



# **SUMMARY OF TRAVEL TRENDS**

## **2009 National Household Travel Survey**



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7. Author(s) <b>A. Santos, N. McGuckin, H.Y. Nakamoto, D. Gray, and S. Liss</b>		8. Performing Organization Report No. <b>N/A</b>	
9. Performing Organization Name and Address <b>Adella Santos, FHWA NHTS Program Manager Nancy McGuckin and Hikari Yukiko Nakamoto, Travel Behavior Associates Danielle Gray and Susan Liss, Cambridge Systematics</b>		10. Work Unit No. (TRAVIS) <b>N/A</b>	
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16. Abstract <b>The 2009 National Household Travel Survey (NHTS) provides data to characterize daily personal travel patterns across the country. The survey includes demographic data on households, vehicles, people, and detailed information on daily travel by all modes of transportation. NHTS survey data is collected from a sample of households and expanded to provide national estimates of trips and miles of travel by travel mode, trip purpose, and other household attributes. When combined with historical data from the 1969, 1977, 1983, 1990, and 1995 NPTS and the 2001 NHTS, the 2009 NHTS serves as a rich source of detailed travel data over time for users.</b>  <b>This document highlights travel trends and commuting patterns in eight key areas - summary of travel and demographics, household travel, person travel, private vehicle travel, vehicle availability and usage, commute travel patterns, temporal distribution, and special populations.</b>			
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## SUMMARY OF TRAVEL TRENDS: 2009 National Household Travel Survey

### 1.0 INTRODUCTION

The National Household Travel Survey (NHTS) is the flagship survey of the U.S. Department of Transportation (DOT) and is conducted periodically to assess the mobility of the American public. The survey gathers trip-related data such as mode of transportation, duration, distance, and purpose, and then links the travel related information to demographic, geographic, and economic data for analysis. Policy makers, individual state DOTs, metropolitan planning organizations, industry professionals, and academic researchers use the data to gauge the extent and patterns of travel, to plan new investments, and for innumerable applications of data on trends in travel for policy and planning.

The 2009 NHTS is a nationally representative survey of travel behavior conducted from April 2008 through April 2009. This latest in the series updates information gathered in the Nationwide Personal Transportation Survey (NPTS) conducted in 1969, 1977, 1983, 1990, and 1995, and the National Household Travel Survey conducted in 2001. The 2009 NHTS sample design was composed of two major sample units. The first sample unit contained 25,000 households representing all 50 U.S. States and the District of Columbia. The second unit was the Add-On sample, which consisted of 20 states and Metropolitan Planning Organizations (MPOs) who collectively purchased an additional 125,000 household samples for their respective regions. These two sample units brought the 2009 NHTS sample size to about 150,000 households and 300,000 people.

During the survey period, each household was sent a travel diary and asked to report all travel by household members on a randomly assigned “travel day”. Interviewers followed up with a phone call that collected detailed information about their travel from each household member. Travel days for daily-travel trip reporting were assigned for all seven days of the week, including all holidays. Data were weighted to correctly reflect the day of week and month of travel to allow comparisons of weekdays or seasons.

This report uses 2009 NHTS data to highlight travel trends over the forty year data series. There are nine chapters, with each chapter representing a topic in travel behavior. The first section of statistical data focuses on demographic trends of households, persons, vehicles, and workers. The next chapter provides statistical data on overall household travel. Person travel, private vehicle travel, vehicle use, and commute travel patterns are discussed in subsequent sections of this report. The final chapter highlights travel behavior of special populations and some new data elements from the 2009 NHTS. The research findings in this report do not include a detailed analysis of the 2009 NHTS data set in its entirety, but provide an overview of available data.



### 1.1. PROFILE OF 2009 NHTS

**Coverage:** The NHTS collected travel data from a national sample of the civilian, non-institutionalized population of the United States. The survey was conducted using Computer Assisted Telephone Interviewing (CATI) technology. The sample frame was a list-assisted Random-Digit Dialing (RDD) set of telephone numbers, which excludes telephones in businesses, hotels and motels, and group quarters (such as nursing homes, prisons, barracks, convents, or monasteries).

Telephones in dorm rooms, group homes, and fraternity and sorority houses were eligible for sampling, provided that the residence had less than 10 unrelated household members sharing the same phone line. Therefore, students who normally reside at school but were living at home for the summer were not considered household members at their parents' home.

Household members included people who regularly reside in the sampled household and considered it as their primary place of residence. It included persons who usually stay in the household but were temporarily away on business, vacation, or in a hospital. It did not include family members temporarily staying with relatives in the household, such as a mother-in-law visiting her newborn grandchild.

**When:** The 2009 NHTS was conducted over a 13-month period from April 2008 through April 2009. Travel days were assigned for all seven days, including holidays. The first assigned travel day was on March 28, 2008 and the last assigned travel day was on April 30, 2009.

**Sample Size:** The 2009 NHTS sample size was 150,147 households, including a national sample of 25,000 completed households and separate samples from twenty add-on areas that together added 125,147 completed households:

- California DOT ;
- Florida DOT;
- Georgia DOT;
- Indiana DOT;
- Iowa DOT;
- New York DOT;
- North Carolina DOT;
- South Carolina DOT;
- South Dakota DOT;
- Tennessee DOT;
- Texas DOT;
- Vermont DOT;
- Virginia DOT;
- Wisconsin DOT;
- Chittenden County MPO; Vermont
- Linn County Regional Planning Commission, Iowa;
- Maricopa Association of Governments, Arizona;





- Pima Association of Governments, Arizona;
- Piedmont Authority for Regional Transportation, North Carolina; and
- Omaha-Council Bluffs Metro Area Planning Agency, Nebraska

**Contents:** The NHTS serves as the nation’s inventory of daily personal travel. It includes data, but is not limited to:

- Household information on the relationship of household members, home ownership and type, income, location characteristics, and other demographic information;
- Facts on persons in sampled households including age, education level, worker status, driver status, annual miles driven, and disabilities impacting travel;
- Information on each household vehicle, including year, make, model, odometer reading (mileage accrual) and estimates of annual miles, length of vehicle ownership, and fuel costs;
- Data about drivers, including information on travel as part of work;
- Data about one-way trips taken during a designated 24-hour period (the household’s designated travel day), including the time the trip began and ended, length of trip, composition of the travel party, mode of transportation, purpose of the trip, and the specific vehicle used (if a household vehicle);
- Information to describe characteristics of the geographic area in which the sample household and workplace of sample persons are located;
- Statistics on telecommuting, self-employed workers, and employees who work at home;
- Information on travel to school for children;
- Attitudinal questions on the public’s perceptions of the transportation system;
- Data on frequency of internet shopping and deliveries to the household;
- The number of transit, walk, bike, and motorcycle trips made over the previous week or month.

For more information on the 2009 survey methodology and procedures, please consult: User’s Guide for the Public Use Data Files, 2009 National Household Travel Survey available at: <http://nhts.ornl.gov/2009/usersguide/index/shtml>.

## 1.2. IMPROVEMENTS IN THE NPTS/NHTS SERIES

The core elements of the NHTS series remained unchanged from earlier surveys; there were moderate changes to the 2009 NHTS. Those improvements include the following:

- **Data Collection** – Previous surveys collected both travel day and travel period information. The 2009 NHTS was modified to eliminate retrospective collection of long distance trip data. Detailed travel information was only collected on “daily travel”.
- **Odometer Reading** – In prior years, the NHTS included two odometer readings. However, second odometer readings for household vehicles were not collected in 2009.
- **Eligible Household Members** – Only household members who were 5 years and older were eligible to participate in the 2009 interview process. In 2001, all members were



eligible to participate regardless of age. However, previous surveys had collected data about people aged 5 and older.

- **Safe Routes to Schools** – Safe Routes to Schools data was a significant addition to the 2009 NHTS. In households with at least one child aged 5-15 years old, a random selection of one child per household was made to obtain information about the youth's travel to school and the safety concerns of his or her parents. Separate weights are provided for these children.
- **Hybrid Vehicles** – The 2009 NHTS was the first time data was collected on hybrid and alternate fuel vehicles. For each vehicle in the household with a model year of 2002 or newer, we asked if it was a hybrid or alternate fuel use vehicle.
- **Employment Questions** - Additional questions were added to better understand details of work-related travel; such as whether the worker can set or alter their work schedule, whether the worker has the option of working from home, frequency of working at home, and self-employed status.
- **Internet Purchases and Deliveries to the Home** - Questions were added about purchases made through the internet and whether those purchases were delivered to the subjects' home. These questions were added to provide help understand how commerce via the internet impacts trip making.
- **Most Recent Trip** – If the respondent reported no travel on the assigned day, the number of days since the respondent last traveled was reported. If that was more than 7 days, the respondent was asked whether they would like to travel more frequently.
- **Geocoding** – 2009 NHTS changed from post-processing location data to real-time interactive online geocoding during the interview. If the address information failed in the online coding, an off-line geo-coding operation that used multiple databases and detailed manual searches to determine the location was used.
- **Weighting** – The process for calculating the weights was more detailed than previous surveys. Several stages of weight generation and adjustment were used. Taken as a whole, the final analytic weight reflects a household's chance of selection, adjustments for nonparticipation, and a final alignment to Census population estimates. The final analytic weight was used to generate approximate transportation measures.

### 1.3. SOURCE AND ACCURACY STATEMENT

Public-use national data from the 2009 NHTS is available for download and for on-line analysis on the NHTS website (<http://nhts.ornl.gov>). Weights and replicates are provided for each of the data files. Weights match the sample of households and persons to the population for demographic characteristics and geographic levels, and replicate weights are used to calculate the margin of error of each estimate.

Please note that in this document, the estimates from the 2001 data excludes persons aged 0-4 since such persons were not included in the 1990, 1995, and 2009 surveys.



## 1.4. RELIABILITY OF THE ESTIMATES

An estimate based on a sample survey has two types of errors -- sampling error and non-sampling error. The estimated standard errors provided in this document are approximations of the true sampling errors. They do incorporate the effect of some non-sampling errors in response and enumeration, but do not account for any systematic biases in the data.

Non-sampling error. The full extent of non-sampling error is unknown, but great effort has been made to quantify some sources of non-sampling error. Non-sampling errors in surveys can be attributed to many sources, for example, the inability to obtain information about all persons in the sample; differences in the interpretation of questions; inability or unwillingness of respondents to provide correct information; inability of respondents to recall information; errors made in collecting and processing the data; errors made in estimating values for missing data; and failure to represent all sample households and all persons within sample households (known as under-coverage).

Under-coverage in the NHTS results from missed housing units and missed persons within sample households. It is known that the NHTS under-coverage varies with income, race, and Hispanic origin, and household tenure (owner/renter). Generally in the U.S., under-coverage is larger for Blacks, Hispanics, and other races than for Whites. The weighting process adjusts for some non-response by matching independent age-sex-race-ethnicity population controls, which partially corrects for the biases due to survey under-coverage. However, biases exist in the estimates to the extent that missed persons in missed households or missed persons in interviewed households have characteristics different from those of interviewed persons in the same age-sex-race-origin group.

Sampling error. When a sample, rather than the entire population, is surveyed, estimates differ from the true population values that they represent. This difference, or sampling error, occurs by chance, and its variability is measured by the standard error of the estimate. In this document the standard error is presented as the confidence interval (CI) or margin of error (MOE).

Sample estimates from a given survey design are unbiased when an average of the estimates from all possible samples would yield, hypothetically, the true population value. In this case, the sample estimate and its standard error can be used to construct approximate confidence intervals, or ranges of values that include the true population value with known probabilities.

The confidence intervals here are presented at the 95 percent level. To construct the bounds of the margin of error—that is a high estimate and a low estimate—the confidence interval is added to and subtracted from the estimate given. For example, if the estimate is 500 and the CI or margin of error is 2, then in 95 repeated samples the estimates obtained would fall between 498 and 502, and therefore there is 95 percent confidence that this range bounds the true population value.

For example, Table 3 shows the NHTS 2009 estimate for person trips per person of 3.79 and a 95% confidence interval of 0.03. If 100 surveys were conducted at the same time period using the same sample and design as the NHTS 2009, 95 of the 100 estimates of person trips from



those repeated surveys would fall between 3.76 and 3.82. So there is 95 percent confidence that this range of the estimate of person trips includes the true value.

With a data series such as the NHTS, calculating the confidence interval allows the analyst to assess what might be a real trend from one survey to the next and what might just be random movement in the estimate. Resources were not available at the current time to construct confidence intervals for all of the estimates in the data series. For the trends analysis presented here the confidence interval is compared to the point estimate for 2001. For researchers who want to look deeper into a specific estimate, the resources to calculate margin of error for the previous surveys are available on the NHTS website located at <http://nhts.ornl.gov>.



## 2.0 TRAVEL AND DEMOGRAPHICS SUMMARY

**Table 1.** Summary Statistics on Demographic Characteristics and Total Travel 1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS (Millions).

	1969	1977	1983	1990 (adj)	1995	2001	2009	95% CI (MOE)
<b>Households (000)</b>								
All	62,504	75,412	85,371	93,347	98,990	107,365	113,101	-
1 person	10,980	16,214	19,354	22,999	24,732	27,718	31,741	106
2 persons	18,448	22,925	27,169	30,114	31,834	35,032	37,728	135
3 persons	10,746	13,046	14,756	16,128	16,827	17,749	18,104	257
4+ persons	22,330	23,227	24,092	24,106	25,597	26,867	25,528	243
<b>Persons (000)</b>								
All	197,213	213,141	229,453	239,416	259,994	257,577	283,054	-
Under 16	60,100	54,958	53,682	54,303	61,411	44,985	44,724	441
16-19	14,598	16,552	15,268	13,851	14,074	14,296	19,414	743
20-34	40,060	52,252	60,788	59,517	59,494	57,680	50,844	1,089
35-64	62,982	66,988	75,353	82,480	93,766	103,296	129,202	874
65+	19,473	22,391	24,362	26,955	31,249	32,884	38,870	0
All 16+	137,113	158,183	175,771	182,803	198,583	208,155	238,330	441
All Male	94,465	102,521	111,514	114,441	126,553	125,321	139,257	81
All Male 16+	66,652	74,542	83,645	86,432	95,627	100,308	116,421	338
All Female	102,748	110,620	117,939	124,975	133,441	132,240	143,797	81
All Female 16+	73,526	83,721	92,080	96,371	102,956	107,847	121,908	338
All 5+	NA	198,434	212,932	222,101	241,675	257,576	283,054	-
All Male 5+	NA	95,050	102,633	106,209	117,636	125,321	139,257	81
All Female 5+	NA	103,384	110,299	115,892	124,039	132,239	143,797	81
<b>Licensed Drivers (000)</b>								
All	102,986	127,552	147,015	163,025	176,330	190,425	212,309	959
Male	57,981	66,199	75,639	80,289	88,480	94,651	106,813	709
Female	45,005	61,353	71,376	82,707	87,851	95,773	105,496	631
<b>Workers (000)</b>								
All	75,758	93,019	103,244	118,343	131,697	145,272	151,373	893
Male	48,487	55,625	58,849	63,996	71,105	78,264	81,939	769
Female	27,271	37,394	44,395	54,334	60,593	67,007	69,434	728
<b>Household Vehicles (000)</b>								
	72,500	120,098	143,714	165,221	176,067	201,308	210,778	918
<b>Household Vehicle Trips (000,000)</b>								
	87,284	108,826	126,874	193,916	229,745	233,030	233,849	2,381
<b>Household VMT (000,000)</b>								
	775,940	907,603	1,002,139	1,695,290	2,068,368	2,274,769	2,245,111	56,157
<b>Person Trips (000,000)</b>								
	145,146	211,778	224,385	304,471	378,930	384,485	392,023	3,644
<b>Person Miles of Travel (000,000)</b>								
	1,404,137	1,879,215	1,946,662	2,829,936	3,411,122	3,783,979	3,732,791	141,396

**Note:**

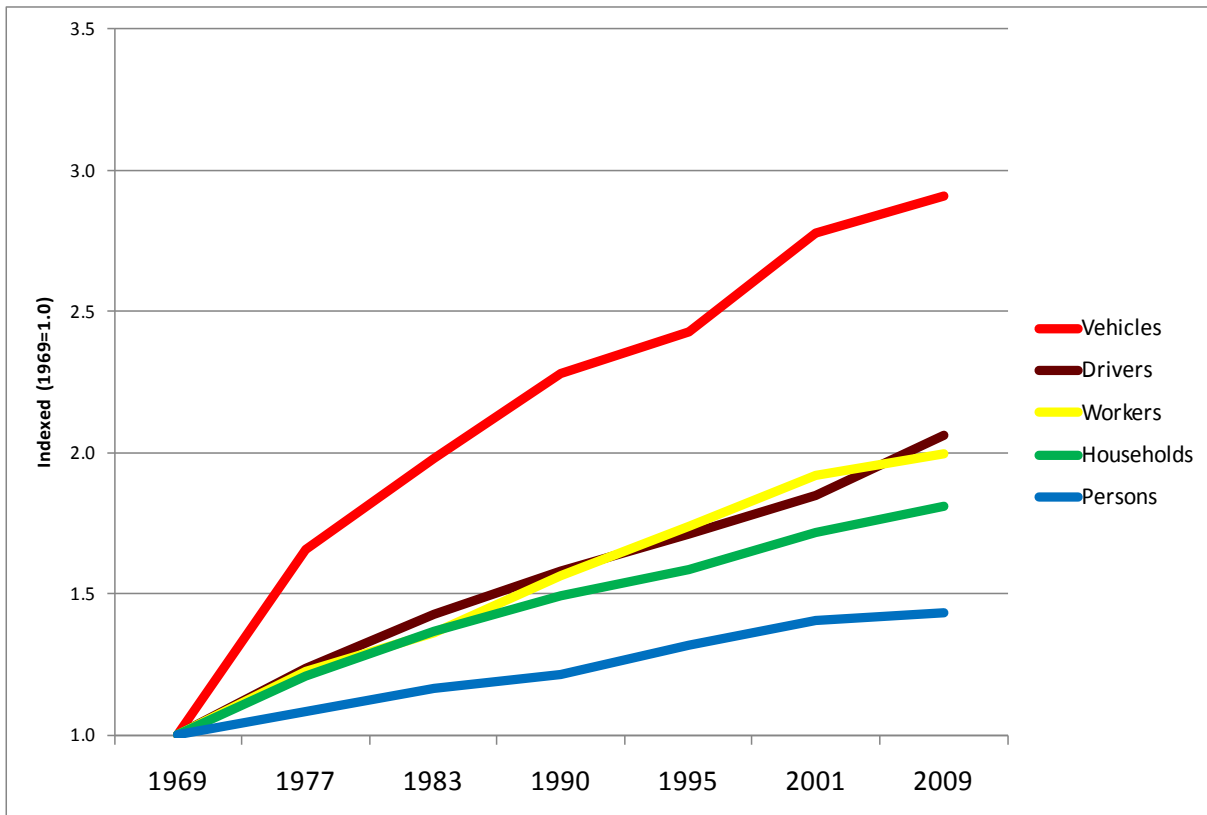
- Children aged 0-4 are excluded from 2001 NHTS.
- All tables reporting totals could include some unreported characteristics.
- MOE is Margin of Error. CI is Confidence Interval. Margin of Error calculated using jackknife method and replicate weights.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2). The survey collection method was changed from a one-stage survey in 1990 (with retrospective collection of travel day trips) to a two-stage survey with a travel diary in 1995 and later. The result of this improvement was to increase the accuracy and number of trips reported and to decrease the survey response rate.



During the past four decades, the growth in workers and drivers has far outpaced the growth in households and persons.

However, the growth in the number of vehicles has outpaced all other indicators. Since 1969, the annual rate of increase in the number of personal vehicles was almost one and one-half times the annual rate of increase in the number of drivers.

**Figure 1.** Changes in Summary Statistics on Demographics and Total Travel  
1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.



**Note:**

- The 1969 NPTS did not include pick-up trucks as household vehicles, therefore the growth between 1969 and 1977 is exaggerated.



