Chapter 6
Geographic Regions and Individual Metropolitan Areas

This chapter has two distinct sections. The first section presents trips of persons living inside and outside central cities of urbanized areas, looking at trip distance and trip purpose. The second section shows travel characteristics for 12 U.S. Metropolitan Statistical Areas (MSA) where more than 200 households were sampled in the NPTS. All MSAs of more than 2.8 million population are included. The NPTS sample was not designed to be statistically accurate at the individual metropolitan area level. However, a few tables are included here for purposes of comparing the largest metropolitan areas with each other.

The information is for trips of 75 miles or less.

Key Findings

- Persons residing inside the central cities of urbanized areas make more shorter trips than persons living outside central cities.

- The New York City metropolitan area and Philadelphia metropolitan area show the following differences from the other 10 large MSAs:

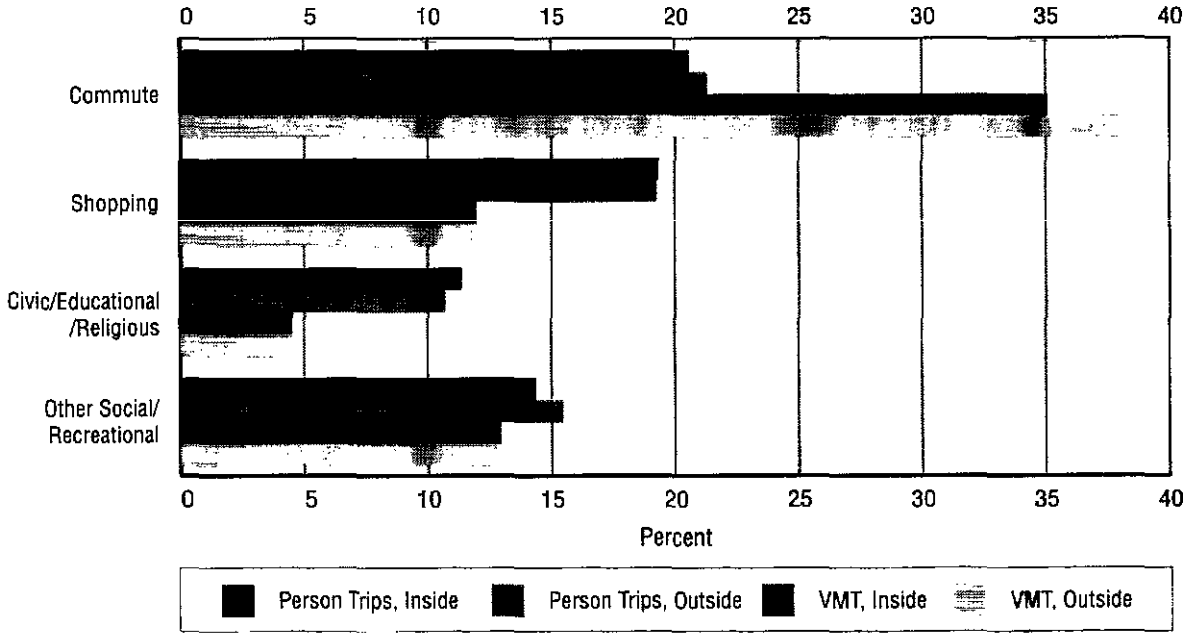
  - fewer-than-average vehicles per licensed driver;
  - greater use of transit; and,
  - greater proportions of walking trips.

- Detroit, Dallas and Houston are the most "auto-oriented" metropolitan areas with lower than average proportions of households without vehicles and higher-than-average proportions of trips by private vehicles.

- Among the 12 metropolitan areas, the average Washington, D.C., POV commuter traveled the farthest to get to and from work, at 12.91 miles. Dallas commuters drove the fewest miles, at 10.36.

FIGURE 6-1
Person Trips and VMT by Trip Purpose, Residence Inside or Outside the Central City
(Urbanized Area Households)

1990



Note: Excludes trips greater than 75 miles.

Similarities in Travel between Households Located Inside and Outside Central Cities

Figure 6-1 and Tables 6-1 and 6-2 present the similarities in travel characteristics for urbanized area households regardless of residential location inside or outside central cities. For example, 20.5 percent of central city residents' trips were to and from work, and this compares with 21.3 percent for persons living outside central cities.

