

# PASSENGER TRAVEL FACTS AND FIGURES 2014



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2014**

# ACKNOWLEDGEMENTS

## **U.S. Department of Transportation**

Anthony Foxx  
*Secretary*

Victor Mendez  
*Acting Deputy Secretary*

Gregory Winfree  
*Assistant Secretary for  
Research and Technology*

## **Bureau of Transportation Statistics**

Patricia Hu  
*Director*

Rolf Schmitt  
*Deputy Director*

## **Produced under the direction of:**

Michael J. Sprung  
*Assistant Director for  
Transportation Analysis*

## **Project Manager**

Jenny Guarino

## **Major Contributors**

Steven Beningo  
Dominic Menegus

## **Other Contributors**

Matthew Chambers  
Theresa Firestine  
Sean Jahanmir  
Li Leung  
Mindy Liu  
Julie Parker  
Joy Sharp  
David Smallen  
Kenneth Steve

## **Editor**

William H. Moore

## **Layout and Design**

Alpha E. Wingfield

# PREFACE

*Passenger Travel Facts and Figures* is a snapshot of the characteristics and trends of personal travel in the United States; the network over which passenger travel takes place; and the related economic, safety, and environmental implications. An electronic version of this publication is available at [www.bts.gov](http://www.bts.gov).

Chapter 1 summarizes the basic demographic and economic characteristics of the United States that contribute to the demand for passenger travel. Chapter 2 examines travel patterns by trip purpose, transportation mode, and household characteristics. Chapter 3 provides a picture of the passenger transportation system in 2005 and 2011 and summarizes movement on the system by transportation mode and congestion impacts. Chapter 4 discusses the economic characteristics of passenger travel and tourism. Chapter 5 discusses the safety, energy, and environmental impacts of passenger travel.

The data used throughout this document reflect the latest numbers available at the time of publication. Several of the tables, figures, and analysis included in this report are based on results from national surveys that provide details on travel patterns and characteristics of travelers. An overview of these surveys—the National Household Travel Survey, American Community Survey, and American Time Use Survey—are found in box 2-A on page 15.

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## 1. A NATION DRIVEN BY TRAVEL

The Nation's transportation systems are accessed daily by over 300 million residents and foreign visitors. Although people travel and goods are transported throughout the United States, the demand for transportation is driven primarily by the geographic population distribution and economic activity. Both population and economic activity have grown faster in the West and South than in the Northeast and Midwest, but the Northeast has the highest economic activity, as measured by the Gross Domestic Product, per capita.

**TABLE 1-1 SELECTED U.S. DEMOGRAPHICS AND GROSS DOMESTIC PRODUCT (GDP) BY REGION: 1990, 2000, AND 2010–2012**

	1990	2000	2010	2011	2012	Percent change, 1990 to 2012
<b>Civilian labor force (thousands)</b>	<b>125,840</b>	<b>142,583</b>	<b>153,889</b>	<b>153,617</b>	<b>154,975</b>	<b>23.2</b>
<b>Households (thousands)</b>	<b>93,347</b>	<b>104,705</b>	<b>117,538</b>	<b>119,927</b>	<b>121,084</b>	<b>29.7</b>
<b>Resident Population (thousands)</b>	<b>248,789</b>	<b>282,172</b>	<b>309,326</b>	<b>311,588</b>	<b>313,914</b>	<b>26.2</b>
Northeast	50,828	53,668	55,377	55,598	55,761	9.7
Midwest	59,670	64,494	66,972	67,145	67,316	12.8
South	85,454	100,560	114,854	116,022	117,257	37.2
West	52,837	63,451	72,123	72,823	73,579	39.3
<b>GDP (millions of chained 2005 \$)<sup>a</sup></b>	<b>7,883,332</b>	<b>11,223,130</b>	<b>12,897,088</b>	<b>13,108,318</b>	<b>13,430,576</b>	<b>70.4</b>
Northeast	1,808,010	2,344,250	2,643,262	2,672,595	2,709,385	49.9
Midwest	1,766,102	2,490,900	2,617,099	2,676,825	2,739,673	55.1
South	2,503,020	3,763,080	4,524,803	4,601,219	4,728,538	88.9
West	1,806,199	2,622,605	3,109,710	3,156,139	3,252,097	80.1
<b>GDP per capita (chained 2005 \$)<sup>a</sup></b>	<b>31,687</b>	<b>39,774</b>	<b>41,694</b>	<b>42,069</b>	<b>42,784</b>	<b>35.0</b>
Northeast	35,571	43,681	47,732	48,070	48,589	36.6
Midwest	29,598	38,622	39,077	39,866	40,699	37.5
South	29,291	37,421	39,396	39,658	40,326	37.7
West	34,184	41,333	43,117	43,340	44,198	29.3

<sup>a</sup> As of Oct. 26, 2006, the Bureau of Economic Analysis renamed the gross state product (GSP) series to gross domestic product (GDP) by state.

**NOTES:** Chained dollars are not additive, especially for periods farther away from the base year of 2005. Thus GDP for all regions is not equal to total GDP. Numbers may not add to totals due to rounding.

**SOURCES:** **Civilian Labor Force:** U.S. Department of Labor, Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey, available at [www.bls.gov/data](http://www.bls.gov/data) as of Sept. 20, 2013. **Households:** U.S. Department of Commerce, Census Bureau, Families and Living Arrangements, table HH-1, available at [www.census.gov/population/www/socdemo/hh-fam.html](http://www.census.gov/population/www/socdemo/hh-fam.html) as of Sept. 20, 2013. **Population:** 1990: U.S. Department of Commerce, Census Bureau, *Statistical Abstract of the United States: 2004-2005* (Washington, DC: 2005); **2000-2012:** U.S. Department of Commerce, Census Bureau, Population Division, Annual Population Estimates, table 8, available at [www.census.gov/popest/data/index.html](http://www.census.gov/popest/data/index.html) as of Oct. 18, 2013. **Gross Domestic Product:** U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, available at [www.bea.gov/regional/](http://www.bea.gov/regional/) as of Oct. 18, 2013.



## 2. PASSENGER TRAVEL

Passengers travel over a network of highways, railroads, waterways, and airways. Despite a recent decline in the number of passenger miles<sup>1</sup> on U.S. highways, long-term growth in the number and usage of vehicles, vessels, trains, and other conveyances on our transportation system continues to strain infrastructure. Compared to 2009 levels, highway passenger miles in 2011 decreased by 0.3 percent. Conversely, air passenger miles experienced an increase over 2009 levels, rising by 4.3 percent, while passenger miles on both transit and Amtrak increased by 0.8 and 12.8 percent, respectively.

**TABLE 2-1 U.S. PASSENGER MILES TRAVELED BY MODE, 2009–2011**  
(millions)

	2009	2010	2011
<b>Air</b>			
Air carrier, certificated, domestic, all services	551,741	564,695	575,613
<b>Highway, total</b>	<b>4,241,346</b>	<b>4,244,834</b>	<b>4,230,505</b>
Light duty vehicle	3,625,598	3,646,452	3,650,223
Motorcycle	22,428	19,941	19,972
Bus <sup>a</sup>	305,014	291,914	292,716
<b>Transit, total</b>	<b>53,898</b>	<b>52,627</b>	<b>54,328</b>
Bus <sup>a</sup>	21,100	20,570	19,883
Light rail	2,196	2,173	2,198
Heavy rail	16,805	16,407	17,317
Trolley bus	168	169	160
Commuter rail	11,129	10,774	11,314
Demand response	881	874	879
Ferry boat	365	389	389
Other	1,254	1,272	2,189
<b>Rail</b>			
Intercity/Amtrak	5,914	6,420	6,670

<sup>a</sup> Bus in the highway category includes intercity bus as well as bus and demand response numbers from the transit category. Individual categories under Highway will not add to total as "Highway, total" includes passenger miles from single unit and combination trucks.

**SOURCE:** Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-40, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) as of June 2014.

<sup>1</sup> U.S. passenger miles are defined as the cumulative sum of the distances ridden by each passenger.

**TABLE 2-2 AVERAGE DAILY PERSON MILES OF TRAVEL BY PERSON, AGE, AND GENDER—1983, 1990,<sup>A</sup> AND 1995 NATIONAL PASSENGER TRAVEL SURVEY; 2001 AND 2009 NATIONAL HOUSEHOLD TRAVEL SURVEY**

Age	TOTAL				
	1983	1990	1995	2001	2009
Total	25.1	34.9	38.7	40.2	36.1
Under 16	16.2	20.1	25.0	24.5	25.3
16 to 20	22.2	34.4	36.4	38.1	29.5
21 to 35	31.1	44.3	46.0	45.6	37.7
36 to 65	29.2	40.1	45.1	48.8	44.0
Over 65	12.0	18.4	24.4	27.5	24.0

Age	Men				
	1983	1990	1995	2001	2009
Total	27.7	38.0	43.9	45.0	40.9
Under 16	16.8	20.3	23.7	24.6	27.2
16 to 20	23.0	36.9	37.6	34.1	28.2
21 to 35	32.8	48.2	51.3	49.8	40.5
36 to 65	33.6	43.4	53.2	57.7	50.9
Over 65	14.8	22.5	31.7	32.9	30.5

Age	Women				
	1983	1990	1995	2001	2009
Total	22.6	32.1	33.8	35.7	31.5
Under 16	15.4	19.9	26.2	24.4	23.3
16 to 20	21.5	32.2	35.0	42.5	31.0
21 to 35	29.5	40.7	40.8	41.5	35.0
36 to 65	25.2	37.0	37.5	40.4	37.0
Over 65	10.2	15.3	19.2	23.5	19.3

<sup>A</sup>The 1990 data have been adjusted to make them more comparable with later data in the series; 1983 data have not been modified.

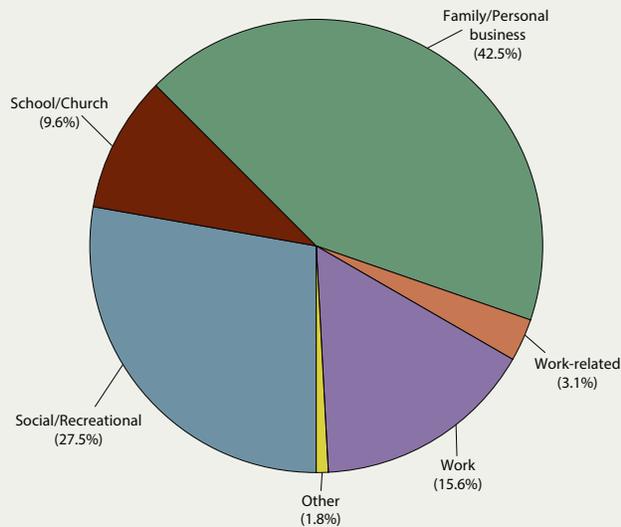
**NOTES:** All tables reporting totals could include some unreported characteristics. 2001 data excludes persons aged 0 to 4 since such persons were not included in the 1983, 1990, 1995, and 2009 surveys.

**SOURCE:** Federal Highway Administration, U.S. Department of Transportation, *Summary of Travel Trends, 2009 National Household Travel Survey*, table 14, p. 28, available at <http://nhts.ornl.gov/2009/pub/stt.pdf>

While Americans averaged 36.1 miles of travel per day, men averaged 9.4 more miles of travel per day than did women, 40.9 v. 31.5 miles. Also, for both genders the average person aged 36 to 65 traveled more than the average person in any other age cohort. Except for males under the age of 16, the number of average daily person miles traveled in 2009 for all age groups was less than that traveled in 2001.

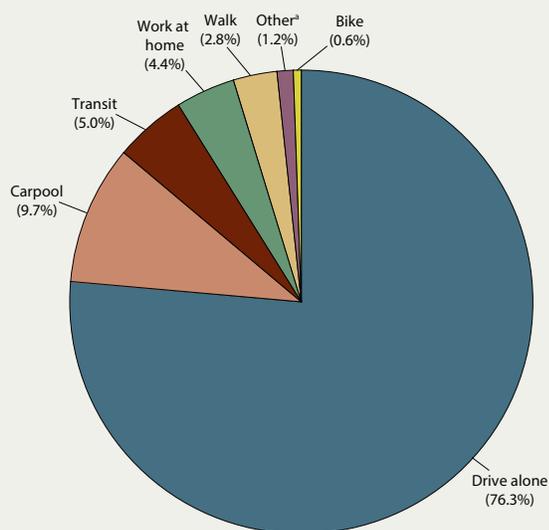
Figure 2-1 breaks down total person trips per household by purpose as identified by respondents to the 2009 National Household Travel Survey. More trips (42.5 percent) were for family or personal business than for any other single purpose. An additional 27.5 percent were for social and recreational activities, and 18.7 percent were for work or were work related. Figure 2-2 shows how people commute to work, with 76.3 percent traveling alone by personal vehicle and 14.7 percent by carpool and public transportation.

**FIGURE 2-1 TOTAL TRAVEL BY TRIP PURPOSE, 2009**



**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, available at <http://nhts.ornl.gov>.

**FIGURE 2-2 HOW PEOPLE GET TO WORK, 2012**



<sup>a</sup> Includes ferry, motorcycle, and other means.

**SOURCE:** U.S. Department of Commerce, Census Bureau, 2011 American Community Survey, table B08006, available at <http://www.census.gov/acs/www/index.html>.

## **Box 2-A Surveys Analyzed**

National surveys conducted by multiple agencies throughout the Federal Government capture details on how and why people travel and use the transportation networks within the United States. This report utilizes many sources to draw a complete picture of passenger travel; however, the data collected as part of these three surveys were especially useful for developing many of the tables, figures, and analysis you see in the following pages; the National Household Travel Survey (NHTS), the American Community Survey (ACS) and the American Time Use Survey (ATUS). Included below are details on each of these surveys.

### ***The National Household Travel Survey (NHTS)***

The NHTS, conducted by the U.S. DOT, is a telephone survey of the civilian, noninstitutionalized population of the United States. As such, an eligible household excludes motels; hotels; group quarters such as nursing homes, prisons, barracks, convents or monasteries; and any living quarters with 10 or more unrelated roommates. The precursor to NHTS was first administered in 1969 as the Nationwide Personal Transportation Survey (NPTS).

In 2001 the effort was expanded and renamed the National Household Travel Survey. Prior surveys were conducted in 1969, 1977, 1983, 1990, and 1995. The 2009 NHTS was conducted from March 2008 through May 2009. Travel days were assigned for all seven days of the week, including all holidays. The survey data were weighted to a 12-month period to produce annual estimates of travel.

For more information refer to <http://nhts.ornl.gov/download.shtml#2009>.

### ***The American Community Survey (ACS)***

The ACS, conducted by the U.S. Census Bureau, began in 1995 with a sample of counties across the country. Today the survey is conducted in all U.S. counties and in Puerto Rico, where it is called the Puerto Rico Community Survey. Designed as a replacement for the Census long form, the ACS is a continuous monthly survey and provides annual and multiyear estimates. Most of the questions in the survey are the same (or similar) to the Census 2000 long form. The ACS provides critical economic, social, demographic, and housing information to this country's communities every year.

One of the key transportation-related modules in the ACS is the "Journey to Work" section. To gauge how American's are traveling to work, the ACS asks respondents (each household member) what their usual way to work was for the week prior to the survey. Respondents are given a variety of modal options to choose from. Special tabulations, known as the Census Transportation Planning Products (CTPP), are also produced from the ACS data for transportation planners. (See CTPP for more details.)

The Census Transportation Planning Project (CTPP) is a set of special tabulations designed by transportation planners using large sample surveys conducted by the Census Bureau. From 1970 to 2000, the CTPP and its predecessor, UTPP, used data from the decennial census long form. The decennial census long form has now been replaced with a continuous survey called the American Community Survey (ACS). Therefore, the CTPP now uses the ACS sample for the special tabulation.

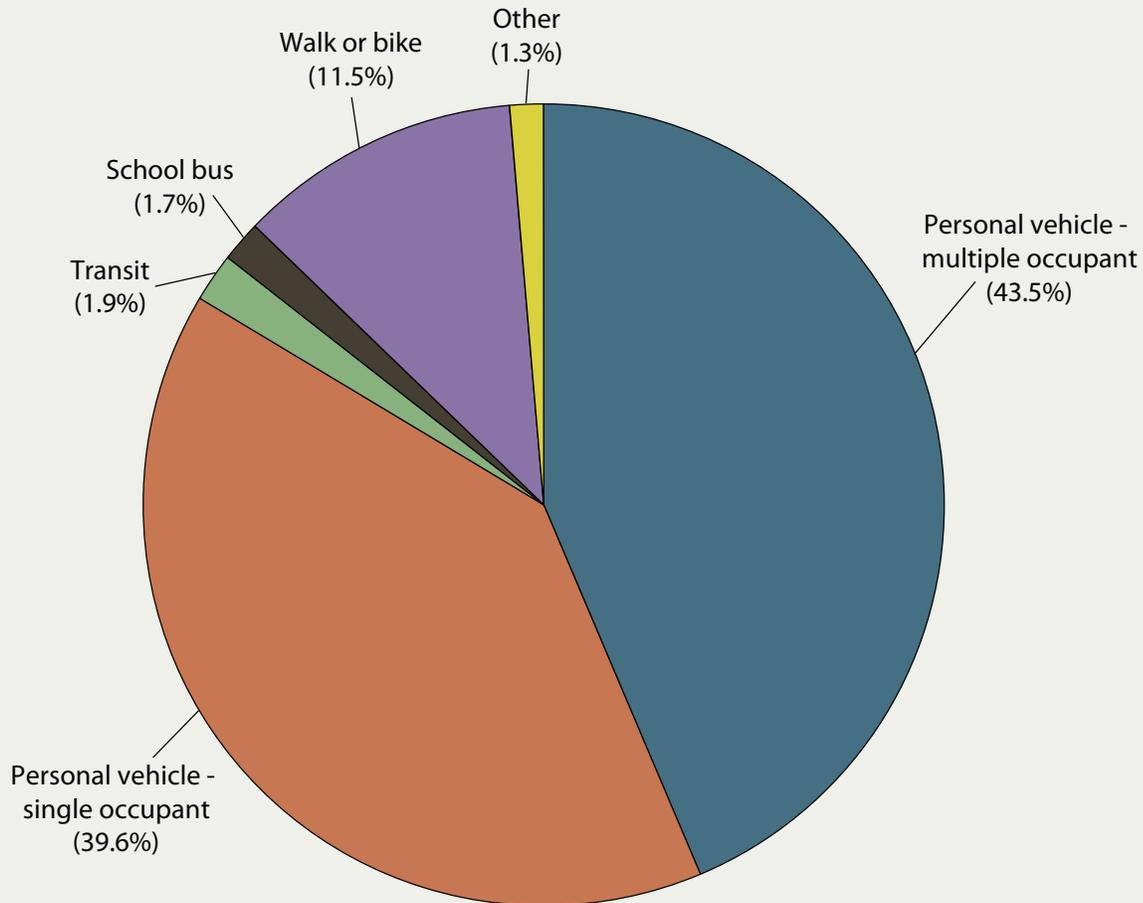
For more information on the ACS, refer to <http://www.census.gov/acs/>. More information on the CTPP can be found at: [http://www.fhwa.dot.gov/planning/census\\_issues/ctpp/](http://www.fhwa.dot.gov/planning/census_issues/ctpp/).

