work Related	1.39	7.6	1.57	4.2	1.42	3.0
<b>FAMILY &amp; PERSONAL BUSINESS</b>	<b>2.02</b>	24.9	<b>1.80</b>	30.4	<b>1.78</b>	32.8
Shopping	2.06	11.1	1.79	13.3	1.71	11.5
Medical/Dental	2.14	1.8	1.69	1.5	1.52	1.3
Other	1.96	12.0	1.82	15.5	1.84	20.0
<b>CIVIC, EDUCATIONAL, &amp; RELIGIOUS</b>	<b>1.95</b>	5.2	<b>2.08</b>	4.1	<b>1.67</b>	4.4
<b>SOCIAL &amp; RECREATIONAL</b>	<b>2.44</b>	27.3	<b>2.12</b>	30.0	<b>2.08</b>	26.9
Visiting Friends	2.25	12.1	2.01	13.5	1.82	11.6
Pleasure Driving	3.19	0.9	2.34	1.1	1.99	0.7
Vacation	2.68	0.6	2.52	2.1	2.38	1.5
Other	2.59	13.7	2.15	13.3	2.28	13.1
<b>OTHER &amp; UNKNOWN</b>	<b>2.20</b>	3.3	<b>1.92</b>	1.2	<b>1.49</b>	0.8
<b>ALL PURPOSES</b>	<b>1.89</b>	100.0	<b>1.75</b>	100.0	<b>1.64</b>	100.0

<sup>1</sup> For information on comparing 1983 and 1990 NPTS survey data, see Section 4 of Chapter 1.