While household size has declined in the U.S., all other major travel indicators increased between 1969 and 2009. Over the last four decades the typical American household acquired more vehicles, more drivers, and more workers. In the Northeast there are slightly less vehicles per driver than any other region, while the West and the Midwest regions have the highest vehicle ownership.

**Table 2.** Major Travel Indicators by Survey Year and Region  
1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

Major Travel Indicators by Survey Year							
	1969	1977	1983	1990	1995	2001	2009
Persons per household	3.16	2.83	2.69	2.56	2.63	2.58	2.50
Vehicles per household	1.16	1.59	1.68	1.77	1.78	1.89	1.86
Licensed drivers per household	1.65	1.69	1.72	1.75	1.78	1.77	1.88
Vehicles per licensed driver	0.7	0.94	0.98	1.01	1.00	1.06	0.99
Workers per household	1.21	1.23	1.21	1.27	1.33	1.35	1.34
Vehicles per worker	0.96	1.29	1.39	1.40	1.34	1.39	1.39
2009 Major Travel Indicators by Region							
Census Region	Persons per Household	Vehicles per Household	Drivers per Household	Vehicles per Driver	Workers per Household	Vehicles per Worker	
ALL	2.50	1.86	1.88	0.99	1.34	1.39	
Northeast	2.49	1.58	1.81	0.87	1.37	1.15	
Midwest	2.40	1.95	1.85	1.06	1.31	1.49	
South	2.48	1.89	1.87	1.01	1.30	1.46	
West	2.65	1.96	1.97	1.00	1.41	1.39	

**Note:**

- The 1969 survey does not include pickups and other light trucks as household vehicles.
- 2009 margin of error is too small to show (within third decimal).



The trends data indicate that the *per capita* growth in travel that the U.S. experienced over the last four decades may be slowing. Statistically, of the ten major travel indicators shown in Table 3, in 2009 seven estimates were lower than the same estimate in 2001 estimates and the remainder are statistically the same (within the confidence interval).

Importantly, all of the travel estimates related to households are slightly lower in 2009 than 2001--including person and vehicle trips and the average daily person and vehicle miles generated by U.S. households. The longstanding decline in household size continued between 2001 and 2009. In addition, the average number of vehicle trips and vehicle miles of travel per driver are significantly lower than the 2001 estimate. The data shows both average person trip length and average vehicle trip length to be about the same as in 2001 (that is, within the confidence interval).

**Table 3.** Summary of Travel Statistics  
1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

	1969	1977	1983	1990	1995	2001	2009	95% CI
<b>Per Person</b>								
Daily Person Trips	2.02	2.92	2.89	3.76	4.30	3.74	3.79	0.03
Daily PMT	19.51	25.95	25.05	34.91	38.67	36.89	36.13	1.35
<b>Per Driver</b>								
Daily Vehicle Trips	2.32	2.34	2.36	3.26	3.57	3.35	3.02	0.03
Daily VMT	20.64	19.49	18.68	28.49	32.14	32.73	28.97	0.71
<b>Per Household</b>								
Daily Person Trips	6.36	7.69	7.20	8.94	10.49	9.66	9.50	0.09
Daily PMT	61.55	68.27	62.47	83.06	94.41	95.24	90.42	3.38
Daily Vehicle Trips	3.83	3.95	4.07	5.69	6.36	5.95	5.66	0.06
Daily VMT	34.01	32.97	32.16	49.76	57.25	58.05	54.38	1.34
<b>Per Trip</b>								
Average person trip length (miles)	9.67	8.87	8.68	9.47	9.13	10.04	9.75	0.36
Average vehicle trip length (miles)	8.89	8.34	7.90	8.85	9.06	9.87	9.72	0.22

**Note:**

- Average trip length is calculated using only those records with trip mileage information present.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- PMT is Person Miles of Travel. VMT is Vehicle Miles of Travel. CI is Confidence Interval. NPTS is Nationwide Personal Transportation Survey.





Table 4 compares data from NHTS to data from other sources. Each data source has its own goals, scope, methodology, target population, and data validation and estimation procedures. Comparing between data sources is informative, but these differences should be kept in mind.

For example, NHTS estimates the resident population in non-group households in the U.S., has typically not been collected in a single calendar year. The Census provides annual estimates of resident and civilian population as of July 1<sup>st</sup> of each year.

Data on the number of licensed drivers are reported by Federal Highway Administration in the annual Highway Statistics report (Table DL-22). Note that the annual report shows the cumulative number of driver's licenses issued, while NHTS estimates the number of people who are drivers and does not specifically ask for licensure status.

Similarly, the NHTS estimates characteristics of the household vehicle fleet, which consists of passenger vehicles (cars, station wagons, vans, SUVs, pick-ups and motorcycles) and does not include rental cars, company or government fleets, or taxis. Highway Statistics reports all vehicles, personal and commercial, categorized by vehicle type.

The analyst should keep in mind the scope, coverage, and methods for the data sources used for each analysis. Details about the scope, coverage, and methods for the NHTS are in the User's Guide at: <http://nhts.ornl.gov>.



**Table 4.** Comparison of Survey Estimates with Other Sources  
(All Numbers in Thousands, Except VMT (Millions))  
1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

	Households	Population	Licensed Drivers	Workers	Vehicles	VMT
<b>1969</b>						
Other Sources	61,806	199,145	108,306	--	89,174	--
NPTS	62,504	197,213	102,986		72,500	
<b>1977</b>						
Other Sources	74,142	218,106	138,121	--	132,155	--
NPTS	75,412	213,141	127,552		120,098	
<b>1983</b>						
Other Sources	83,918	232,086	154,389	--	152,070	1,652,788
NPTS	85,371	229,453	147,015		143,714	1,002,139
<b>1990</b>						
Other Sources	91,947	247,826	167,015	115,100	172,902	2,144,362
NPTS	93,347	239,416	163,025	118,343	165,221	1,695,290
<b>1995</b>						
Other Sources	97,386	261,538	176,628	--	180,735	2,422,775
NPTS	98,990	259,994	176,330	131,697	176,067	2,068,368
<b>2001</b>						
Other Sources	108,209	285,318	191,276	128,300	205,551	2,781,462
NHTS	107,365	277,203	190,425	145,272	202,586	2,274,769
<b>2009</b>						
Other Sources	117,181	307,007	208,321	146,266	231,490	2,973,509
NHTS	113,101	283,054	212,309	151,373	210,778	2,245,111

**Other Sources:**

- **Households** - 2009 CPS Households from Table AVG-<http://www.census.gov/population/socdemo/hh-fam/cps2009/tabAVG1.xls>
- **Population** - 2009 estimate from <http://www.census.gov/popest/states/tables/NST-EST2009-01.xls>
- **Drivers** - 2008 estimate from Highway Statistics Table DL-22  
<http://www.fhwa.dot.gov/policyinformation/statistics/2008/dl22.cfm>
- **Workers** - 1990, 2000 decennial Census and 2008 ACS Table S2408 Civilian Employed Population 16 and over <http://factfinder.census.gov/>
- **Vehicles and VMT** - <http://www.fhwa.dot.gov/policyinformation/statistics/2008/vm1>. This includes all VMT, not just personal travel.

**Notes:**

- VMT is Vehicle Miles of Travel. NPTS is Nationwide Personal Transportation Survey.



### 3.0 HOUSEHOLD TRAVEL

Overall, the decreases in person travel shown in Table 3 were indicated in household-generated travel. Table 5 shows the trends in person trips and person miles of travel (PMT) by purpose. While most estimates are statistically the same as in 2001, important exceptions include the significant decrease in person miles, person trips, and average person trip length for family and personal business (errands), and the decrease in person trips per household and average person trip length for shopping. Another significant change is the number of person trips per household to and from work; although the total PMT and average trip length to work have not changed (the 2001 estimate is within the margin of error of the 2009 estimate).

**Table 5.** Average Annual PMT, Person Trips and Trip Length by Trip Purpose 1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Trip Purpose	1983	1990	1995	2001	2009	95% CI
<b>Average Annual PMT per Household</b>						
All Purposes	22,802	30,316	34,459	35,244	33,004	1,235.1
To/From Work	4,586	5,637	7,740	6,706	6,256	170.1
Work Related Business	1,354	1,043	1,987	2,987	2,078	247.2
Shopping	2,567	3,343	4,659	4,887	4,620	181.4
Other Family/Personal Errands	3,311	7,167	7,381	6,671	5,134	222.8
School/Church	1,522	1,599	1,973	2,060	2,049	123.0
Social and Recreational	8,964	11,308	10,571	10,586	9,989	585.8
Other	500	214	131	1,216	2,878	864.6
<b>Average Annual Person Trips per Household</b>						
All Purposes	2,628	3,262	3,828	3,581	3,466	31.8
To/From Work	537	539	676	565	541	7.9
Work Related Business	62	38	100	109	106	7.4
Shopping	474	630	775	707	725	14.6
Other Family/Personal Errands	456	854	981	863	748	13.9
School/Church	310	304	337	351	333	9.8
Social and Recreational	728	874	953	952	952	14.1
Other	61	22	6	30	61	4.1
<b>Average Person Trip Length (miles)</b>						
All Purposes	8.7	9.5	9.1	10.0	9.7	0.4
To/From Work	8.5	10.7	11.6	12.1	11.8	0.3
Work Related Business	21.8	28.2	20.3	28.3	20.0	2.0
Shopping	5.4	5.4	6.1	7.0	6.5	0.2
Other Family/Personal Errands	7.3	8.6	7.6	7.8	7.0	0.3
School/Church	4.9	5.4	6.0	6.0	6.3	0.3
Social and Recreational	12.3	13.2	11.3	11.4	10.7	0.6
Other	8.2	10.3	22.8	43.1	51.5	14.5

**Note:**

- Average person trip length is calculated using only those records with trip mileage information present.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- 1995 Vehicle Miles of Travel (VMT) and vehicle trips with "To or From Work" as a trip purpose is believed to be overstated.
- "Other Family/Personal Errands" includes personal business and medical/dental. Please see Appendix A - Glossary for definition.
- PMT is Person Miles of Travel. CI is Confidence Interval.



Table 6 shows the trends in vehicle trips and vehicle miles of travel (VMT) by purpose. In 2009, a typical household generated slightly fewer vehicle trips and vehicle miles than in 2001--the lower estimates for the number of vehicle trips and vehicle miles are statistically significant for all trip purposes except social and recreational travel and shopping.

Interestingly, the vehicle miles of travel for social and recreational purposes were significantly lower than 2001, but the number of trips remained the same, indicating that people drove to a similar number of social and recreational activities but chose places closer to home. The number of vehicle trips and vehicle miles of travel for shopping stayed about the same as in 2001.

As with person miles and person trips, the decline in vehicle miles and vehicle trips for commuting and for family and personal errands is also notable. Note that the average vehicle trip length to work was about the same as in 2001, while the household-generated vehicle miles and vehicle trips for work have declined.

Although U.S. households took fewer vehicle trips overall, the average vehicle trip length remained the same for all trip purposes. None of the differences in average vehicle trip length are statistically significant.



**Table 6.** Average Annual VMT, Vehicle Trips and Trip Length by Selected Trip Purposes 1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Trip Purpose	1969	1977	1983	1990	1995	2001	2009	95% CI
<b>Average Annual VMT per Household</b>								
All Purposes	12,423	12,036	11,739	18,161	20,895	21,187	19,850	490.5
To or From Work	4,183	3,815	3,538	4,853	6,492	5,724	5,513	146.7
Shopping	929	1,336	1,567	2,178	2,807	3,062	2,979	95.9
Other Family/Personal Errands	1,270	1,444	1,816	4,250	4,307	3,956	3,515	120.1
Social and Recreational	4,094	3,286	3,534	5,359	4,764	5,186	4,842	257.8
<b>Average Annual Vehicle Trips per Household</b>								
All Purposes	1,396	1,442	1,486	2,077	2,321	2,171	2,068	20.8
To or From Work	445	423	414	448	553	479	457	7.8
Shopping	213	268	297	431	501	459	468	9.2
Other Family/Personal Errands	195	215	272	579	626	537	500	9.2
Social and Recreational	312	320	335	460	427	441	436	8.4
<b>Average Vehicle Trip Length (miles)</b>								
All Purposes	8.9	8.4	7.9	8.9	9.1	9.9	9.7	0.2
To or From Work	9.4	9.0	8.6	11.0	11.8	12.1	12.2	0.3
Shopping	4.4	5.0	5.3	5.1	5.6	6.7	6.4	0.2
Other Family/Personal Errands	6.5	6.7	6.7	7.4	6.9	7.5	7.1	0.2
Social and Recreational	13.1	10.3	10.6	11.8	11.2	11.9	11.2	0.6

**Note:**

- Average vehicle trip length is calculated using only those records with trip mileage information present.
- "Other Family/Personal Errands" includes personal business and medical/dental. Please see Appendix A - Glossary for definition.
- "All Purposes" includes other purposes not shown above, such as trips to school, church, doctor, dentist, and work-related business trips.
- 1995 Vehicle Miles of Travel (VMT) and vehicle trips with "To or From Work" as a trip purpose is believed to be overstated.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



**Table 7.** Average Annual Person Trips Per Household by Mode of Transportation and MSA Size 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Mode of Transportation							
SMSA or MSA Size	1977	1983	1990	1995	2001	2009	95% CI
<b>Private</b>							
<b>ALL</b>	<b>2,351</b>	<b>2,152</b>	<b>2,861</b>	<b>3,307</b>	<b>3,090</b>	<b>2,892</b>	<b>30</b>
Not in (S)MSA	2,436	2,322	2,837	3,492	3,076	2,898	72
Less than 250,000	2,517	2,375	3,090	3,503	3,304	2,980	118
250,000 - 499,999	2,574	2,443	3,014	3,472	3,251	2,950	141
500,000 - 999,999	2,628	2,140	2,957	3,509	3,348	3,020	144
1,000,000 - 2,999,999	2,366	2,031	2,986	3,354	3,174	2,951	74
3,000,000 and above	1,785	1,691	2,649	3,075	2,911	2,793	50
<b>Public Transit</b>							
<b>ALL</b>	<b>73</b>	<b>60</b>	<b>58</b>	<b>67</b>	<b>58</b>	<b>66</b>	<b>4</b>
Not in (S)MSA	22	11	14	9	6	4	2
Less than 250,000	47	17	30	23	12	14	8
250,000 - 499,999	44	23	22	18	18	15	7
500,000 - 999,999	58	48	33	33	11	41	17
1,000,000 - 2,999,999	86	67	52	37	36	39	8
3,000,000 and above	189	181	124	137	128	148	11

\*Table 7 is continued on the following page.



**Table 7.** Average Annual Person Trips Per Household by Mode of Transportation and MSA Size 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Mode of Transportation							
SMSA or MSA Size	1977	1983	1990	1995	2001	2009	95% CI
<b>Walk</b>							
<b>ALL</b>	<b>261</b>	<b>226</b>	<b>234</b>	<b>205</b>	<b>309</b>	<b>362</b>	<b>13</b>
Not in (S)MSA	199	211	175	134	221	239	17
Less than 250,000	241	280	212	138	248	270	48
250,000 - 499,999	206	199	203	152	251	268	23
500,000 - 999,999	256	184	161	138	224	314	52
1,000,000 - 2,999,999	295	179	207	162	275	313	20
3,000,000 and above	396	330	337	301	423	514	29
<b>ALL MODES</b>							
<b>ALL</b>	<b>2,808</b>	<b>2,628</b>	<b>3,262</b>	<b>3,828</b>	<b>3,581</b>	<b>3,466</b>	<b>32</b>
Not in (S)MSA	2,800	2,766	3,151	3,878	3,435	3,275	77
Less than 250,000	2,944	2,889	3,450	3,926	3,678	3,395	128
250,000 - 499,999	2,945	2,891	3,340	3,894	3,645	3,356	144
500,000 - 999,999	3,049	2,542	3,252	3,916	3,692	3,529	151
1,000,000 - 2,999,999	2,861	2,463	3,344	3,795	3,602	3,446	78
3,000,000 and above	2,459	2,326	3,213	3,765	3,593	3,614	55

**Note:**

- The population size groups for 1977 - 1983 NPTS are Standard Metropolitan Statistical Area (SMSA) Size Groups and 1990 - 2009 are Metropolitan Statistical Area (MSA) size groups.
- All modes include other modes not specified such as bike, school bus, taxi, and other.
- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- Public transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar.
- Increases in walk trips in 2001 and 2009 are due, at least in part, to respondents being explicitly asked to include walk trips, which was not the case in prior surveys.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



Table 8 shows the trends in person trips per household by household income. Since 1990, the NHTS sample has only included households with telephones, so care should be taken in interpreting results that might be affected by telephone ownership (which is correlated with family income). For example, the data could underestimate trips made by low-income households.

The data series clearly shows that more income is related to more travel, but the increase in person trips levels off at the highest income levels. Across the data series the highest income households make about two and one-half times as many person trips as the lowest income households.

Between the 2001 and 2009 NHTS, significant declines in personal travel were noted for all income groups except the lowest, with the largest declines in the middle-income households earning \$40,000 to \$60,000 a year.

**Table 8.** Annual Person Trips per Household by Household Income  
1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Income	1983	1990	1995	2001	2009	95% CI
ALL	2,628	3,262	3,828	3,581	3,466	31.8
< \$10,000	1,407	2,098	2,137	2,046	2,100	156.3
\$10 to \$20,000	1,927	2,412	2,790	2,542	2,435	101.9
\$20 to \$30,000	2,376	3,008	3,522	3,065	2,854	121.4
\$30 to \$40,000	2,739	3,431	3,980	3,535	3,171	114.0
\$40 to \$50,000	3,037	3,791	4,298	3,905	3,321	135.7
\$50 to \$60,000	3,284	4,138	4,539	4,348	3,748	139.9
\$60 to \$70,000	3,485	4,458	4,726	4,545	4,178	208.2
\$70 to \$80,000	3,635	4,659	4,855	4,867	4,350	172.7
\$80,000+	3,602	4,570	4,829	4,934	4,815	87.5
Unreported		2,536	3,424	2,431	2,263	135.1

**Note:**

- Incomes for 1983, 1990, adjusted 1990, and 1995 have been adjusted to 2001 dollars.
- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval.





## 4.0 PERSON TRAVEL

**Table 9.** Annual Number (in Millions) and Percent of Person Trips by Mode of Transportation and Trip Purpose 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

		1990		1995		2001		2009		95% CI
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Private Vehicle	To/ From Work	45,856	91.2%	60,740	92.8%	56,054	92.4%	55,969	91.4%	941.4
	Work-Related Business	3,178	90.3%	8,835	91.9%	10,648	91.2%	10,525	88.1%	767.1
	Family/ Personal Errands	128,368	92.7%	156,065	92.6%	153,270	90.9%	146,158	87.8%	2487.7
	School or Church	17,545	61.9%	22,436	69.6%	26,861	71.3%	26,654	70.7%	968.2
	Social and Recreational	70,382	86.3%	78,809	87.6%	82,437	80.7%	82,887	76.9%	1583.2
	Other	1,629	81.4%	470	83.2%	2,147	67.2%	4,925	71.0%	304.1
	<b>Total</b>		<b>267,029</b>	<b>87.8%</b>	<b>327,400</b>	<b>89.3%</b>	<b>331,791</b>	<b>86.3%</b>	<b>327,118</b>	<b>83.4%</b>
Transit	To/ From Work	1,992	4.0%	2,328	3.6%	2,271	3.7%	2,247	3.7%	254.2
	Work-Related Business	92	2.6%	123	1.3%	213	1.8%	264	2.2%	93.7
	Family/ Personal Errands	1,318	1.0%	2,000	1.2%	1,776	1.1%	2,344	1.4%	264.7
	School or Church	1,076	3.8%	826	2.6%	800	2.1%	829	2.2%	131.8
	Social and Recreational	946	1.2%	1,350	1.5%	989	1.0%	1,426	1.3%	195.0
	Other	35	1.7%	11	1.9%	134	4.2%	409	5.9%	114.5
	<b>Total</b>		<b>5,460</b>	<b>1.8%</b>	<b>6,638</b>	<b>1.8%</b>	<b>6,202</b>	<b>1.6%</b>	<b>7,520</b>	<b>1.9%</b>

\*Table 9 is continued on the following page.