### ***The American Time Use Survey (ATUS)***

The ATUS provides nationally representative estimates of how, where, and with whom Americans spend their time, and is the only federal survey providing data on the full range of nonmarket activities, from childcare to volunteering. In the time diary portion of the ATUS interview, survey respondents sequentially report activities they did between 4 a.m. on the day before the interview ("yesterday") until 4 a.m. on the day of the interview. For each activity, respondents are asked how long the activity lasted. Data collected in the ATUS includes both the overall average time the population spends traveling on selected activities as well as averages for the sub-population that engages in selected activities (e.g. omitting persons who did not participate in each activity).

ATUS data files are used by researchers to study a broad range of issues; the data files include information collected from over 136,000 interviews conducted from 2003 to 2012. For more information on the ATUS, refer to <http://www.bls.gov/tus/news.htm>.

**FIGURE 2-3 PROPORTION OF DAY TRIPS BY MODE, 2009**

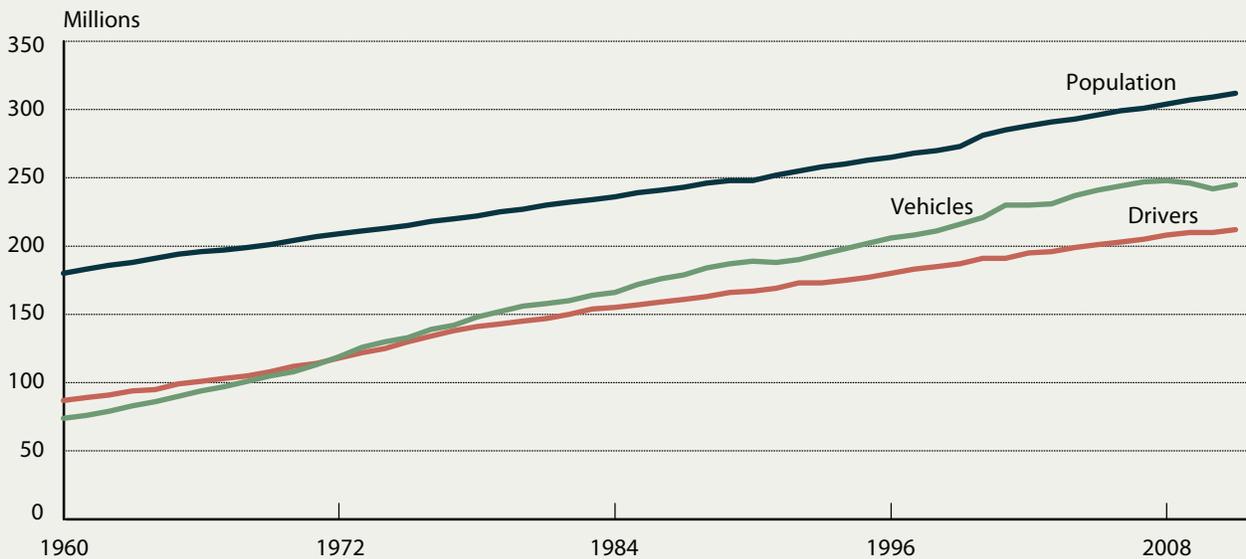


**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, available at <http://nhts.ornl.gov> as of April 2013

The 2009 National Household Travel Survey (NHTS) found that 83 percent of daily trips took place in personal vehicles, more than half of which (43.5 percent) were multioccupant. Only 1.9 percent of travelers used transit, and 11.5 percent biked or walked.

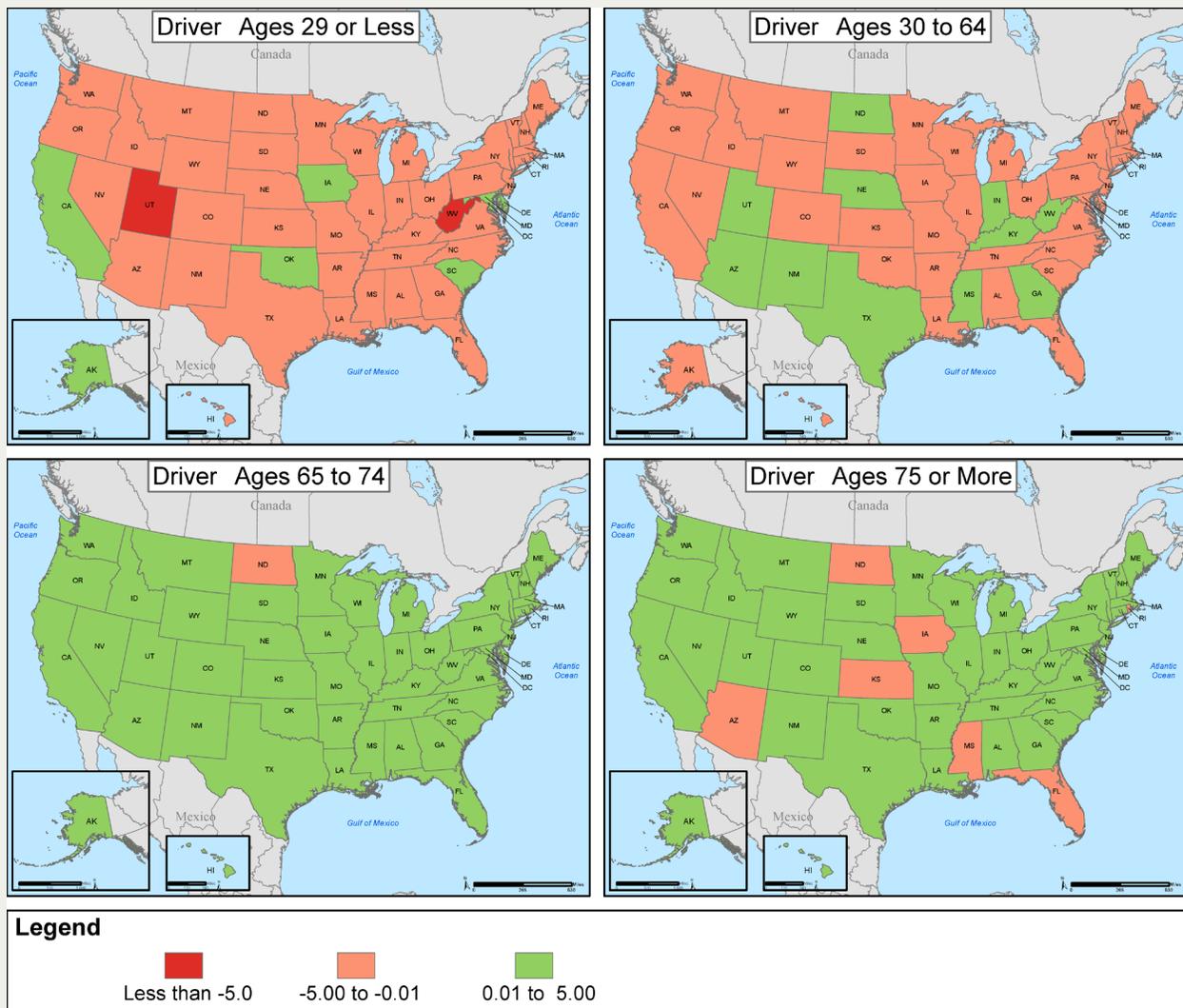
In 1960 there were 17.6 percent fewer vehicles than drivers. However, by 1972 the number of registered vehicles (privately and publically owned) had surpassed the number of licensed drivers. This trend, in which the number of registered vehicles outnumbered licensed drivers, peaked in 2007 with 20.5 percent more vehicles than drivers. By 2011 that ratio had dropped, but vehicles still outnumbered drivers by 15.6 percent.

**FIGURE 2-4 LICENSED DRIVERS, VEHICLE REGISTRATIONS, AND RESIDENT POPULATION, 1960–2011**



**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, Highway Statistics 2011, available at <http://www.fhwa.dot.gov/policyinformation/statistics/2011/dv1c.cfm>, as of Apr. 4, 2013.

**FIGURE 2-5 PERCENT CHANGE IN LICENSED DRIVERS BY AGE GROUP, 2000 TO 2011**

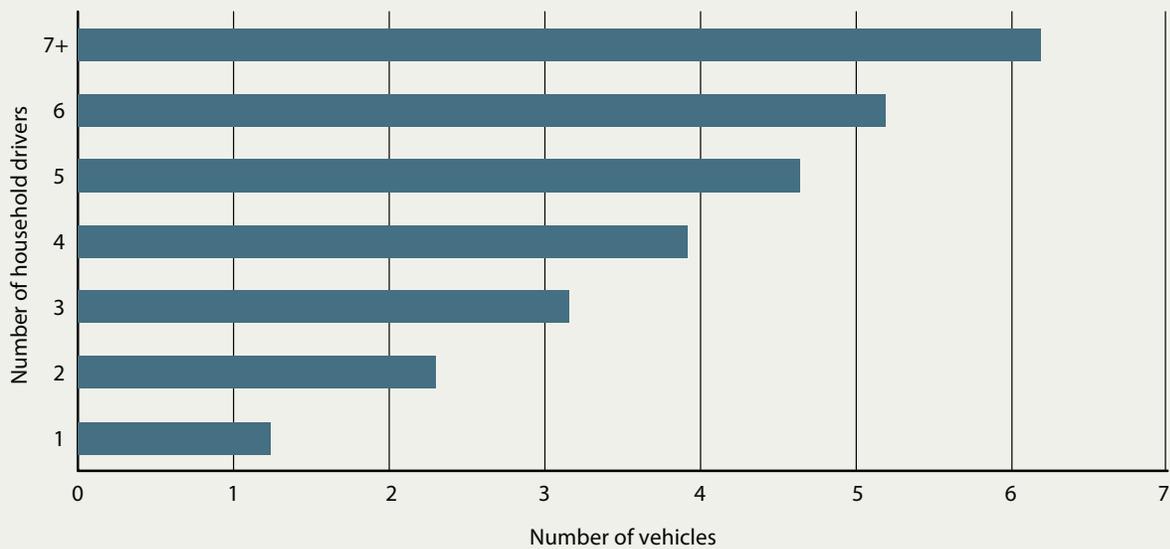


**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, *Highway Statistics 2011*, available at [www.fhwa.dot.gov/policy-information/statistics/2011/dl22.cfm](http://www.fhwa.dot.gov/policy-information/statistics/2011/dl22.cfm), as of April 2013.

Between 2000 and 2011, the greatest decrease in drivers aged 29 or less occurred in the District of Columbia, Utah, and West Virginia with 7.7, 5.5, and 5.2 percent fewer licensed drivers, respectively. In drivers aged 30–64, the greatest increase in licensed drivers was in the District of Columbia and Utah with increases of 4.9 and 4.2 percent, respectively. For drivers aged 65–74, only North Dakota experienced a decrease, 0.16 percent.

According to the 2009 NHTS, 91.7 percent of households have three vehicles or less. Households with one to three drivers average more than one vehicle per driver, but households with four or more drivers average less than one vehicle per driver.

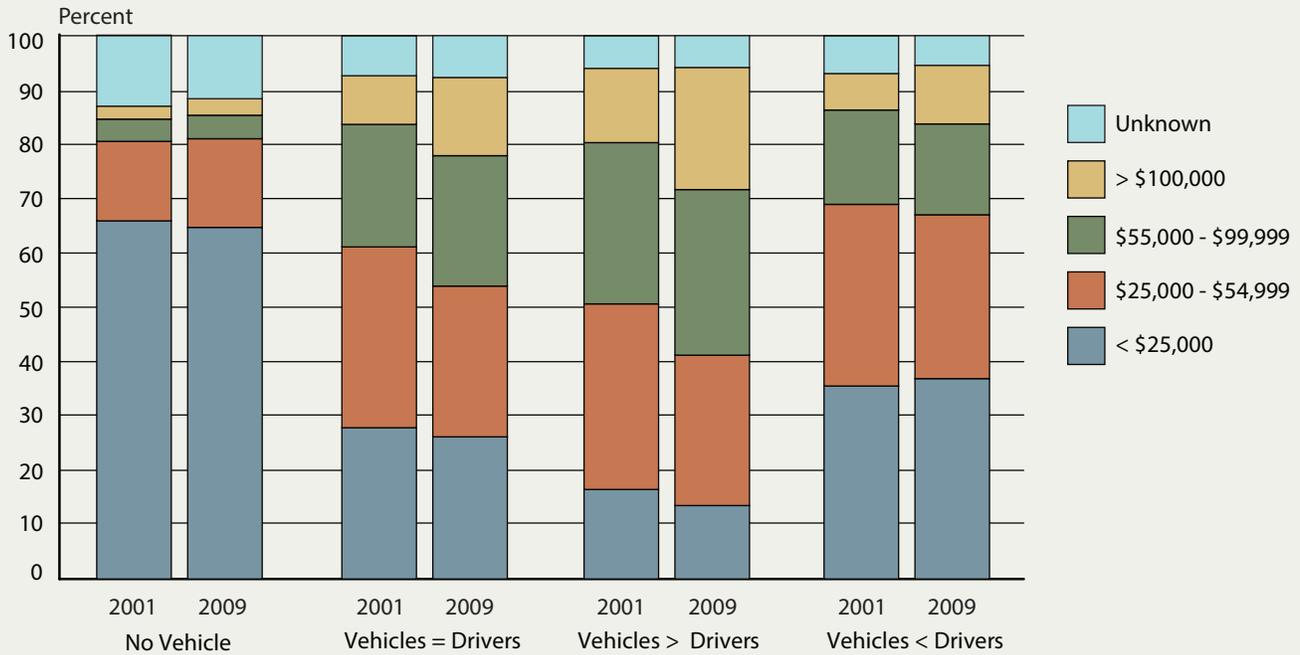
**FIGURE 2-6 AVERAGE NUMBER OF VEHICLES PER HOUSEHOLD BY NUMBER OF HOUSEHOLD DRIVERS AND ADULTS, 2009**



**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, available at <http://nhts.ornl.gov>, as of April 2013.



**FIGURE 2-7 NUMBER OF VEHICLES PER DRIVER BY HOUSEHOLD INCOME, 2001 v. 2009**

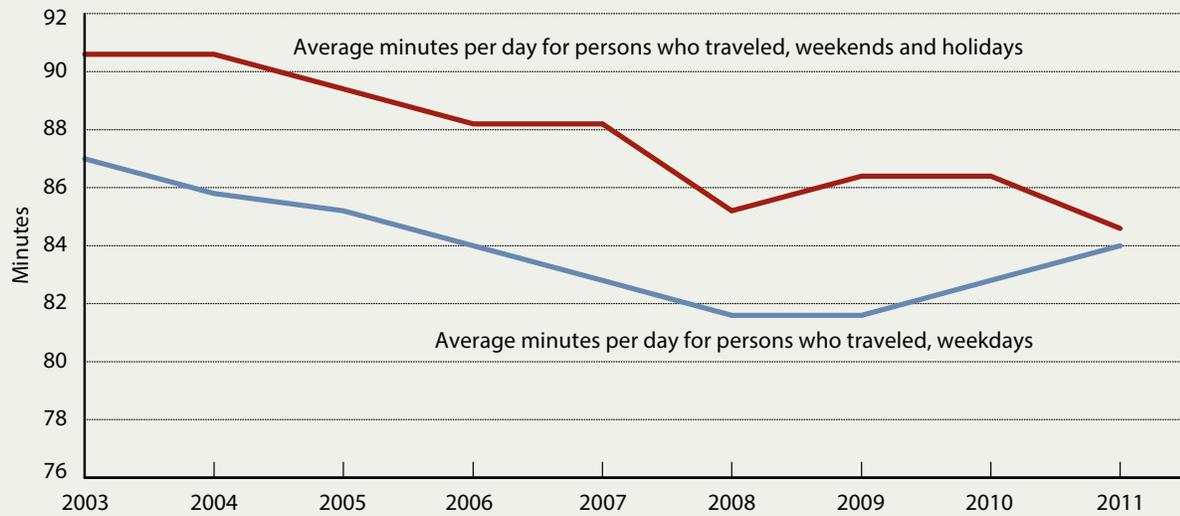


**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, as of April 2013, <http://nhts.ornl.gov>

Approximately 9 percent of households do not have a vehicle. The majority of these households, 65.9 percent in 2001 and 64.7 percent in 2009, had a combined household income of less than \$25,000. Looking at households with more vehicles than drivers, in 2001 the greatest proportion, 34.2 percent, had a combined income between \$25,000 and \$54,999. By 2009 this pattern had shifted, and the greatest proportion of households with more vehicles than drivers had incomes between \$55,000 and \$99,999 (30.5 percent).



**FIGURE 2-8 TOTAL TIME SPENT TRAVELING (WEEKDAYS V. WEEKENDS), 2003–2011**



**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, available at [www.bls.gov](http://www.bls.gov), as of May 2013.

On average persons spent approximately 3 minutes less on weekdays and 6 minutes less during weekends and holidays traveling in 2011 than in 2003. For the time shown, this decline in total time spent traveling reached its low point in 2008, in the midst of the last recession. Due to a post-recession increase in weekday travel time combined with the continued decline in weekend travel time, in 2011 weekday travel time was almost equal to weekend and holiday travel times.

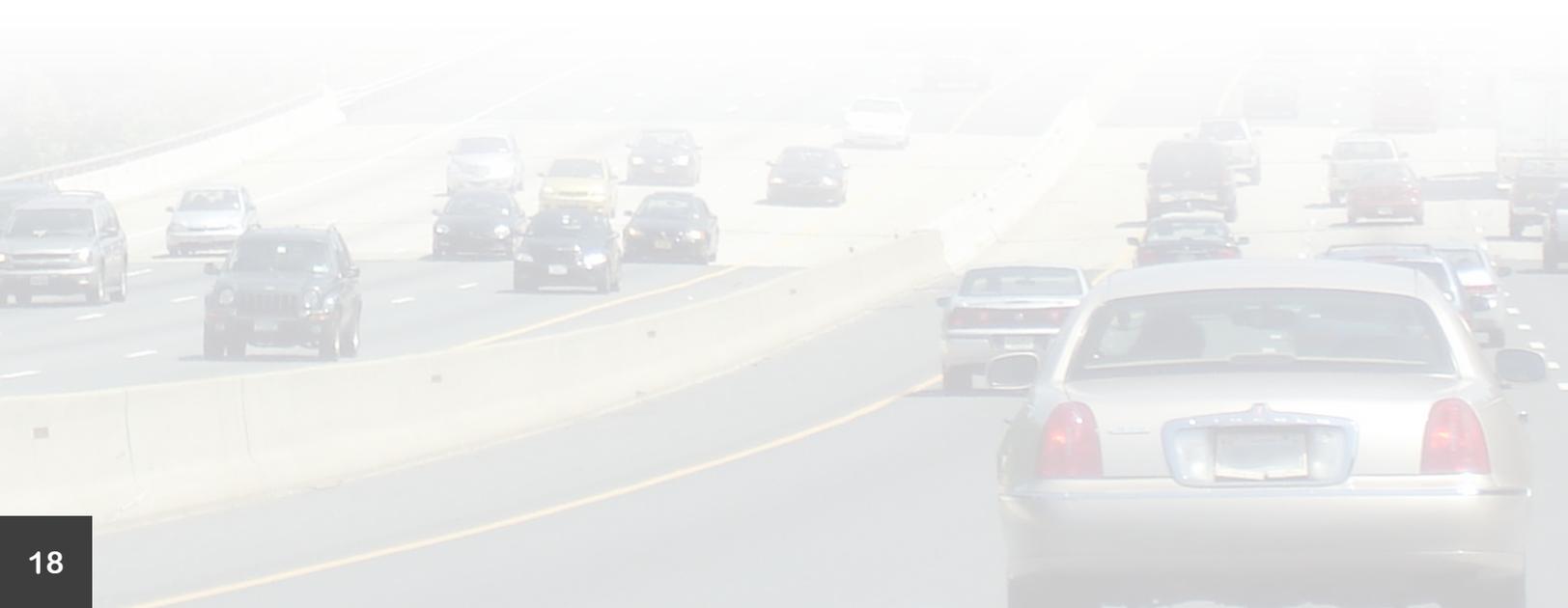


Table 2-3 examines gender differences in the average time spent traveling for a variety of activities in 2012. This data includes both people who are and who are not engaged in a particular activity.<sup>2</sup> On average, men spent 8 minutes more traveling each day than women. The most notable difference between men and women is travel related to work. Men spent an additional 9 minutes on work related travel on an average weekday and 4 more minutes on weekends and holidays. On weekdays, more time is spent on work-related travel than any other activity while on weekends more time is spent on travel related to leisure and sports than any other identified activity.