Two-Thirds of All Trips by Central City Residents are 5 Miles or Less

As shown in Table 6-1, 68.5 percent of all 1990 trips by persons living inside central cities were 5 miles or less. This proportion was less (62.1 percent) for persons living outside urbanized area central cities. When trips by POVs are isolated, as shown in Table 6-2, we see that trips 5 miles or less still dominate, but this domination is reduced to 64.5 percent for residents of central cities and 58.7 percent for persons residing outside central cities.

Commuting Accounts for Almost 40 Percent of Suburban Residents' VMT

Figure 6-1 shows the similarities in the distribution of total household VMT by purpose, whether for households inside or outside the central city. However, households outside the central city generate a larger proportion of VMT than their central city counterparts, 38 percent versus 35 percent.

Analysis of Individual Metropolitan Area Travel Characteristics

Data users are cautioned that the number of households included in the 1990 NPTS for the 12 metropolitan areas in Tables 6-3 to 6-5 range from just 208 in St. Louis to 2,712 in the New York City metropolitan area. Because of the small samples, the results have a greater margin of error than more comprehensive surveys, i.e. the decennial census of population.

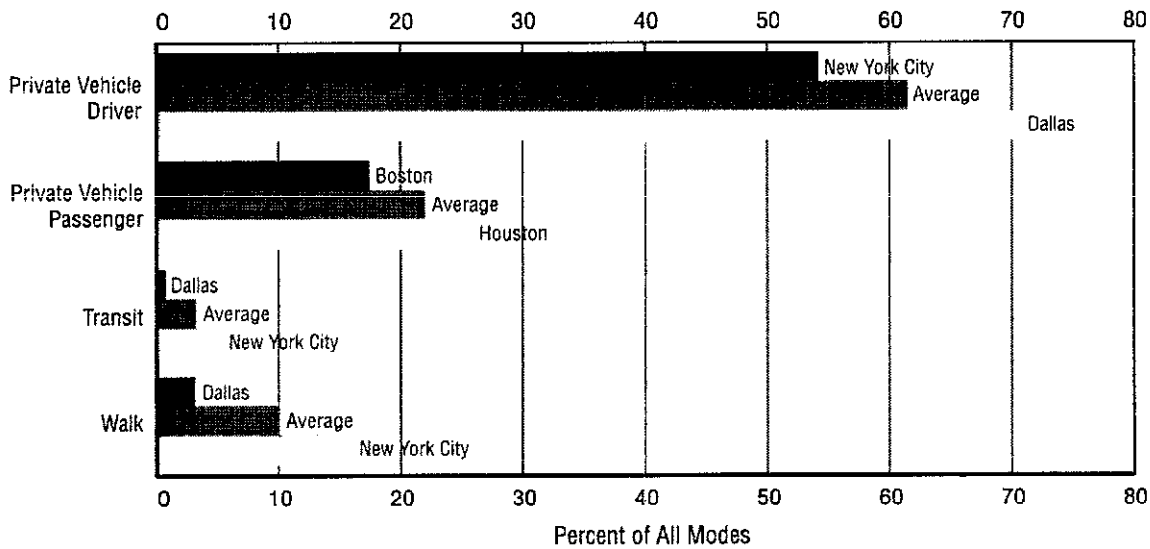
New York City MSA had the Greatest Proportion of Zero-Vehicle Households

Table 6-3 shows the following information about metropolitan area vehicle availability:

- At 22.7 percent, the New York City metropolitan area had the largest share of households without an available vehicle. New York City also had the greatest proportion of households with less than one vehicle per licensed driver.

FIGURE 6-2
Person Trips by Mode
(Lowest, Highest, and Average Among 12 Metropolitan Areas)

1990



See "Limitations of Individual Metropolitan Area Data," page 6-1.
Note: Excludes trips greater than 75 miles.