**Note:**

- All tables reporting totals could include some unreported characteristics.
- "Family/Personal Errands" includes personal business, shopping, and medical/dental. Please see Appendix A - Glossary for definition.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes.
- The 1995 Vehicle Miles of Travel (VMT) and vehicle trips with "To or From Work" as a trip purpose as believed to overstated.
- Increases in walk trips between 1995 and 2009 are due, at least in part, to respondents being explicitly asked to include walk trips, which was not the case in prior surveys.
- Public transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



**Table 9.** Annual Number (in Millions) and Percent of Person Trips by Mode of Transportation and Trip Purpose 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

		1990		1995		2001		2009		95% CI	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent		
Walk	To/ From Work	1,999	4.0%	1,510	2.3%	1,715	2.8%	1,854	3.0%	230.4	
	Work-Related Business	154	4.4%	240	2.4%	487	4.2%	684	5.7%	136.1	
	Family/ Personal Errands	7,722	5.6%	8,756	5.0%	11,936	7.1%	15,174	9.1%	818.7	
	School or Church	3,649	12.8%	2,925	8.8%	3,630	9.6%	3,542	9.4%	479.4	
	Social and Recreational	8,090	9.9%	6,845	7.3%	14,824	14.5%	18,833	17.5%	768.4	
	Other	265	13.2%	47	7.6%	507	15.9%	874	12.6%	157.6	
	<b>Total</b>		<b>21,879</b>	<b>7.2%</b>	<b>20,325</b>	<b>5.4%</b>	<b>33,145</b>	<b>8.6%</b>	<b>40,962</b>	<b>10.4%</b>	1493.1
	Other	To/ From Work	428	0.8%	887	1.3%	584	1.0%	1,144	1.9%	166.1
	Work-Related Business	95	2.7%	417	4.2%	317	2.7%	469	3.9%	169.2	
	Family/ Personal Errands	1,087	0.8%	1,768	1.0%	1,468	0.9%	2,859	1.7%	337.3	
	School or Church	6,086	21.4%	6,035	18.1%	6,351	16.9%	6,651	17.7%	413.1	
	Social and Recreational	2,098	2.6%	2,954	3.1%	3,829	3.7%	4,576	4.2%	387.4	
	Other	73	3.6%	37	6.0%	394	12.3%	725	10.5%	135.1	
	<b>Total</b>	<b>9,867</b>	<b>3.2%</b>	<b>12,099</b>	<b>3.2%</b>	<b>12,975</b>	<b>3.4%</b>	<b>16,424</b>	<b>4.2%</b>	744.7	
Total	To/ From Work	50,314	100%	66,901	100%	60,690	100%	61,214	100%	901.9	
	Work-Related Business	3,529	100%	9,860	100%	11,676	100%	11,943	100%	849.2	
	Family/ Personal Errands	138,559	100%	173,764	100%	168,560	100%	166,535	100%	2536.5	
	School or Church	28,397	100%	33,355	100%	37,671	100%	37,676	100%	1119.2	
	Social and Recreational	81,575	100%	94,362	100%	102,165	100%	107,722	100%	1617.9	
	Other	2,014	100%	623	100%	3,198	100%	6,933	100%	468.3	
	<b>Total</b>		<b>304,471</b>	<b>100%</b>	<b>378,930</b>	<b>100%</b>	<b>384,484</b>	<b>100%</b>	<b>392,023</b>	<b>100%</b>	3644.5



Continuing trends noted previously, both men and women took fewer trips, on average, in 2009 than in 2001 and 1995. Travel by men decreased at a greater rate than travel by women. While traditionally less mobile than men, by 2001 women made about the same number of person trips, and by 2009 women made significantly more trips overall than men.

According to the 2009 NHTS, women overall took more trips than men for family errands, including shopping. Men make significantly more trips to and from work, and for work related business. Men and women made about the same number of social and recreational trips (within the margin of error).

**Table 10.** Annual Person Trips per Person by Trip Purpose and Gender  
1990 and 1995 NPTS, and 2001 and 2009 NHTS.

	Women					Men				
	1990	1995	2001	2009	95% CI	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>1,401</b>	<b>1,558</b>	<b>1,494</b>	<b>1,401</b>	<b>16.4</b>	<b>1,339</b>	<b>1,579</b>	<b>1,491</b>	<b>1,368</b>	<b>15.7</b>
<i>Percent</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>		<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	
To or From Work	197	229	200	193	4.7	259	327	273	241	4.6
<i>Percent</i>	<i>14.06%</i>	<i>14.70%</i>	<i>13.39%</i>	<i>13.78%</i>		<i>19.34%</i>	<i>20.71%</i>	<i>18.31%</i>	<i>17.62%</i>	
Work Related Business	11	23	25	27	2.6	21	60	66	58	5.2
<i>Percent</i>	<i>0.79%</i>	<i>1.48%</i>	<i>1.67%</i>	<i>1.93%</i>		<i>1.57%</i>	<i>3.80%</i>	<i>4.43%</i>	<i>4.24%</i>	
Family and Personal Errands	693	786	715	646	12.1	549	648	590	529	10.7
<i>Percent</i>	<i>49.46%</i>	<i>50.45%</i>	<i>47.86%</i>	<i>46.11%</i>		<i>41.00%</i>	<i>41.04%</i>	<i>39.57%</i>	<i>38.67%</i>	
School/Church	132	141	151	138	4.5	123	134	141	128	5.3
<i>Percent</i>	<i>9.42%</i>	<i>9.05%</i>	<i>10.11%</i>	<i>9.85%</i>		<i>9.19%</i>	<i>8.49%</i>	<i>9.46%</i>	<i>9.36%</i>	
Social and Recreational	358	375	389	375	7.2	377	406	405	386	7.9
<i>Percent</i>	<i>25.55%</i>	<i>24.07%</i>	<i>26.04%</i>	<i>26.77%</i>		<i>28.16%</i>	<i>25.71%</i>	<i>27.16%</i>	<i>28.22%</i>	
Other	9	3	12	23	2.0	9	2	13	26	2.4
<i>Percent</i>	<i>0.64%</i>	<i>0.19%</i>	<i>0.80%</i>	<i>1.64%</i>		<i>0.67%</i>	<i>0.13%</i>	<i>0.87%</i>	<i>1.90%</i>	

**Note:**

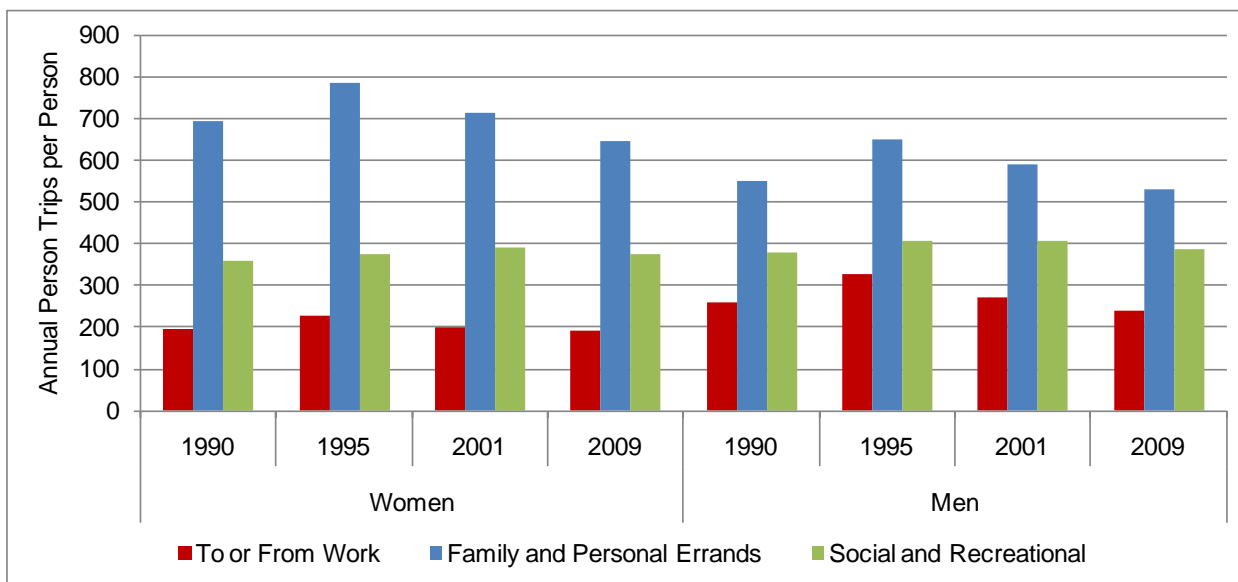
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- 1995 Vehicle Miles of Travel (VMT) and vehicle trips with "To or From Work" as a trip purpose is believed to be overstated.
- In this table, "Family/Personal Errands" includes personal business, shopping, medical/dental. Please see Appendix A - Glossary for definition.
- All tables reporting totals could include some unreported characteristics.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



One striking gender difference in travel is in the proportion of trips for work and non-work purposes. The 2009 NHTS shows that women make about 80 percent of the number of trips men make for commuting to and from work, while men make about 80 percent of the number of trips women make for shopping and family and personal errands. Forty-six percent of all person trips by women were for family and personal errands (e.g., grocery shopping, taking children to school or organized sports, everyday errands, and personal business.) The comparable proportion for men was 38 percent.

This category of trips seems to have registered the greatest decline since 1995 for both men and women. Since it is a large, catch-all category further, research into the specific and detailed trends of travel changes within the category would be enlightening.

**Figure 2.** Trends in the Distribution of Person Trips per Person by Gender and Trip Purpose 1990 and 1995 NPTS, and 2001 and 2009 NHTS.



\*NPTS is Nationwide Personal Transportation Survey.



Continuing the trends seen between 1995 and 2001, the number of person trips per day per person again decreased between 2001 and 2009. Reasons for this trend require further study, but could reflect the aging of the population, more people not in the workforce, increased use of communications technology, and other social or economic factors.

The person miles of travel per person declined nearly ten percent from the 2001 estimate. On average (including travelers and non-travelers), a person 5 years or older traveled about 36 miles per day, with one-third for family errands, one-third for social and recreational purposes, and the remaining for other purposes including work.

**Table 11.** Daily Trip and Travel Rates per Person by Trip Purpose  
1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

	1977	1983	1990	1995	2001	2009	95% CI
<b>Person Trips per Day</b>							
<b>Total</b>	<b>2.92</b>	<b>2.89</b>	<b>3.76</b>	<b>4.30</b>	<b>4.09</b>	<b>3.79</b>	<b>0.03</b>
To or From Work	0.57	0.59	0.62	0.76	0.65	0.59	0.01
Family/Personal Errands	0.91	1.02	1.71	1.97	1.79	1.61	0.02
School/Church	0.35	0.34	0.35	0.38	0.4	0.36	0.01
Social and Recreational	0.71	0.8	1.01	1.07	1.09	1.04	0.02
Other	0.38	0.14	0.06	0.12	0.16	0.18	0.01
<b>Person Miles of Travel per Day</b>							
<b>Total</b>	<b>25.95</b>	<b>25.05</b>	<b>34.91</b>	<b>38.67</b>	<b>40.25</b>	<b>36.13</b>	<b>1.35</b>
To or From Work	5.16	5.04	6.49	8.69	7.66	6.85	0.19
Family/Personal Errands	5.68	6.46	12.1	13.51	13.2	10.68	0.31
School/Church	1.61	1.67	1.84	2.21	2.35	2.24	0.13
Social and Recreational	7.81	9.85	13.02	11.86	12.09	10.93	0.64
Other	5.68	2.04	1.46	2.39	4.8	5.43	0.99

**Note:**

- All tables reporting totals could include some unreported characteristics.
- Trip rates are calculated including travelers and non-travelers, resulting in travel estimates per-capita.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- The 1995 "To or From Work" person trips and person miles are believed to be overstated. Other trip purpose includes trips for work-related business.
- "Family/Personal Errands" includes personal business, shopping, medical/dental. Please see Appendix A - Glossary for definition.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



In addition to fewer person trips, the average person traveled fewer miles overall in 2009 compared to 1995 and 2001. The data indicates about 10 percent fewer miles by private vehicle and other means, but about the same number of miles by transit (the 2001 estimate is within the margin of error of 2009).

As seen previously, the declines were significant in person miles of travel per person for work, personal and family errands, and social and recreational travel.

**Table 12.** Distribution of Daily Person Miles of Travel per Person by Mode of Transportation and Trip Purpose, Adjusted 1990 and 1995 NPTS, 2001 and 2009 NHTS.

	Private					Public Transit				
	1990	1995	2001	2009	95% CI	1990	1995	2001	2009	95% CI
<b>TOTAL</b>	<b>30.85</b>	<b>35.26</b>	<b>35.49</b>	<b>31.92</b>	<b>0.88</b>	<b>0.74</b>	<b>0.82</b>	<b>0.47</b>	<b>0.53</b>	<b>0.11</b>
Percent	<b>88.37%</b>	<b>91.18%</b>	<b>88.17%</b>	<b>88.35%</b>		<b>2.12%</b>	<b>2.12%</b>	<b>1.17%</b>	<b>1.47%</b>	
To or From Work	6.15	8.09	7.11	6.47	0.17	0.27	0.30	0.24	0.18	0.04
Percent	17.62%	20.92%	17.66%	17.91%		0.77%	0.78%	0.60%	0.50%	
Work Related Business	0.63	1.85	2.27	1.88	0.21	0.01	0.02	0.01	0.02	0.01
Percent	1.80%	4.78%	5.64%	5.20%		0.03%	0.05%	0.02%	0.06%	
Family/Personal Errands	11.39	12.7	12.77	10.30	0.32	0.14	0.19	0.10	0.10	0.02
Percent	32.63%	32.84%	31.73%	28.51%		0.40%	0.49%	0.25%	0.28%	
School/Church	1.32	1.68	1.87	1.80	0.13	0.12	0.07	0.04	0.05	0.01
Percent	3.78%	4.34%	4.65%	4.98%		0.34%	0.18%	0.10%	0.14%	
Social and Recreational	11.12	10.83	11.01	9.98	0.52	0.18	0.24	0.07	0.10	0.03
Percent	31.85%	28.01%	27.35%	27.62%		0.52%	0.62%	0.17%	0.28%	
Other	0.23	0.10	0.36	1.49	0.35	0.01	0.00	0.00	0.08	0.09
Percent	0.66%	0.26%	0.89%	4.12%		0.03%	0.00%	0.00%	0.22%	

\*Table 12 is continued on the following page.



**Table 12.** Distribution of Daily Person Miles of Travel per Person by Mode of Transportation and Trip Purpose, Adjusted 1990 and 1995 NPTS, 2001 and 2009 NHTS.

	Other Means					Total				
	1990	1995	2001	2009	95% CI	1990	1995	2001	2009	95% CI
<b>TOTAL</b>	<b>3.31</b>	<b>2.2</b>	<b>4.10</b>	<b>3.68</b>	<b>0.96</b>	<b>34.91</b>	<b>38.67</b>	<b>40.25</b>	<b>36.13</b>	<b>1.35</b>
Percent	<b>9.48%</b>	<b>5.69%</b>	<b>10.19%</b>	<b>10.19%</b>		<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	
To or From Work	0.06	0.22	0.30	0.20	0.09	6.49	8.69	7.66	6.85	0.19
Percent	0.17%	0.57%	0.75%	0.55%		18.59%	22.47%	19.03%	18.96%	
Work Related Business	0.56	0.34	1.12	0.38	0.15	1.20	2.23	3.41	2.28	0.27
Percent	1.60%	0.88%	2.78%	1.05%		3.44%	5.77%	8.47%	6.31%	
Family/Personal Errands	0.57	0.49	0.32	0.28	0.04	12.10	13.51	13.2	10.68	0.31
Percent	1.63%	1.27%	0.80%	0.77%		34.66%	34.94%	32.80%	29.56%	
School/Church	0.40	0.44	0.44	0.40	0.03	1.84	2.21	2.35	2.24	0.13
Percent	1.15%	1.14%	1.09%	1.11%		5.27%	5.72%	5.84%	6.20%	
Social and Recreational	1.71	0.66	1.01	0.85	0.35	13.02	11.86	12.09	10.93	0.64
Percent	4.90%	1.71%	2.51%	2.35%		37.30%	30.67%	30.04%	30.25%	
Other	0.01	0.05	0.87	1.57	0.87	0.25	0.15	1.39	3.15	0.95
Percent	0.03%	0.13%	2.16%	4.35%		0.72%	0.39%	3.45%	8.72%	

**Note:**

- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- In 2009, the mode "Bus" was divided into "Local Public Transit Bus," "Commuter Bus," "Charter/tour bus," and "City to city bus." Only "Local Public Transit Bus" and "Commuter Bus" are included in public transit calculations, along with commuter train, subway, trolley, and streetcar.
- Percents are a percentage of total daily person miles of travel.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



**Table 13.** Average Daily Person Trips per Person by Age and Gender 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Age	Total					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>2.9</b>	<b>3.8</b>	<b>4.3</b>	<b>4.1</b>	<b>3.8</b>	<b>0.03</b>
Under 16	2.3	3.1	3.7	3.4	3.2	0.07
16 to 20	3.3	4.2	4.6	4.1	3.5	0.11
21 to 35	3.5	4.4	4.6	4.3	3.9	0.09
36 to 65	2.9	3.9	4.6	4.5	4.2	0.05
Over 65	1.8	2.4	3.4	3.4	3.2	0.07
Age	Men					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>2.9</b>	<b>3.7</b>	<b>4.3</b>	<b>4.1</b>	<b>3.7</b>	<b>0.04</b>
Under 16	2.3	3	3.7	3.5	3.2	0.09
16 to 20	3.2	4.2	4.6	4.0	3.3	0.13
21 to 35	3.4	4.2	4.5	4.2	3.7	0.11
36 to 65	2.9	3.7	4.6	4.4	4.1	0.06
Over 65	2.2	2.8	3.9	3.8	3.5	0.10
Age	Women					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>2.9</b>	<b>3.8</b>	<b>4.3</b>	<b>4.1</b>	<b>3.8</b>	<b>0.04</b>
Under 16	2.3	3.1	3.8	3.4	3.2	0.10
16 to 20	3.4	4.2	4.7	4.2	3.7	0.15
21 to 35	3.5	4.6	4.8	4.5	4.1	0.12
36 to 65	3	4.1	4.6	4.5	4.3	0.06
Over 65	1.5	2.2	3	3.1	2.9	0.09

**Note:**

- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval.