**TABLE 2-3 GENDER DIFFERENCES IN AVERAGE TIME SPENT TRAVELING, 2012**

	Average minutes per day, civilian population, weekdays	Average minutes per day, civilian population, weekends and holidays
<b>Total travel related to work</b>	<b>22</b>	<b>5</b>
Men—Travel related to work	27	7
Women—Travel related to work	16	4
<b>Total travel related to consumer purchases</b>	<b>16</b>	<b>17</b>
Men—Travel related to consumer purchases	14	17
Women—Travel related to consumer purchases	17	19
<b>Total travel related to leisure and sports</b>	<b>11</b>	<b>19</b>
Men—Travel related to leisure and sports	13	20
Women—Travel related to leisure and sports	10	17
<b>Total travel related to eating and drinking</b>	<b>6</b>	<b>10</b>
Men—Travel related to eating and drinking	7	11
Women—Travel related to eating and drinking	5	9
<b>Total travel related to caring for and helping household members</b>	<b>5</b>	<b>2</b>
Men—Travel related to caring for and helping household members	4	2
Women—Travel related to caring for and helping household members	7	3
<b>Total travel related to other activities</b>	<b>11</b>	<b>15</b>
Men—Travel related to other activities	10	13
Women—Travel related to other activities	12	16
<b>Total travel related to ALL travel activities</b>	<b>71</b>	<b>68</b>
Men—Travel related to ALL travel activities	75	70
Women—Travel related to ALL travel activities	67	66

**NOTE:** Activities are based on 2011 American Time Use Survey lexicon definitions.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, available at [www.bls.gov](http://www.bls.gov), as of January 2014

<sup>2</sup> For those who did not engage in any activity a value of zero is calculated in the average time spent.

**TABLE 2-4 AVERAGE WEEKDAY TIME SPENT TRAVELING BY PERSONS ENGAGED IN SELECTED ACTIVITIES, 2011**

Travel activity	Average minutes per day	
	Total both genders, 2011	Gender difference, 2011 (men : women)
<b>Travel related to ALL travel activities</b>	<b>84.0</b>	<b>2.4</b>
Travel related to personal care	54.6	13.8
Travel related to household activities	30.0	10.8
Travel related to caring for and helping household members	38.4	0.0
Travel related to caring for and helping nonhousehold members	38.4	0.6
Travel related to work	46.2	7.2
Travel related to education	39.6	-1.2
Travel related to consumer purchases	33.6	4.8
Travel related to using household services	29.4	-7.8
Travel related to using government services and civic obligations	52.2	-43.2
Travel related to eating and drinking	27.6	-3.6
Travel related to socializing, relaxing, and leisure	36.0	3.0
Traveling, n.e.c.	48.0	-15.6

**NOTES:** n.e.c = Not elsewhere classified. Activities are based on 2011 American Time Use Survey lexicon definitions.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, available at [www.bls.gov](http://www.bls.gov) as of May 2013.

Tables 2-4 and 2-5 examine travel times further by examining only persons who are engaged in a particular activity. For example, when looking at travel related to work the population of interest is people who travel for work, thus omitting anyone who did not travel for work over the time period studied. On weekdays the average person spends 84 minutes per day traveling for a variety of activities. For persons who travel for work, on average 46.2 minutes per day is dedicated to work related travels. On average men who travel to work spent 7.2 more minutes per day on this activity than females (see table 2-4).

On weekends the average person spends 84.6 minutes per day engaged in various travel activities. This is less than 1 minute more per day when compared to weekday travel trends. Persons who work on the weekend spend 39 minutes per day on work related travel, 7.2 minutes less than the average time spent traveling for this activity on a weekday. Out of all activities examined in table 2-5, the average person spent the most time (46.2 minutes) in travel related to socializing, relaxing, and leisure on the weekends.

**TABLE 2-5 AVERAGE WEEKEND TIME SPENT TRAVELING BY PERSONS ENGAGED IN SELECTED ACTIVITIES, 2011**

Travel activity	Average minutes per day	
	Total both genders, 2011	Gender difference, 2011 (men : women)
<b>Travel related to ALL travel activities</b>	<b>84.6</b>	<b>4.8</b>
Travel related to personal care	42.0	-20.4
Travel related to household activities	37.2	13.2
Travel related to caring for and helping household members	34.8	5.4
Travel related to caring for and helping non-household members	39.6	3.6
Travel related to work	39.0	7.2
Travel related to education	36.0	10.2
Travel related to consumer purchases	39.0	3.0
Travel related to using household services	16.8	-3.0
Travel related to using government services and civic obligations	29.4	-42.6
Travel related to eating and drinking	34.2	-1.8
Travel related to socializing, relaxing, and leisure	46.2	1.8
Traveling, n.e.c.	46.2	-4.8

**NOTES:** n.e.c = Not elsewhere classified. Activities are based on 2011 American Time Use Survey lexicon definitions.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, American Time Use Survey, available at [www.bls.gov](http://www.bls.gov), as of May 2013.

**TABLE 2-6 OVERNIGHT INTERNATIONAL TRAVEL DESTINATIONS OF U.S. RESIDENTS, 2000 v. 2012**  
(in thousands)

2000 rank	Number of trips 2000	Region/ country	2012 rank	Region/ country	Number of trips 2012	Percent change 2012-2000
1	18,849	Mexico	1	Mexico	20,367	8.1
2	15,114	Canada	2	Canada	11,854	-21.6
3	13,122	Europe	3	Europe	11,245	-14.3
4	4,682	Caribbean	4	Caribbean	6,435	37.5
5	4,001	Asia	5	Asia	4,313	7.8
6	1,880	South America	6	Central America	2,394	49.0
7	1,607	Central America	7	South America	1,703	-9.4
8	886	Oceania	8	Middle East	1,500	235.9
9	447	Middle East	9	Oceania	547	-38.2
10	230	Africa	10	Africa	365	58.7
	60,816			Total	60,772	-0.07

**SOURCE:** U.S. Citizen Traffic to Overseas Regions, Canada & Mexico 2012, Office of Travel & Tourism Industries, International Trade Administration, U.S. Department of Commerce, <http://tinet.ita.doc.gov/view/m-2012-O-001/index.html>, as of July 2013

In 2012 there were 60.77 million overnight trips by U.S. residents to other countries, a 0.1 percent decrease from the 60.82 million overnight trips in 2000. Over half of the overnight international trips of U.S. residents were to neighboring countries: 20.4 million were to Mexico, and 11.9 million were to Canada. In addition, U.S. residents made 28.5 million overnight trips to countries outside of North America. The number of trips made by U.S. residents to the Middle East increased by more than 200 percent between 2000 and 2012. By month, the most 2012 overnight international trips by U.S. citizens took place in July (6.8 million), while the fewest were in February (4.1 million).



In 2012 a record 67 million overnight trips were taken by foreign visitors to the United States, a 31.6 percent increase over calendar year 2000. Of these trips, 33.0 million were from outside of North America, 21.2 million were from Canada, and 12.8 million were from Mexico. In 2012, 10 foreign countries had at least 1 million overnight resident trips to the United States. Canada and Mexico accounted for over half of the overnight foreign visitors to the United States. In 2000 China ranked 24th in number of trips to the United States. By 2012 the number of trips made by visitors from China increased by 451.4 percent as its rank climbed to the number seven position.

**TABLE 2-7 TOP 10 NATIONS OF ORIGIN FOR OVERNIGHT FOREIGN VISITS TO THE UNITED STATES, 2000 v. 2012**  
(in thousands)

2000 rank	Number of arrivals 2000	Country	2012 rank	Country	Number of arrivals 2012	Percent change from 2000
1	14,594	Canada	1	Canada	21,191	45.2
2	10,322	Mexico	2	Mexico	12,764	23.7
3	5,061	Japan	3	United Kingdom	3,485	-25.9
4	4,703	United Kingdom	4	Japan	3,385	-33.1
5	1,786	Germany	5	Germany	1,749	-2.1
6	1,087	France	6	Brazil	1,581	114.5
7	737	Brazil	7	China <sup>a</sup>	1,375	451.4
8	662	South Korea	8	France	1,358	24.9
12	540	Australia	9	South Korea	1,138	72.0
24	249	China	10	Australia	1,014	87.9
	50,890	Total		Total	66,969	31.6

<sup>a</sup> Excludes Hong Kong.

**SOURCE:** U.S. Department of Commerce, Office of Travel & Tourism Industries, International Trade Administration, "2012 Monthly Arrivals to the United States," available at: <http://tinet.ita.doc.gov/view/m-2012-I-001/index.html>, as of July 2013

**TABLE 2-8 TOP 15 STATES VISITED BY CANADIANS, 2012**

2012 rank	State visited	Visits (thousands)	Nights (thousands)	Average nights	Spending (\$C millions)
1	New York	4,263	11,461	2.7	1,676
2	Florida	3,559	71,428	20.1	4,367
3	Washington	2,933	7,703	2.6	853
4	Michigan	1,612	4,368	2.7	444
5	Nevada	1,587	7,587	4.8	1,440
6	California	1,543	15,291	9.9	1,506
7	Pennsylvania	975	2,420	2.5	265
8	Maine	928	3,034	3.3	352
9	Montana	776	2,558	3.3	270
10	North Dakota	761	1,587	2.1	266
11	Arizona	728	15,108	20.8	917
12	Minnesota	696	1,880	2.7	255
13	Massachusetts	691	2,653	3.8	332
14	Vermont	667	1,798	2.7	158
15	Virginia	652	2,307	3.5	154

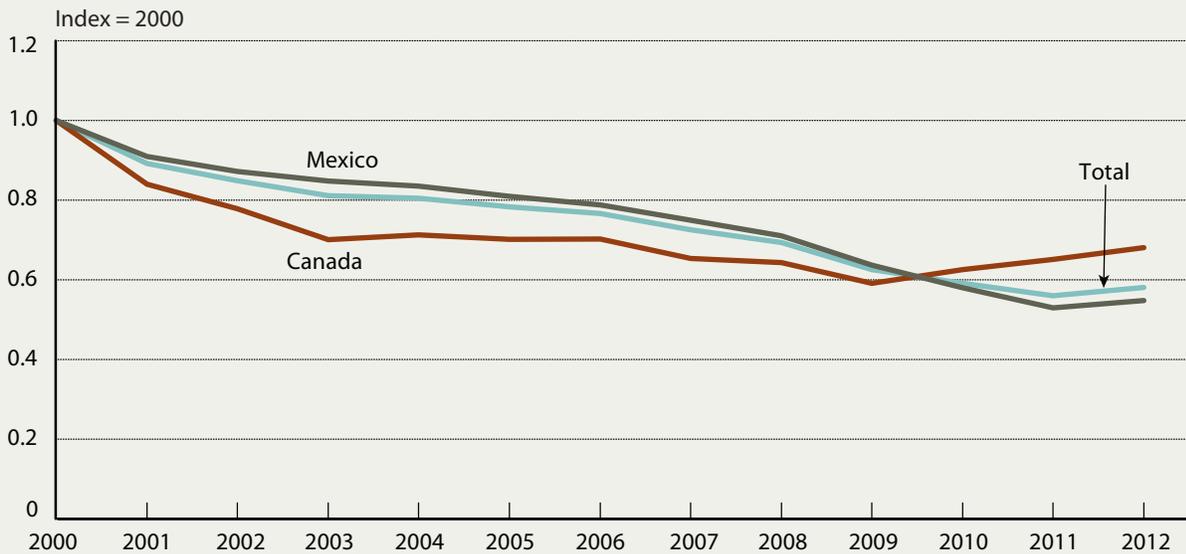
**NOTE:** On average in 2012, 1.040 Canadian dollars equaled 1 U.S. dollar, <http://www.irs.gov/Individuals/International-Taxpayers/Yearly-Average-Currency-Exchange-Rates>.

**SOURCE:** Statistics Canada, Travel by Canadians to the United States, Top 15 States Visited (2012), <http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/arts39a-eng.htm>, as of January 2014

In 2012 six states—New York, Florida, Washington, Michigan, Nevada, and California—received more than 1 million visits by Canadians. Canadians stayed more than 10 million nights in 4 states: Florida, California, Arizona, and New York. The number of nights stayed in Florida by Canadians was four times as many as that in California. For number of nights spent by Canadians, the three top states, especially Florida, are home to many Canadian retirees in the winter, and are also popular warm weather vacation destinations. Canadians spent over \$1 billion in each of four states: Florida, New York, California, and Nevada. The average visit of 20.8 nights to Arizona and 20.1 nights to Florida was more than double the average for any other state. In New York, the average stay was 2.7 nights.

From 2000 to 2009, person crossings along both borders showed a steady decline. However, this trend was reversed along the U.S.-Canada Border after 2009 as person crossings along the U.S.-Canada border increased by almost 9 percent (8.5 million persons). In 2012, 70.9 percent of all person crossings took place along the U.S.-Mexico border, and 29.1 percent of crossings occurred through ports of entry along the U.S.-Canada border.

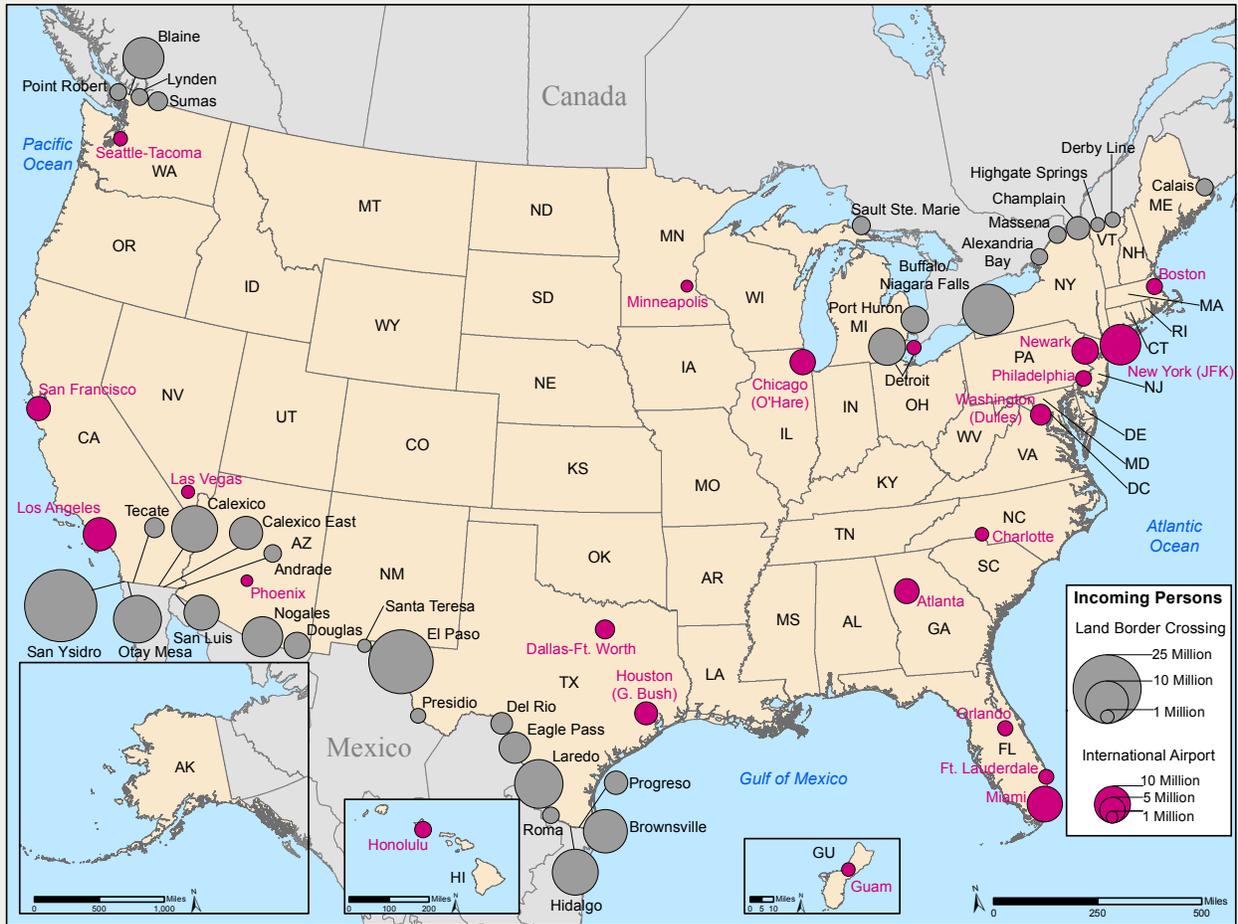
**FIGURE 2-9 INDEX OF INCOMING PERSONS CROSSING U.S. LAND BORDERS, 2000–2012**



**NOTES:** "Total" includes all person crossings into the United States from Mexico or Canada. Truck crossings are not included as that is primarily freight related.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Database; based on data from U.S. Department of Homeland Security, Customs and Border Protection, OMR database, as of April 2013.

**FIGURE 2-10 PERSON CROSSINGS INTO THE UNITED STATES AT LAND BORDER CROSSINGS AND INTERNATIONAL AIRPORTS, 2012**



**NOTE:** Truck crossings are not included as that is primarily freight related.

**SOURCES:** *Personal Vehicle Crossings* – U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Database, based on data from U.S. Department of Homeland Security, Customs and Border Protection, Office of Field Operations, as of May 30, 2013. *Air Passenger Data* - US Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 database, as of August 2013.

In 2012 more than 1 million person crossings into the United States took place at each of 33 different border ports of entry: 19 along the U.S. – Mexico border and 14 along the U.S. – Canada border. Texas is home to 11 ports of entry with a total of 71.5 million person crossings. Along the U.S. – Mexico border, California had the second most person crossings with 63.1 million persons crossing at 6 ports of entry. Along the U.S. – Canada border, New York had the greatest number of crossings with 20.4 million persons crossing at 7 ports of entry. Washington had the second highest number of crossings with 14.8 million persons crossing at 15 ports of entry.

Along the U.S.-Mexico border, the largest number of person crossings took place in Texas, accounting for 45.8 percent of total crossings along that border. California

accounted for 39.7 percent of person crossings, and Arizona accounted for 13.4 percent. New Mexico had the fewest person crossings along the U.S.-Mexico border, accounting for only 1.2 percent of all person crossings.

Along the U.S.-Canada border, the largest number of person crossings took place in New York (33 percent). Washington and Michigan accounted for 24.5 and 20.8 percent of total person crossings, respectively. Montana, Alaska, and Idaho accounted for the fewest person crossings at 2.0, 0.7, and 0.8 percent, respectively.