FIGURE 6-3
Average POV Trip Length by Trip Purpose
(Lowest, Highest, and Average Among 12 Metropolitan Areas)

1990

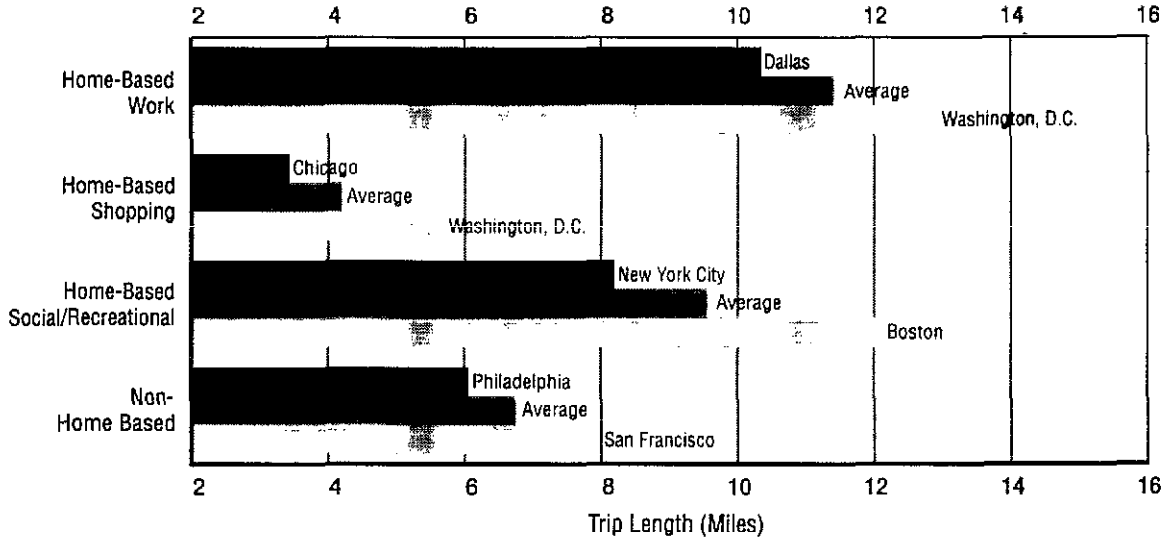
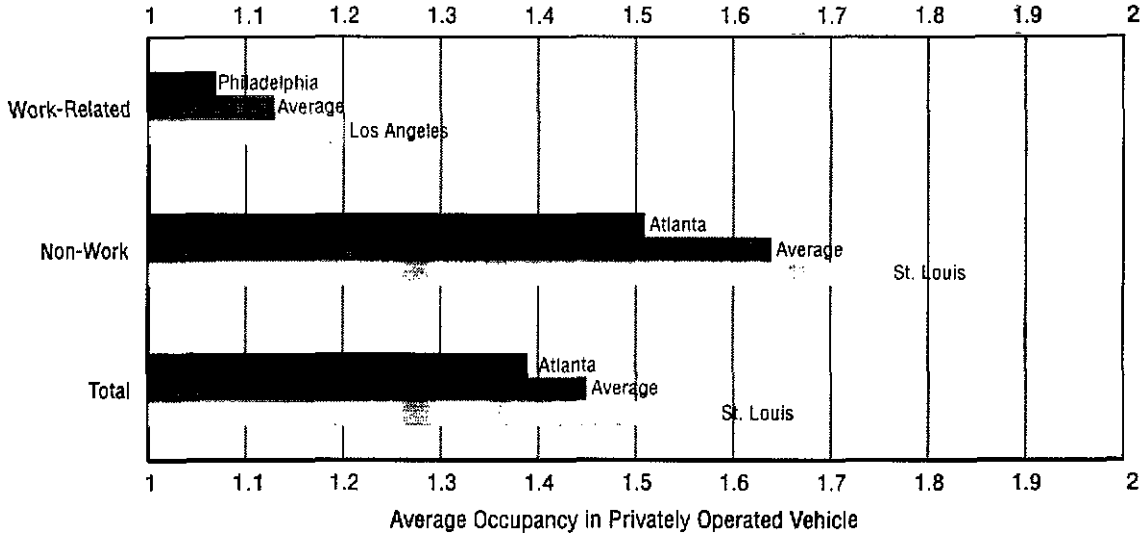


FIGURE 6-4
Vehicle Occupancy by Trip Purpose
(Lowest, Highest, and Average Among 12 Metropolitan Areas)

1990



See "Limitations of Individual Metropolitan Area Data," page 6-1.
Note: Excludes trips greater than 75 miles.