FIGURE 7.9

**AVERAGE VEHICLE OCCUPANCY BY TRIP PURPOSE  
(PERSON MILES PER VEHICLE MILE)  
1977, 1983, AND 1990 NPTS**

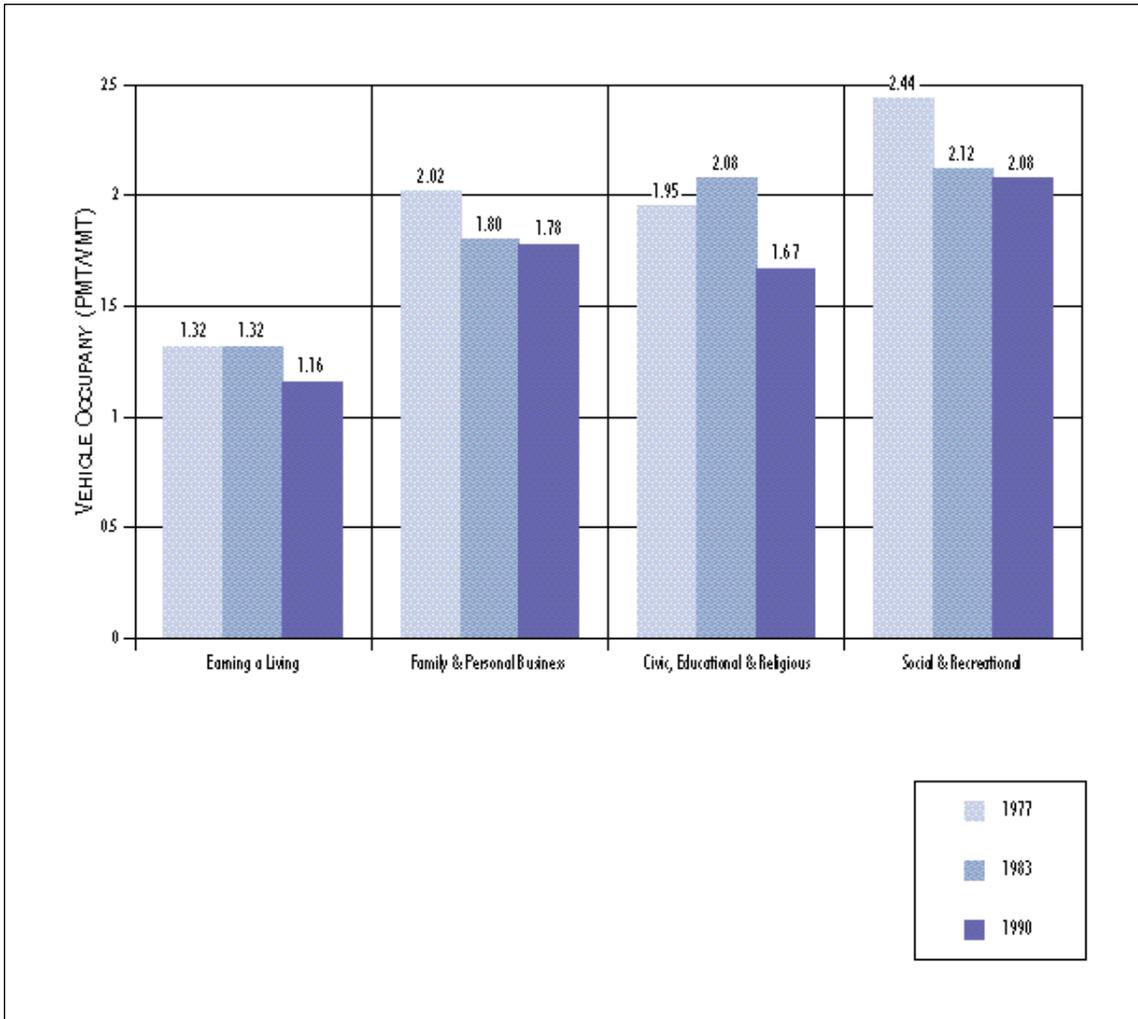


TABLE 7.17

**NUMBER OF VEHICLE TRIPS BY VEHICLE TYPE AND RIDESHARING STATUS  
1990 NPTS  
(MILLIONS)**

Vehicle Type	Single-Occupant	Multi-Occupant	TOTAL
<b>Automobile</b>	<b>85,335</b>	<b>42,359</b>	<b>127,694</b>
	(66.8%)	(33.2%)	(100.0%)
<b>Passenger Van</b>	<b>4,154</b>	<b>3,666</b>	<b>7,820</b>
	(53.1%)	(46.9%)	(100.0%)
<b>Cargo Van</b>	<b>516</b>	<b>182</b>	<b>698</b>
	(73.9%)	(26.1%)	(100.0%)
<b>Pickup Truck</b>	<b>15,451</b>	<b>5,495</b>	<b>20,946</b>
	(73.8%)	(26.2%)	(100.0%)
<b>Other Truck</b>	<b>655</b>	<b>333</b>	<b>988</b>
	(66.3%)	(33.7%)	(100.0%)
<b>RV or Motor Home</b>	<b>71</b>	<b>31</b>	<b>102</b>
	(69.6%)	(30.4%)	(100.0%)
<b>Motorcycle</b>	<b>354</b>	<b>132</b>	<b>487</b>
	(72.7%)	(27.1%)	(100.0%)
<b>Moped</b>	<b>74</b>	<b>8</b>	<b>82</b>
	(90.2%)	(9.8%)	(100.0%)
<b>Other POV</b>	<b>14</b>	<b>42</b>	<b>56</b>
	(25.0%)	(75.0%)	(100.0%)
<b>TOTAL<sup>1</sup></b>	<b>106,671</b>	<b>52,257</b>	<b>158,927</b>
	(67.1%)	(32.9%)	(100.0%)

<sup>1</sup> Includes trips where vehicle type was unreported.

TABLE 7.18

**NUMBER OF SINGLE-OCCUPANT VEHICLE TRIPS BY VEHICLE TYPE AND TRIP PURPOSE  
1990 NPTS  
(THOUSANDS)**

	Earning a Living	Family and Personal Business	Civic, Educational, and Religious	Social and Recreational	Other	TOTAL <sup>2</sup>
<b>Auto</b>	<b>30,818,417</b> (76.7%)	<b>35,863,811</b> (81.4%)	<b>4,291,272</b> (88.0%)	<b>13,839,207</b> (81.9%)	<b>503,449</b> (76.6%)	<b>85,334,642</b> (80.0%)
<b>Passenger Van</b>	<b>1,524,547</b> (3.8%)	<b>1,890,798</b> (4.3%)	<b>143,650</b> (2.9%)	<b>523,874</b> (3.1%)	<b>71,149</b> (10.8%)	<b>4,154,018</b> (3.9%)
<b>Pickup Truck</b>	<b>6,971,275</b> (17.4%)	<b>5,765,453</b> (13.1%)	<b>419,214</b> (8.6%)	<b>2,210,392</b> (13.1%)	<b>81,615</b> (12.4%)	<b>15,450,616</b> (14.5%)
<b>Motorcycle and Moped</b>	<b>141,343</b> (0.4%)	<b>103,524</b> (0.2%)	<b>16,510</b> (0.3%)	<b>167,075</b> (1.0%)	<b>**</b> (0.0%)	<b>428,452</b> (0.4%)
<b>Other<sup>1</sup></b>	<b>689,122</b> (1.7%)	<b>419,734</b> (1.0%)	<b>3,895</b> (0.1%)	<b>142,386</b> (0.8%)	<b>1,421</b> (0.2%)	<b>1,256,558</b> (1.2%)
<b>TOTAL<sup>2</sup></b>	<b>40,156,697</b> (100.0%)	<b>44,052,476</b> (100.0%)	<b>4,875,928</b> (100.0%)	<b>16,897,704</b> (100.0%)	<b>657,635</b> (100.0%)	<b>106,670,797</b> (100.0%)

<sup>1</sup> Includes cargo van, non-pickup truck, RV/motor home and other privately owned vehicles.

<sup>2</sup> Includes trips where vehicle type, trip purpose, or both were unreported.

\*\* Indicates no data reported.