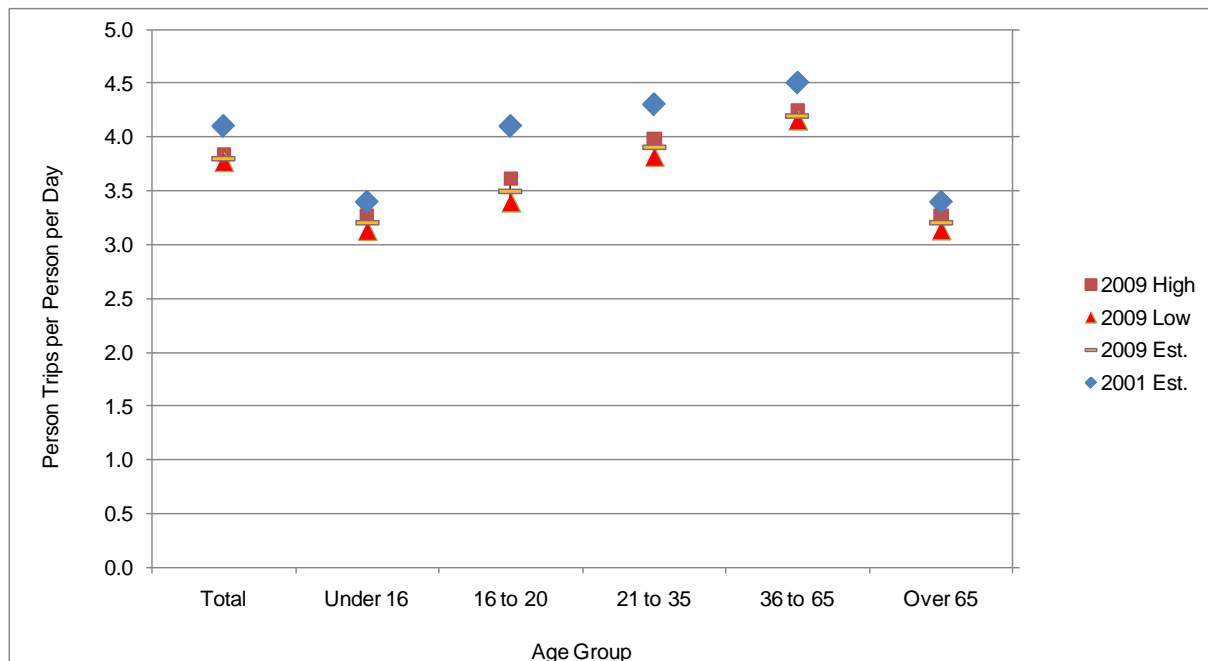




Men and women of all age groups reported fewer person trips in 2009 compared to 2001. Figure 3 shows that the 2009 estimate of person trips per person was significantly lower for the entire population and for every age group.

The chart shows the high and low 2009 estimates (the actual estimate plus and minus the confidence interval) compared to the actual 2001 estimate. The greatest decrease in trip-making was for people ages 16-20, followed by people ages 21-35.

**Figure 3.** Average Daily Person Trips by Age  
2001 and 2009 with Margin of Error (High and Low Estimates).





**Table 14.** Person Miles of Travel per Person by Age and Gender  
1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Age	TOTAL					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>25.1</b>	<b>34.9</b>	<b>38.7</b>	<b>40.2</b>	<b>36.1</b>	<b>1.4</b>
Under 16	16.2	20.1	25	24.5	25.3	3.5
16 to 20	22.2	34.4	36.4	38.1	29.5	1.8
21 to 35	31.1	44.3	46	45.6	37.7	1.9
36 to 65	29.2	40.1	45.1	48.8	44.0	1.9
Over 65	12.0	18.4	24.4	27.5	24.0	1.2
Age	Men					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>27.7</b>	<b>38.0</b>	<b>43.9</b>	<b>45.0</b>	<b>40.9</b>	<b>2.1</b>
Under 16	16.8	20.3	23.7	24.6	27.2	6.3
16 to 20	23.0	36.9	37.6	34.1	28.2	2.3
21 to 35	32.8	48.2	51.3	49.8	40.5	2.8
36 to 65	33.6	43.4	53.2	57.7	50.9	3.0
Over 65	14.8	22.5	31.7	32.9	30.5	1.9
Age	Women					
	1983	1990	1995	2001	2009	95% CI
<b>Total</b>	<b>22.6</b>	<b>32.1</b>	<b>33.8</b>	<b>35.7</b>	<b>31.5</b>	<b>1.0</b>
Under 16	15.4	19.9	26.2	24.4	23.3	2.7
16 to 20	21.5	32.2	35	42.5	31.0	2.8
21 to 35	29.5	40.7	40.8	41.5	35.0	2.3
36 to 65	25.2	37	37.5	40.4	37.0	1.6
Over 65	10.2	15.3	19.2	23.5	19.3	1.2

**Note:**

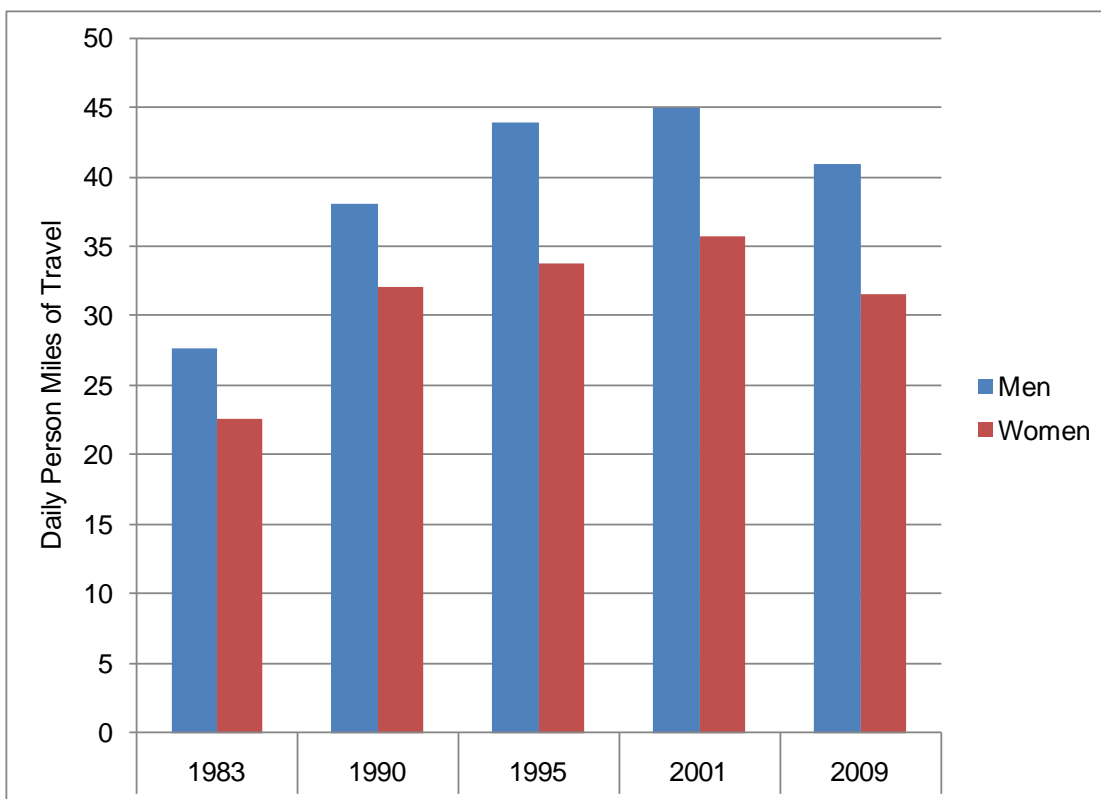
- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval.



On average in 2009, men traveled about 10 more miles per day than women, although they also exhibited the greatest decline in miles per day since 2001. Overall, people reported traveling 36.1 miles per day, by all means of transportation and for all purposes.

Table 14 and Figure 4 show that women have traditionally traveled fewer miles per day than men, regardless of age. In their highly mobile age group of 35-65 years old, men travel over fifty miles per day per capita, which includes travelers and non travelers (Table 14). While women in this age group take more trips than men (Table 13), women's trips are markedly shorter.

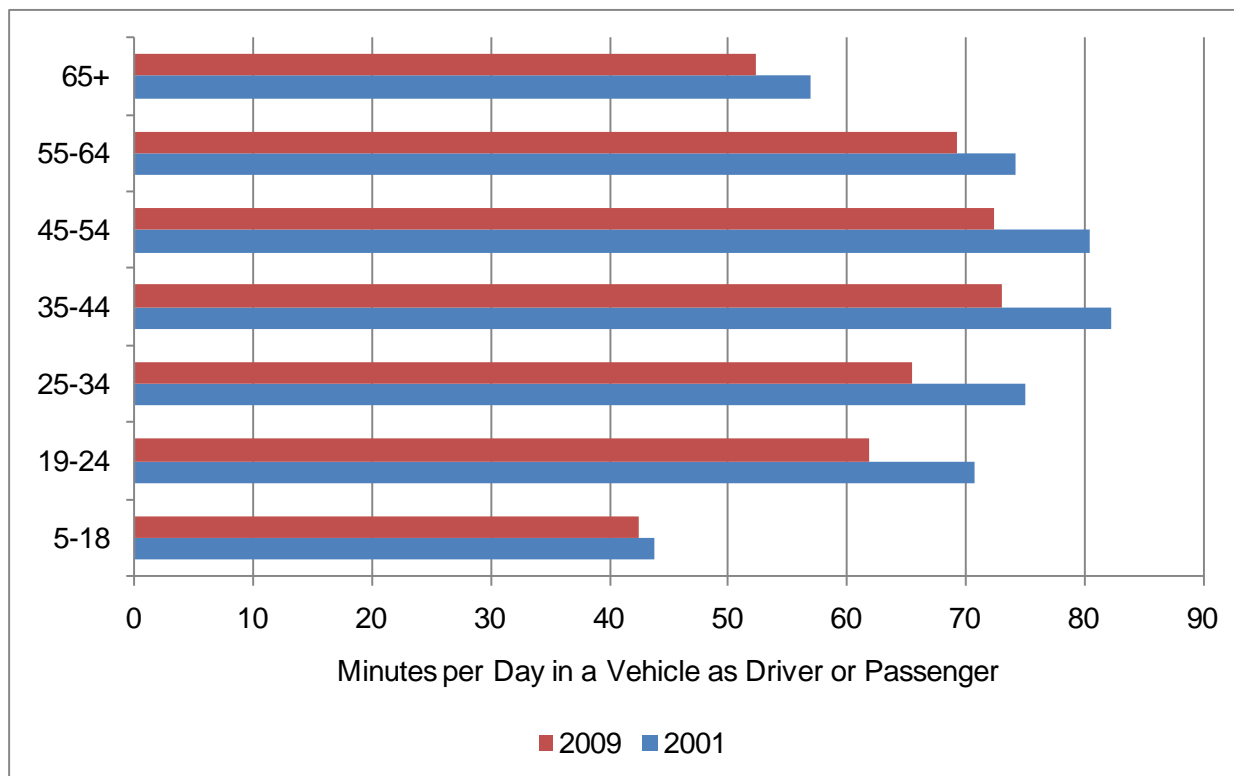
**Figure 4.** Average Daily Person Miles of Travel per Person by Gender 1983, 1990, 1995 NPTS, and 2001 and 2009 NHTS.





The average amount of time spent in a vehicle (as a driver or passenger) was about an hour overall but varied greatly by an individual's age. Minors (5-18) and older individuals (65 and over) spend the least amount of time in a vehicle, either as a driver or a passenger. Compared to 2001, Americans of all ages spent less time on an average day in a private vehicle.

**Figure 5.** Average Time Spent in a Vehicle by Age, 2001 and 2009 NHTS.





## 5.0 PRIVATE VEHICLE TRAVEL

The average amount of time spent driving was calculated using two different methods: (1) by including all drivers, even those who did not drive a private vehicle on the designated travel day, and (2) by excluding any drivers who did not drive on the designated travel day. In 2009, drivers spent fewer minutes in travel overall than in 2001, and those declines were seen in metropolitan areas of every size. People living in smaller cities generally spent slightly less time driving than those living in more populated areas.

**Table 15.** Average Minutes Spent Driving a Private Vehicle in a Typical Day by MSA Size 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

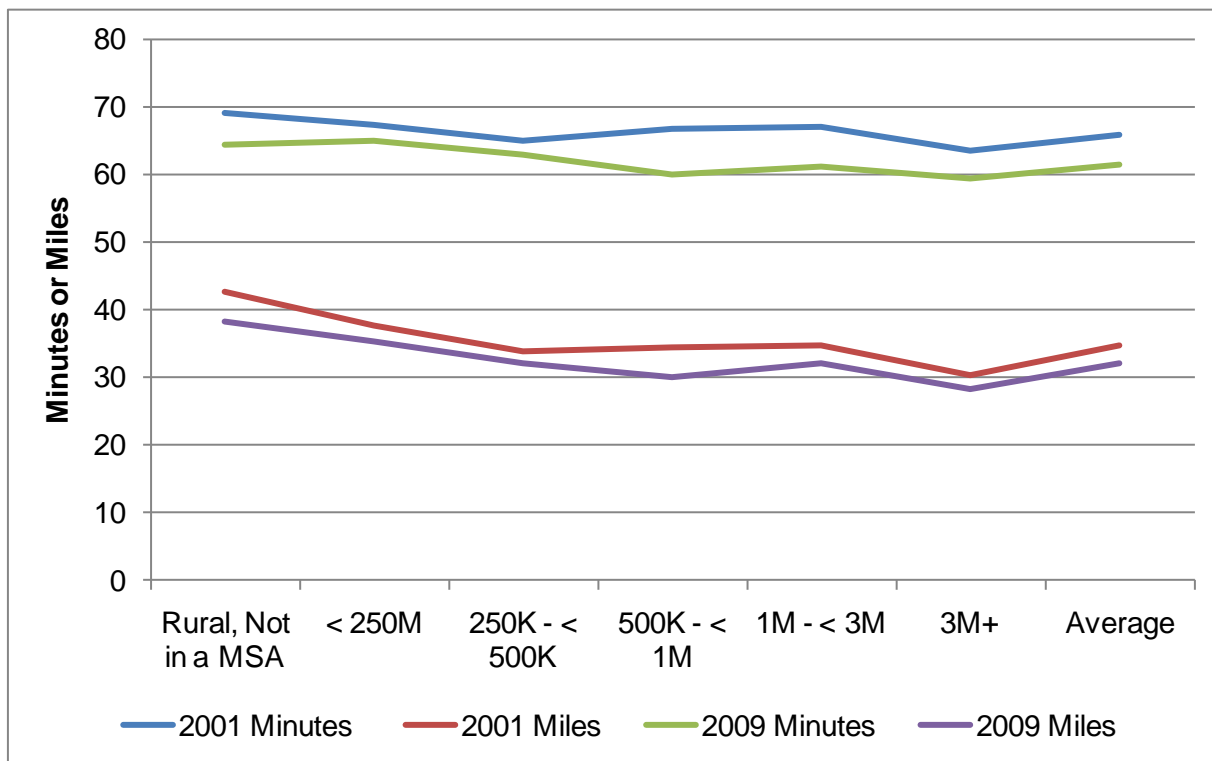
	All Drivers				
MSA Size	1990	1995	2001	2009	95% CI
<b>ALL</b>	<b>49.35</b>	<b>56.28</b>	<b>62.32</b>	<b>56.09</b>	<b>0.71</b>
Rural, Not in MSA	48.85	56.47	61.83	55.87	1.80
< 250,000	48.36	53.98	60.22	55.01	4.02
250,000 to 499,999	47.82	55.96	59.63	54.79	2.68
500,000 to 999,999	50.20	56.91	62.59	55.21	2.36
1 to 2.9 million	50.61	56.48	62.89	56.20	1.76
3+ million	49.38	56.49	63.29	56.85	1.15
	Only Persons Who Drove On Their Travel Day				
MSA Size	1990	1995	2001	2009	95% CI
<b>ALL</b>	<b>71.88</b>	<b>73.24</b>	<b>81.35</b>	<b>76.37</b>	<b>0.87</b>
Rural, Not in MSA	69.20	72.96	81.74	76.28	2.13
< 250,000	67.94	69.35	76.40	73.30	4.75
250,000 to 499,999	71.66	71.72	76.50	72.55	3.42
500,000 to 999,999	72.42	73.35	79.34	73.57	2.86
1 to 2.9 million	74.38	72.19	79.55	73.64	1.96
3+ million	71.08	75.02	85.12	80.48	1.34

**Note:**

- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- "Rural, Not in Metropolitan Statistical Area (MSA)" includes only areas outside of MSAs. There may also be rural areas included within MSA boundaries.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



**Figure 6.** Average Time Spent In Vehicles and Miles Traveled  
2001 and 2009 NHTS.





The trend of declining vehicle occupancy may have started to reverse, as overall occupancy shows an increase in 2001 and 2009. In 2009, the rise in occupancy was the result of a significant rise in vehicle occupancy for social and recreational travel – changes in occupancy for other purposes were not noteworthy. The calculated occupancy in this table is miles-weighted, using the reported number of people on the trip and the length of the trip together.

**Table 16.** Average Vehicle Occupancy for Selected Trip Purpose 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS (Person Miles per Vehicle Mile).

Trip Purpose	1977	1983	1990	1995	2001	2009	95% CI
To or From Work	1.3	1.29	1.14	1.14	1.14	1.13	0.01
Shopping	2.1	1.79	1.71	1.74	1.79	1.78	0.05
Other Family/Personal Errands	2	1.81	1.84	1.78	1.83	1.84	0.04
Social and Recreational	2.4	2.12	2.08	2.04	2.03	2.20	0.06
<b>All Purposes</b>	<b>1.9</b>	<b>1.75</b>	<b>1.64</b>	<b>1.59</b>	<b>1.63</b>	<b>1.67</b>	<b>0.03</b>

**Note:**

- All purposes includes other trip purposes not shown, such as trips to school, church, and work-related business.
- “Other Family/Personal Errands” includes personal business and medical/dental. Please see Appendix A - Glossary for definition.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



## 6.0 VEHICLE USE AND AVAILABILITY

Between 2001 and 2009, the number and percent of households with no vehicle available grew by nearly one million households, from 8.1 percent of all households to 8.7 percent.

The biggest change was the growth in households with one vehicle—in the 2009 NHTS 32.3 percent of all households reported owning one vehicle, nearly 2.8 million more than in 2001.

The percent of households with two or more vehicles decreased slightly, from 60.4 percent of all households to 59.0 percent, while number of households with two or more vehicles increased by nearly 2 million households.

**Table 17.** Number (Thousands) and Percent of Households by Availability of Household Vehicles 1969, 1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

Households with –	1969	1977	1983	1990	1995	2001	2009	95% CI
No Vehicle	12,876	11,538	11,548	8,573	7,989	8,716	9,828	49
<i>Percent</i>	20.6%	15.3%	13.5%	9.2%	8.1%	8.1%	8.7%	
One Vehicle	30,252	26,092	28,780	30,654	32,064	33,757	36,509	302
<i>Percent</i>	48.4%	34.6%	33.7%	32.8%	32.4%	31.4%	32.3%	
Two Vehicles	16,501	25,942	28,632	35,872	40,024	39,938	41,077	274
<i>Percent</i>	26.4%	34.4%	33.5%	38.4%	40.4%	37.2%	36.3%	
Three or More Vehicles	2,875	11,840	16,411	18,248	18,914	24,955	25,688	270
<i>Percent</i>	4.6%	15.7%	19.2%	19.6%	19.1%	23.2%	22.7%	
<b>ALL</b>	<b>62,504</b>	<b>75,412</b>	<b>85,371</b>	<b>93,347</b>	<b>98,990</b>	<b>107,365</b>	<b>113,101</b>	<b>0</b>
<i>Percent</i>	100%	100%	100%	100%	100%	100%	100%	
<b>Vehicles Per Household</b>	<b>1.16</b>	<b>1.59</b>	<b>1.68</b>	<b>1.77</b>	<b>1.78</b>	<b>1.89</b>	<b>1.86</b>	<b>0.01</b>

**Note:**

- The 1969 survey does not include pickups or other light trucks as household vehicles.
- Standard error of the estimate of household vehicles is too small to show (0.0000108).
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.