- The San Francisco area had the smallest proportion of zero-vehicle households, at 5.5 percent. The San Francisco area also had the highest share of households with one or more vehicles per driver, at 86.9 percent.

- The Dallas metropolitan area had the largest share of three-or-more-vehicle households, at 24.4 percent. This is 6.4 percent higher than the average of the 12 metropolitan areas (18 percent). The New York City metropolitan area had the lowest share (13.8 percent) of three-or-more-vehicle households.

Dallas MSA Leads in POV Mode Choice

Table 6-4 shows that 82.5 percent (61.1 percent POV drivers plus 21.4 POV passengers) of the average daily person trips in the 12 largest metropolitan areas were in privately operated vehicles. The Dallas area recorded the greatest POV mode share, at 94.2 percent.

Transit Accounts for 7.7 Percent of New York City MSA's Person Trips

Transit's share of person trips was highest in the metropolitan areas with rail transit service. The New York metropolitan area led with 7.7 percent transit mode share, followed by Philadelphia, at 5.5 percent; Chicago, at 4.2 percent; San Francisco, at 3.5 percent; and Washington, D.C., at 3.8 percent. For the rest of the metropolitan areas, transit share of total daily trips ranged from 0.7 percent in Houston to 2.6 percent in Boston. Mode share information is shown in Table 6-4.

Commuting Commands Greatest Share of POV Trips

Also shown in Table 6-4 are the shares of vehicle trips that were made for each of five basic purposes. The Atlanta metropolitan area accounted for the greatest proportion (31.6 percent) of POV trips devoted to commuting. The San Francisco area had the smallest proportion (25.2 percent).

Longest Commute Trips in Washington, D.C., Metropolitan Area

Of the 12 metropolitan areas, the average 1990 commuting trip distance in POVs was 11.4 miles (Table 6-5). Dallas had the shortest work trip average length, at 10.36 miles. Washington, D.C. had the longest at 12.91 miles.

Shopping Trip Lengths Show Little Variation

At an average of 4.09 miles, there is little variation among the metropolitan areas in terms of POV shopping trip lengths. Washington, D.C.'s average shopping trip was the longest, at 5.66 miles, and Chicago's POV shoppers traveled the fewest miles, averaging 3.43 miles (Figure 6-3).

Los Angeles MSA Commuters Record Highest POV Occupancy Rate

Among the 12 areas, the highest average occupancy rate for POV work trips was Los Angeles' 1.20 persons per vehicle, 7.1 percent higher than the 1.12 persons per vehicle average for the 12 metropolitan areas (Figure 6-4 and Table 6-5). Washington, D.C., was second with 1.18 commuters per vehicle. Philadelphia was the lowest at an average of 1.07 commuters per vehicle.

TABLE 6-1
Person Trips by Residence, Trip Purpose, and Trip Length
Residence Inside Central City
(Urbanized Area Households, All Modes)

1990

	Trip Length (Miles)												
Trip Purpose	< .5	1	2 to 3	4 to 5	6 to 7	8 to 10	11 to 15	16 to 20	21 to 30	31 to 50	50 to 75	Total	Person Trips (in Millions)
Earning a Living													
To or From Work	8.72%	8.59%	19.33%	15.24%	8.70%	14.59%	11.15%	5.32%	4.80%	2.87%	0.69%	100%	17,539
Work-Related Business	11.09	13.87	21.78	14.76	9.88	11.07	7.87	2.53	3.60	1.73	1.82	100	1,065
Family and Personal Business													
Shopping	21.58	20.20	26.68	13.22	4.27	6.76	3.73	1.57	1.43	0.42	0.13	100	16,527
Other Family/Personal Business	16.17	16.11	24.38	14.75	6.45	9.72	5.49	2.68	2.27	1.57	0.42	100	18,742
Civic/Educational/Religious	21.96	18.39	25.44	11.99	6.94	6.86	5.16	1.62	0.80	0.72	0.12	100	9,700
Social and Recreational													
Vacation/Pleasure Driving	1.55	10.39	6.39	11.36	5.40	12.57	10.61	14.89	3.61	11.07	12.17	100	241
Visit Friend/Relative	20.01	13.46	19.08	14.02	6.07	10.30	6.18	3.86	3.08	2.51	1.42	100	8,685
Other Social/Recreational	14.58	14.80	21.34	14.82	5.89	10.34	6.88	3.51	3.86	3.30	0.67	100	12,286
Other	18.59	17.64	21.46	19.12	3.30	8.13	7.01	1.32	1.45	1.41	0.59	100	533
All	16.41%	15.12%	22.83%	14.20%	6.45%	9.99%	6.60%	3.15%	2.79%	1.89%	0.58%	100%	85,373

Note: Excludes trips greater than 75 miles.