There were 22 airports in 2012 with more than 1 million incoming passengers from international origins. New York (JFK), Miami, and Los Angeles airports received the greatest numbers of incoming air passengers with 12.5, 9.6, and 8.5 million passengers, respectively. From 2011 to 2012, the greatest increase in incoming passengers was in Honolulu, up 16.5 percent, with Dallas-Fort Worth second at 11.8 percent. Newark and Fort Lauderdale had the greatest decreases in incoming international passengers, down 2.1 and 1.8 percent, respectively.



## Box 2-B Border Wait Times

The Federal Highway Administration has been working with other agencies on calculating border wait times along the U.S.-Canada and U.S.-Mexico borders. Border wait times and delays are an important concern for travelers and those involved with or affected by international trade. Border wait time data are used by drivers to make decisions about when, where, and whether they should cross the border and by border agencies to better manage traffic and operations. Challenges with border wait times include data accuracy, reliability, and timeliness of wait time data.

The border wait time data collected at many ports of entry (POEs) are collected manually. While border wait time data collection tasks are important, they are subordinate to the primary inspection and enforcement duties of the customs agencies. Through this Beyond the Border (BtB) initiative, real time border wait time information will be made available to border and transportation agencies. This may lead to increased efficiency and reduced delays at the border. The adoption of 100 percent automated collection of border wait time data collection at POE locations will reduce the burden of data collection by customs staff as well as increase the reliability and timeliness of border wait time data collection. In addition, the application of automation technology for border wait time data collection offers the potential to develop real-time border wait time information and to electronically archive data for use by transportation and infrastructure planners.

In 2010, for the U.S.-Canada Border, a Border Wait Time Work Group consisting of U.S. Customs and Border Protection, the Federal Highway Administration, the Canada Border Services Agency, and Transport Canada was formed to identify opportunities for cooperation on specific projects and activities that foster the use of technology to measure border wait times at U.S.-Canada land border crossings. To date, the group has successfully worked to define border wait time as the time from when a vehicle arrives at the end of the queue to when the vehicle arrives at the primary inspection booth. The group has also lead a pilot implementation of a border wait time solution at two locations, the Peace Bridge between Buffalo, NY, and Fort Erie, Ontario, and the Lewiston-Queenston Bridge between Lewiston, NY, and Queenston, Ontario.

One of the specific actions in the BtB initiative is the implementation of an automated border wait-time measurement system at mutually determined high priority U.S.-Canada POEs.

Over the next few years, plans call for automated border wait time technology to be implemented at 14 additional crossings, ranging from Calais, ME, to Point Roberts, WA. Some of these locations will utilize Bluetooth technology.

On the U.S.-Mexico Border, the Texas DOT has installed systems to collect real time and historic border wait time data at these crossings: Brownsville Veterans Bridge, Pharr Reynosa International Bridge, World Trade Bridge in Laredo, Colombia-Solidarity International Bridge in Laredo, Bridge of the Americas in El Paso, and Zaragoza-Ysleta International Bridge near El Paso. The Texas DOT provides this information to the public at: <http://bcis-dev.tamu.edu/en-US/index.html>. With data from these six sites, the Texas DOT has employed new algorithms to predict border wait times. Meanwhile, the Arizona Commerce Authority is also conducting a project to measure border wait times at the Mariposa Crossing in Nogales, AZ.

**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, personal communication, June 2013.





### 3. PASSENGER TRANSPORTATION SYSTEM AND RELIABILITY

In recent years some transportation modes have seen increases in use, whereas others have experienced decreases. From 2005 to 2011, motorcycle and bus travel increased by 77.4 and 97.8 percent, respectively, whereas car travel declined by 3.6 percent. The number of rail passengers increased as did the number of unlinked<sup>1</sup> transit trips; however, airline passenger miles fell by more than 10 percent. The extent of the U.S transportation system also fluctuated.

**TABLE 3-1 AN OVERVIEW OF THE PASSENGER TRANSPORTATION SYSTEM, 2005 v. 2011**

	2005	2011	Percent change
<b>U.S. POPULATION (millions)</b>	<b>296</b>	<b>312</b>	<b>5.4</b>
<b>AIR (Civil)</b>			
<b>Aircraft and use (domestic)</b>			
Air carrier passenger/cargo aircrafts	8,225	7,028	-14.6
Air carrier airplane miles flown, billions	6.7	6	-10.6
Passenger enplanements, millions	657	638	-2.9
RPM, billions <sup>a</sup>	571	565	-1.1
General aviation aircraft	224,352	222,250	-0.9
<b>Extent</b>			
Public use airports	5,270	5,172	-1.9
Commercial service airports	575	547	-4.9
Private use airports and landing fields	14,584	14,339	-1.7
<b>HIGHWAYS</b>			
<b>Personal vehicles and use</b>			
Cars, SUVs, vans, pickups			
Vehicles, millions	231.9	233.8	0.8
VMT, billions <sup>b</sup>	2,749.5	2,650.5	-3.6
PMT, billions <sup>c</sup>	4,504.2	3,650.2	-19.0
Motorcycles <sup>d</sup>			
Vehicles, millions	6.2	8.3	33.8
VMT, billions	10.5	18.5	77.4
PMT, billions	13.3	20.0	50.4
Buses			
Vehicles, millions	0.8	0.7	-17.5
VMT, billions	7.0	13.8	97.8
PMT, billions	148.0	292.7	97.8
<b>Extent</b>			
Public roads			
Miles of public roads, millions	4	4.1	2.1
Lane miles of public roads, millions	8.4	8.6	2.3
Bridges	595,362	605,087	1.6
<b>RAIL</b>			
<b>Equipment and use</b>			
Amtrak			
Stations	518	517	-0.2
Passenger cars	1,186	1,301	9.7
Locomotives in service	258	287	11.2
Revenue passengers carried, millions	25.1	31.3	25.0
Revenue passenger miles, billions	5.4	6.7	24.0

*continued next page*

<sup>1</sup> Unlinked trips for transit refer to the number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from origin to destination.

continued from previous page

	2005	2011	Percent change
<b>Extent</b>			
Miles of railroad operated by:			
Class I freight railroads	95,664	95,387	-0.3
Regional railroads	15,388	10,355	-32.7
Local railroads	29,197	32,776	12.3
Amtrak (intercity passenger service), route miles	22,007	21,225	-3.6
<b>TRANSIT</b>			
<b>Vehicles and use</b>			
Transit buses			
Vehicles	62,899	61,127	-2.8
PMT, billions	19.6	20.0	2.3
Unlinked trips, billions	5.3	5.2	-1.9
Heavy rail cars			
Vehicles	11,110	14,942	34.5
PMT, billions	14.4	17.3	20.1
Unlinked trips, billions	2.8	3.6	29.9
Commuter rail cars and locomotives			
Vehicles	6,290	6,971	10.8
PMT, billions	9.5	11.3	19.5
Unlinked trips, billions	0.4	0.5	9.1
Light rail cars			
Vehicles	1,645	2,284	38.8
PMT, billions	1.7	2.2	29.3
Unlinked trips, billions	0.4	0.5	27.1
Demand response vehicles (e.g., paratransit)			
Vehicles	28,346	31,846	12.3
PMT, billions	0.7	0.9	19
Unlinked trips, billions	0.1	0.1	17.9
Other: (e.g., ferryboat, vanpool)			
Vehicles	11,622	18,965	63.2
PMT, billions	1.2	2.6	114.7
Unlinked trips, billions	0.1	0.2	100
<b>Extent</b>			
Transit rail stations	2,936	3,155	7.5
Directional route miles			
Bus routes	225,053	231,372	2.8
Commuter rail	7,118	7,576	6.4
Heavy rail	1,622	1,617	-0.3
Light rail	1,188	1,740	46.5
<b>WATER</b>			
<b>Vessels</b>			
Non-self-propelled vessels	33,152	31,498	-5.0
Self-propelled vessels	8,976	8,979	0.0
U.S.-flag oceangoing privately owned fleet	230	214	-7.0
Recreational boats, millions	12.9	12.2	-5.9
<b>Extent</b>			
Miles of navigable waterways	25,000	25,000	0.0
Waterway facilities (including cargo handling docks)	9,399	8,197	-12.8
Lock chambers	257	239	-7.0
Lock sites	212	193	-9.0

<sup>a</sup> Revenue Passenger Miles (RPM): Calculated by multiplying number of paying passengers by miles traveled.

<sup>b</sup> Vehicle Miles Traveled (VMT): Highway—Miles of travel by all types of motor vehicles as determined by the States on the basis of actual traffic counts and established estimating procedures. Transit—the total number of miles traveled by transit vehicles. Commuter rail, heavy rail, and light rail report individual car miles, rather than train miles for vehicle miles.

<sup>c</sup> Passenger Miles Traveled (PMT): Total miles traveled by all passengers. For example, a car that carries 5 passengers a distance of 3 miles accrues 15 passenger miles traveled.

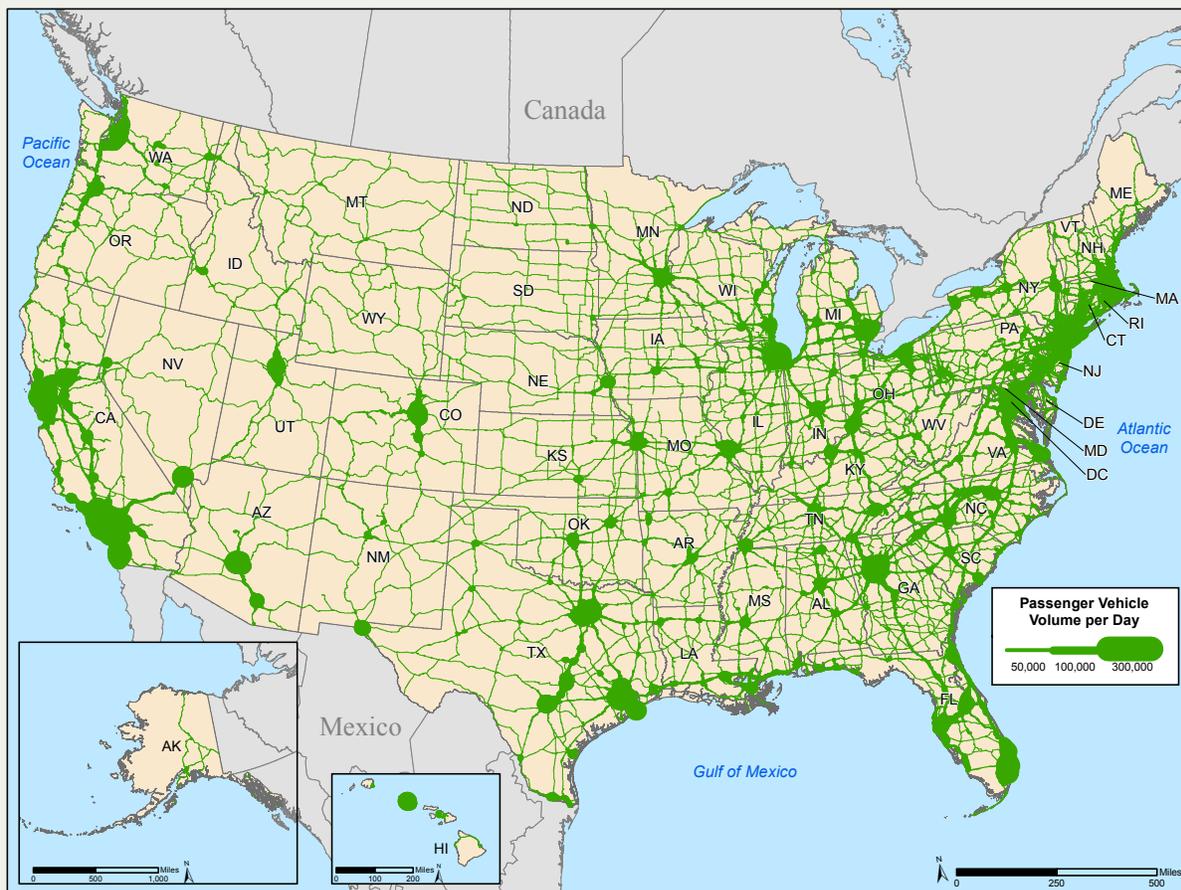
**KEY:** PMT=Passenger Miles Traveled; RPM=Revenue Passenger Miles; SUV=Sport Utility Vehicle; VMT=Vehicle Miles Traveled

**NOTE:** Data is taken from multiple sources, thus the number of significant digits may vary.

**SOURCES: Population:** U.S. Department of Commerce, U.S. Census Bureau, Population Estimates, Vintage 2009 and 2012, available at [www.census.gov/popest](http://www.census.gov/popest), as of March 2013. **Air:** airports, aircraft, VMT—U.S. Department of Transportation (USDOT), Federal Aviation Administration, as cited in USDOT, Bureau of Transportation Statistics (BTS), *National Transportation Statistics* (NTS), table 1-3, 1-11, 1-35, available at [www.bts.gov](http://www.bts.gov), as of January 2014. Enplanements, PMT, ton miles—USDOT BTS, Air Carrier Traffic Statistics, available at [bts.gov](http://bts.gov), as of March 2013. **Highways:** USDOT Federal Highway Administration (FHWA), Highway Statistics 2011, as cited in USDOT BTS NTS, op cit., table 1-4 (roads), 1-6 (lane miles), 1-11 (vehicles) 1-35 (VMT), table 1-40 (PMT); bridges—USDOT FHWA Office of Bridge Technology, National Bridge Inventory Database, as cited in USDOT BTS NTS, op cit., table 1-28. **Rail:** Association of American Railroads, Railroad Facts 2006 and 2012 (Washington, DC). Stations—Amtrak, as cited in USDOT BTS NTS, op cit., table 1-7. **Transit:** USDOT Federal Transit Administration, National Transit Database, and as cited in USDOT BTS NTS, op cit., table 1-1 (route miles), 1-7 (stations), 1-11 (vehicles), 1-40 (PMT) as of January 2014. **Water:** Vessels, waterways, facilities, locks—U.S. Army Corps of Engineers, Navigation Data Center, available at [www.navigationdatacenter.us](http://www.navigationdatacenter.us) as of January 2014. Fleet—USDOT, Maritime Administration, available at [www.marad.dot.gov](http://www.marad.dot.gov) as of September 2013. Recreational boats—U.S. Coast Guard, Recreational Boating Statistics, available at [www.uscgboating.org](http://www.uscgboating.org) as of September 2013.

The passenger transportation system is an interconnected network of highways, railroads, airports, public transit systems, and waterways that serves over 300 million U.S. residents and foreign visitors. Figure 3-1 depicts the traffic (excluding large trucks and buses) on the National Highway System (NHS)<sup>2</sup> in 2011. The majority of passenger vehicle traffic is concentrated in and around large cities. In 2011, 28.4 percent of passenger vehicle traffic was on the NHS (including Interstates). While the bulk (69.9 percent) of NHS mileage is rural, only 8.1 percent of passenger vehicle traffic occurred in a rural setting.

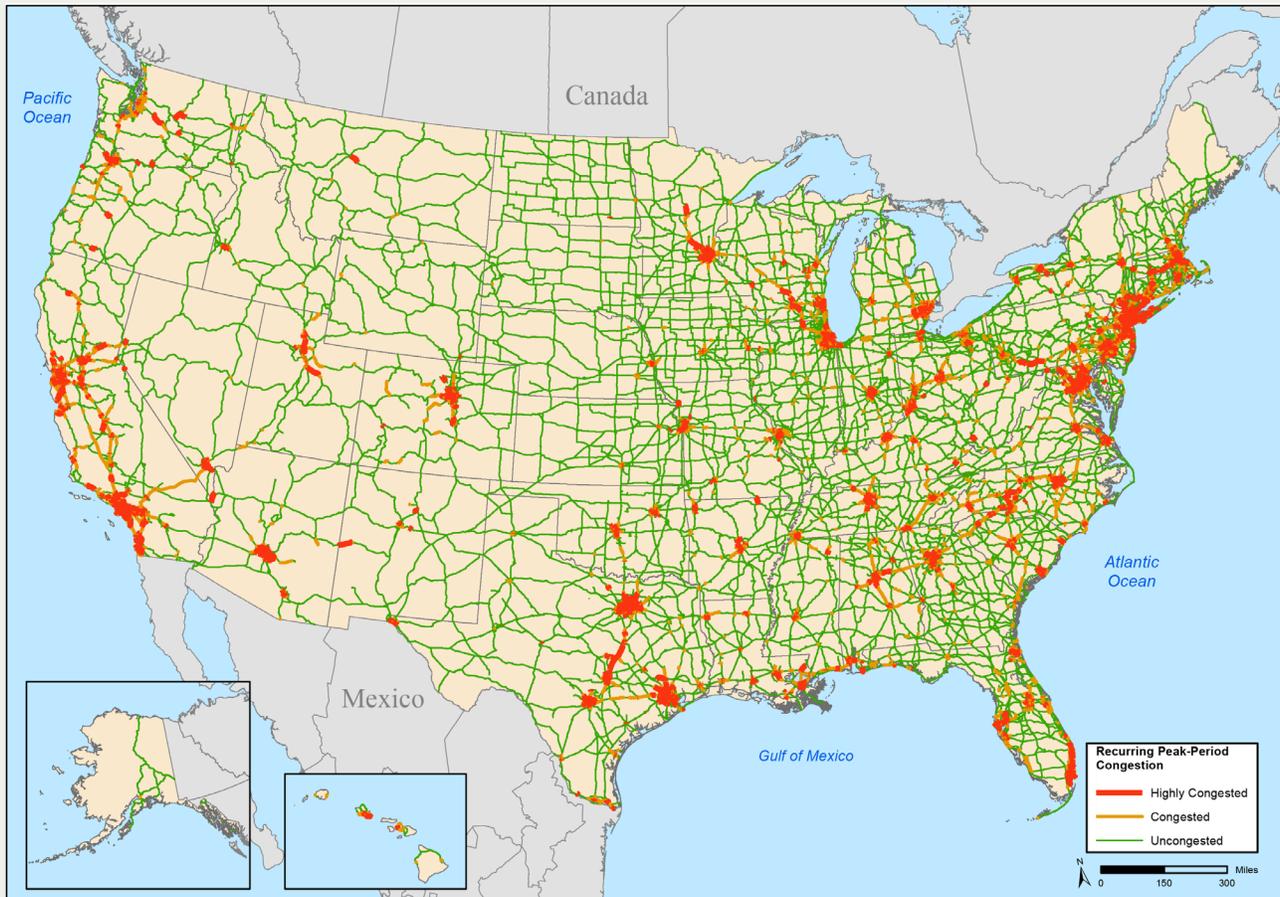
**FIGURE 3-1 PASSENGER VEHICLE TRAFFIC ON THE NATIONAL HIGHWAY SYSTEM, 2011**



**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, Office of Highway Policy Information, Highway Performance Monitoring System, and Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2013.

<sup>2</sup> The National Highway System includes the Interstate Highway System as well as other roads important to the nation's economy, mobility, and defense. [http://www.fhwa.dot.gov/planning/national\\_highway\\_system/](http://www.fhwa.dot.gov/planning/national_highway_system/)

**FIGURE 3-2 PEAK-PERIOD CONGESTION ON THE NATIONAL HIGHWAY SYSTEM, 2011**



**NOTES:** Highly congested segments are stop-and-go conditions with volume/service flow ratios greater than 0.95. Congested segment have reduced traffic speeds with volume/service flow ratios between 0.75 and 0.95. The volume/service flow ratio is estimated using the procedures outlined in the HPMS Field Manual, Appendix N.