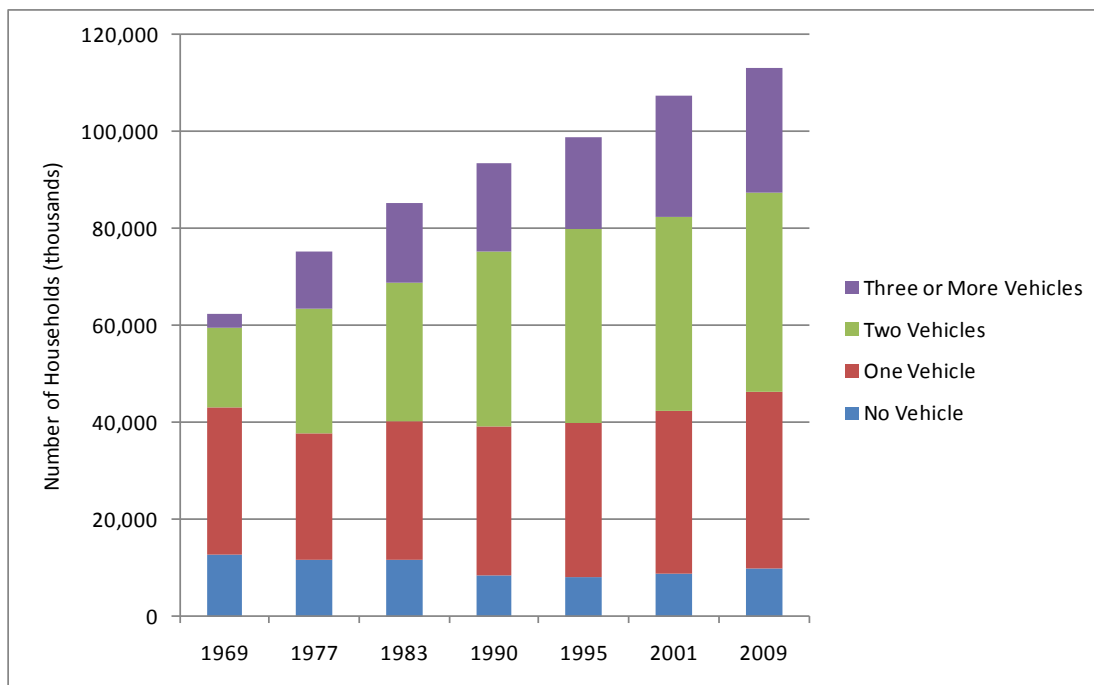




Approximately 40 million households have owned either zero or one vehicle since 1969. In 1969 those forty million households represented nearly 70 percent of households, while in 2009 the same number is less than 40 percent of all households.

On the other hand, just 2.8 million households in 1969 owned three or more vehicles, less than 5 percent of all households. That number has grown by nearly tenfold--to 25 million households, which in 2009 represented 23 percent of all households.

**Figure 7.** Trends in Household Distribution by Number of Household Vehicles 1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.





The traditional correlation between high population density and the percent of households with fewer or no vehicles is shown in the NHTS data series. Almost thirty percent of the households in areas with a population density greater than 10,000 persons per square mile did not own a vehicle in 2009, a proportion that has remained steady since 1995.

On the other hand, almost seventy percent of the households in the least densely-populated areas owned two or more vehicles, a proportion that has also remained about the same since 1995. Note that many more households in the U.S. are in lower density areas--for example 45 percent of all U.S. households are located in areas with less than 2,000 persons per square mile.

**Table 18.** Distribution of Households by Household Vehicle Availability and Population Density 1990 and 1995 NPTS and 2001 and 2009 NHTS.

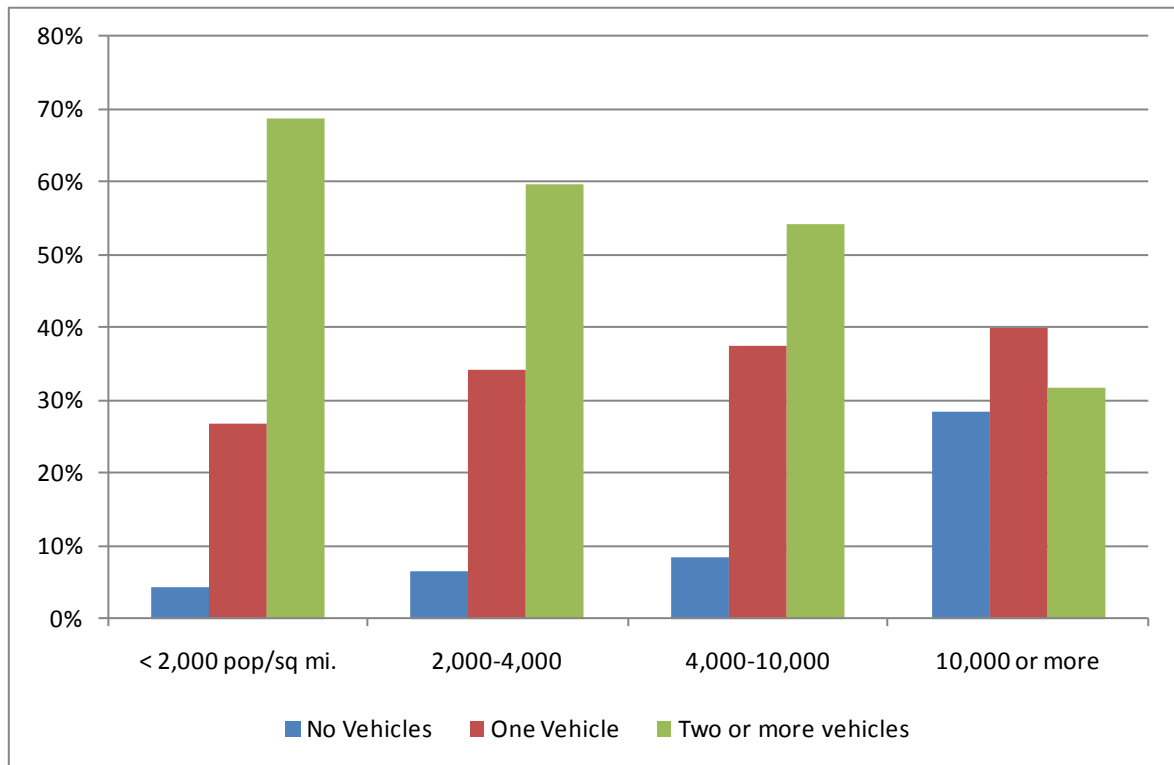
Household Vehicle Availability	Population Density (Persons per Square Mile)									
	Less than 2,000					2,000 to 4,000				
	1990	1995	2001	2009	95% CI	1990	1995	2001	2009	95% CI
ALL	100%	100%	100%	100%	0.00	100%	100%	100%	100%	0.00
No Vehicle	6.10%	3.60%	3.77%	4.38%	0.41	7.60%	5.84%	5.76%	6.39%	0.84
One Vehicle	30.40%	26.64%	25.76%	26.78%	0.76	33.40%	33.31%	32.80%	34.07%	1.47
Two or More Vehicles	63.50%	69.76%	70.47%	68.84%	0.89	59.00%	60.84%	61.44%	59.54%	1.66
Household Vehicle Availability	4,000 to 10,000					10,000 or more				
	1990	1995	2001	2009	95% CI	1990	1995	2001	2009	95% CI
	ALL	100%	100%	100%	100%	0.00	100%	100%	100%	100%
No Vehicle	10.90%	7.72%	8.08%	8.43%	0.73	35.10%	27.41%	26.33%	28.44%	1.40
One Vehicle	38.20%	37.16%	36.30%	37.49%	1.36	40.00%	41.78%	40.28%	39.89%	1.68
Two or More Vehicles	50.90%	55.13%	55.63%	54.08%	1.34	24.90%	30.81%	33.39%	31.67%	1.55

**Note:**

- CI is Confidence Interval.



**Figure 8.** Percent of Households by Vehicle Ownership and Population Density  
2009 NHTS.





Larger metro areas have a higher proportion of households with no vehicle than smaller towns and rural areas. The proportion of households without a vehicle available overall was 15.3 percent in 1977, and fell to 8.1 percent in 1995 and 2001, rising to 8.7 percent in 2009.

The most recent data shows a small but significant increase in the percent of households with no vehicle in areas with one million to 2.9 million people, and in areas of 3 million people or more. In large cities, some households chose not to own a vehicle due to the high cost or inconvenience, and the availability of other modes. There is also a considerable increase in the proportion of households without a vehicle in metro areas of 500,000 to less than one million people.

**Table 19.** Percent of Households without a Vehicle within MSA Size Group  
1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

MSA Size	Percent Households Within An Area Without a Vehicle						
	1977	1983	1990	1995	2001	2009	95% CI
Rural, Not in MSA	12.2%	10.5%	7.7%	5.3%	5.8%	5.6%	0.14
< 250,000	13.7%	10.1%	8.6%	4.8%	5.8%	6.3%	0.12
250,000 to 499,999	12.2%	8.1%	5.7%	7.3%	5.2%	5.6%	0.09
500,000 to 999,999	14.0%	14.3%	8.4%	6.3%	7.0%	8.3%	0.12
1 to 2.9 million	14.2%	12.1%	8.2%	6.9%	6.4%	7.2%	0.15
3+ million	26.1%	25.4%	12.4%	11.2%	11.9%	12.6%	0.14
<b>ALL</b>	<b>15.3%</b>	<b>13.5%</b>	<b>9.2%</b>	<b>8.1%</b>	<b>8.1%</b>	<b>8.7%</b>	<b>0.04</b>

**Note:**

- “Rural, Not in Metropolitan Statistical Area (MSA)” includes only areas outside of MSAs. There may also be rural areas included within MSA boundaries.
- The population size groups for 1977 - 1983 Nationwide Personal Transportation Survey (NPTS) are Standard Metropolitan Statistical Area (SMSA) Size Groups and 1990 - 2009 are MSA Size Groups.
- All tables reporting totals could include some unreported characteristics.



The share of passenger cars (autos) in the household vehicle fleet declined between 2001 and 2009. From the 80 percent share of all vehicles in 1977, the passenger car fell to just under one-half of all household vehicles in 2009. On the other hand the proportion of Sport Utility Vehicles (SUV) nearly tripled since first being included as a separate category in 1995.

The household vehicle fleet continues to age--the most recent data shows the average vehicle owned by U.S. households is 9.4 years old. The average age of vehicles in every common vehicle class is significantly older than in 2001--including autos, vans, SUVs, and pick-up trucks.

**Table 20.** Percent of Vehicles and Average Vehicle Age by Vehicle Type  
1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

	1977	1983	1990	1995	2001	2009	95% CI
<b>Distribution of Vehicles</b>							
<b>TOTAL</b>	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	0.00
Auto	79.6%	75.9%	74.7%	64.3%	56.8%	49.9%	0.45
Van	2.8%	3.6%	5.5%	7.8%	9.0%	8.2%	0.28
Sport Utility	NA	NA	NA	6.9%	12.1%	19.4%	0.35
Pickup	12.8%	15.2%	17.2%	17.7%	18.4%	17.8%	0.29
Other Truck	1.3%	1.5%	0.6%	0.4%	0.5%	0.4%	0.08
RV/Motor Home	0.4%	0.5%	0.5%	0.5%	0.7%	0.5%	0.06
Motorcycle/Moped	2.9%	3.1%	1.4%	0.9%	2.1%	3.3%	0.24
Light Electric Vehicle (LEV)	NA	NA	NA	NA	NA	0.0%	0.01
Other	0.2%	0.2%	0.1%	0.1%	0.5%	0.3%	0.05
<b>Average Vehicle Age</b>							
<b>TOTAL</b>	<b>6.60</b>	<b>7.60</b>	<b>7.71</b>	<b>8.33</b>	<b>8.87</b>	<b>9.38</b>	<b>0.10</b>
Auto	6.40	7.20	7.61	8.24	8.98	9.57	0.11
Van	5.50	8.45	5.88	6.68	7.56	8.68	0.18
Sport Utility	NA	NA	NA	6.56	6.44	7.09	0.15
Pickup	7.30	8.54	8.43	9.65	10.05	11.10	0.21
Other Truck	11.60	12.39	14.48	14.93	17.72	17.76	1.74
RV/Motor Home	4.50	10.69	10.44	13.21	13.49	15.46	1.47

**Note:**

- The 1990 and earlier surveys do not include a separate category for SUVs.
- The 1995 and later surveys did not include a separate category for Moped.
- In 2009 the survey included Light Electric Vehicles (LEV) as a separate classification. Motorcycle, moped, LEVs and other POV are excluded from the calculation of vehicle age.
- All tables reporting totals could include some unreported characteristics.
- CI is Confidence Interval.



Over the last decades one striking feature of the household vehicle fleet is the increase in the number of years an average vehicle is operated. In 1977, about one out of six vehicles were 10 years old or older and automobiles averaged 6.4 years of age. In 2009, vehicles averaged 9.6 years of age – a 50 percent increase of 3.2 years and nearly two out of five cars were in the oldest age category.

In the past, trucks and vans tended to be in operation longer than automobiles. However, beginning in 2001, this trend began to shift as automobiles were in operation longer than trucks and vans.

**Table 21.** Distribution of Vehicles by Vehicle Age and Vehicle Type  
1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS (Percent).

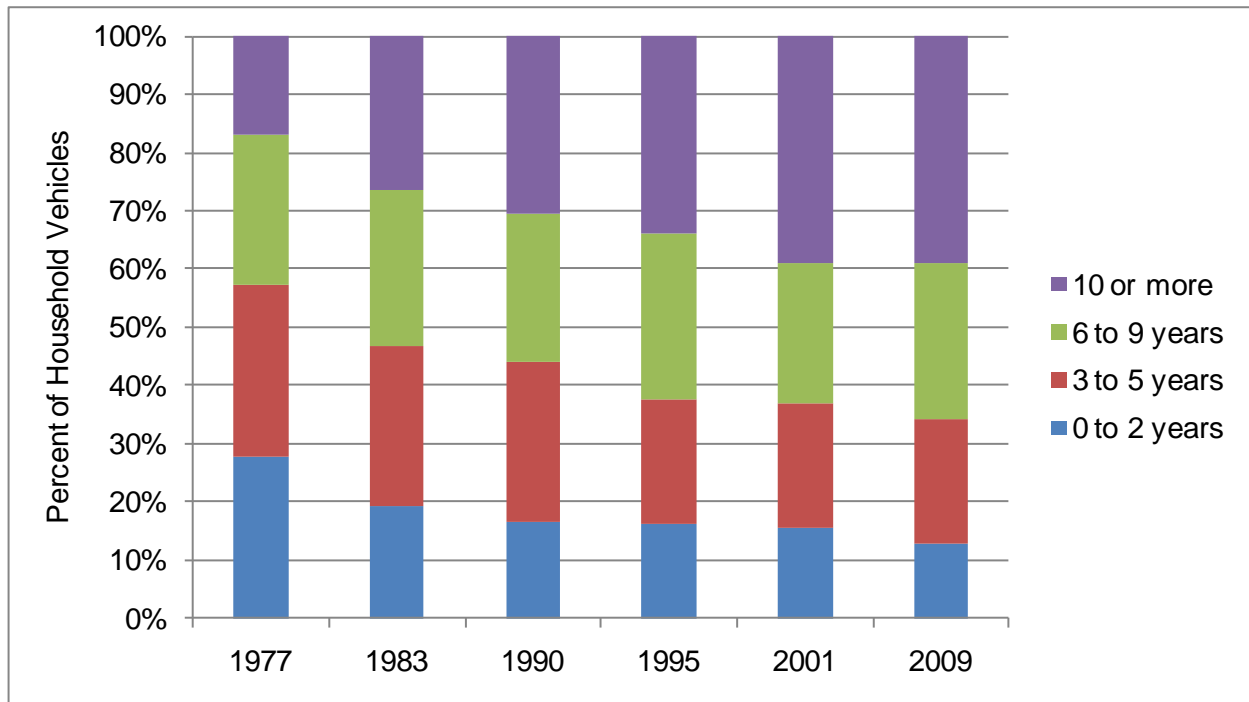
Survey Year	Vehicle Type	Vehicle Age				Total	Average Age
		0 to 2 years	3 to 5 years	6 to 9 years	10 or more		
1977	Auto	27.3%	30.4%	26.7%	15.6%	100.0%	6.4
	Truck/Van	29.9%	25.6%	21.1%	23.4%	100.0%	5.6
	All	27.8%	29.6%	25.7%	16.9%	100.0%	6.6
1983	Auto	20.0%	28.0%	27.4%	24.6%	100.0%	7.2
	Truck/Van	16.6%	26.6%	25.0%	31.8%	100.0%	7.8
	All	19.2%	27.6%	26.9%	26.3%	100.0%	7.6
1990	Auto	15.6%	27.7%	26.8%	29.9%	100.0%	7.6
	Truck/Van	19.7%	27.2%	20.9%	32.2%	100.0%	8.0
	All	16.6%	27.5%	25.3%	30.6%	100.0%	7.7
1995	Auto	14.9%	21.7%	30.3%	33.1%	100.0%	8.2
	Truck/Van	19.2%	21.6%	25.5%	33.7%	100.0%	8.3
	All	16.2%	21.5%	28.5%	33.8%	100.0%	8.3
2001	Auto	13.3%	20.4%	25.5%	40.9%	100.0%	9.0
	Truck/Van	18.6%	23.5%	22.6%	35.4%	100.0%	8.5
	All	15.4%	21.5%	24.1%	39.0%	100.0%	8.9
2009	Auto	12.4%	19.7%	27.0%	40.9%	100.0%	9.6
	Truck/Van	12.8%	23.6%	27.1%	36.6%	100.0%	9.0
	All	12.7%	21.6%	26.8%	38.9%	100.0%	9.4
2009 95% CI	Auto	0.49	0.58	0.70	0.74	0.00	0.11
	Truck/Van	0.49	0.60	0.69	0.66	0.00	0.11
	All	0.36	0.42	0.49	0.54	0.00	0.10

**Note:**

- The 1969 survey does not include pickups and other light trucks as household vehicles.
- Totals do not include any unreported vehicle ages, but do include vehicle types such as motorcycle, RV, etc. that are not shown.
- NPTS is Nationwide Personal Transportation Survey.



**Figure 9.** Distribution of Vehicles by Vehicle Age  
1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.





Based on vehicle owners' estimates, a vehicle was driven, on average, slightly more than 10,000 miles a year in 2009. This estimate is a decrease of nearly 10 percent from 2001, which showed a decrease of nearly 10 percent from 1995. Regardless of vehicle age, vehicles were driven less in 2009, on average, than in 1995 or 1990. This reflects both increases in vehicle ownership and decreases in total vehicle travel.

**Table 22.** Average Annual Miles per Vehicle by Vehicle Age (Vehicle Owner's Estimate) 1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

Vehicle Age	1969	1977	1983	1990	1995	2001	2009	95% CI
0 to 2 years	15,700	14,460	15,292	16,811	16,092	14,892	13,851	533
3 to 5 years	11,200	11,074	11,902	13,706	14,004	13,230	12,042	198
6 to 9 years	9,700	9,199	9,253	12,554	12,608	11,603	10,741	280
10 or more years	6,500	6,755	7,023	9,176	8,758	7,863	7,401	160
<b>ALL</b>	<b>11,600</b>	<b>10,679</b>	<b>10,315</b>	<b>12,458</b>	<b>12,226</b>	<b>11,078</b>	<b>10,088</b>	<b>133</b>

**Note:**

- The 1969 survey does not include pickups and other light trucks as household vehicles.
- All tables reporting totals could include some unreported characteristics.
- CI is Confidence Interval.





Although the number of miles driven per licensed driver seemed to decrease for all but the oldest age groups between 2001 and 2009, the decrease in annual miles was significant for only the youngest two age groups (the 2001 estimate was higher than the margin of error of the 2009 estimate). For both the highly-mobile middle-aged groups and for the estimate for all drivers the differences are within the margin of error. However, the growth in annual miles of driving was sizable for the oldest age group--people ages 65 and older.