TABLE 6-1 (Continued)
Person Trips by Residence, Trip Purpose, and Trip Length
Residence Outside Central City
(Urbanized Area Households, All Modes)

1990

	Trip Length (Miles)												
Trip Purpose	< .5	1	2 to 3	4 to 5	6 to 7	8 to 10	11 to 15	16 to 20	21 to 30	31 to 50	50 to 75	Total	Person Trips (in Millions)
Earning a Living													
To or From Work	5.80%	7.22%	15.82%	12.81%	8.41%	14.34%	14.13%	8.45%	7.72%	4.40%	0.90%	100%	14,005
Work-Related Business	7.73	12.85	17.49	11.16	7.21	14.52	11.23	5.52	6.65	5.15	0.48	100	841
Family and Personal Business													
Shopping	14.14	19.32	29.10	14.56	6.33	7.71	5.03	1.59	1.31	0.61	0.29	100	12,672
Other Family/Personal Business	12.04	15.12	26.07	15.19	7.06	9.65	6.35	3.58	2.90	1.49	0.56	100	14,196
Civic/Educational/Religious	16.60	18.28	23.55	15.93	7.97	7.62	4.89	2.71	1.46	0.76	0.23	100	7,037
Social and Recreational													
Vacation/Pleasure Driving	4.20	2.48	10.38	7.43	11.77	11.35	15.69	3.47	15.18	11.97	6.08	100	272
Visit Friend/Relative	15.69	8.25	16.72	12.63	5.61	12.42	11.62	6.69	5.81	3.18	1.38	100	6,027
Other Social/Recreational	11.09	12.11	21.40	16.92	7.19	11.77	8.02	3.80	4.17	2.45	1.10	100	10,177
Other	17.13	11.66	20.59	13.46	6.59	9.22	6.88	8.43	3.56	0.53	1.94	100	464
All	11.74%	13.38%	22.41%	14.58%	7.21%	10.70%	8.44%	4.52%	4.04%	2.25%	0.74%	100%	65,697

Note: Excludes trips greater than 75 miles.

TABLE 6-2
Person Trips by Residence, Trip Purpose, and Trip Length
Residence Inside Central City
(Urbanized Area Households, Privately Operated Vehicles)

1990

	Trip Length (Miles)												
Trip Purpose	< .5	1	2 to 3	4 to 5	6 to 7	8 to 10	11 to 15	16 to 20	21 to 30	31 to 50	50 to 75	Total	Person Trips (in Millions)
Earning a Living													
To or From Work	4.74%	7.57%	19.87%	16.10%	9.15%	16.08%	12.23%	5.63%	5.14%	3.02%	0.47%	100%	13,568
Work-Related Business	5.17	15.40	22.13	15.72	10.17	12.32	8.97	2.58	4.13	1.55	1.87	100	823
Family and Personal Business													
Shopping	14.36	22.93	29.41	14.20	4.76	7.40	3.86	1.57	1.12	0.30	0.09	100	10,578
Other Family/Personal Business	12.38	16.11	26.66	15.75	6.57	10.11	5.57	2.63	2.45	1.35	0.42	100	13,031
Civic/Educational/Religious	7.62	15.01	27.69	16.12	9.70	9.60	9.57	2.11	1.49	0.93	0.16	100	2,773
Social and Recreational													
Vacation/Pleasure Driving	0.00	4.09	0.43	11.39	9.42	19.48	10.52	16.25	3.40	9.41	15.62	100	105
Visit Friend/Relative	7.42	12.77	21.70	18.65	7.33	12.84	7.65	4.13	3.32	2.86	1.33	100	4,797
Other Social/Recreational	8.30	13.58	22.83	17.27	8.84	11.64	7.83	3.76	4.55	2.90	0.89	100	5,804
Other	7.30	18.74	22.95	24.42	3.08	6.86	8.94	2.38	2.18	2.10	1.06	100	297
All	9.44%	14.59%	24.44%	16.03%	7.19%	11.55%	7.71%	3.46%	3.17%	1.89%	0.52%	100%	51,782

Note: Excludes trips greater than 75 miles.