**SOURCE:** U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, Freight Analysis Framework, version 3.4, 2013.

In 2011 peak-period congestion resulted in traffic slowing below posted speed limits on 13,500 miles of the nearly 224,000 miles of road that comprise the National Highway System and created stop-and-go conditions on an additional 8,700 miles.

In 2011 the Washington DC metropolitan area averaged 67 hours of average annual delay per auto commuter, the highest of any metropolitan area. This is 49 hours more than the average annual delay per auto commuter in 1982. Also in 2011, Los Angeles-Long Beach-Santa Ana, CA, experienced an estimated 61 hours of delay per auto commuter, tying with San Francisco-Oakland, CA, as the urban area with the second most average annual hours of delay.

**TABLE 3-2 YEARLY HOURS OF DELAY PER AUTO COMMUTER, BY MOST CONGESTED URBAN AREAS BY POPULATION GROUP, VARIOUS YEARS**

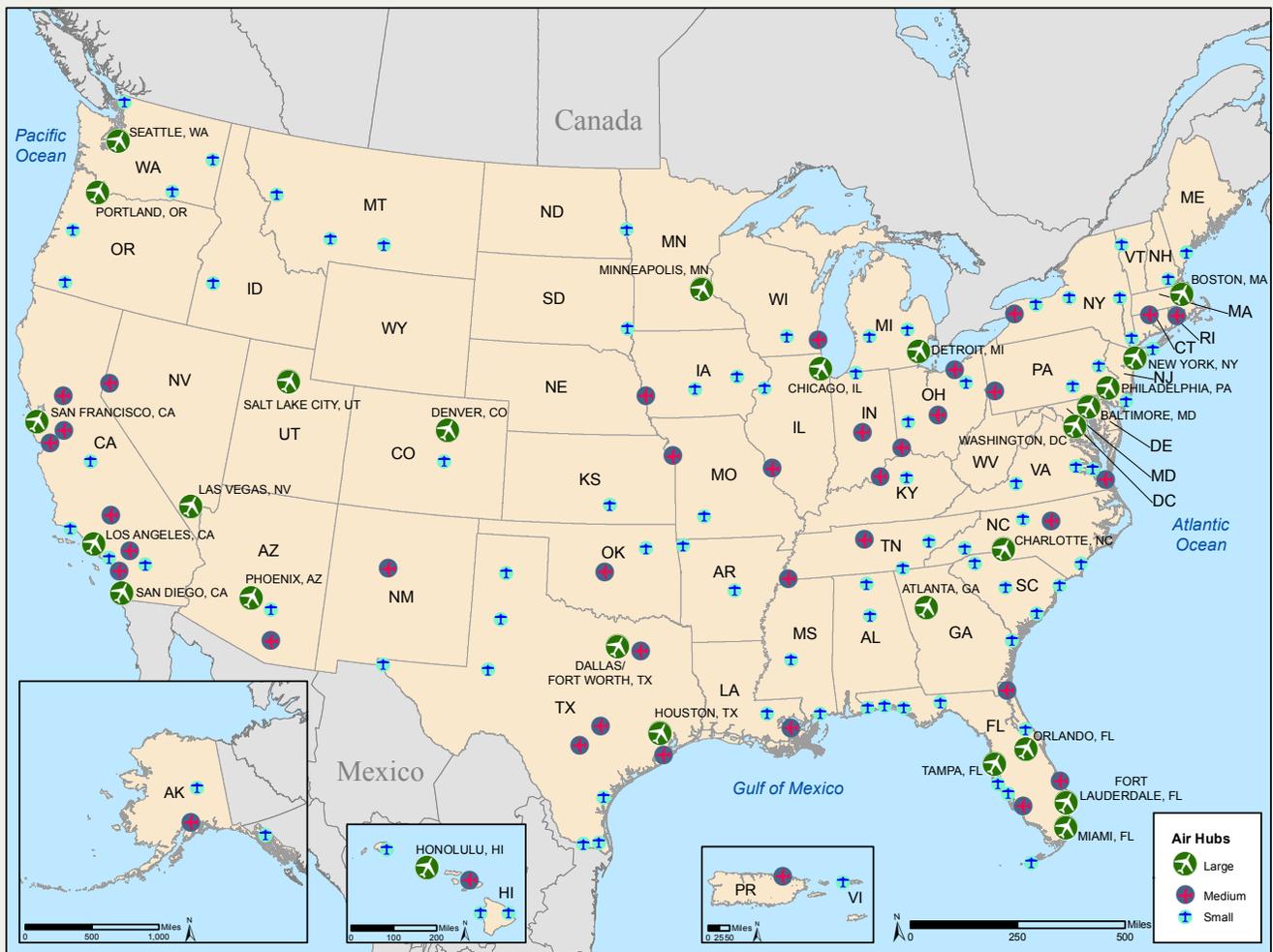
Urban area	Population group	Yearly hours of delay per auto commuter					Long-term change 1982-2011
		1982	2000	2005	2010	2011	Hours
Washington, DC-VA-MD	Very large	18	65	74	66	67	49
Los Angeles-Long Beach-Santa Ana, CA	Very large	37	72	78	61	61	24
San Francisco-Oakland, CA	Very Large	24	72	89	60	61	37
Nashville-Davidson, TN	Large	23	48	57	46	47	24
Denver-Aurora, CO	Large	11	42	48	44	45	34
Orlando, FL	Large	13	55	51	44	45	32
Honolulu, HI	Medium	19	34	43	45	45	26
Baton Rouge, LA	Medium	10	36	43	42	42	32
Bridgeport-Stamford, CT-NY	Medium	13	51	54	42	42	29
Worcester, MA-CT	Small	13	40	40	33	33	20
Cape Coral, FL	Small	10	29	36	29	30	20
Columbia, SC	Small	5	20	24	30	30	25

**KEY:** Very large urban areas – 3 million and over population; large urban areas – 1 million to less than 3 million population; medium urban areas – 500,000 to less than 1 million population; small urban areas – less than 500,000 population.

**NOTES:** To be consistent with NTS table 1-71 and table 3-3 of this report, Knoxville, TN, was left in the “small” urban category even though the Texas Transportation Institute’s 2012 Urban Mobility Report classifies it as a medium urban area. “Yearly hours of delay per auto commuter” is calculated by dividing the extra travel time during the year by the number of people who commute in private vehicles in the urban area.

**SOURCE:** Texas Transportation Institute’s (TII) 2012 Urban Mobility Report, Powered by INRIX Traffic Data, refer to <http://mobility.tamu.edu/ums/national-congestion-tables/> as of July 5, 2013.

**FIGURE 3-3 AIRPORT MARKET SIZE BY NUMBER OF DOMESTIC ENPLANEMENTS, 2012**



**NOTE:** Airports are included if they serve at least 0.05% of all enplaned (boarded) passengers in the United States. They are categorized based on their share of total enplaned passengers: Large, 1% or more; Medium, 0.25%–0.99%; and Small, 0.05%–0.24%.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Domestic Market database, as of November 2013.

Based on the number of domestic enplanements in 2012, 26 airport markets that accounted for at least 1 percent of total enplaned passengers were classified as large, whereas airport markets with 0.25–0.99 and 0.05–0.24 percent of total enplanements were classified as medium and small, respectively.

Airline enplanements (domestic and international) peaked in 2007 and bottomed in 2009 before starting a steady climb. Between 2009 and 2012, domestic enplanements rose 3.9 percent, and international enplanements rose 12.4 percent. In 2012 total enplanements remained 2.6 percent below the 2007 peak, with domestic enplanements down 5.4 percent, while international enplanements were up 9.5 percent.

**TABLE 3-3 ANNUAL AIRLINE PASSENGER ENPLANEMENTS: 2005–2012**

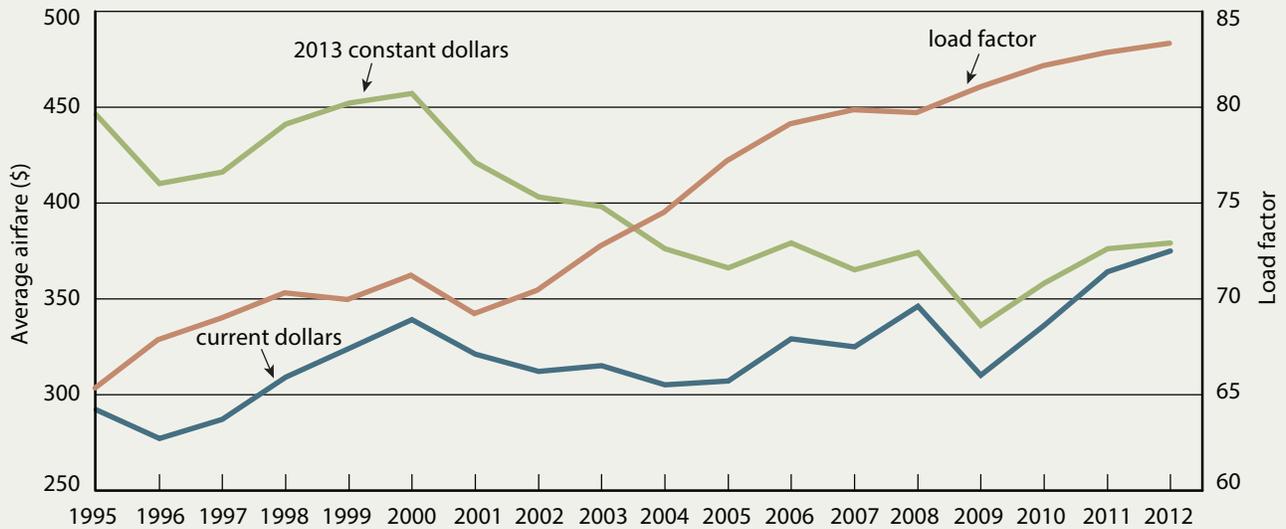
(scheduled passengers only; in thousands)

	<b>Domestic enplanements</b>	<b>International enplanements</b>	<b>Total domestic and international enplanements</b>
2005	657,261.5	143,588.4	800,849.9
2006	658,362.6	149,740.6	808,103.2
2007	679,185.5	156,250.9	835,436.4
2008	651,710.2	157,737.6	809,447.8
2009	618,067.3	149,749.3	767,816.6
2010	629,537.6	157,938.7	787,476.3
2011	638,247.7	163,820.9	802,068.5
2012	642,206.7	170,734.8	812,941.5

**NOTES:** International enplanements include passengers on either domestic or foreign carriers. Load factor is calculated by dividing production, as measured by revenue passenger miles (RPMs), by capacity, as measured in available seat miles (ASMs).

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 market data, available at [https://www.bts.gov/programs/airline\\_information/](https://www.bts.gov/programs/airline_information/) as of January 2013.

**FIGURE 3-4 TOTAL DOMESTIC LOAD FACTOR AND AVERAGE AIRFARE, 1995–2012**



**NOTE:** Load factor calculated by dividing the total revenue passenger miles by available seat miles.

**SOURCE:** *Airfare- Load Factors* - U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information T-100 Domestic Segment, available at [http://www.transtats.bts.gov/Fields.asp?Table\\_ID=311](http://www.transtats.bts.gov/Fields.asp?Table_ID=311), as of November 2013.

Since 2008, as airlines reduced capacity, flights have become more crowded and load factors have reached record levels (figure 3-4). Inflation-adjusted domestic airfares, as evidenced by the constant dollars trend line, dipped to a decade-low in 2009 before recovering through 2012, reversing a decline that actually began in 2000. In 2012 the average airfare was about \$379, down from the year 2000 average airfare of \$457 (constant dollars).



In 2012 the most traveled city pair by air was between San Francisco International Airport and Los Angeles International Airport (LAX), followed by LAX and John F. Kennedy International Airport. Average travel times have changed little for selected city pairs over the years.

**TABLE 3-4 AVERAGE TRAVEL TIMES BY AIR FOR TOP 10 CITY PAIRS, 1990 v. 2012**

2012 rank	City pair	Average flight time (in hours)	
		1990	2012
1	Los Angeles – San Francisco	0.92	0.93
2	Los Angeles – New York JFK	4.98	5.15
3	Chicago O'Hare – New York LaGuardia	1.75	1.80
4	Atlanta – Orlando	1.05	1.04
5	Chicago O'Hare – Los Angeles	3.61	3.67
6	Atlanta – Fort Lauderdale	1.43	1.41
7	Atlanta – New York LaGuardia	1.81	1.79
8	Chicago O'Hare – San Francisco	3.82	3.85
9	New York JFK – San Francisco	5.26	5.37
10	Dallas-Fort Worth – Los Angeles	2.64	2.67

**NOTE:** Top 10 city pairs determined by enplaned passengers in 2012.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Domestic and Market Segment Data, refer to <http://www.transtats.bts.gov/>, as of November 2013.

**TABLE 3-5 TOP 10 DOMESTIC AIR MARKETS BY NUMBER OF ENPLANEMENTS, 2011 v. 2012**

(in millions of enplaned passengers; based on T-100 Domestic Market Data)

2012 rank	Market	2011	2012	Percent change 2011-2012
1	New York City, NY	45.4	46.5	2.5
2	Atlanta, GA	43.7	45.1	3.2
3	Chicago, IL	38.8	39.3	1.2
4	Los Angeles, CA	34.5	35.0	1.3
5	Dallas/Fort Worth, TX	31.0	31.4	1.5
6	Washington, DC	29.4	29.5	0.6
7	San Francisco, CA	25.9	27.4	5.9
8	Miami, FL	25.4	26.0	2.2
9	Denver, CO	25.4	25.5	0.4
10	Houston, TX	23.2	23.2	0.1

**NOTE:** Enplaned passengers on U.S. carriers only.**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Domestic Market Data, refer to [http://www.transtats.bts.gov/Fields.asp?Table\\_ID=308](http://www.transtats.bts.gov/Fields.asp?Table_ID=308), as of June 9, 2014.

All of the top 10 domestic air markets ranked by number of domestic enplanements experienced an increase in enplaned passengers from 2011 to 2012. New York City was the top market with 46.5 million domestic enplanements in 2012. Of the top 10 markets, the greatest percentage increase from 2011 to 2012 took place in San Francisco, up 5.9 percent, and the smallest percentage increase, 0.1 percent, took place in Houston.



Southwest carried the most passengers from domestic origins of any airline in 2011 and 2012, with 1.5 percent more passengers in 2012. Delta retained its second place ranking with a 2.8 percent increase in enplaned passengers from domestic origins in 2012. AirTran experienced the biggest percentage decline in the number of enplaned passengers from domestic origins of the top 10 airlines with 12.9 percent fewer passengers in 2012 than in 2011. JetBlue had the greatest percentage increase in enplaned passengers from domestic origins of the top 10 airlines with 9.2 percent more passengers in 2012 than in 2011.

**TABLE 3-6 TOP 10 AIRLINES BY DOMESTIC ENPLANEMENTS, 2011 v. 2012**

(in millions of enplaned passengers; based on T-100 Domestic Market Data)

2012 rank	Airline	2011	2012	Percent change 2011-2012
1	Southwest	110.6	112.3	1.5
2	Delta	102.5	105.4	2.8
3	United	82.8	79.6	-3.8
4	American	75.7	75.8	0.1
5	US Airways	49.6	50.9	2.6
6	ExpressJet (includes Atlantic Southeast)	29.5	31.0	5.1
7	JetBlue	24.7	26.9	9.2
8	SkyWest	23.6	25.5	8.2
9	AirTran	24.2	21.1	-12.9
10	American Eagle	16.7	18.1	8.1

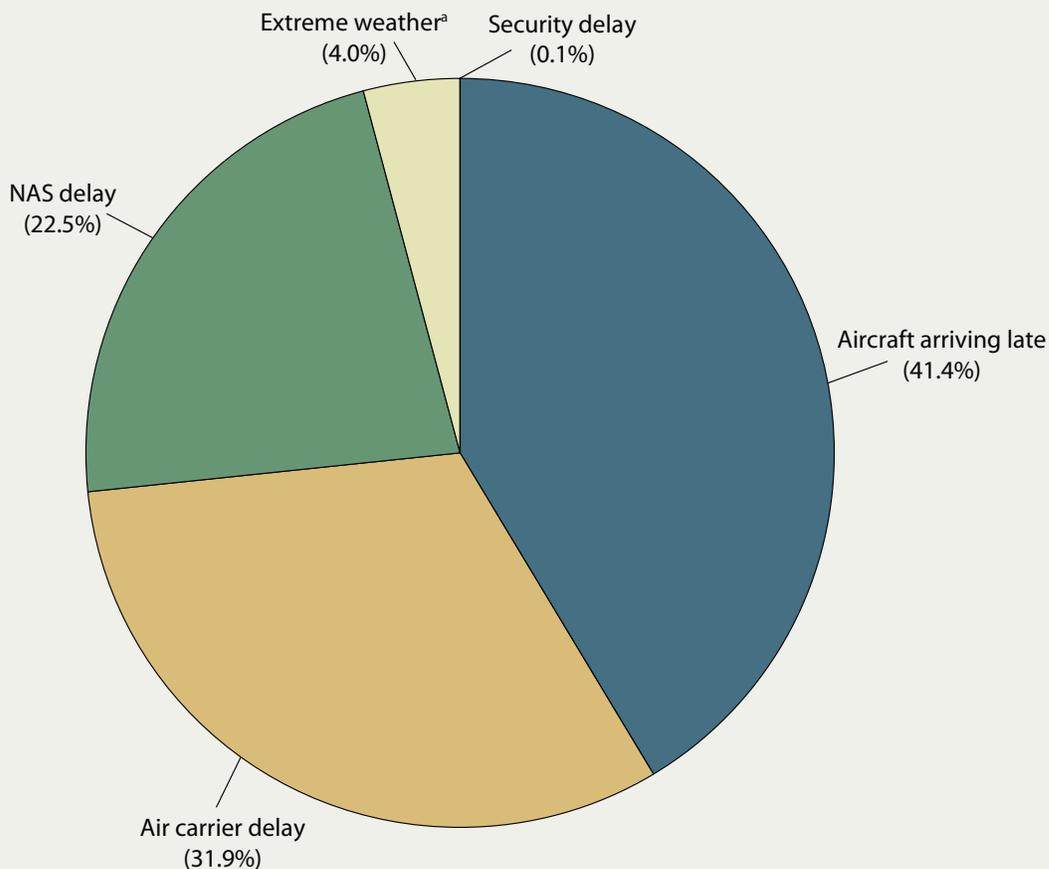
**NOTES:** American Eagle's name was changed to Envoy Air in April 2014; Continental and United reported separately in 2011 and combined under United in 2012 therefore the two have been combined under United for 2011 in this table for comparability.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, T-100 Domestic Market Data, refer to [http://www.transtats.bts.gov/DL\\_SelectFields.asp?Table\\_ID=292](http://www.transtats.bts.gov/DL_SelectFields.asp?Table_ID=292), as of June 11, 2014.



**FIGURE 3-5 U.S. AIRPORT DELAYS BY CAUSE: 2012**

(percent of delayed time)



<sup>a</sup> Significant meteorological conditions that delays or prevents the operation of a flight.