TABLE 7.19

**NUMBER OF MULTI-OCCUPANT VEHICLE TRIPS BY VEHICLE TYPE AND TRIP PURPOSE  
1990 NPTS  
(THOUSANDS)**

	Earning a Living	Family and Personal Business	Civic, Educational, and Religious	Social and Recreational	Other	TOTAL <sup>2</sup>
<b>Auto</b>	<b>3,361,569</b> (75.0%)	<b>22,898,951</b> (81.2%)	<b>3,103,347</b> (87.2%)	<b>12,673,739</b> (81.0%)	<b>311,894</b> (85.7%)	<b>42,359,120</b> (81.1%)
<b>Passenger Van</b>	<b>264,800</b> (5.9%)	<b>2,148,130</b> (7.6%)	<b>247,526</b> (7.0%)	<b>974,047</b> (6.2%)	<b>23,274</b> (6.4%)	<b>3,665,679</b> (7.0%)
<b>Pickup Truck</b>	<b>761,195</b> (17.0%)	<b>2,794,344</b> (9.9%)	<b>192,695</b> (5.4%)	<b>1,721,847</b> (11.0%)	<b>23,608</b> (6.5%)	<b>5,495,148</b> (10.5%)
<b>Motorcycle and Moped</b>	** (0.0%)	<b>41,863</b> (0.1%)	<b>1,607</b> (0.0%)	<b>97,393</b> (0.6%)	** (0.0%)	<b>140,863</b> (0.3%)
<b>Other<sup>1</sup></b>	<b>90,844</b> (2.0%)	<b>299,248</b> (1.1%)	<b>13,530</b> (0.4%)	<b>179,404</b> (1.1%)	<b>5,301</b> (1.5%)	<b>588,327</b> (1.1%)
<b>TOTAL<sup>2</sup></b>	<b>4,480,781</b> (100.0%)	<b>28,184,104</b> (100.0%)	<b>3,558,705</b> (100.0%)	<b>15,650,023</b> (100.0%)	<b>364,077</b> (100.0%)	<b>52,256,670</b> (100.0%)
<sup>1</sup> Includes cargo van, non-pickup truck, RV/motor home and other privately owned vehicles.			<sup>2</sup> Includes trips where vehicle type, trip purpose, or both were unreported.			
			** Indicates no data reported.			

Among all types of privately owned vehicles, trips by pickup trucks, motorcycles or mopeds were considerably more likely to be single-occupant, reflecting the inherent occupancy

limitations of these vehicles. For example, 33.2% of automobile trips were multi-occupant whereas only 26.2% of pickup-truck trips were multi-occupant.

**TABLE 7.20**  
**DISTRIBUTION OF VEHICLE TRIPS BY TRIP PURPOSE, VEHICLE TYPE AND RIDESHARING STATUS**  
**1990 NPTS**  
**(WITHIN MODE)**

	<u>Earning a Living</u>		<u>Family and Personal Business</u>		<u>Civic, Educational, and Religious</u>		<u>Social and Recreational</u>		<u>Other</u>		<u>TOTAL<sup>2</sup></u>		
	Single	Multi	Single	Multi	Single	Multi	Single	Multi	Single	Multi	Single	Multi	ALL
Auto	24.1	2.6	28.1	17.9	3.4	2.4	10.8	9.9	0.4	0.2	66.8	33.2	100.0
Passenger Van	19.5	3.4	24.2	27.5	1.8	3.2	6.7	12.5	0.9	0.3	53.1	46.9	100.0
Pickup Truck	33.3	3.6	27.5	13.3	2.0	0.9	10.6	8.2	0.4	0.1	73.8	26.2	100.0
Motorcycle and Moped	24.8	**	18.2	7.4	2.9	0.3	29.3	17.1	**	**	75.3	24.7	100.0
Other <sup>1</sup>	37.4	4.9	22.8	16.2	0.2	0.7	7.7	9.7	0.1	0.3	68.1	31.9	100.0
<b>TOTAL<sup>2</sup></b>	25.3	2.8	27.7	17.7	3.1	2.1	10.6	9.8	0.4	0.2	67.1	32.9	100.0

<sup>1</sup> Includes cargo van, non-pickup truck, RV/motor home and other privately owned vehicles.

\*\* Indicates no data reported.

<sup>2</sup> Includes trips where vehicle type, trip purpose, or both were unreported.