TABLE 6-2 (Continued)
Person Trips by Residence, Trip Purpose, and Trip Length
Residence Outside Central City
(Urbanized Area Households, Privately Operated Vehicles)

1990

	Trip Length (Miles)												
Trip Purpose	< .5	1	2 to 3	4 to 5	6 to 7	8 to 10	11 to 15	16 to 20	21 to 30	31 to 50	50 to 75	Total	Person Trips (in Millions)
Earning a Living													
To or From Work	3.55%	6.92%	15.91%	13.31%	9.00%	15.26%	14.89%	8.81%	7.56%	4.01%	0.78%	100%	12,107
Work-Related Business	5.66	12.40	18.42	11.65	7.40	15.63	11.43	5.61	7.31	3.91	0.57	100%	717
Family and Personal Business													
Shopping	11.09	20.41	30.68	15.21	6.11	7.89	4.88	1.54	1.35	0.56	0.28	100%	9,047
Other Family/Personal Business	9.98	16.05	27.29	15.21	7.03	10.03	6.90	3.13	2.69	1.25	0.43	100%	10,590
Civic/Educational/Religious	6.64	13.78	20.62	19.66	11.29	10.78	6.83	4.87	3.18	1.84	0.51	100%	2,290
Social and Recreational													
Vacation/Pleasure Driving	7.78	3.24	5.94	8.25	8.47	13.69	13.04	3.23	16.28	13.91	6.16	100%	147
Visit Friend/Relative	8.30	7.63	19.06	13.48	6.33	15.20	11.89	7.99	6.19	2.78	1.16	100%	3,781
Other Social/Recreational	5.66	10.88	23.85	18.76	8.38	12.24	8.00	4.13	4.03	2.81	1.27	100%	5,345
Other	9.59	9.30	24.86	13.80	8.35	10.65	6.02	11.49	3.49	0.03	2.43	100%	298
All	7.53%	12.84%	23.18%	15.11%	7.72%	11.87%	9.31%	5.08%	4.36%	2.29%	0.69%	100%	44,324

Note: Excludes trips greater than 75 miles.

TABLE 6-3
Travel Statistics for the 12 Metropolitan Areas with Over 2 Million Population

1990

MSA Name	1990 Population[1]	1990 Total Households[1]	Unweighted Households Sampled[2]	Percent of Households by Number of Vehicles Available: Zero	One	Two	Three +	Percent of Households by Vehicles per Driver: < 1 Vehicle per Driver	> = 1 Vehicle per Driver
Atlanta	2,833,511	1,056,929	226	9.80%	32.89%	35.63%	21.68%	18.82%	81.18%
Boston	4,171,747	1,545,347	221	11.65	34.13	35.99	18.23	30.18	69.82
Chicago	8,063,633	2,903,236	575	10.10	36.67	37.98	15.24	20.55	79.45
Dallas	3,885,415	1,452,215	288	6.06	33.41	36.15	24.38	17.95	82.05
Detroit	4,665,236	1,724,767	339	6.04	29.78	44.03	20.15	15.49	84.51
Houston	3,711,043	1,333,707	250	8.60	31.16	41.41	18.83	19.61	80.39
Los Angeles	14,531,529	4,909,218	947	6.57	33.86	38.80	20.76	18.08	81.92
New York City	17,125,727	6,617,074	2,721	22.68	33.38	30.14	13.80	36.16	63.84
Philadelphia	5,899,345	2,151,624	425	16.99	30.62	36.26	16.14	29.91	70.09
St. Louis	2,444,099	923,639	208	11.36	35.22	38.09	15.33	20.35	79.65
San Francisco	6,253,311	2,334,992	432	5.48	36.20	36.28	22.04	13.11	86.89
Washington, D.C.	3,923,574	1,460,785	326	10.48	32.22	38.19	19.10	24.27	75.73
All	77,508,170	28,413,533	6,958	12.25%	33.50%	36.28%	17.97%	24.01%	75.99%

[1]1990 Census
[2]1990 NPTS Sample
See "Limitations of Individual Metropolitan Area Data," page 6-1.