**KEY:** NAS = National Aviation System.

**NOTE:** Percents do not add to 100 due to rounding.

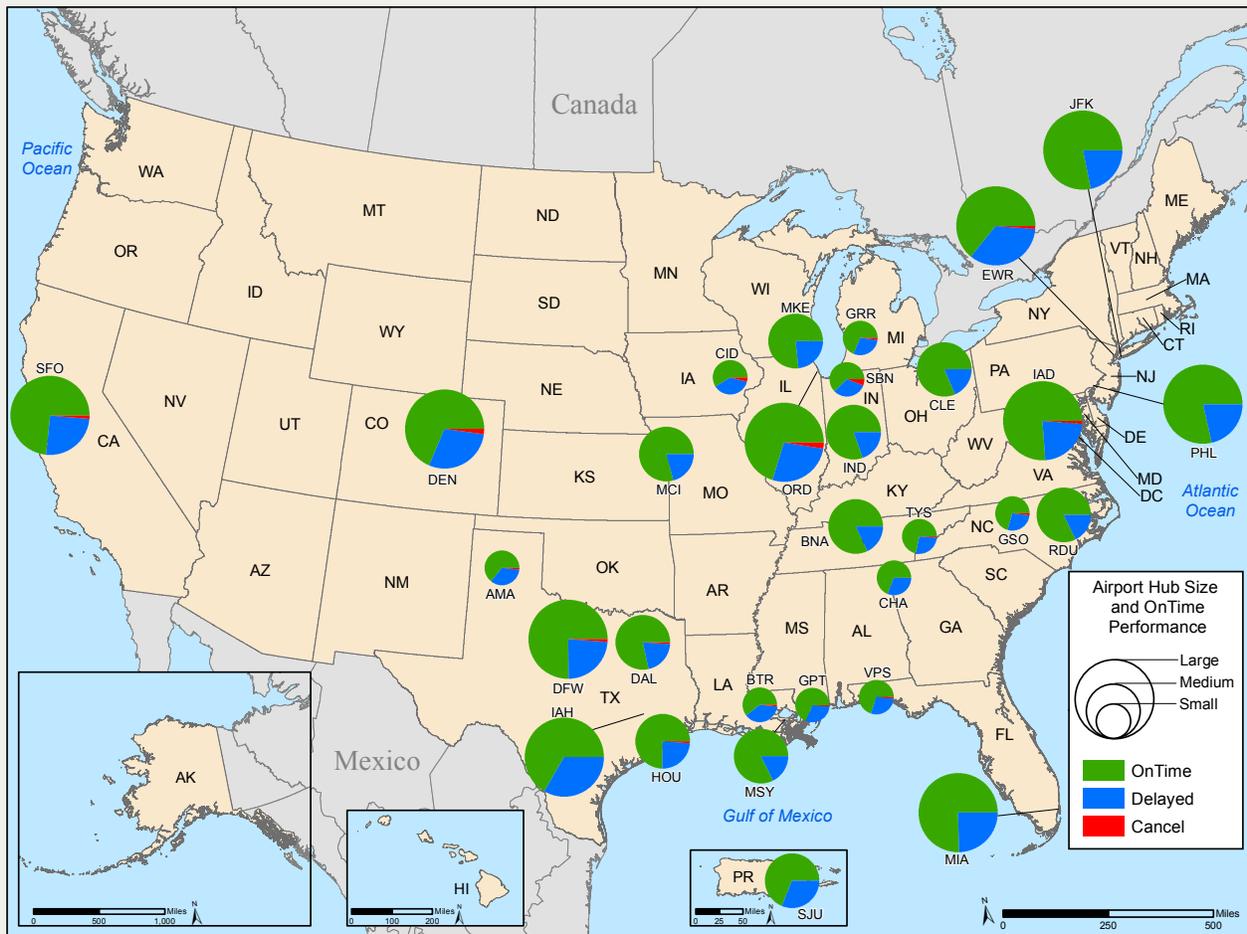
**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, available at [www.bts.gov](http://www.bts.gov) as of October 2013.

In 2012, 18.1 percent (more than 1.1 million) of scheduled flights were delayed, canceled, or diverted. The leading cause for airline delay was aircraft arriving late, which accounted for 41.4 percent of total delay time in 2012. The term “aircraft arriving late” means that a previous flight with the same aircraft arrived late, causing the next flight to depart late.<sup>3</sup> A flight is considered delayed when it arrives at the gate 15 or more minutes later than scheduled. Delays (and cancellations) attributable to the National Airspace System (NAS) refer to a broad set of conditions, such as nonextreme weather conditions, airport operations, heavy traffic volume, and air traffic control.

<sup>3</sup> For more information on Airline On-Time Performance and Causes of Flight Delays, refer to: <http://www.bts.gov/help/aviation/index.html>

Among large airports, Newark had the highest percentage of flights delayed in 2012, with 34.5 percent of total flights delayed. San Juan, PR, had the most delayed flights for a medium sized airport in 2012, with 30.9 percent of flights delayed. Topping the list for the small airports category, with 38.1 percent of flights being delayed in 2012, was Baton Rouge, LA.

**FIGURE 3-6 TOP 10 SMALL, MEDIUM, AND LARGE AIRPORTS BY OVERALL DELAYS, 2012**



**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, OnTime Performance database, as of May 2013.

**TABLE 3-7 TOP 10 MONTHS FOR PERCENTAGE OF FLIGHTS CANCELED DUE TO WEATHER, JUNE 2003 TO NOVEMBER 2013**

<b>Year</b>	<b>Month</b>	<b>Total scheduled flights</b>	<b>Weather canceled flights</b>	<b>Percent weather canceled</b>
2010	February	483,270	20,214	4.18
2011	February	455,516	16,403	3.60
2007	February	565,604	15,872	2.81
2005	January	594,924	15,747	2.65
2011	January	494,400	12,578	2.54
2012	October	515,254	11,985	2.33
2010	December	539,382	12,279	2.28
2009	December	529,269	9,791	1.85
2008	December	544,956	10,038	1.84
2007	December	616,382	11,112	1.80

**NOTE:** Weather cancellations are attributed to significant meteorological conditions that delays or prevents the operation of a flight.

**SOURCE:** Office of Airline Information, Bureau of Transportation Statistics, U.S. Department of Transportation, personal communication.

As shown here, flight cancellations are more likely to occur in the winter than any other time of the year due to the impact of snow and ice on flight operations. Nine of the top 10 months for flight cancellations occurred in the winter, the only exception being October 2012. The top three months for percent of weather-related cancellations were all in February.

Amtrak served a total of 517 stations in 2011.<sup>4</sup> Twelve of the Nation's 25 busiest Amtrak stations serve the Northeast Regional route. The busiest station within the entire Amtrak network is New York City's Penn Station. The top 25 busiest stations are highlighted by total ridership.

**FIGURE 3-7 TOP 25 BUSIEST AMTRAK STATIONS, 2012**



**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Geospatial Information Systems, *National Transportation Atlas Databases 2012*, available at [http://www.rita.gov/publications/national\\_transportation\\_atlas\\_database](http://www.rita.gov/publications/national_transportation_atlas_database), as of May 2013.

<sup>4</sup> U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, Table 1-7, available at [http://www.bts.gov/publications/national\\_transportation\\_statistics/](http://www.bts.gov/publications/national_transportation_statistics/) as of January 2014.

**TABLE 3-8 AMTRAK ON-TIME PERFORMANCE TRENDS AND HOURS OF DELAY BY CAUSE, VARIOUS FISCAL YEARS**

	2000	2010	2011	2012
On-time performance, total percent (weighted)	78.2	79.7	78.1	83.0
Short distance (<400 miles), percent	82.0	80.3	79.8	84.5
Long distance (>=400 miles), percent	55.0	74.7	63.6	70.7
<b>Hours of delay by cause, total</b>	<b>70,396</b>	<b>79,976</b>	<b>86,021</b>	<b>79,235</b>
On Amtrak owned tracks <sup>a</sup>	23,337	23,404	26,121	21,384
On host railroad owned tracks <sup>b</sup>	43,881	44,090	48,707	46,564
Other <sup>c</sup>	3,176	12,482	11,192	11,286

<sup>a</sup> Includes all delays that occur when operating on Amtrak owned tracks and all delays for equipment or engine failure, passenger handling, holding for connections, train servicing, and mail/baggage handling when on tracks of a host railroad.

<sup>b</sup> Includes all operating delays not attributable to Amtrak when operating on tracks of a host railroad, such as track and signal related delays, power failures, freight and commuter train interference, routing delays, etc.

<sup>c</sup> Includes delays not attributable to Amtrak or other host railroads, such as customs and immigration, law enforcement action, weather, or waiting for scheduled departure time.

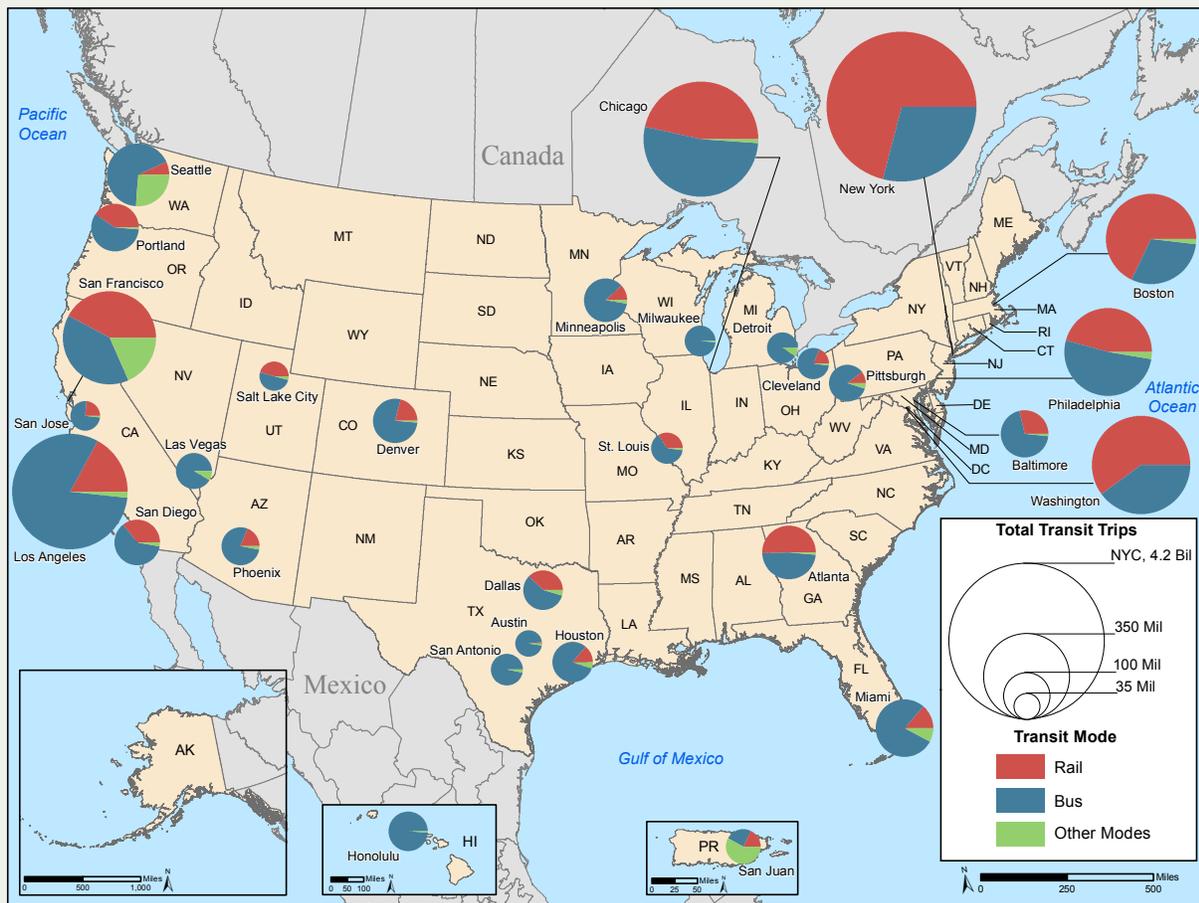
**SOURCE:** Various sources as listed at: U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 1-73, as of May 2013.

In 2012 Amtrak achieved 83 percent on-time performance. A total of 21,384 hours of delay in 2012 occurred on track owned by Amtrak, compared to 46,584 hours of delay that occurred on track owned by another (host) railroad. Overall delay hours were down 7.9 percent from 2011 to 2012.



The New York metropolitan area registered 4.2 billion transit trips in 2012, far more than any other U.S. metropolitan area. The rail system (commuter rail, subway, or light rail) accounted for the majority of New York area transit trips (70.3 percent), while the bus system accounted for 28.8 percent. The Los Angeles metropolitan area had the second most transit trips in 2012, approximately 671 million, with the majority (81.2 percent) by bus. Analyzing numbers of transit trips is not the only measure of public transit usage; the 2012 American Community Survey shows how public transportation usage can vary substantially from one major metropolitan area to another, with 31.1 percent of commuters taking public transportation to and from work in the New York metropolitan area compared to 5.9 percent of commuters taking public transportation in the Los Angeles area.

**FIGURE 3-8 TRANSIT TRIPS BY MODE: 2012**



**NOTES:** Transit use in New York City (NYC) is much larger than elsewhere in the U.S., a larger but disproportionate circle was used to denote this. Rail includes commuter rail, subway, light rail, and streetcar rail.

**SOURCE:** U.S. Department of Transportation, Federal Transit Administration, National Transit Database, <http://www.ntdprogram.gov/ntdprogram/>, as of May 2014.

**TABLE 3-9 STATIONS COMPLIANT WITH THE AMERICANS WITH DISABILITY ACT, 1997–2011**

Year	Mode							
	Bus		Commuter rail		Light rail		Heavy rail	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1997	U	U	388	34.8	265	50	256	25.7
1998	U	U	500	44.6	290	52.3	258	25.9
1999	U	U	533	46.8	351	60.1	284	28.3
2000	U	U	552	47.9	384	62.4	340	33.7
2001	U	U	583	50.5	408	64.9	359	35.2
2002	U	U	624	54.6	458	71.6	366	36.8
2003	U	U	643	55.9	466	75.9	416	40.7
2004	U	U	666	57.8	589	81.5	428	41.8
2005	U	U	686	58.9	596	81.6	459	44.1
2006	1,221	93.4	712	60.9	635	83.1	479	45.9
2007	1,222	93.4	725	61.9	642	83.1	493	47.3
2008	1,258	93.5	753	63.3	665	84.5	508	48.8
2009	1,314	93.7	784	64.6	721	86.2	515	49.5
2010	1,395	95.4	798	65.1	734	86.6	522	50.1
2011	1,240	99.4	802	65.8	691	90.8	530	50.9

**KEY:** U=Data are unavailable.

**NOTES:** San Diego Metropolitan Transit System is excluded from bus count in 2002 as value appears to be misreported. Decline in number of compliant bus stations in 2006 caused by change in the number of reported stations by Regional Transit Service, Inc., Lift Line, Inc., and King County DOT-Metro Transit Division in 2006 versus prior years.

**SOURCE:** U.S. Department of Transportation, Federal Transit Administration, National Transit Database 2012, <http://www.ntdprogram.gov/ntdprogram/>, as of June 2013.

In 2011, based on results from the American Community Survey, 12.1 percent of the U.S. population self-identified as having a disability. The Americans with Disabilities Act (ADA) requires public transportation facilities to be readily accessible, without physical barriers that prohibit or restrict access by individuals with disabilities. The National Transit Database<sup>5</sup> indicates, by transportation mode, the number of public transportation facilities compliant with the ADA mandate. The number of accessible stations has increased steadily since 1998. By 2011, 99.4 percent of bus stations and 90.8 percent of light rail stations were compliant with ADA, compared to 65.8 percent of commuter rail and 50.9 percent of heavy rail stations.

<sup>5</sup> The National Transit Database is administered by the U.S. Department of Transportation's Federal Transit Administration. Data is collected yearly, for more information refer to: <http://www.ntdprogram.gov/ntdprogram/>

Since 1998 there has been an increase in the number of buses meeting ADA compliance in each category. Articulated buses, which pivot in the middle, have seen the greatest rise, with 95.4 percent ADA compliance by 2011.

**TABLE 3-10 BUSES COMPLIANT WITH THE AMERICANS WITH DISABILITY ACT, BY BUS SIZE, 1998–2011**

(based on seating capacity)

Year	< 25 seats		25–35 seats		> 35 seats		Articulated bus	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
1998	6,613	89.2	5,154	84.2	33,519	68.8	1,071	65.3
1999	7,722	90.7	5,959	87.5	36,029	73.2	1,503	76.4
2000	8,366	91.8	6,926	90.5	37,581	75.6	1,712	82.4
2001	9,176	92.5	7,337	90.8	40,501	80.2	1,771	83.0
2002	9,372	96.1	8,477	95.6	43,878	87.5	2,079	90.8
2003	10,002	96.4	9,127	95.3	43,780	89.5	2,466	96.2
2004	10,098	95.3	10,055	97.1	44,739	92.0	2,586	95.6
2005	10,846	94.8	10,499	96.1	43,479	91.5	2,225	95.7
2006	11,372	95.5	10,985	96.3	44,553	94.2	2,290	96.2
2007	12,380	94.9	11,207	95.7	45,023	94.2	2,267	98.4
2008	12,967	95.8	11,452	95.2	45,553	94.6	2,340	98.5
2009	13,463	95.6	11,974	95.2	44,162	95.8	3,767	92.3
2010	13,801	95.5	11,974	94.1	43,481	94.2	4,158	96.6
2011	13,756	94.9	11,879	93.9	42,354	94.2	4,339	95.4

**SOURCE:** U.S. Department of Transportation, Federal Transit Administration, National Transit Database 2012, <http://www.ntd-program.gov/ntdprogram/>, as of June 2013.