**FIGURE 7.10**

**DISTRIBUTION OF VEHICLE TRIPS BY VEHICLE TYPE AND RIDESHARING STATUS  
1990 NPTS**

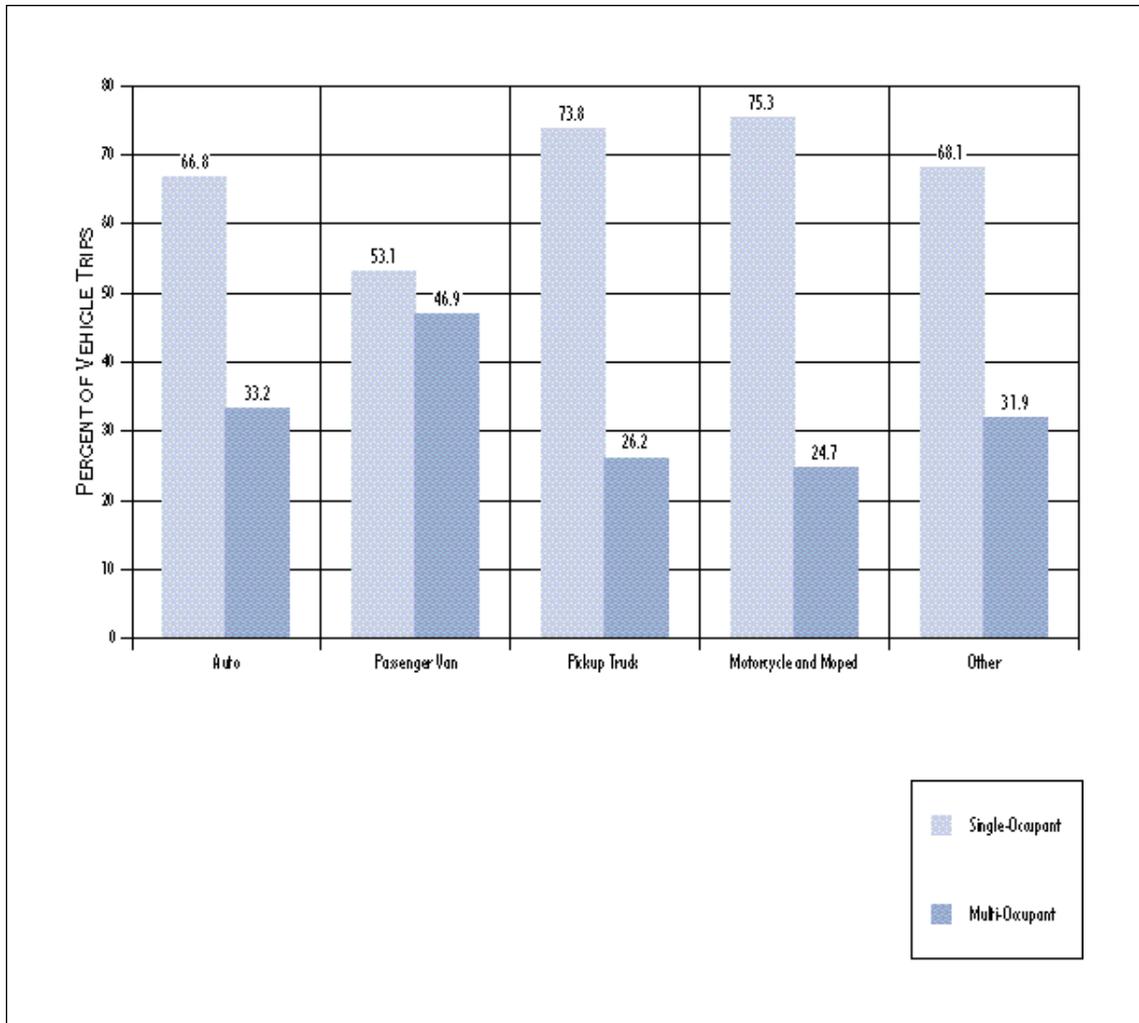


TABLE 7.21

**NUMBER OF JOURNEY TO WORK VEHICLE TRIPS BY VEHICLE TYPE AND RIDESHARING STATUS  
1990 NPTS  
(THOUSANDS)**

Vehicle Type	Single-Occupant	Multi-Occupant	TOTAL
Automobile	29,143,140 (76.9%)	2,949,237 (75.3%)	32,092,377 (76.8%)
Passenger Van	1,365,401 (3.6%)	213,331 (5.4%)	1,578,732 (3.8%)
Cargo Van	266,907 (0.7%)	25,172 (0.6%)	292,079 (0.7%)
Pickup Truck	6,601,584 (17.4%)	677,384 (17.3%)	7,278,968 (17.4%)
Other Truck	343,580 (0.9%)	50,318 (1.3%)	393,898 (0.9%)
RV or Motor Home	9,055 (0.0%)	** (0.0%)	9,055 (0.0%)
Motorcycle	113,435 (0.3%)	** (0.0%)	113,435 (0.3%)
Moped	24,111 (0.1%)	** (0.0%)	24,111 (0.1%)
Other POV	328 (0.0%)	** (0.0%)	328 (0.0%)
<b>TOTAL<sup>1</sup></b>	<b>37,876,690</b> (100.0%)	<b>3,915,443</b> (100.0%)	<b>41,792,133</b> (100.0%)

<sup>1</sup> Includes trips where vehicle type was unreported.                      \*\* Indicates no data reported.

Of all journey to work vehicle trips, 70% were single-occupant in automobiles, 16% were single-occupant in pickup trucks, and another 4% were single-occupant in other vehicle

types. About 10% of journey to work vehicle trips were multi-occupant, and more than half of those were by automobile.

TABLE 7.22

NUMBER OF JOURNEY TO WORK VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND VEHICLE TYPE  
1990 NPTS  
(THOUSANDS)

	Number of Persons on the Trip				TOTAL
	1	2	3	4+	
<b>Auto</b>	<b>29,143,140</b> (69.7%)	<b>2,245,724</b> (5.4%)	<b>524,413</b> (1.3%)	<b>179,100</b> (0.4%)	<b>32,092,377</b> (76.8%)
<b>Passenger Van</b>	<b>1,365,401</b> (3.3%)	<b>135,338</b> (0.3%)	<b>30,063</b> (0.1%)	<b>47,930</b> (0.1%)	<b>1,578,732</b> (3.8%)
<b>Pickup Truck</b>	<b>6,601,584</b> (15.8%)	<b>547,596</b> (1.3%)	<b>107,032</b> (0.3%)	<b>22,757</b> (0.0%)	<b>7,278,968</b> (17.4%)
<b>Motorcycle and Moped</b>	<b>137,546</b> (0.3%)	** (0.3%)	** (0.3%)	** (0.3%)	<b>137,546</b> (0.3%)
<b>Other</b>	<b>619,870</b> (1.5%)	<b>64,058</b> (0.2%)	<b>9,784</b> (0.0%)	<b>1,648</b> (0.0%)	<b>695,360</b> (1.7%)
<b>TOTAL<sup>1</sup></b>	<b>37,876,690</b> (90.6%)	<b>2,992,716</b> (7.2%)	<b>671,291</b> (1.6%)	<b>251,435</b> (0.6%)	<b>41,792,133</b> (100.0%)

<sup>1</sup> Includes trips where vehicle type was unreported.      \*\* Indicates no data reported.