Note: Excludes trips greater than 75 miles.

TABLE 6-4
Travel Statistics for the 12 Metropolitan Areas with Over 2 Million Population

1990

MSA Name	Person Trips by Mode: POV Driver	POV Passenger	Transit	Walk	Other	Vehicle Trips by Purpose: Home-Based Work	Home-Based Shopping	Home-Based Social Recreational	Home-Based Other	Non-Home-Based
Atlanta	67.92%	22.44%	1.97%	4.45%	3.12%	31.58%	10.69%	15.34%	18.44%	24.96%
Boston	65.76	17.45	2.55	11.73	2.42	28.97	13.55	17.17	17.93	22.38
Chicago	58.62	20.78	4.17	12.66	3.75	30.70	15.49	15.02	16.44	22.37
Dallas	70.89	23.28	0.76	3.20	1.57	26.24	11.51	11.92	24.89	25.44
Detroit	65.87	23.68	1.78	5.73	3.80	28.36	11.99	15.15	20.10	24.00
Houston	65.18	26.02	0.74	4.32	3.73	28.35	14.02	12.39	22.47	22.77
Los Angeles	63.36	23.90	1.67	8.33	2.74	30.01	12.98	13.78	19.10	24.13
New York City	54.23	18.52	7.67	16.06	3.49	27.94	14.63	14.64	21.31	21.48
Philadelphia	56.42	19.27	5.52	15.50	3.29	30.68	15.50	15.16	18.69	19.97
St. Louis	64.31	23.48	1.13	6.73	3.29	28.31	13.07	12.06	20.64	25.92
San Francisco	61.35	22.12	3.53	11.47	1.44	25.20	15.16	15.57	20.92	22.30
Washington, D.C.	60.94	20.89	3.81	9.82	4.53	30.08	12.76	13.16	19.89	24.10
All	61.10%	21.44%	3.67%	10.60%	3.14%	28.87%	13.76%	14.34%	20.03%	23.00%

See "Limitations of Individual Metropolitan Area Data," page 6-1.

Note: Excludes trips greater than 75 miles.

TABLE 6-5
Travel Statistics for the 12 Metropolitan Areas with Over 2 Million Population

1990

MSA Name	Average POV Trip Length by Trip Purpose (in Miles)					POV Occupancy		
	Home-Based Work	Home-Based Shopping	Home-Based Social Recreational	Home-Based Other	Non-Home-Based	Work	Non-Work	Total
Atlanta	11.62 Mi.	4.99 Mi.	10.55 Mi.	5.63 Mi.	6.71 Mi.	1.14	1.51	1.39
Boston	11.32	4.72	12.10	8.89	6.87	1.10	1.61	1.47
Chicago	10.78	3.43	8.30	4.93	6.68	1.09	1.60	1.45
Dallas	10.36	3.66	10.98	6.12	6.63	1.08	1.59	1.46
Detroit	11.64	4.85	8.96	6.83	7.69	1.12	1.67	1.52
Houston	10.42	4.01	9.44	6.70	6.90	1.11	1.73	1.56
Los Angeles	12.26	3.49	9.19	6.41	6.50	1.20	1.64	1.51
New York City	11.43	3.82	8.20	5.58	6.44	1.10	1.61	1.47
Philadelphia	10.98	3.97	10.75	5.96	6.06	1.07	1.55	1.40
St. Louis	11.09	4.90	8.56	6.85	7.49	1.11	1.76	1.58
San Francisco	10.75	4.52	11.41	6.59	7.93	1.09	1.59	1.47
Washington, D.C.	12.91	5.86	11.18	6.97	6.89	1.18	1.70	1.56
All	11.42 Mi.	4.09 Mi.	9.61 Mi.	6.25 Mi.	6.80 Mi.	1.12	1.63	1.48

See "Limitations of Individual Metropolitan Area Data," page 6-1.

Note: Excludes trips greater than 75 miles.