**TABLE 3-11 NUMBER OF NORTH AMERICAN CRUISES BY DESTINATION, 2008–2011**

<b>Destination</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Total</b>	<b>4,228</b>	<b>4,119</b>	<b>4,208</b>	<b>4,217</b>
Western Caribbean	1,096	1,075	1,156	1,141
Bahamas	600	710	791	879
Southern Caribbean	404	379	388	443
Alaska	513	512	443	441
Eastern Caribbean	502	442	525	428
Mexico (Pacific)	540	428	326	269
Bermuda	102	109	115	139
Canada/New England	112	102	113	118
Hawaii	122	90	87	99
Transatlantic	96	89	87	98
Trans-Panama Canal	78	99	111	95
Pacific Coast	31	33	22	28
South Pacific/Far East	20	23	21	23
South America	12	28	23	16

**NOTES:** Western Caribbean – West of Haiti, includes ports in Mexico, Central America and Columbia, Southern Caribbean – South of St. Martin to northern coast of South America as far as Aruba, Eastern Caribbean – Southeast of Bahamas to St. Martin, and west of St. Martin to Haiti

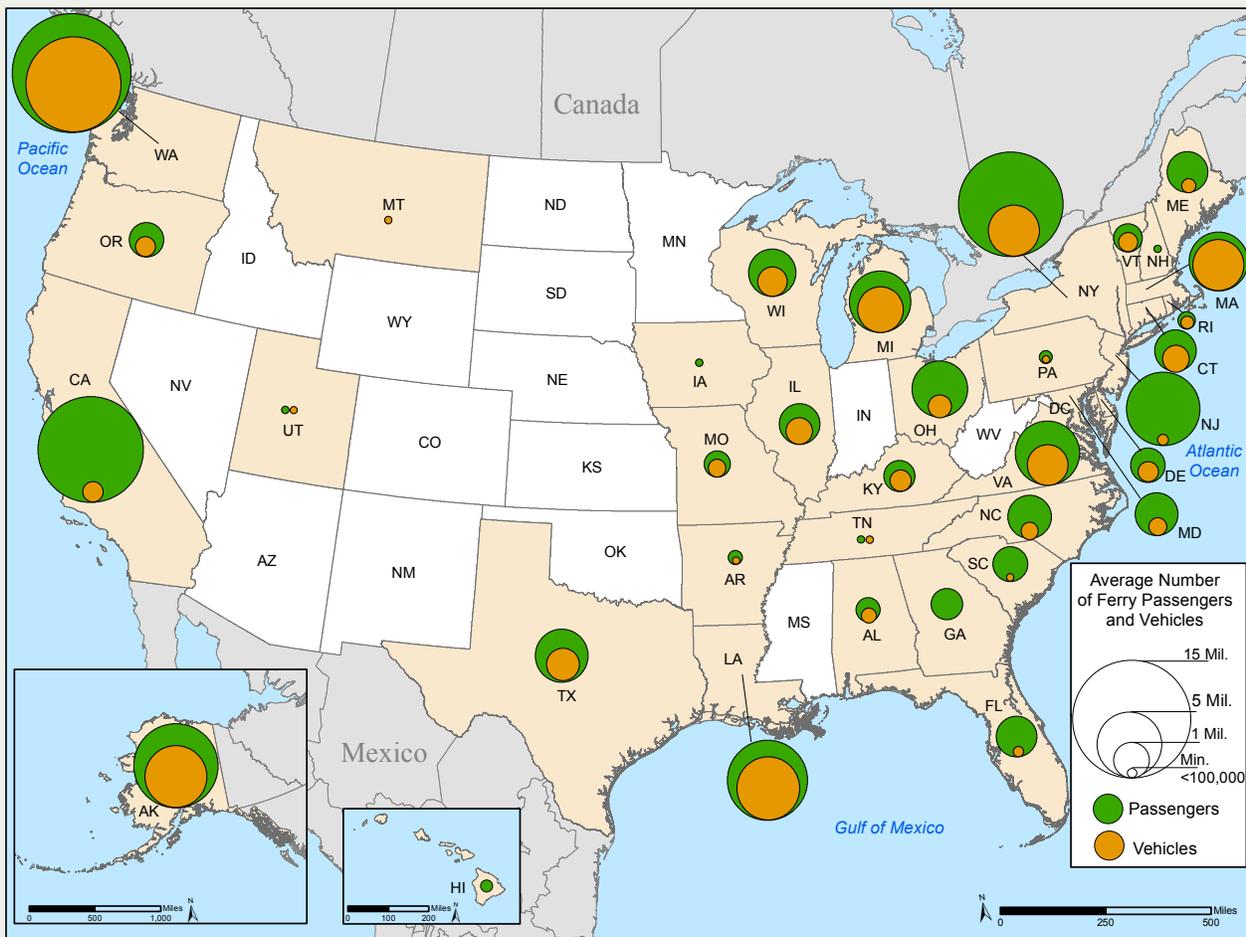
**SOURCE:** U.S. Department of Transportation, Maritime Administration, *North American Cruise Statistical Snapshot 2011*, available at: [http://www.marad.dot.gov/documents/North\\_American\\_Cruise\\_Statistics\\_Quarterly\\_Snapshot.pdf](http://www.marad.dot.gov/documents/North_American_Cruise_Statistics_Quarterly_Snapshot.pdf), as of June 2013

In 2011 the top North American cruise destination was the Western Caribbean<sup>6</sup>, accounting for 27.1 percent of total cruise ship visits up from 25.9 percent in 2008. The Bahamas were the second most visited cruise ship destination that year, accounting for 20.8 percent of cruise ship traffic. Compared to 2008, Mexico saw the greatest decrease in cruise ship traffic with roughly half as many departures occurring in 2011. The Bahamas and Bermuda saw the greatest increase in visits by cruise ships with 31.7 and 26.6 percent more departures, respectively (see table 3-11).

<sup>6</sup> Comprises the Caribbean coasts of Central America, from Yucatán in Mexico to northern Colombia, and the islands west of Jamaica.

In 2010 approximately 53.4 million passengers used the ferry system in the United States. Washington, New York, and California had the greatest number of ferry passengers accounting for 15.0, 6.8, and 7.7 percent of total passengers, respectively. Ferries in Washington, Louisiana, and Alaska carried the greatest proportion of vehicles with 26.9, 12.4, and 11.6 percent of total vehicle boardings, respectively. In 2010, Washington ferries carried approximately 15.4 million persons and 10 million vehicles.

**FIGURE 3-9 AVERAGE NUMBER OF FERRY PASSENGERS AND VEHICLES, 2010**



**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, National Census of Ferry Operators, as of September 2013.

### **Box 3-A Intermodal Passenger Connectivity Database**

The Intermodal Passenger Connectivity Database (IPCD) is a nationwide database of passenger transportation terminals with data on the availability of connections among the various scheduled public transportation modes at each facility. The IPCD data covers the following types of passenger transportation terminals:

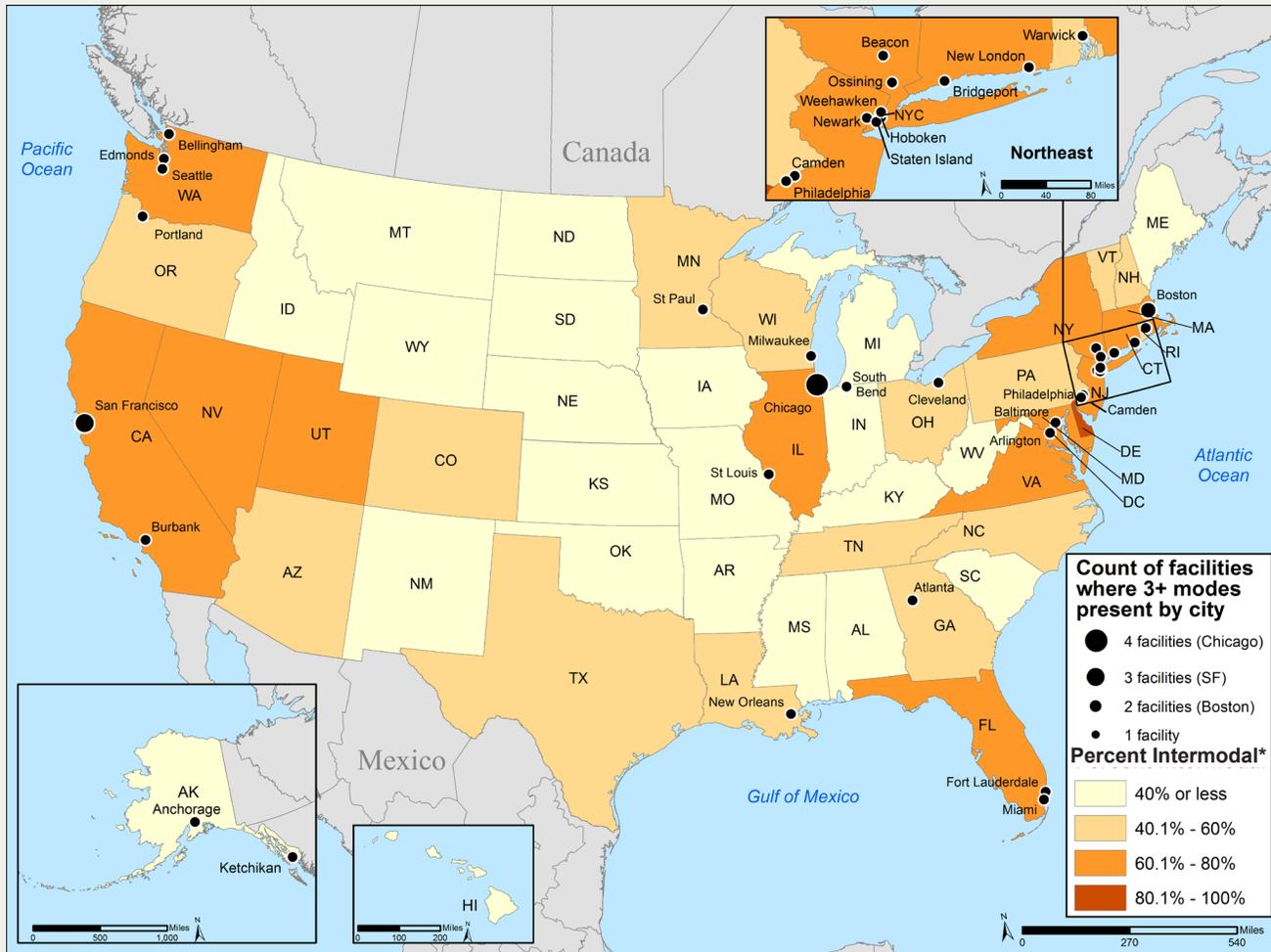
- scheduled airline service airports;
- intercity bus stations (includes stations served by regular scheduled intercity bus service such as Greyhound and Trailways, code sharing buses such as “Amtrak Thruway” feeder buses, supplemental buses that provide additional frequencies along rail routes, and airport bus services from locations that are outside of the airport Metropolitan Area);
- intercity and transit ferry terminals;
- light rail transit stations;
- heavy rail transit stations; and
- passenger rail stations on the national rail network serving both commuter rail and intercity rail services.

Of the approximately 7,200 passenger transportation terminals in the United States, 56 percent offer travelers the ability to connect among the scheduled passenger transportation modes. There are three basic types of linkups used to quantify the degree of connectivity at a facility. A facility is considered connected, or intermodal, when one of these options is either present or less than one block away:

- intercity transportation and local transit,
- two or more intercity modes, or
- two or more local transit modes.

Where one of these three linkups occurs but at a distance slightly farther apart than one block, or the timing/scheduling precludes a timely connection, the facility is considered nearly connected.

**FIGURE 3-10 INTERMODAL CONNECTIONS, JULY 2013**



\* Refers to the percent of passenger transportation terminals that have connections to one or more scheduled public transportation modes.

**SOURCE:** U.S. Department of Transportation, Intermodal Passenger Connectivity Database, for more information refer to: [http://www.rita.dot.gov/bts/data\\_and\\_statistics/intermodal\\_transportation\\_database.html](http://www.rita.dot.gov/bts/data_and_statistics/intermodal_transportation_database.html), as of July 2013.

In 2013 there were 111 facilities (approximately 1.5 percent) where connections to three modes were present. Locations with access to three or four transportation modes tend to be in urban areas or in locations near or between major cities.



## 4. ECONOMIC CHARACTERISTICS OF PASSENGER TRAVEL AND TOURISM

Transportation is both a component of U.S. economic output and a contributor to the economy. The Nation's economic output for 2011, measured by Gross Domestic Product (GDP), includes nearly \$1.5 trillion in the transportation sector (table 4-1). The largest portion of GDP (not including "other") was for housing, approximately \$2.8 trillion in 2011. Spending for transportation has remained relatively stable at about 10 percent of GDP over the last two decades (figure 4-1).

**TABLE 4-1 U.S. GDP BY SPENDING CATEGORY, VARIOUS YEARS**

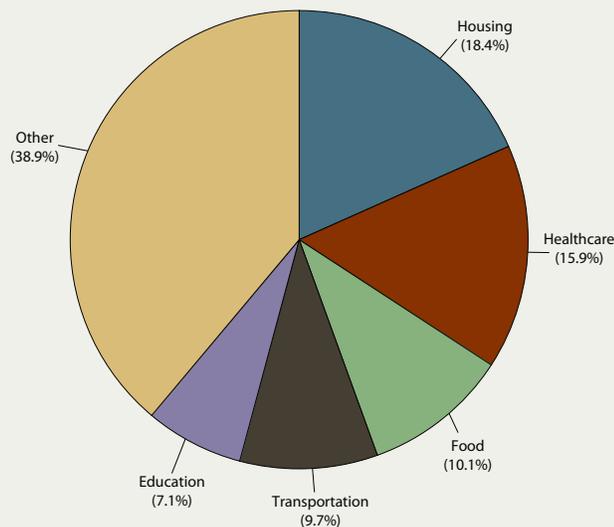
(current dollars, in billions)

	1991	2000	2005	2009	2010	2011
<b>Total GDP</b>	<b>5,992.1</b>	<b>9,951.5</b>	<b>12,623.0</b>	<b>13,973.7</b>	<b>14,498.9</b>	<b>15,075.7</b>
Housing	1,173.8	2,030.8	2,835.0	2,701.6	2,719.8	2,771.2
Healthcare	734.4	1,239.5	1,794.4	2,205.5	2,277.5	2,395.5
Food	711.5	981.2	1,189.0	1,385.4	1,430.3	1,516.8
Transportation	595.1	1,057.3	1,262.0	1,186.2	1,325.7	1,465.9
Education	385.4	660.1	855.7	1,051.5	1,058.9	1,069.1
Other	2,392.0	3,982.5	4,686.9	5,443.3	5,686.7	5,857.1

**NOTES:** R = revised. Details may not add to totals due to rounding. Other includes all other categories (e.g. entertainment, personal care products and services, and payments to pension plans).

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, calculated based on data from U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Account Tables*, 1.1.5, 2.4.5, 3.11.5, 3.15.5, 4.2.5, 5.4.5, 5.5.5, and 5.6.5, available at <http://www.bea.gov/national/nipaweb/Index.asp> as of Nov. 27, 2012.

**FIGURE 4-1 PERCENT OF U.S. GDP BY SPENDING CATEGORY, 2011**



**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, calculated based on data from U.S. Department of Commerce, Bureau of Economic Analysis, *National Income and Product Account Tables*, 1.1.5, 2.4.5, 3.11.5, 3.15.5, 4.2.5, 5.4.5, 5.5.5, and 5.6.5, available at <http://www.bea.gov/national/nipaweb/Index.asp> as of Nov. 27, 2012.

### Box 4-A Passenger Transportation Services Index

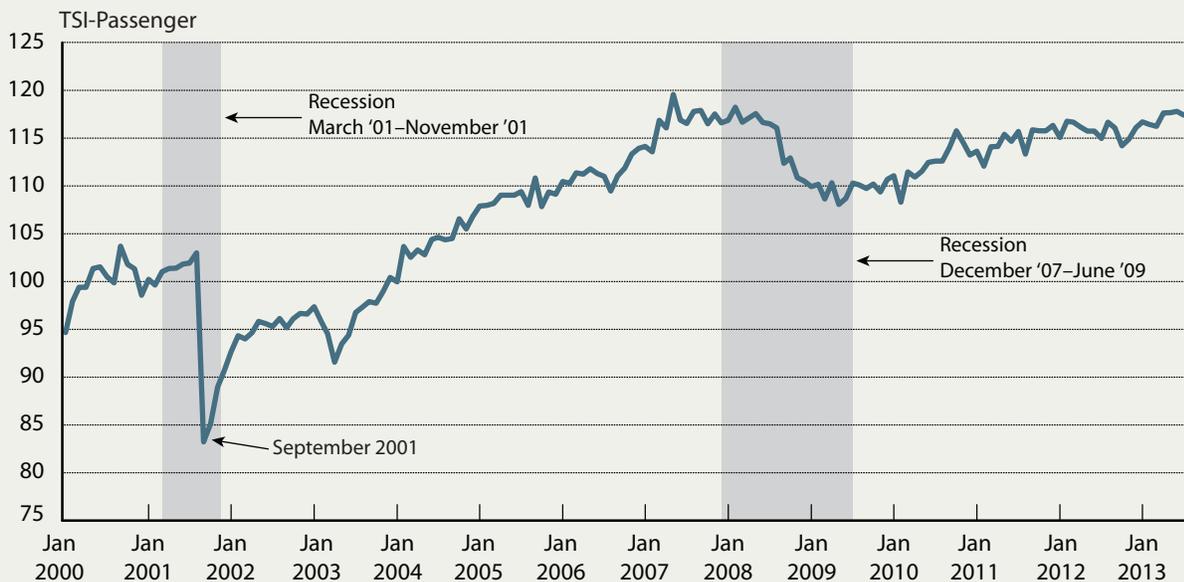
The Passenger Transportation Services Index (TSI-P) is a monthly measure of the volume of services performed by the for-hire passenger transportation sector. By August 2012 the index had risen 8.0 percent from its low point during the recession.

The TSI-P is composed of revenue passenger miles<sup>1</sup> for air and rail travel and unlinked trips for transit. The index does not include intercity bus, sight-seeing services, taxi service, private automobile usage, or bicycling and other non-motorized means of transportation.

<sup>1</sup> Unlinked trips for transit refer to the number of passengers who board public transportation vehicles. Passengers are counted each time they board vehicles no matter how many vehicles they use to travel from origin to destination.

The Passenger Transportation Services Index rose 8.0 percent from its low point during the last recession in May 2009 through August 2012. In the following year the index increased but at a slower rate, rising 0.8 percent through August 2013.

**FIGURE 4-2 PASSENGER TRANSPORTATION SERVICES INDEX, JANUARY 2000–AUGUST 2013**

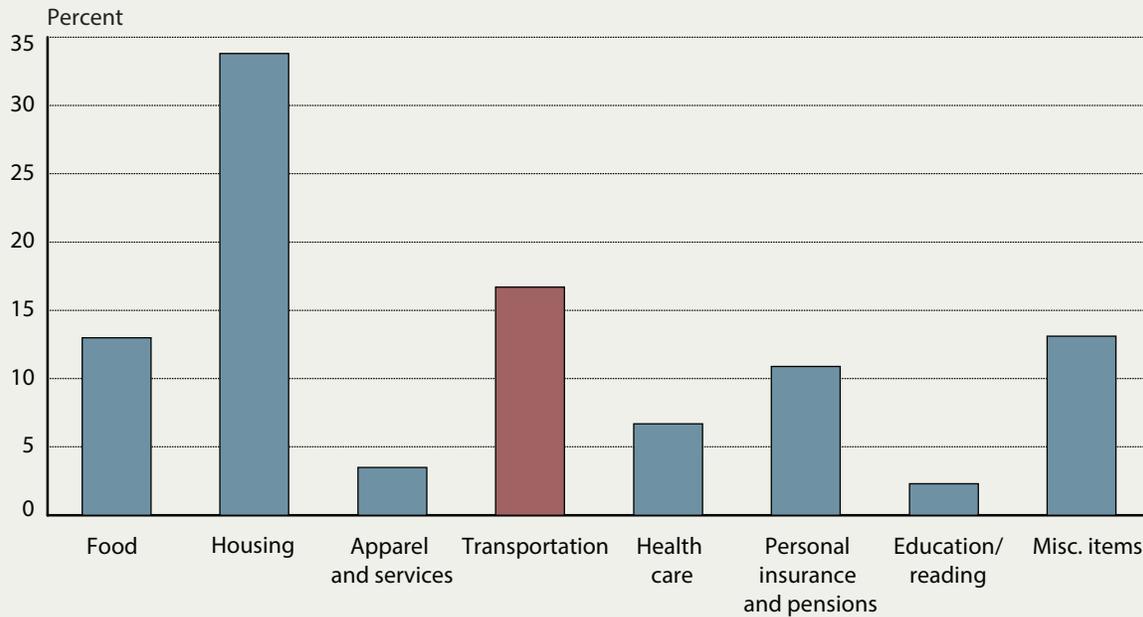


**KEY:** P = preliminary; R = revised.

**NOTES:** TSI numbers are BTS estimates, updated monthly. TSI data change monthly due to the use of concurrent seasonal analysis, which results in seasonal analysis factors changing as each month's data are added. Typically, only minor changes are made to the monthly numbers. Seasonal adjustment models for the modal data have been updated for the data January 2000 to the present.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, <http://www.bts.gov>, as of November 2013.