**Table 23.** Average Annual Miles per Licensed Driver By Driver Age and Gender  
(Driver's Self Estimate) 1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

Driver's Age	1969	1977	1983	1990	1995	2001	2009	95% CI
<b>ALL</b>								
16 to 19	4,633	5,662	4,986	8,485	7,624	7,331	6,244	540
20 to 34	9,348	11,063	11,531	14,776	15,098	15,650	13,709	615
35 to 54	9,771	11,539	12,627	14,836	15,291	15,627	15,117	321
55 to 64	8,611	9,196	9,611	11,436	11,972	13,177	12,528	387
65+	5,171	5,475	5,386	7,084	7,646	7,684	8,250	346
<b>ALL</b>	<b>8,685</b>	<b>10,006</b>	<b>10,536</b>	<b>13,125</b>	<b>13,476</b>	<b>13,827</b>	<b>12,888</b>	<b>204</b>
<b>Men</b>								
16 to 19	5,461	7,045	5,908	9,543	8,206	8,228	6,652	633
20 to 34	13,133	15,222	15,844	18,310	17,976	18,634	15,716	1041
35 to 54	12,841	16,097	17,808	18,871	18,858	19,287	17,654	450
55 to 64	10,696	12,455	13,431	15,224	15,859	16,883	15,117	555
65+	5,919	6,795	7,198	9,162	10,304	10,163	10,322	324
<b>ALL</b>	<b>11,352</b>	<b>13,397</b>	<b>13,962</b>	<b>16,536</b>	<b>16,550</b>	<b>16,946</b>	<b>15,139</b>	<b>328</b>
<b>Women</b>								
16 to 19	3,586	4,036	3,874	7,387	6,873	6,106	5,753	881
20 to 34	5,512	6,571	7,121	11,174	12,004	12,266	11,484	472
35 to 54	6,003	6,534	7,347	10,539	11,464	11,590	12,035	381
55 to 64	5,375	5,097	5,432	7,211	7,780	8,795	9,544	407
65+	3,664	3,572	3,308	4,750	4,785	4,803	5,824	646
<b>ALL</b>	<b>5,411</b>	<b>5,940</b>	<b>6,382</b>	<b>9,528</b>	<b>10,142</b>	<b>10,267</b>	<b>10,244</b>	<b>213</b>

**Note:**

- All tables reporting totals could include some unreported characteristics.
- In 1995, some drivers reported zero annual miles--these were changed to miles not reported.
- CI is Confidence Interval.



## 7.0 COMMUTE TRAVEL PATTERNS

The number of commute vehicle trips, the vehicle miles of travel (VMT) for commuting, and the total vehicle miles for commuting are about the same as the 2001 estimate (within the margin of error). The total estimated number of workers increased between 2001 and 2009, while the annual commute vehicle trips per worker decreased.

**Table 24.** Commute Trips and VMT and Total VMT by Year  
1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

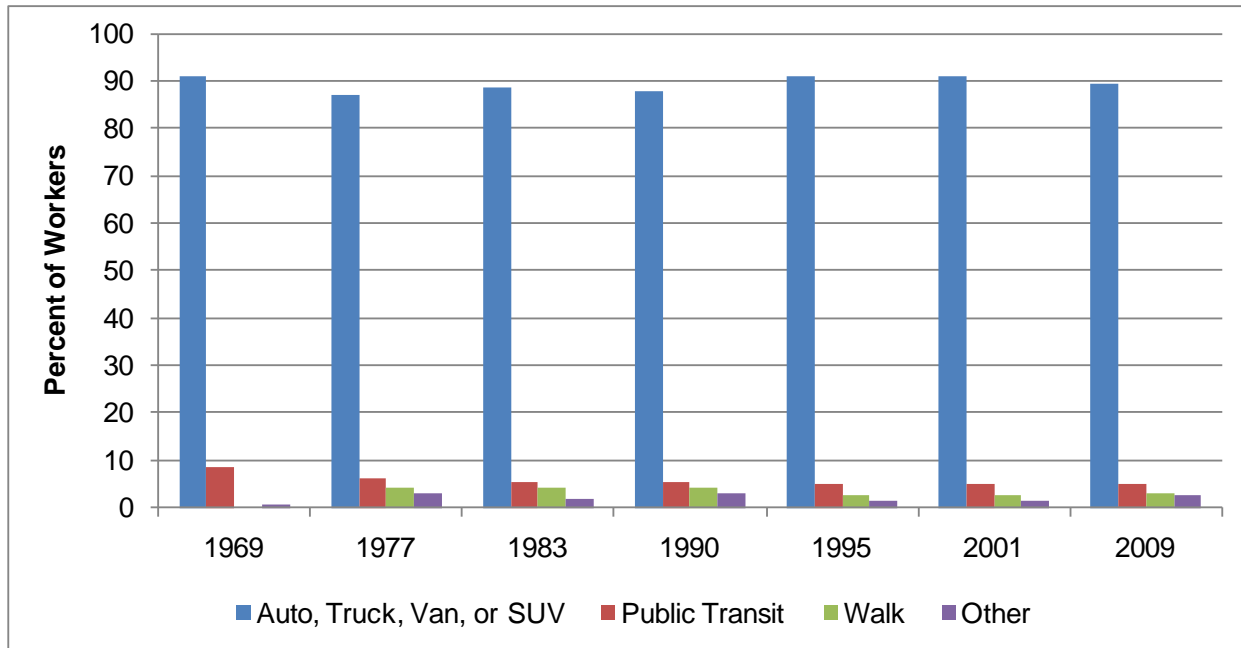
	1969	1977	1983	1990	1995	2001	2009	95% CI
Commute Vehicle Trips (000,000)	27,844	31,886	35,271	41,792	54,782	51,395	51,699	897
Commute VMT (000,000)	260,716	287,710	301,644	453,042	642,610	614,548	623,479	16,794
Total VMT (000,000)	775,940	907,603	1,002,139	1,695,290	2,068,368	2,274,797	2,245,112	56,158
% Commute VMT of Total VMT	33.60%	31.70%	30.10%	26.72%	31.07%	27.02%	27.77%	
Workers (000)	75,758	93,019	103,244	118,343	131,697	145,272	151,373	893
Annual Commute Vehicle Trips per Worker	368	343	342	353	416	354	342	5.41

**Note:**

- 1995 Vehicle Miles of Travel (VMT) and vehicle trips with "To or From Work" as a trip purpose is believed to be overstated.
- Slightly different approaches were used in defining workers and commute trips between the 1990 and 1995 Nationwide Personal Transportation Survey (NPTS).
- CI is Confidence Interval.



**Figure 10.** Trends in the Distribution of Workers by Usual Commute Mode  
1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.



**Note:**

- The usual mode is defined as the means of transportation usually used to go to work in the week prior to the travel day.
- The 1969 survey excluded walk trips.
- Public Transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar.
- Other includes other modes not shown above such as motorcycle, Amtrak, airplane, taxi, bike, school bus, and other.



Since 1969, workers in the U.S. predominately traveled to work in privately-owned vehicles. The proportion of workers who usually commute by transit has remained about the same since 1995-- 5.1% of the commuters reported public transit as their usual mode to work.

**Table 25.** Distribution of Workers by Usual Commute Mode  
1969, 1977, 1983, 1990 and 1995 NPTS, and 2001 and 2009 NHTS.

Usual Commute Mode	1969	1977	1983	1990	1995	2001	2009	95% CI
<b>All Modes</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>0.00</b>
Auto, Truck, Van, or SUV	90.8	87.0	88.6	87.8	91.0	90.8	89.4	0.52
Public Transit	8.4	6.0	5.3	5.3	5.1	5.1	5.1	0.41
Walk	N/A	4.1	4.3	4.0	2.6	2.8	2.8	0.34
Other	0.8	2.9	1.8	2.9	1.3	1.3	2.7	0.25

**Note:**

- Usual mode is defined as the means of transportation usually used to go to work during the week before the interview.
- Data in this table are derived from the person file.
- The 1969 survey excludes walk trips.
- All modes do not include workers who worked at home or any unreported modes.
- Other includes other modes not shown above such as motorcycle, Amtrak, airplane, taxi, bike, school bus, and other.
- Public Transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar.



**Table 26.** Usual Commute Mode to Work vs. Actual Work Trip Mode on Travel Day  
2009 NHTS.

'Usual' Commute Mode:	On Travel Day Commuted by:					
	Drove Alone	Carpool	Transit	Walk	Bike	Other
Drove Alone	<b>93.5</b>	5.6	0.1	0.5	0.1	0.4
Carpool	42.9	<b>54.8</b>	0.5	1.0	0.0	0.8
Transit	13.2	9.2	<b>68.3</b>	6.6	0.8	1.9
Walk	6.1	9.3	3.4	<b>80.2</b>	0.2	0.7
Bike	13.8	3.3	6.0	2.6	<b>73.0</b>	1.4
Other	64.1	19.0	4.2	4.3	0.3	<b>8.0</b>

**Note:**

- Based on workers who reported both a usual commute mode 'last week' and a work trip mode on the assigned travel day.



**Table 27.** General Commute Patterns by Mode of Transportation  
1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS.

	1977	1983	1990	1995	2001	2009	95% CI
<b>All</b>	<b>All Modes</b>						
Average Commute Trip Length (miles)	9.06	8.54	10.65	11.63	12.11	11.79	0.29
Average Commute Travel Time (minutes)	19.23	18.20	19.60	20.65	23.32	23.85	0.35
Average Commute Speed (miles per hour)	34.72	26.84	33.35	34.67	32.23	27.50	0.33
<b>Private Vehicle</b>	<b>Private Vehicle</b>						
Average Commute Trip Length (miles)	9.61	8.86	11.02	11.84	12.10	12.09	0.25
Average Commute Travel Time (minutes)	18.95	17.62	19.05	20.10	22.49	22.85	0.34
Average Commute Speed (miles per hour)	37.50	27.78	31.49	35.18	32.27	28.87	0.31
<b>Public Transit</b>	<b>Public Transit</b>						
Average Commute Trip Length (miles)	7.48	9.00	12.75	12.88	11.73	10.18	1.54
Average Commute Travel Time (minutes)	37.59	37.79	41.10	41.95	55.50	52.98	4.19
Average Commute Speed (miles per hour)	12.58	15.44	18.02	18.22	12.96	11.42	0.99
<b>Walk</b>	<b>Walk</b>						
Average Commute Trip Length (miles)	-	-	0.83	0.74	0.91	0.98	0.23
Average Commute Travel Time (minutes)	-	-	9.79	10.86	14.06	16.15	2.28
Average Commute Speed (miles per hour)	-	-	4.99	3.58	3.18	4.77	0.51

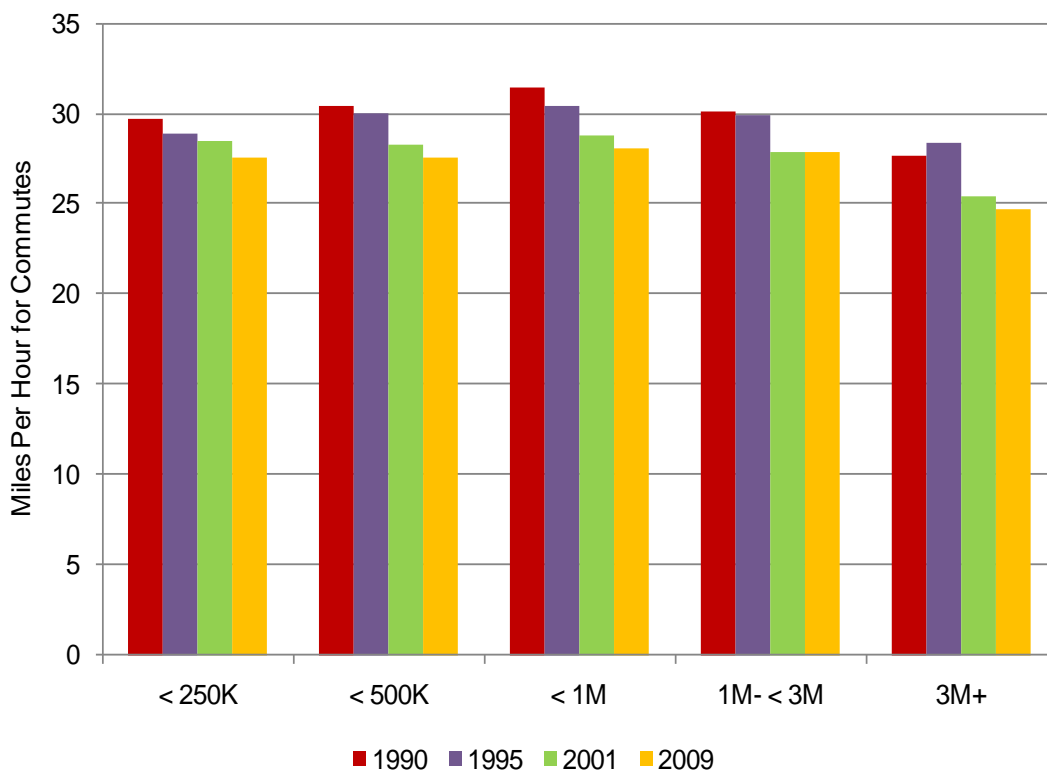
**Note:**

- Trip miles and travel times were calculated using actual trips to and from work as reported in the travel day file.
- Average commute speed was calculated using only those trips with both trip mileage and travel time information present.
- Average commute trip length was calculated using only those records with trip mileage information present.
- In 2001 the mode "Bus" was divided into "Local Public Transit Bus," "Commuter Bus," "Charter/tour bus," and "City to city bus." Only "Local Public Transit Bus" and "Commuter Bus" are included in public transit calculations.
- Public transit includes local bus, commuter bus, commuter train, subway, trolley, and streetcar.
- Commute time for public transit includes total trip time in 2001 and 2009, including access and egress.
- NPTS is Nationwide Personal Transportation Survey. CI is Confidence Interval.



The average speed of commuting has declined slightly in all metro areas, regardless of size. Since 1990, the middle-sized metro areas have seen the greatest decline in commute speed (including all modes of travel). For instance, in 1990 areas between 500 thousand and one million in population had calculated average commute speeds of 31 miles per hour. In 2009, the average commute speed in the same sized areas had declined over ten percent to about 28 miles per hour.

**Figure 11.** Average Commute Speeds by MSA Size (All Modes)  
1990 and 1995 NPTS and 2001 and 2009 NHTS.



**Note:**

- The U.S. Census Bureau defines the geographic boundaries of Metropolitan Statistical Areas (MSA) in urbanized areas based on U.S. population data. The 2009 NHTS includes the 2003 U.S. Census definitions for statistical areas and established benchmarks based on those definitions.



**Table 28.** Average Commute Speed by MSA Size  
1977, 1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS (Miles per Hour).

	MSA Size					
	Rural, Not in (S)MSA	Less than 250,000	250,000 to 499,999	500,000 to 999,999	1 to 2.9 million	3 million and over
<b>POV</b>						
1977	-	29.1	26.5	26.7	29.0	22.0
1983	29.6	26.0	26.7	27.9	28.2	27.0
1990	33.4	30.7	31.1	32.5	31.4	30.2
1995	32.1	30.0	30.7	31.2	30.6	30.3
2001	32.6	29.1	28.8	29.3	28.7	27.1
2009	32.5	28.4	28.4	28.8	28.7	26.8
95% CI	0.82	0.82	0.02	0.81	0.63	0.51
<b>ALL MODES (INCLUDING POV)</b>						
1977	-	25.8	26.5	26.5	27.5	20.0
1983	28.9	25.6	26.3	27.3	27.4	24.8
1990	32.0	29.7	30.4	31.4	30.2	27.7
1995	31.2	28.9	30.0	30.4	29.9	28.4
2001	31.9	28.5	28.3	28.8	27.9	25.4
2009	31.6	27.6	27.6	28.1	27.8	24.7
95% CI	0.77	0.77	0.23	0.85	0.70	0.52

**Note:**

- Average Commute Speed is calculated using only those trips with both trip mileage and travel time information present.
- All trip miles and travel times were calculated using actual trips to and from work as reported in the travel day file.
- Average commute speed for 'All Modes' does not include wait time for transit.
- The population size groups for 1977 - 1983 Nationwide Personal Transportation Survey (NPTS) are Standard Metropolitan Statistical Area (SMSA) Size Groups and 1990 - 2001 are MSA Size Groups.
- CI is Confidence Interval. POV is Privately Owned Vehicle. MSA is Metropolitan Statistical Area.





## 8.0 TEMPORAL DISTRIBUTION

The percent of person trips by time of day has remained about the same during the past decade – more than two-fifths of all person trips started between 9 o'clock in the morning and 4 o'clock in the afternoon.

**Table 29.** Distribution of Person Trips by Start Time of Trip  
1983, 1990, and 1995 NPTS, and 2001 and 2009 NHTS (Percent).

Time of Day	1983	1990	1995	2001	2009	95% CI
10 pm - 1 am	4.0	4.1	3.5	2.9	2.6	0.13
1 - 6 am	3.3	1.8	1.7	1.8	1.8	0.08
6 - 9 am	14.4	12.5	13.8	14.4	15.0	0.21
9 am - 1 pm	23.4	20.6	24.2	24.6	24.8	0.29
1 - 4 pm	20.8	20.7	22.1	22.1	22.4	0.34
4 - 7 pm	21.2	22.9	23.0	22.3	22.6	0.29
7 - 10 pm	12.3	13.2	11.8	11.7	11.0	0.23
<b>ALL</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>0.00</b>

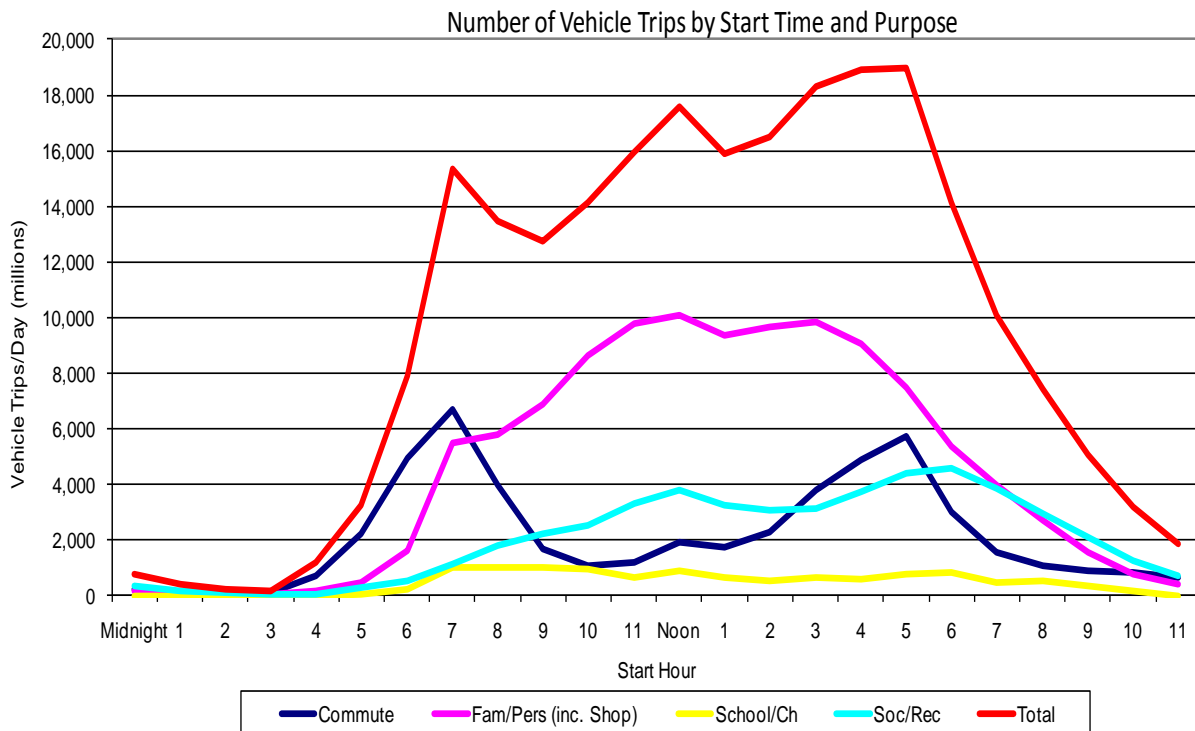
**Note:**

- All tables reporting totals could include some unreported characteristics.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval.



Looking at vehicle trips by time of day and purpose shows that the morning and evening peak periods include not just commutes, but family and personal errands, school trips, and other non-work trips which add to the number of vehicles during the peak periods. As expected, commuting to and from work began predominately between 6 and 9 o'clock in the morning and between 4 and 7 o'clock in the afternoon while more than half of non work-related trips started between 9 am and 4 pm.