FIGURE 7.11

DISTRIBUTION OF VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND SELECTED TRIP LENGTH  
1990 NPTS

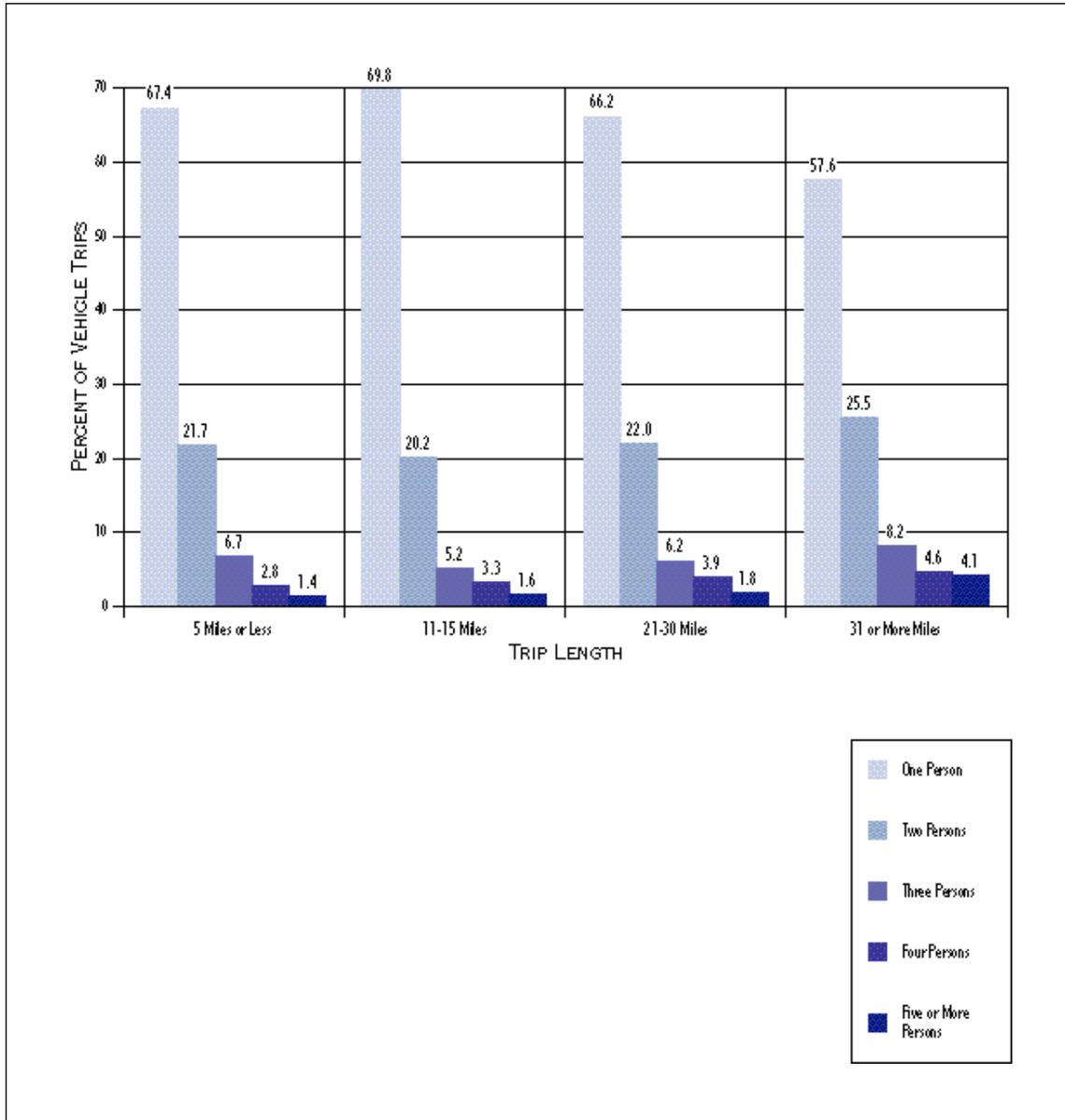


TABLE 7.25

**NUMBER OF JOURNEY TO WORK VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND TRIP LENGTH  
1990 NPTS  
(THOUSANDS)**

	Number of Persons on the Trip				TOTAL
	1	2	3	4 or More	
<b>5 miles or less</b>	<b>16,177,290</b>	<b>1,301,642</b>	<b>357,310</b>	<b>101,850</b>	<b>17,938,092</b>
	(90.2%)	(7.3%)	(2.0%)	(0.6%)	(100.0%)
<b>6-10 miles</b>	<b>8,626,772</b>	<b>636,004</b>	<b>146,277</b>	<b>38,220</b>	<b>9,447,273</b>
	(91.3%)	(6.7%)	(1.5%)	(0.4%)	(100.0%)
<b>11-15 miles</b>	<b>5,081,880</b>	<b>313,291</b>	<b>48,037</b>	<b>22,509</b>	<b>5,465,717</b>
	(93.0%)	(5.7%)	(0.9%)	(0.4%)	(100.0%)
<b>16-20 miles</b>	<b>2,825,876</b>	<b>248,655</b>	<b>40,425</b>	<b>11,664</b>	<b>3,126,621</b>
	(90.4%)	(8.0%)	(1.3%)	(0.4%)	(100.0%)
<b>21-30 miles</b>	<b>2,619,678</b>	<b>226,935</b>	<b>45,316</b>	<b>26,568</b>	<b>2,918,498</b>
	(89.8%)	(7.8%)	(1.6%)	(0.9%)	(100.0%)
<b>31 or more miles</b>	<b>2,098,265</b>	<b>229,324</b>	<b>26,999</b>	<b>46,592</b>	<b>2,401,180</b>
	(87.4%)	(9.6%)	(1.1%)	(1.9%)	(100.0%)
<b>TOTAL<sup>1</sup></b>	<b>37,876,690</b>	<b>2,992,716</b>	<b>671,291</b>	<b>251,435</b>	<b>41,792,133</b>
	(90.6%)	(7.2%)	(1.6%)	(0.6%)	(100.0%)

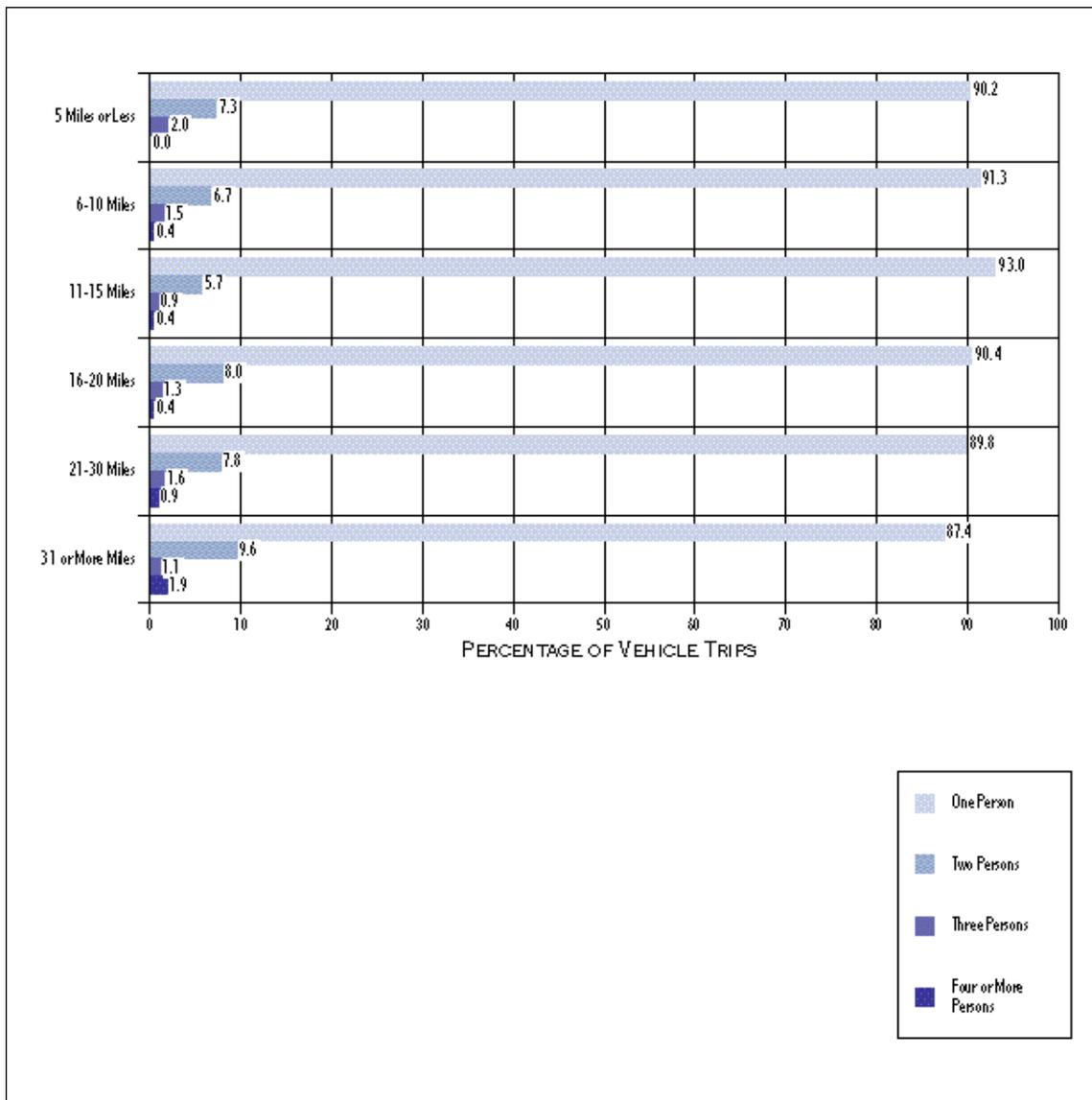
<sup>1</sup> Includes trips where trip length was unreported.

Similar to other types of trips, when journey to work trips were 30 miles or longer, the likelihood of sharing rides became considerably greater than in shorter trips. Also,

longer journey to work trips had a greater percentage of trips with more than three individuals on the trip.

FIGURE 7.12

DISTRIBUTION OF JOURNEY TO WORK VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND TRIP LENGTH  
1990 NPTS



The vehicle occupancy rate of journey to work trips, expressed as the number of person trips per vehicle trip, declined from 1977 to 1990. Carpooling was more common as trip distance increased. In 1990, there were

1.1 persons for every vehicle trip that was shorter than 20 miles. For trips longer than 20 miles, the corresponding rate increased to 1.2 persons for every vehicle trip.