**Figure 12.** Distribution of Vehicle Trips by Trip Purpose and Start Time of Trip 2009 NHTS.





**Table 30.** Daily Travel Statistics by Weekday vs. Weekend  
1990 and 1995 NPTS and 2001 and 2009 NHTS.

Daily Travel Statistics	1990		1995		2001		2009		95% CI	
	Weekday	Sat/Sun	Weekday	Sat/Sun	Weekday	Sat/Sun	Weekday	Sat/Sun	Weekday	Sat/Sun
Vehicle Trips per Driver	3.41	2.89	3.81	2.99	3.56	2.85	3.21	2.53	0.03	0.05
% work trips	27.80%	9.70%	31.90%	12.50%	31.20%	10.60%	30.99%	10.14%	0.58	0.65
% non-work trips	72.20%	90.30%	68.10%	87.50%	68.80%	89.40%	69.01%	89.86%	0.58	0.65
VMT per Driver	28.54	28.36	33.46	28.87	34.35	28.70	30.55	25.01	0.89	1.05
Average Vehicle Trip Length	8.47	9.96	8.85	9.73	9.75	10.22	9.62	10.03	0.26	0.46
Average Time Spent Driving (in minutes)	50.68	46.07	59.48	48.05	64.79	52.39	59.83	46.68	0.84	1.32
Person Trips	3.82	3.60	4.43	3.96	4.18	3.86	3.91	3.51	0.04	0.07
Person Miles of Travel	32.6	40.64	37.68	41.14	39.41	42.31	35.76	37.05	1.33	3.32
Average Person Trip Length	9.47	11.51	8.63	10.53	9.60	11.18	9.37	10.80	0.34	0.99

**Note:**

- Average time spent driving includes all drivers, even those who did not drive a private vehicle on the day in which the household was interviewed.
- Average trip length is calculated using only those records with trip mileage information present.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (see 2001 Summary of Travel Trends Appendix 2).
- "% Work Trips" also includes Work-Related Business.
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval. VMT is Vehicle Miles of Travel. PMT is Person Miles of Travel.



## 9.0 TRAVEL BEHAVIOR OF SPECIAL-POPULATIONS

On a daily basis, individuals 65 and older took fewer trips in 2009 than in 2001 and in 1995. The average time spent driving (including drivers who reported trips and those that did not) was less in 2009 than in 2001. Person trips and person miles of travel by all means (PMT) was less than in 2001. However, the average person trip length was about the same in 2009 as in 2001 (the 2001 estimate is within the margin of error).

**Table 31.** Daily Travel Statistics of People 65 and Older 1983, 1990, and 1995 NPTS and 2001 and 2009 NHTS.

Daily Travel Statistics	1983	1990	1995	2001	2009	95% CI
Vehicle Trips per Driver	1.66	2.27	2.94	2.84	2.67	0.05
% work trips	10.20%	4.80%	8.50%	6.20%	10.60%	0.97
% non-work trips	89.80%	95.20%	91.50%	93.80%	89.40%	0.97
VMT per Driver	9.8	14.83	19.56	21.13	19.69	0.75
Average Vehicle Trip Length	5.92	6.61	6.69	7.51	7.46	0.29
Average Time Spent Driving (in minutes)	NA	30.83	42.89	49.11	46.37	1.26
Person Trips per Person	1.82	2.49	3.43	3.42	3.21	0.07
PMT per Person	12.21	19.85	25.24	28.04	24.96	1.25
Average Person Trip Length	6.7	8.12	7.46	8.35	7.99	0.42

**Note:**

- Average time spent driving includes all drivers, even those who did not drive a private vehicle on the day in which the household was interviewed.
- Average trip length is calculated using only those records with trip mileage information present.
- 1990 person and vehicle trips were adjusted to account for survey collection method changes (See 2001 Summary of Travel Trends Appendix 2).
- "% Work Trips" also includes Work-Related Business.
- NPTS is Nationwide Personal Travel Survey. CI is Confidence Interval. VMT is Vehicle Miles of Travel.



**Table 32.** Selected Data for Older Population Groups  
2009 NHTS.

	Percent Drivers	95% CI	Vehicle Miles/Driver	95% CI	Percent with Zero Vehicles Available	95% CI	Percent Who Did Not Travel on Travel Day	95% CI	Percent with Disability	95% CI
All Age Groups 50 and Older	87.9%	0.52	26.83	0.6665	7.7%	0.40	17.3%	0.60	17.5%	0.53
50-59	93.7%	0.69	31.51	1.2909	4.9%	0.54	11.2%	0.71	10.9%	0.91
60-69	91.4%	0.89	27.63	1.1838	6.8%	0.92	14.9%	0.94	15.8%	0.87
70-79	83.0%	1.32	18.77	1.1409	10.3%	1.28	24.3%	1.58	22.6%	1.30
80 and older	61.7%	2.17	12.04	1.029	17.6%	1.84	38.0%	2.91	41.3%	2.11
Men 50 and Older	93.2%	0.50	33.55	1.1435	5.2%	0.47	14.3%	0.83	14.4%	0.71
50-59	95.7%	0.67	37.63	1.7578	4.5%	0.67	10.8%	1.11	9.9%	1.19
60-69	95.1%	0.94	34.62	2.2505	5.2%	1.09	12.8%	1.13	13.5%	1.26
70-79	90.8%	1.42	26.51	2.1808	5.4%	1.27	18.3%	1.87	18.6%	1.70
80 and older	77.4%	2.76	16.98	2.2002	9.0%	2.84	31.2%	3.90	34.2%	2.95
Women 50 and Older	83.3%	0.86	20.33	0.8645	9.9%	0.61	20.0%	0.84	20.2%	0.72
50-59	91.8%	1.19	25.29	1.8228	5.2%	0.94	11.7%	0.83	11.8%	1.26
60-69	88.2%	1.52	20.92	1.1825	8.3%	1.18	16.7%	1.40	17.9%	1.21
70-79	77.1%	1.97	11.84	0.7852	14.0%	1.90	28.9%	2.14	25.7%	2.01
80 and older	52.4%	2.73	7.76	0.8063	22.7%	2.23	42.1%	3.42	45.4%	2.77

**Note:**

- Percent with Disability is based on respondents who answered that they had a temporary or permanent condition that makes it difficult for them to travel outside of the home.
- CI is Confidence Interval.



Younger drivers drove fewer miles per capita (including people who drove on the travel day and those who did not) in 2009 than in 1995 or 2001. In urbanized areas, where the majority of the population lives, the declines in vehicle miles of driving per day are significant for 16-34 but not for drivers 35 and older. In rural areas, the drops are only significant for drivers 25 years and older, not for the youngest age group. In 2009, drivers 35 to 44 years old drove more vehicle miles per day in both urban and rural areas than other age groups.

**Table 33.** Vehicle Miles of Travel (VMT) per day for Younger Population Groups by Urban and Rural Household Location 2009 NHTS.

Household Location	Age	1990	1995	2001	2009	95% CI
All	All	25.06	28.50	29.54	25.77	0.64
All	16-24	22.38	22.55	22.40	17.43	1.13
All	25-34	31.93	33.48	32.82	26.79	1.67
All	35-44	30.87	34.55	36.36	32.54	1.79
All	45+	19.41	24.96	27.28	25.23	0.77
Urban	All	22.41	25.00	27.30	23.14	0.72
Urban	16-24	20.22	19.71	20.89	14.61	0.98
Urban	25-34	28.54	30.06	30.71	24.51	2.00
Urban	35-44	27.36	30.33	33.34	30.11	2.14
Urban	45+	16.97	21.46	25.02	22.41	0.83
Rural	All	29.61	34.63	37.56	34.18	1.15
Rural	16-24	26.85	28.17	28.19	25.84	3.08
Rural	25-34	38.65	40.06	42.11	34.61	2.58
Rural	35-44	36.86	41.55	47.12	40.45	3.22
Rural	45+	23.00	30.77	34.58	34.22	1.70

**Note:**

- Urban and Rural are based on the household location and the Census 2000 Urbanized areas.
- Totals can include some unreported characteristics.
- VMT is Vehicle Miles of Travel. CI is Confidence Interval.



The NHTS includes information on the household-based vehicle fleet, including the fuel efficiency of each vehicle, annual miles of vehicle use, the resulting amount of gallons of gasoline, and the average cost of gasoline at the household location during the interview period. The most recent NHTS was collected from April 2008 through April 2009. The average cost for a gallon of gasoline during that 13-month period was \$2.96, although the summer of 2008 saw prices spike as high as \$4.00.

When weighted to an annual estimate, an average household in the 2009 NHTS sample spent about \$3,300 per year for gasoline for all the vehicles in the household. The same estimate for an average household in the 2001 NHTS was \$1,275. These data show that the average expenditures on gasoline by U.S. households have more than doubled since 2001.

Urban households spend less overall than rural households because they travel fewer miles for everyday trips and generally own smaller vehicles that are more fuel efficient.

**Table 34.** Annual Expenditures on Gasoline by Urban and Rural Households by Number of Vehicles 2001 and 2009 NHTS.

Household Location	2001 Dollars/Year	2009 Dollars/Year	95% CI
All	\$ 1,274.55	\$ 3,308.38	36.3
One Vehicle	\$ 556.13	\$ 1,431.74	32.5
Two Vehicle	\$ 1,324.72	\$ 3,414.65	46.6
Three or more Vehicles	\$ 2,166.10	\$ 5,805.61	106.7
All Urban	\$ 1,178.07	\$ 2,981.09	32.2
Urban One Vehicle	\$ 538.12	\$ 1,382.15	35.0
Urban Two Vehicle	\$ 1,285.99	\$ 3,290.29	45.7
Urban Three or more Vehicles	\$ 2,065.38	\$ 5,402.64	115.1
All Rural	\$ 1,622.62	\$ 4,338.65	110.4
Rural One Vehicle	\$ 660.79	\$ 1,701.37	115.7
Rural Two Vehicle	\$ 1,469.22	\$ 3,804.67	127.7
Rural Three or more Vehicles	\$ 2,379.02	\$ 6,515.68	197.2

**Note:**

- Only households with one or more vehicles are included.
- Gasoline prices were assigned based on the household location and average pump price for the week of the interview. For more information, see <http://nhts.ornl.gov/publications.shtml>.
- All tables reporting totals could include some unreported characteristics.
- CI is Confidence Interval.



The data indicates that on-line shopping is more prevalent in households with children, especially teens and young adults (children aged 16-21). Overall the average household reported purchasing three items from on-line sources in the last month, and 4 out of 5 of the on-line purchase (2.4 items) were delivered to the household. Households with older children aged 16-21 years old reported purchasing the most items on-line last month – 5.2 purchases.

**Table 35.** Average Number of On-Line Purchases and Deliveries to U.S. Households in the Last Month 2009 NHTS.

Household Type/Presence of Children	On-Line Purchases per Household in the Last Month	95% CI	Number of Purchases Delivered to the Household	95% CI
All Households	3.0	0.1	2.4	0.1
Households without Children	2.1	0.1	1.6	0.1
Households with Children 5-15	4.5	0.2	3.7	0.2
Households with Children 16-21	5.2	0.7	4.2	0.6

**Note:**

- The 2009 NHTS was the first time data was collected on home deliveries from Internet shopping and on-line purchases. A trend analysis over time is not available.
- CI is Confidence Interval.





The 2009 NHTS included details about workers, such as general occupation categories, questions to identify self-employed workers and workers who work at home, and more detail on commute options, such as arrival time flexibility.

The data shows that many workers have the ability to set or change their arrival time at work--well over one-third of all workers and nearly half of those in professional, managerial, or technical occupations can set or change their arrival time at work.

One out of five workers either works exclusively from home (8.7 percent) or has the option to work at home instead of going into their regular workplace (10.9 percent). Over 18 percent of workers in professional occupations have the option of working at home.

**Table 36.** Special Commute Characteristics by General Occupation  
2009 NHTS.

General Occupation	Percent with Flexible Arrival Time	95% CI	Has the Option of Working at Home	95% CI	Percent who Work Exclusively at Home	95% CI
Of All Workers	34.8%	0.6	10.9%	0.4	8.7%	0.4
Clerical or Administrative Support	36.0%	2.2	6.1%	0.9	4.4%	0.7
Manuf./Cons, Maintenance or Farming	20.7%	1.3	3.6%	0.7	11.4%	1.1
Professional, Managerial, or Technical	46.8%	1.1	18.3%	0.9	7.3%	0.5
Sales or Service	27.5%	1.0	7.2%	0.7	10.2%	0.8
Other	1.9%	0.3	8.8%	3.5	0.0%	0.0

**Note:**

- The question on flexible arrival time was: "Do you have the ability to set or change your own start work time?"
- The option to work at home: "Do you have the option of working at home instead of going into your primary workplace?"
- Workers who work exclusively at home were not asked the previous questions.
- "Other" and "all" can include workers with no fixed work place, self-employed, and unclassified occupations.





**APPENDIX A: TRAVEL CONCEPTS AND GLOSSARY OF TERMS**



## ABBREVIATIONS

<b>AAPOR</b>	American Association for Public Opinion Research
<b>AHI</b>	At Home Interviewers
<b>CASRO</b>	Council of American Survey Research Organizations
<b>CATI</b>	Computer Assisted Telephone Interviewing
<b>CBSA</b>	Core Based Statistical Area
<b>CMSA</b>	Consolidated Metropolitan Statistical Area
<b>CPS</b>	Current Population Survey
<b>CSA</b>	Combined Statistical Area
<b>DOT</b>	Department of Transportation
<b>FHWA</b>	Federal Highway Administration
<b>FTA</b>	Federal Transit Administration
<b>FIPS</b>	Federal Information Processing Standards
<b>HH</b>	Household
<b>HHM</b>	Household Member
<b>ID</b>	Identification Number
<b>METDIV</b>	Metropolitan Division
<b>MPO</b>	Metropolitan Planning Organization
<b>MSA</b>	Metropolitan Statistical Area
<b>NHTS</b>	National Household Travel Survey
<b>NHTSA</b>	National Highway Traffic Safety Administration
<b>NPTS</b>	National Personal Transportation Survey
<b>PMSA</b>	Primary Metropolitan Statistical Area
<b>PMT</b>	Person Miles of Travel
<b>POV</b>	Privately Operated Vehicle
<b>PSU</b>	Primary Sampling Unit
<b>RDD</b>	Random Digit Dialing
<b>RTI</b>	Research Triangle Institute
<b>SAS</b>	Statistical Analysis System
<b>TRC</b>	Telephone Research Center
<b>VMT</b>	Vehicle Miles of Travel

## TRAVEL CONCEPTS

**PERSON TRIP**      **DEFINITION** - A trip from one address to another by one person in any mode of transportation. This is the most basic and universal measure of personal travel. Each record in the Travel Day file in the NHTS dataset represents one person trip.

**EXAMPLES** - Two household members traveling together in one car are counted as two person trips. Three household members walking to the store together are counted as three person trips.

**PERSON TRAVEL**      **DEFINITION** – For NHTS data, person travel includes all person trips including but not limited to walking, biking, transit, and vehicle trips.



**COMMENTS** - It excludes commercial trips, such as hauling freight, serving as a bus driver or an airline pilot. However, it does include the personal travel of workers in commercial driver occupations.

**PERSON  
MILES OF  
TRAVEL (PMT)**

**DEFINITION** - The number of miles traveled by each person on a trip. The purpose is to account for all MILES traveled by all people during one shared trip.

**EXAMPLES** - A four-mile van trip with a driver and three passengers counts as 16 person miles of travel (4 people times 4 miles).

**VEHICLE TRIPS**

**DEFINITION** - A trip by a single privately operated vehicle (POV), regardless of the number of persons in the vehicle.

**EXAMPLES** - Two people traveling together in a car would be counted as one vehicle trip. Four people going to a restaurant in a van is considered one vehicle trip.

**NHTS MODE RESTRICTIONS** - To be considered a vehicle trip in NHTS, the trip must have been made in a POV, namely a household-based car, van, sport utility vehicle, pickup truck, other truck, recreational vehicle, motorcycle or other POV. The vehicle does not need to belong to the household, but must be operational and available for use.

Trips made in other highway vehicles, such as buses, streetcars, taxis, and school buses are collected in the NHTS, but these are shown as person trips by those modes. The design of the NHTS is such that it does not serve as a source for non-POV trips, vehicle trips in modes such as buses, because there is no way to trace the movement of the bus fleet throughout the day. Those interested in vehicle trips by buses, taxis, etc. need to use a data source that relies on reports from the fleet operators of those vehicles. The National Transit Database of the Federal Transit Administration is one such source. <http://www.ntdprogram.gov/ntdprogram/>

**VEHICLE MILES OF  
TRAVEL (VMT)**

**DEFINITION** - One vehicle mile of travel is the movement of one privately operated vehicle (POV) for one mile, regardless of the number of people in the vehicle.

**EXAMPLES** - When one person drives a car 12 miles to work, 12 vehicle miles of travel have been made (number of vehicles times the number of miles traveled). If two people travel three miles by pickup, three vehicle miles of travel have been made.

**NHTS MODE RESTRICTIONS** - For NHTS data, vehicle miles are restricted to the same privately-operated vehicles as vehicle trips (see above), that is a household-based car, van, sport utility vehicle, pickup truck, other truck, recreational vehicle, or other POV.



**VEHICLE  
OCCUPANCY**

**DEFINITION-** For NHTS data, vehicle occupancy is generally computed in two ways: mile-based method or trip-based method. The mile-based method calculates person miles of travel per vehicle mile. The trip-based method is calculated from the number of persons per vehicle trip (referred to as the number on trip).

**COMMENTS** - Because longer trips often have higher occupancies, the mile-based method generally yields a higher rate than the trip-based method. The calculation of the mile-based method requires that trip miles be reported, and so may be calculated on a smaller number of trips as it excludes non-reports.



## GLOSSARY

This glossary provides definitions of the most common terms used in the National Household Travel Survey (NHTS).

<b>Adult</b>	A person 18 years or older.
<b>Block Group</b>	A subdivision of a Census Bureau tract that averages 1,000 to 1,100 people, and approximately 400-500 housing units. The source used for the 2009 NHTS was TeleAtlas MatchMaker (derived from the Census 2000 definition).
<b>Census Region and Division</b>	The Census Bureau divides the country into four regions and nine divisions.