TABLE 7.26

AVERAGE JOURNEY TO WORK VEHICLE OCCUPANCY BY TRIP LENGTH  
(PERSON TRIP PER VEHICLE TRIP)  
1977, 1983, AND 1990 NPTS<sup>1</sup>

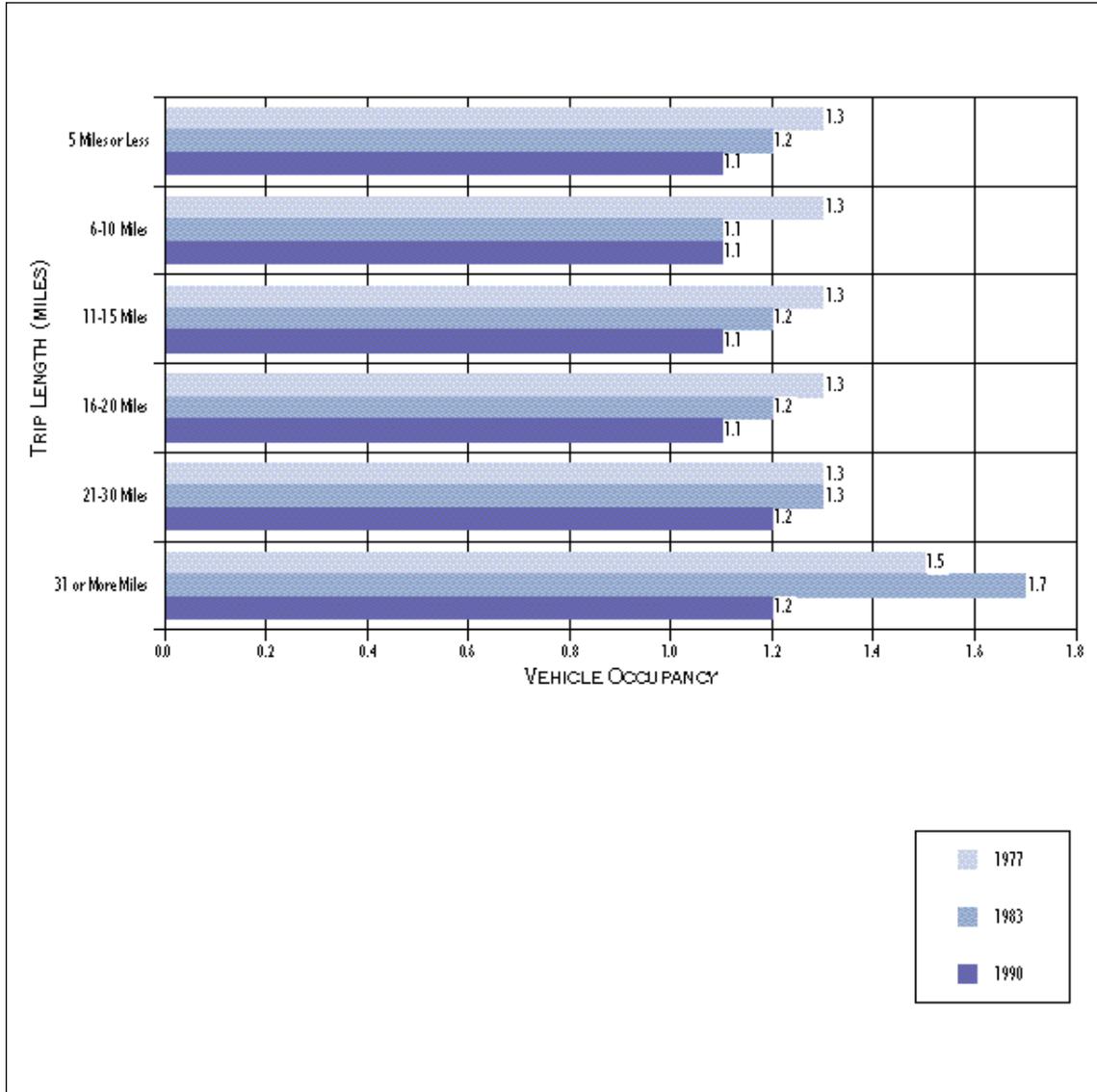
	Trip Length (Miles)						ALL
	5 or Less	6-10	11-15	16-20	21-30	31 or More	
1977 <sup>2</sup>	1.3	1.3	1.3	1.3	1.3	1.5	1.3
1983 <sup>2</sup>	1.2	1.1	1.2	1.2	1.3	1.7	1.2
1990	1.13	1.11	1.09	1.12	1.15	1.19	1.13

<sup>1</sup> For information on comparing 1983 and 1990 NPTS survey data, see Section 4 of Chapter 1.

<sup>2</sup> Occupancy rates from 1977 and 1983 were only calculated to tenths, not hundredths.

FIGURE 7.13

AVERAGE JOURNEY TO WORK VEHICLE OCCUPANCY BY TRIP LENGTH  
(PERSON TRIP PER VEHICLE TRIP)  
1977, 1983 AND 1990 NPTS



TRIP CHARACTERISTICS VEHICLE OCCUPANCY AND RIDESHARING

Tables 7.26 and 7.27 report vehicle occupancy rates for journey to work trips. Table 7.26 defines vehicle occupancy as the number of person trips per vehicle trip. Table 7.27 defines vehicle occupancy as person miles travelled per vehicle mile travelled. As indicated earlier, vehicle occupancy rate defined

as person miles travelled per vehicle mile travelled takes into account the trip length and, therefore, is preferred for some analyses. In 1977 and 1983, vehicle occupancy increased significantly for trips over 30 miles. In 1990, there is only a slight increase in occupancy for trips over 30 miles.

**TABLE 7.27**

**AVERAGE JOURNEY TO WORK VEHICLE OCCUPANCY BY TRIP LENGTH  
(PERSON MILES PER VEHICLE MILE)  
1977, 1983, AND 1990 NPTS<sup>1</sup>**

	Trip Length (Miles)						ALL
	5 or Less	6-10	11-15	16-20	21-30	31 or More	
1977 <sup>2</sup>	1.2	1.3	1.3	1.3	1.3	1.6	<b>1.3</b>
1983 <sup>2</sup>	1.2	1.1	1.1	1.2	1.3	1.8	<b>1.3</b>
1990	1.12	1.11	1.09	1.12	1.14	1.21	<b>1.14</b>

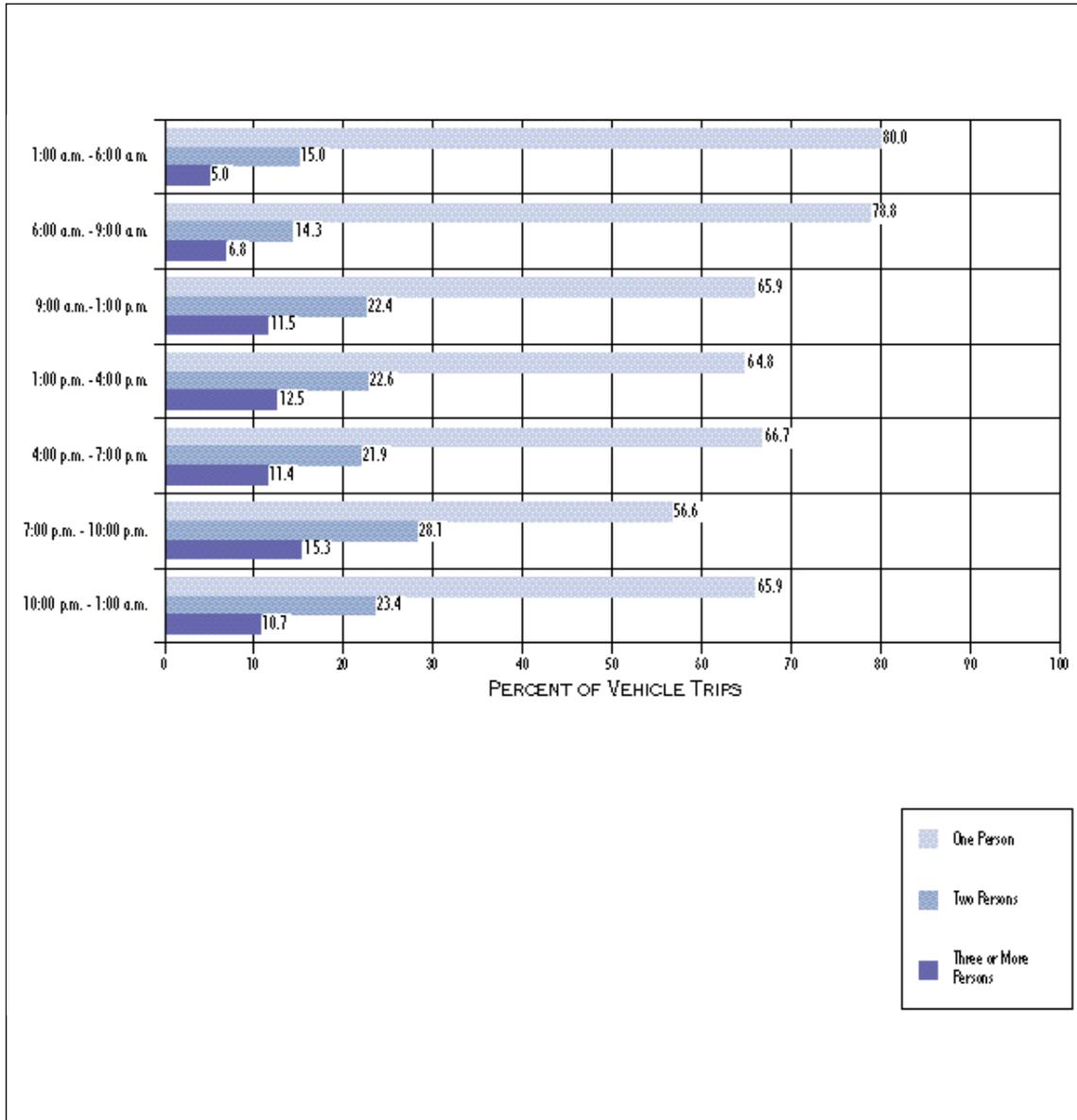
<sup>1</sup> For information on comparing 1983 and 1990 NPTS survey data, see Section 4 of Chapter 1.

<sup>2</sup> Occupancy rates from 1977 and 1983 were only calculated to tenths, not hundredths.



FIGURE 7.14

DISTRIBUTION OF VEHICLE TRIPS BY NUMBER OF OCCUPANTS AND TIME OF DAY  
1990 NPTS



VEHICLE OCCUPANTS AND TRIP CHARACTERISTICS