Note that the states are within their respective divisions and these divisions are wholly contained within a region, i.e., region lines do not split division lines. The regions and their component divisions are:

### **Northeast Region:**

- New England Division: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont
- Middle Atlantic Division: New Jersey, New York, Pennsylvania

### **North Central Region:**

- East North Central Division: Illinois, Indiana, Michigan, Ohio, Wisconsin
- West North Central Division: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota

### **South Region**

- South Atlantic Division: Delaware, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
- East South Central Division: Alabama, Kentucky, Mississippi, Tennessee
- West South Central Division: Arkansas, Louisiana, Oklahoma, Texas

### **West Region**

- Mountain Division: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
- Pacific Division: Alaska, California, Hawaii, Oregon, Washington

For the 2009 NHTS the source used for the 2000 Census Region was:  
<http://www.census.gov/geo/www/cob/rg2000.html>

The source used for the 2000 Census Division was:  
<http://www.census.gov/geo/www/cob/dv2000.html>



<b>Census Tract</b>	A small subdivision of a county, containing approximately 4,000 persons. Tracts can range in population from 2,500 to 8,000. The geographic size of the tract may vary considerably, depending on population density. Tracts were designed to be homogeneous in regard to population characteristics, economic status and living conditions when they were first delineated. Since the first tracts were defined for the 1890 Census and have remained unchanged, today's tracts may no longer be consistent. The source used for the 2009 NHTS was TeleAtlas MatchMaker (derived from the Census 2000 definition).
<b>Combined Statistical Area (CSA)</b>	Census states that combined statistical areas (CSAs) are groupings of adjacent metropolitan and/or micropolitan statistical areas that have social and economic ties as measured by commuting to work, but at lower levels than are found among counties within individual metropolitan and micropolitan statistical areas. Combined statistical areas represent larger regions that share broader social and economic interactions, such as wholesaling, commodity distribution, and weekend recreation activities. The CSAs, are likely to be of considerable interest to local and regional government authorities and to the private sector. The source used for the 2009 NHTS was 2003 Metropolitan and Micropolitan Statistical Areas: Cartographic Boundary Files. File cs99_03c.shp from <a href="http://www.census.gov/geo/www/cob/mmsa2003.html">http://www.census.gov/geo/www/cob/mmsa2003.html</a>  For more information on Census statistical area definitions, please see <a href="http://www.census.gov/population/www/metroareas/metroarea.html">http://www.census.gov/population/www/metroareas/metroarea.html</a>
<b>Consolidated Metropolitan Statistical Area (CMSA)</b>	A large metropolitan complex of one million or more population, containing two or more identifiable component parts designated as Primary Metropolitan Statistical Areas (PMSAs).  For more information on Census statistical area definitions, please see <a href="http://www.census.gov/population/www/metroareas/metroarea.html">http://www.census.gov/population/www/metroareas/metroarea.html</a>
<b>Core Based Statistical Area (CBSA)</b>	Census states that each metropolitan or micropolitan statistical that make up the collective CBSA consists of a core area containing a substantial population nucleus, together with adjacent communities having a high degree of economic and social integration with that core. Metropolitan statistical areas contain at least one U.S. Census Bureau-defined urbanized area of 50,000 or more population; micropolitan statistical areas contain at least one Census Bureau-defined urban cluster of at least 10,000 and less than 50,000 population. The source used for the 2009 NHTS was 2003 Metropolitan and Micropolitan Statistical Areas: Cartographic Boundary Files. File cb99_03c.shp from <a href="http://www.census.gov/geo/www/cob/mmsa2003.html">http://www.census.gov/geo/www/cob/mmsa2003.html</a>  For more information on Census statistical area definitions, please see <a href="http://www.census.gov/population/www/metroareas/metroarea.html">http://www.census.gov/population/www/metroareas/metroarea.html</a>
<b>Destination</b>	The destination is the point at which there is a break in travel, except if the break





is only to change vehicles or means of transport. For example, when a person leaves home and walks to the subway and then takes the train to work, the destination is work, not the subway AND work. However, if this person were to stop for coffee before going to the office, it would count as two trips (i.e., for the first trip, the origin is home and the coffee shop is a destination and, for the second trip, the origin is the coffee shop and the place of employment is destination).

- Driver** A driver is a person who operates a motorized vehicle, whether licensed or not. If more than one person drives on a single trip, the person who drives the most miles is classified as the principal driver.
- Employed** A person is considered employed if (s)he worked for pay or profit in the week before the interview, either full time or part time.
- Education Level** The number of years of regular schooling completed in any graded public, private, or parochial schools, that advances a person toward an elementary or high school diploma, or attends a college, university, or professional school, whether day school or night school is counted when applicable. In the NHTS, education level is collected for those 18 and older.
- Household (HH)** A group of persons whose usual place of residence is a specific housing unit; these persons may or may not be related to each other. The total of all U.S. households represents the total civilian, non-institutionalized population. In NHTS an eligible sampled household does not include 10 or more persons living together, none of whom are related.
- Household Income** Household income is the pay earned by all family members in a household, including those temporarily absent, during the 12 months preceding the interview. Household income includes monies from all sources, such as wages and salary, commissions, tips, cash bonuses, income from a business or farm, pensions, dividends, interest, unemployment or workmen's compensation, social security, veterans' payments, rent received from owned property (minus the operating costs), public assistance payments, regular gifts of money from friends or relatives not living in the household, alimony, child support, and other kinds of periodic money income other than earnings. Household income excludes in-kind income such as room and board, insurance payments, lump-sum inheritances, occasional gifts of money from persons not living in the same household, withdrawal of savings from banks, tax refunds, and the proceeds of the sale of one's house, car, or other personal property.
- Household Member (HMM)** Household members include all people, whether present or temporarily absent, whose usual place of residence is in the sample unit. Household members also include people staying in the sample unit who have no other usual place of residence elsewhere.



**Household Vehicle** A household vehicle is a motorized vehicle that is owned, leased, rented or company-owned and available to be used regularly by household members. Household vehicles include autos used solely for business purposes or business-owned vehicles, so long as they are driven home and can be used for the home-to-work trip, (e.g., taxicabs, police cars, etc.). Household vehicles include all autos that were owned or available for use by members of the household on the travel day, even though a vehicle may have been sold before the interview. Vehicles excluded from household vehicles are those that are not working and were not expected to be working, and vehicles that were purchased or received after the designated travel day.

**Means of Transportation** A mode of travel used for going from one place (origin) to another (destination). A means of transportation includes private and public modes, as well as walking.

The following transportation modes, grouped by major mode, are included in the NHTS data:

**Private Vehicle**

- Car. Includes autos and station wagons. Leased and rented cars are included if they are privately operated and not used for picking up passengers in return for fare.
- Van. Includes vans or minivans designed to carry 5 to 13 passengers, or to haul cargo.
- Sport Utility Vehicle. Includes vehicles that are a hybrid of design elements from a van, a pickup truck and a station wagon. Examples include a Ford Explorer, Jeep Cherokee, or Nissan Pathfinder.
- Pickup Truck. Includes vehicles with an enclosed cab that usually accommodates 2-3 passengers, and has an open cargo area in the rear. Late model pickups often have a back seat that allows for total seating of 4 -6 passengers. Pickup trucks usually have the same size of wheel-base as a full-size station wagon. This category also includes pickups with campers.
- Other Truck: This category consists of all trucks other than pickup trucks (e.g., dump trucks, trailer trucks, etc.).
- RV or Motor Home: An RV or motor home includes a self-powered recreational vehicle that is operated as a unit without being towed by another vehicle (e.g., a Winnebago motor home).
- Motorcycle: This class includes large, medium, and small motorcycles and mopeds.
- LEV/Golf Cart: This grouping includes all electric or gas operated vehicles designed for use on a golf course, but whose use has recently extended to use within smaller, often gated, communities.
- Other POV: A privately owned or operated vehicle that cannot be classified into one of the categories above (e.g., snowmobiles).

**Public Transportation**, as used in FHWA publications and analysis of NHTS data, typically includes the following that are indicated in bold below, mass



transit bus, commuter bus, commuter train, subway/elevated rail, and streetcar/trolley.

Bus: The bus category includes:

- Mass Transit Systems: general public transit buses ,
- Commuter Buses: buses used for short-distance public transport purposes (e.g., city bus or public bus), school buses, and
- Shuttle Buses: that shuttle passengers from one fixed place to another (e.g., airport shuttles),
- Charter/Tour Buses: private buses operating on a fixed schedule between population centers, and
- City to City Buses: buses that run from one urban center to the other (e.g., Greyhound).

Train: This category includes:

- Amtrak and intercity trains that run from one urban center to another on heavy rail tracks;
- Commuter and passenger trains.
- Subway and elevated rail (also known as rail rapid transit) is a high capacity system operated on a fixed rail or guide way system on a private right of way; and
- Trolley/streetcars run on a fixed rail system powered by electricity obtained from an overhead power distribution system.

#### **Other Modes**

- Taxi. Taxis include the use of an auto by a passenger for fare, including limousines. The taxi category does not include rental cars if they are privately operated.
- Ferry. This group includes travel by passenger line ferries.
- Airplane. Airplanes include commercial airplanes and smaller planes that are available for use by the general public in exchange for a fare. Private and corporate planes and helicopters are also included.
- Bicycle. This category includes bicycles of all speeds and sizes that do not have a motor.
- Walk. This category includes walking and jogging.
- Special Transit for People with Disabilities. This group includes paratransit programs like "Dial-A-Ride".
- Other. Includes any type of transportation not previously listed, (e.g. skate boards, roller blades, sailboats, cruise ships, etc).

#### **Metropolitan Division**

A Metropolitan Statistical Area containing a single core with a population of at minimum 2.5 million may be subdivided into areas known as Metropolitan Divisions. The source used for the 2009 NHTS was 2003 Metropolitan and Micropolitan Statistical Areas: Cartographic Boundary Files. File md99\_03c.shp from

<http://www.census.gov/geo/www/cob/mmsa2003.html>



<b>Metropolitan Statistical Area (MSAs)</b>	Except in the New England States, a Metropolitan Statistical Area is a county or group of contiguous counties which contain at least one city of 50,000 inhabitants or more or ‘twin cities’ with combined populations of 50,000 or more. Each metro area consists of one or more counties and includes the counties containing the core urban area, as well as any adjacent counties that have a high degree of social and economic integration (as measured by commuting patterns to work) with the urban core. For more information, see: <a href="http://www.census.gov/population/www/metroareas/metroarea.html">http://www.census.gov/population/www/metroareas/metroarea.html</a>
<b>Motorized Vehicle</b>	Vehicles are all vehicles that are licensed for highway driving.
<b>Occupancy</b>	The number of persons, including driver and passenger(s) in a vehicle. NHTS provides this number in the variable NUMONTRP.
<b>Origin</b>	Origin is the starting point of a trip.
<b>Passenger</b>	For a specific trip, a passenger is any occupant of a motorized vehicle, other than the driver.
<b>Person Miles Of Travel (PMT)</b>	PMT is a primary measure of person travel and is described in the <b>Travel of Concepts</b> section at the beginning of this Glossary.
<b>Person Trip</b>	A person trip is a trip from one address to another by one or more persons in any mode of transportation. Each person is considered as making one person trip. For example, four persons traveling together in one auto are counted as four person trips.
<b>POV</b>	A privately-owned vehicle or privately-operated vehicle. This is not a vehicle available to the public for a fee, such as a bus, subway, taxi, etc.
<b>Public Transportation</b>	See <b>Mode of Transportation</b>
<b>Travel Day</b>	A travel day is a 24-hour period from 4:00 a.m. to 3:59 a.m. designated as the reference period for studying trips and travel by members of a sampled household.
<b>Travel Day Trip</b>	A travel day trip is defined as any time the respondent went from one address to another by private motor vehicle, public transportation, bicycle, walking, or other means. However, a separate trip is not counted in two instances: <ol style="list-style-type: none"> <li>1. When the sole purpose for the trip is to get to another vehicle or mode of transportation in order to continue to the destination.</li> </ol>



2. Travel within a shopping center, mall or shopping areas of 4-5 blocks is considered travel to one destination.

### **Travel Day**

A trip purpose is the primary purpose of a trip.

### **Trip Purpose**

There are 36 travel day trip purposes used in the 2009 NHTS.

For each trip, the origin and destination are documented in specific terms if properly reported by the respondent (e.g. from place of employment). The 36 trip reasons are defined below. The numbers in parentheses represent the value of WHYTO (trip purpose) in the dataset.

#### **Return Trip:**

1. To Home **(01)**. A trip to the respondents' primary residence.

#### **To Work:**

2. Go to Work **(11)**. The first trip to the work location on travel day.

#### **Return Trip:**

3. Return to Work **(12)**. A trip to work that is not the first trip to the workplace on the travel day (e.g., returning to work after lunch).

#### **Work-Related:**

4. Attend Business Meeting/Trip **(13)**. A work-related trip such as a business meeting.
5. Other Work Related **(14)**. A work-related trip with an unspecified purpose.

#### **School/Church:**

6. Go to School as a Student **(21)**. A trip to school as a student.
7. Go to Religious Activity **(22)**. A trip to a place to attend a religious activity.
8. Go to Library, School Related **(23)**. A trip to go to the library as part of a school related activity.
9. Go to Daycare/Before or After School Care **(24)**. A trip to attend day care or a supervised before or after school care program.
10. Other School/Religious Activity **(20)**. School and religious activities that are not captured in WHYTO 21-24 above.

#### **Medical Dental:**

11. Medical/Dental Services **(30)**. A trip made to obtain medical, dental, or mental health treatment, or other related professional services.

#### **Family and Personal Business/Errands:**

12. Shopping/Errands **(40)**. Shopping and errand trips that are not captured in WHYTO 41-43 above.
13. Buy Goods: groceries/clothing/hardware store **(41)**. A shopping trip to purchase commodities for use or consumption elsewhere. This trip can also include shopping trips even if nothing is purchased.
14. Buy Services **(42)**. This category includes the purchase of services other than medical/dental or other professional services, including video rentals,



- dry cleaning, post office, car service, or a bank.
15. Buy Gas **(43)**. A trip made specifically to get gas.
  16. Use Professional Services: **(61)**. A trip made for to engage professional services (such as an attorney or accountant) other than for medical/dental purposes.
  17. Attend Funeral/Wedding **(62)**. A trip to attend a funeral or a wedding.
  18. Use Personal Services **(63)**. A trip for personal services such as a massage, manicure, or a haircut.
  19. Pet Care **(64)**. Walking the dog or veterinary visits
  20. Attend Meeting **(65)**. A trip to attend a non-work related meeting, such as a community meeting, PTA home owner's associate, or local government meetings.
  21. Family Personal Business/Obligations **(60)**. Represents a trip for personal business but is not captured in WHYTO 61-65 above.
  22. Pick up Someone **(71)**. A trip to pick up a passenger.
  23. Take and Wait **(72)**. A trip to take someone to a destination, then wait with or for them at the destination, and then depart together.
  24. Drop Someone Off **(73)**. A trip to drop off a passenger but not wait for them.
  25. Transport Someone **(70)**. A trip with a passenger that involves picking up or dropping off someone but is not captured in WHYTO 71-73 above.

**Social and Recreational:**

26. Social/Recreational **(50)**. This category includes social and recreational trips that are not captured in WHYTO 51-55 above.
27. Go to the Gym/Exercise/Play Sports **(51)**. A trip to engage in exercise or to participate in a sport.
28. Rest or Relaxation/Vacation **(52)**. A trip for relaxing or taking a vacation that does not include visiting family.
29. Visit Friends/Relatives **(53)**. A social/recreational trip to visit with family and friends.
30. Go out/Hang out **(54)**. A trip for entertainment (i.e. theatre/sports event/go to bar/seeing friends) that typically take place in a public venue.
31. Visit Public Place **(55)**. A trip purpose that is educational or enlightening.
32. Get/Eat Meal **(82)**. A trip to get and eat a meal.
33. Coffee/Ice Cream/Snacks **(83)**. A trip to get/eat a quantity of snack or drink that is, something less than a meal.
34. Meals **(80)**. A trip to eat or get a meal that is not captured in WHYTO 81-83 above.
35. Social Event **(81)**. A trip to attend a social event where eating a meal is not a key component of the event.

**Other:**

36. Other **(97)**. A trip purpose not captured by any of the specific WHYTO categories described above.

**Urban and Rural Classification**

The NHTS 2009 used the available Urban and Rural classifications at the time of data coding, which were from the Census 2000. For Census 2000, the Census Bureau classified as "urban" all territory, population, and housing units located within an urbanized area (UA) or an urban



cluster (UC). It defines UA and UC boundaries to encompass densely settled territory that consists of:

- core Census block groups or blocks that have a population density of at least 1,000 people per square mile and
- surrounding census blocks that have an overall density of at least 500 people per square mile

In addition, under certain conditions, less densely settled territory may be part of each UA or UC.

The Census Bureau's classification of "rural" consists of all territory, population, and housing units located outside of UAs and UCs. The rural component contains both place and nonplace territory. Geographic entities, such as Census tracts, counties, metropolitan areas, and the territory outside metropolitan areas, often are "split" between urban and rural territory, and the population and housing units they contain often are partly classified as urban and partly classified as rural. For more information, see:

[http://www.census.gov/geo/www/ua/ua\\_2k.html](http://www.census.gov/geo/www/ua/ua_2k.html)

#### **Urbanized Area**

An urbanized area consists of the built-up area surrounding a central core (or central city), with a population density of at least 1,000 persons per square mile. Urbanized areas do not follow jurisdictional boundaries, therefore it is common for the urbanized area border to divide a county. For the 2009 NHTS, Urban areas were coded in the variable URBAN. Four codes are used:

- 01 = In an urban area
- 02 = In an Urban cluster
- 03 = In an area surrounded by urban areas
- 04 = Not in urban area

#### **Vehicle**

Includes autos, passenger vans, sport utility vehicles, pickups and other light trucks, RV's, motorcycles and mopeds, and golf carts owned and/or available to the household for regular use.

#### **Vehicle Miles of Travel (VMT)**

VMT is a unit to measure vehicle travel made by a private vehicle, such as an automobile, van, pickup truck, or motorcycle. Each mile traveled is counted as one vehicle mile regardless of the number of persons in the vehicle.

#### **Vehicle Occupancy**

Vehicle occupancy is the number of persons, including driver and passenger(s) in a vehicle; also includes persons who did not complete a whole trip. NHTS provides this number in the variable NUMONTRP. Mile-based vehicle occupancy is calculated using NUMONTRP weighted per vehicle mile.

#### **Vehicle Trip**

A trip by a single privately-operated vehicle (POV) regardless of the number of persons in the vehicle.

**Vehicle Type**

One of the following:

1. Automobile (including station wagon)
2. Van
3. Sport Utility Vehicle
4. Pickup Truck (including pickup with camper)
5. Other Truck
6. RV or Motor Home
7. Motorcycle
8. Other

See **Means of Transportation** for definitions of these vehicle types. Much of the analysis conducted using the NHTS data limits vehicle types to privately operated vehicles (POVs) because other vehicles that the respondent may have ridden in (e.g., bus) were not tracked throughout the entire day.

**Worker**

See **Employed**.





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# APPENDIX B. KEY CHANGES OVER TIME IN THE NPTS/NHTS DATA SERIES



**Key Changes Over Time in the NPTS/NHTS Data Series**

1969	1977	1983	1990	1995	2001	2009
15,000	18,000	6,500	18,000 national and 4,300 add-on	21,000 national and 21,000 add-on	26,000 national and 44,000 add-on	25,000 national and 125,000 add-on (Combined into single sample)
Outgoing panels of Census Quarterly Housing Survey	Outgoing panels of Census Current Population Survey	Outgoing panels of Census Current Population Survey	RDD Telephone sample	RDD Telephone sample	RDD Telephone sample	RDD Telephone sample plus Cell Phone Only sample
In-home interview with some telephone follow-up	In-home interview with some telephone follow-up	In-home interview with some telephone follow-up	One-stage: CATI recruit and recall	Two stage: CATI recruit-mail out diary-CATI collection	Two stage: CATI recruit-mail out diary-CATI collection	Two stage: CATI recruit-mail out diary-CATI collection
None	None	None	None	Advance Letter and 2\$ per person with diary	Advance Letter and 2\$ per person with diary	Advance Letter and 2\$ per person with diary
None: Respondent recalled 'yesterday'	None: Respondent recalled 'yesterday'	None: Respondent recalled 'yesterday'	None: Respondent recalled 'yesterday'	Diary as a memory jogger	Diary as a memory jogger	Diary as a memory jogger
None	None	None	None	Full day trip rostering by begin time only	Full day trip rostering by time and destination	Full day trip rostering by time and destination



1969	1977	1983	1990	1995	2001	2009
All household members	All household members	All household members	Household members aged 5 and older	Household members aged 5 and older	All household members	Household members aged 5 and older
No Proxy Allowed	No Proxy Allowed	No Proxy Allowed	Proxy reports required for household members 13 years and under, adult proxy allowed	Proxy reports required for 13 and under. parental approval for 14-15 year olds. Adult proxy from diary allowed.	Proxy reports required for 13 and under. Parental approval for 14-15 year olds. Adult proxy from diary after 3 days.	Proxy reports required for 13 and under. Parental approval for 14-15 year olds. Adult proxy from diary after three days.
Travel by walking within a defined area (such as a strip mall) not counted	Travel by walking within a block area (such as a strip mall) not counted	Travel by walking within a block area (such as a strip mall) not counted	Travel by walking within a block area (such as a strip mall) not counted	Any stop from one address to another, including trips to change transportation mode	Any trip from one address to another, mode changes not included (access and egress asked separately)	Any trip from one address to another, mode changes not included (access and egress asked separately)
None	None	None	None	None	Prompts to include walk/bike trips	Prompts to include walk/bike-added transit
Did not collect walk and bike trips	Collected walk and bike	Collected walk and bike	Collected walk and bike	Collected walk and bike	Collected walk and bike. Split home-to-home trips to geocode trip location	Collected walk and bike. Split home-to-home trips to geocode trip location