**FIGURE 4-3 PERCENT OF HOUSEHOLD EXPENDITURES BY SPENDING CATEGORY, 2011**



**NOTE:** Miscellaneous Items includes: personal care products and services, tobacco products and smoking supplies, cash contributions, entertainment, alcoholic beverages and other items.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2011, available at <http://www.bls.gov/cex/#tables>, as of May 2013.

In 2011 transportation was the second biggest expense for American households, accounting for 16.7 percent of expenditures (\$8,293 on average). Compared to 2006, transportation's share of expenses decreased by 2.5 percent. However, transportation expenses were 8.0 percent higher in 2011 compared to 2010. This was largely due to a 26.6 percent increase in the average price of gasoline during that period.<sup>1</sup>

<sup>1</sup> U.S. Department of Energy, Energy Information Administration, *2011 Brief: U.S. average gasoline and diesel prices over \$3 per gallon throughout 2011*, available at: <http://www.eia.gov/todayinenergy/detail.cfm?id=4570>, as of January 2014.

**TABLE 4-2 HOUSEHOLD TRANSPORTATION-RELATED EXPENDITURES, 2011**

Type	Cost
Average household income	\$60,480
Median household income	\$43,447
Private vehicle expenditures	\$7,778
Vehicle purchases	\$2,669
Gasoline and motor oil	\$2,655
Other vehicle expenditures	\$2,454
Public transportation expenditures	\$516
Airline fares	\$342
Transit fares	\$75
Ship fares	\$36
Taxi fares	\$22
Intercity train fares	\$16
Local transportation on out-of-town trips	\$12
Intercity bus fares	\$11
School bus	\$3
<b>Total</b>	<b>\$8,293</b>

**NOTE:** Totals may not sum due to rounding.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2011, personal communication, September 2012.

The largest household transportation cost in 2011 was for operating and maintaining private vehicles, \$7,778 per household. The costs were almost evenly divided among vehicles purchases, gasoline and motor oil, and other expenditures. In contrast, the average household spent \$516 on transportation not related to private vehicles, of which \$342 was dedicated to airline fares.<sup>2</sup>

<sup>2</sup> This average takes into account both households that had persons who flew in 2011 and those who did not.

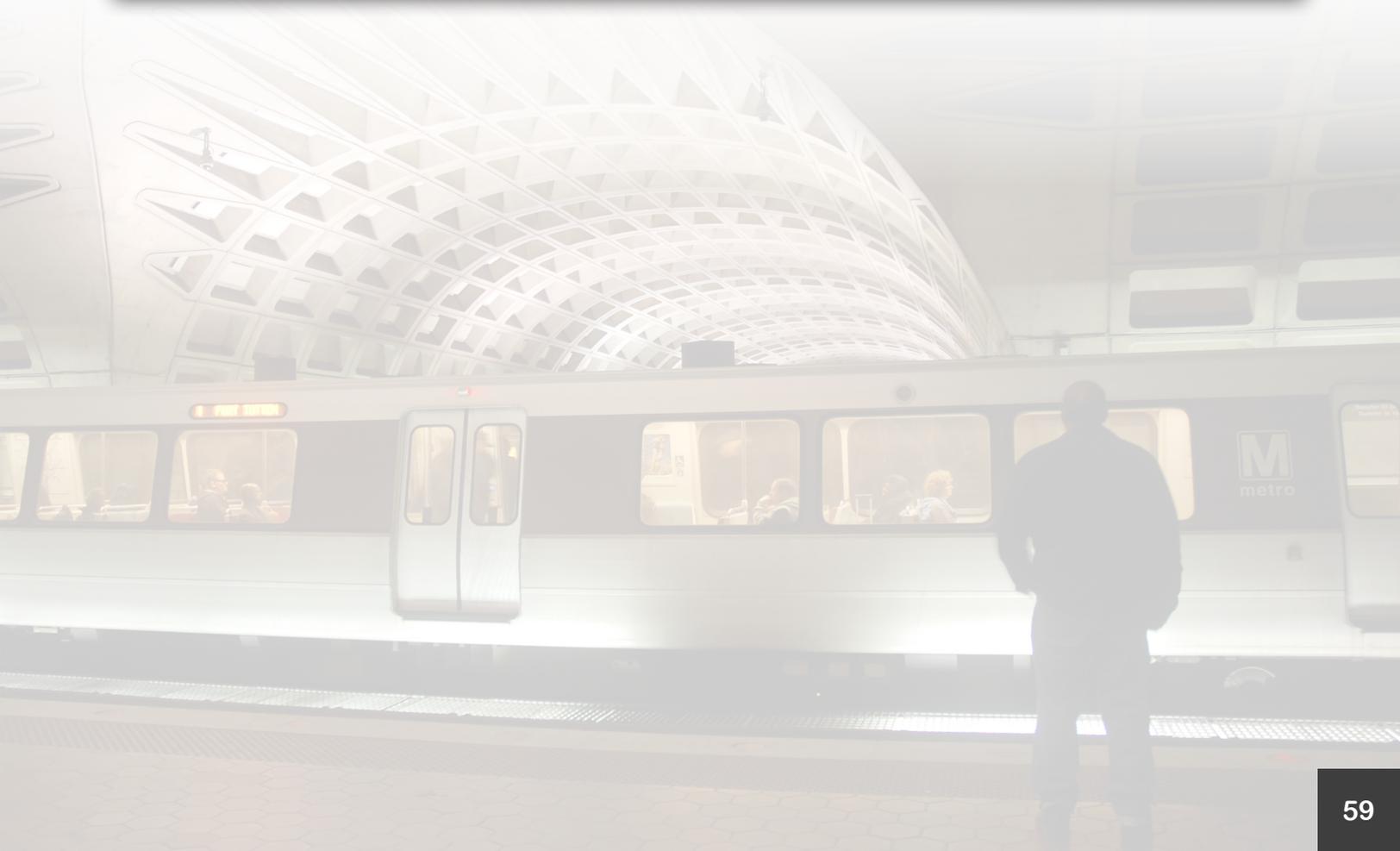
Household transportation spending rose 8.0 percent from 2010 to 2011. Gasoline and motor oil expenditures, the second highest annual household transportation cost after vehicle purchases, increased the most, 24.5 percent from 2010 to 2011 after showing a marked decline in the 2008–09 period. Vehicle purchases and other vehicle expenses showed declines through 2010, indicative of a drop in sales. The increase in dollars spent on gasoline and motor oil is based more on the change in price of those products than on changes in consumption.

**TABLE 4-3 ANNUAL HOUSEHOLD DOLLARS SPENT ON TRANSPORTATION, VARIOUS YEARS**

	2008	2009	2010	2011	Percent change		
					2008–09	2009–10	2010–11
<b>Household spending on:</b>	<b>8,604</b>	<b>7,658</b>	<b>7,677</b>	<b>8,293</b>	-11	0.2	8.0
Vehicle purchases (net outlay)	2,755	2,657	2,588	2,669	-3.6	-2.6	3.1
Gasoline and motor oil	2,715	1,986	2,132	2,655	-26.9	7.4	24.5
Other vehicle expenses	2,621	2,536	2,464	2,454	-3.2	-2.8	-0.4
Public and other transportation	513	479	493	516	-6.6	2.9	4.7

**NOTE:** Totals may not sum due to rounding.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, Consumer Expenditure Survey, 2011, personal communication, September 2012.



**TABLE 4-4 CONSUMER PRICE INDEX FOR ALL URBAN CONSUMERS (CPI-U):  
U.S. CITY AVERAGE, BY CATEGORY, 2010 v. 2011**

(1982–84 = 100, unless otherwise noted)

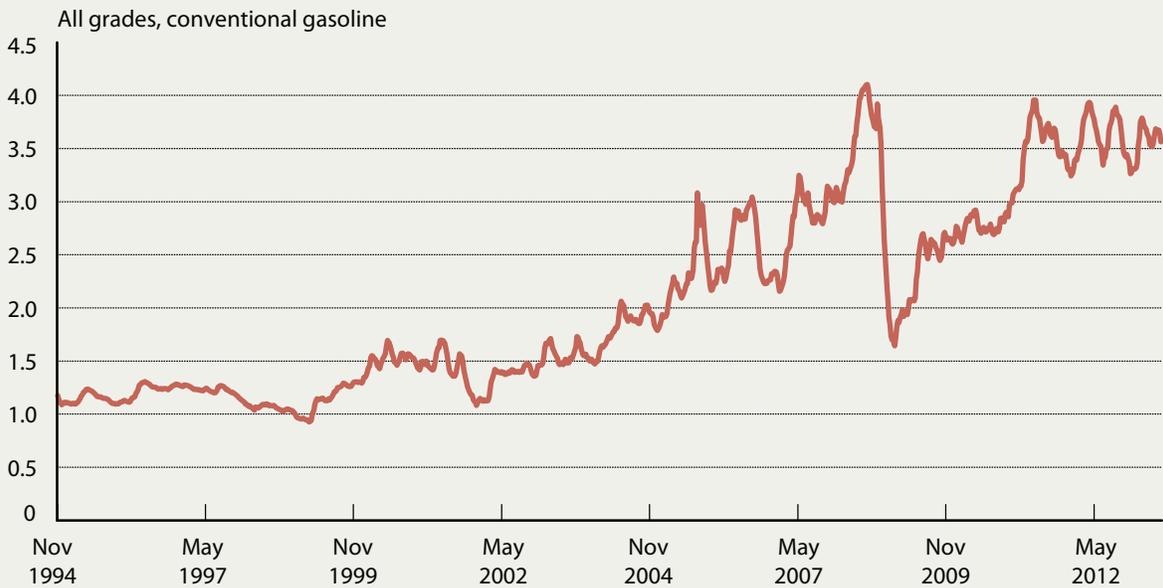
Item	Annual average 2010	Annual average 2011	Percent change from 2010 to 2011
All items	218.06	224.94	3.2
Food and beverage	219.98	227.87	3.6
Housing	216.26	219.10	1.3
Apparel	119.50	122.11	2.2
Transportation	193.40	212.37	9.8
Private transportation	188.75	207.64	10.0
New and used motor vehicles	97.15	99.77	2.7
New vehicles	138.01	141.88	2.8
Used cars and trucks	143.13	149.01	4.1
Leased cars and trucks	96.96	94.36	-2.7
Car and truck rental	123.78	123.89	0.1
Motor fuel	239.18	302.62	26.5
Gasoline (all types)	238.59	301.69	26.4
Other motor fuels	217.90	279.61	28.3
Motor vehicle parts and equipment	137.00	143.91	5.0
Tires	123.53	130.65	5.8
Motor vehicle maintenance and repair	247.95	253.10	2.1
Motor vehicle fees	165.51	167.30	1.1
Public transportation	251.35	269.40	7.2
Airline fare	278.19	304.03	9.3
Other intercity transportation	152.51	153.49	0.6
Intercity bus fare	109.34	115.51	5.6
Intercity train fare	111.50	111.50	0.0
Intercity transportation	261.05	273.30	4.7
Intercity mass transit	102.71	108.34	5.5
Medical Care	388.44	400.26	3.0
Recreation	113.31	113.36	0.0
Education and communication	129.92	131.47	1.2
Other goods and services	381.29	387.22	1.6

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, *Consumer Price Index, 2011*, available at: <http://bls.gov/cpi/cpid11av.pdf>, as of May 2013.

The CPI for specific items tells us how much prices have increased for goods or services in that category since 1984. By comparing the CPI for 2011 to that for 2010, we can say how much prices increased or decreased for that item in 2011. From 2010 to 2011 the average price for all goods and services increased by 3.2 percent. However transportation increased 9.8 percent due in large part to a 26.5 percent increase in motor fuel prices for that period.

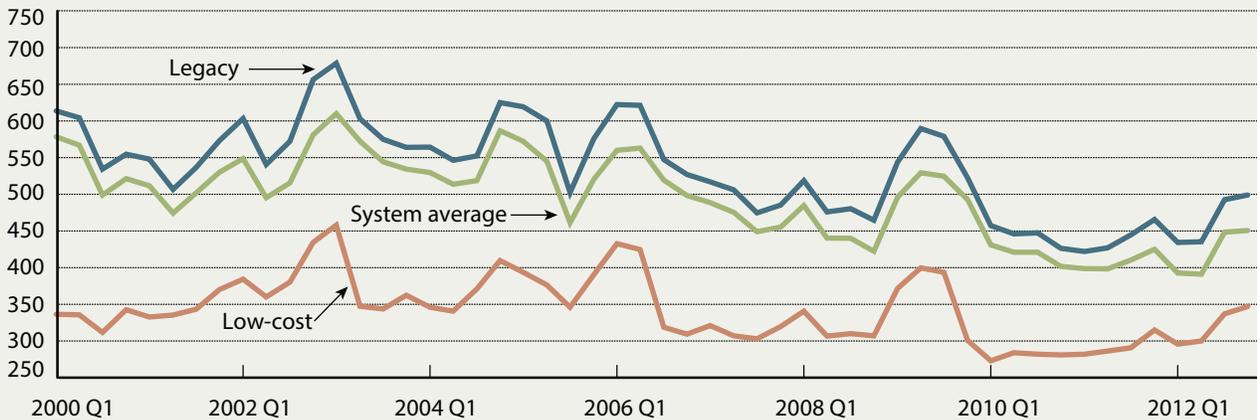
The price of gasoline has gradually increased over the years; however, there was a large decrease in value that occurred in late 2008. As of the end of June 2013, the average cost of conventional gasoline per gallon was \$3.56. This is an increase of \$2.40 per gallon over the November 1994 price and an increase of \$1.90 per gallon since 2000. The price per gallon of gasoline in June 2013 showed a 3.9 percent increase over the June 2012 price.

**FIGURE 4-4 RETAIL COST OF GASOLINE PER GALLON, NOVEMBER 1994–JUNE 2013**



**SOURCE:** U.S. Department of Energy, Energy Information Administration, Gasoline and Diesel Fuel Update, available at: <http://www.eia.gov/petroleum/gasdiesel/>, as of May 2013.

**FIGURE 4-5 AVERAGE COST OF AIRFARE FOR DOMESTIC FLIGHTS (2012 DOLLARS)**



**NOTES:** Average airfare adjusted for inflation using the Consumer Price Index (CPI) for airline fare, base year 2012 = 304.95. Legacy carriers include United, Delta, American, US Airlines and Alaska Airlines. TWA, Northwest, Continental Airlines, and American West are included as these carriers merged with American Airlines, Delta and US Airways, respectively. Low-cost carriers include Southwest, Jet Blue, Frontier, Spirit and Allegiant.

**SOURCE:** U.S. Department of Transportation, Bureau of Transportation Statistics, OND (U.S. Carriers, average airfare), as of May 2013.

The average cost of airfare for domestic flights (in 2012 dollars) has changed over the years. To better understand how airfare is changing, this figure looks not only at the system as a whole, but also looks at the data based on legacy and low-cost carriers.<sup>3</sup> For this analysis, legacy carriers refer to the five U.S. airlines with the most enplanements in 2010 that were in interstate operation prior to the 1978 airline deregulation (United, Delta, American, US Airways, and Alaska). Low-cost carriers refer to the five U.S. airlines with the most enplanements in 2010 that embrace a business model that emphasizes maximum load factors coupled with streamlined passenger and aircraft operations (Southwest, Jet Blue, Frontier, Spirit, and Allegiant).

Overall, the average airfare cost for a domestic flight for both legacy flights and the airline system in general has decreased since 2000, when adjusted for inflation. This downward trend in airfares coincides with the increased decoupling of ticket prices with air services, such as baggage check, reservation charges, and food and drink purchases. Compared to 2012, the average systemwide airfare fell 22.1 percent from 2000, with legacy carriers reducing fares 19.6 percent while low-cost carriers increased fares by 0.5 percent. In 2000 the average low-cost carrier fare (in 2012 dollars) of \$331 was 74 percent lower than the average legacy carrier fare of \$577. In 2012 the average low-cost carrier fare of \$320 was 45 percent less than the legacy carrier fare of \$465.

<sup>3</sup> A legacy carrier is an airline carrier, with the exception of low-cost Southwest Airlines, that established interstate airline routes prior to the Airline Deregulation Act of 1978. U.S. carriers that formed after the Airline Deregulation Act, plus Southwest Airlines (established in 1967), are generally considered to be low-cost carriers.

In chained 2005 dollars, overall spending on passenger air transportation in 2012 fell below the total amount spent in 2007, just before the last recession. This reduction was due to a gradual decline in spending on domestic passenger air services over the 2007 to 2012 period. However, spending on international passenger air services has increased since 2007. The “all other transportation-related services and commodities” category is marginally higher in 2012 than 2007 due primarily to an increase in spending on gasoline that has largely offset decreases in domestic travel services such as passenger rail and intercity bus services.

**TABLE 4-5 REAL OUTPUT BY TRANSPORTATION RELATED TOURISM SERVICES AND COMMODITIES: 2007–2012**

(millions of chained 2005 Dollars)

	2007	2008	2009	2010	2011	2012
<b>Passenger air transportation</b>	<b>112,097</b>	<b>108,175</b>	<b>101,173</b>	<b>102,687</b>	<b>105,620</b>	<b>103,264</b>
Domestic passenger air transportation services	67,878	64,044	58,577	56,041	57,618	54,731
International passenger air transportation services	44,228	44,124	42,681	46,926	48,272	48,858
<b>All other transportation-related services and commodities</b>	<b>164,083</b>	<b>152,035</b>	<b>143,223</b>	<b>142,994</b>	<b>157,217</b>	<b>164,765</b>
Passenger rail transportation services	1,325	1,305	1,282	1,221	1,192	1,227
Passenger water transportation services	8,909	9,049	9,090	9,714	10,489	12,119
Intercity bus services	1,697	1,722	1,389	1,143	1,149	1,265
Intercity charter bus services	1,735	1,831	1,456	1,479	1,428	1,473
Local bus and other transportation services	3,807	3,434	2,847	2,620	2,671	2,709
Taxicab services	4,320	3,908	3,425	3,232	3,067	3,162
Scenic and sightseeing transportation services	3,163	3,173	2,779	3,028	3,220	3,311
Automotive rental and leasing	29,255	27,623	23,370	23,773	26,276	28,524
Other vehicle rental and leasing	774	743	668	671	683	717
Automotive repair services	10,724	8,846	10,281	8,613	7,793	7,769
Parking	1,943	1,732	1,589	1,644	1,683	1,711
Highway tolls	551	501	521	519	478	513
Travel arrangement and reservation services	36,170	36,834	32,202	34,771	36,743	37,818
Gasoline	59,851	52,505	53,874	52,451	61,645	64,139
<b>All transportation-related tourism goods and services</b>	<b>276,251</b>	<b>260,131</b>	<b>244,114</b>	<b>245,424</b>	<b>262,737</b>	<b>268,038</b>

**NOTE:** Individual categories may not add to subtotals due to inflation adjustment of the numbers.

**SOURCE:** U.S. Department of Commerce, Bureau of Economic Analysis, U.S. Travel and Tourism Satellite Accounts, June 2013, [http://www.bea.gov/scb/pdf/2013/06%20June/0613\\_travel\\_and\\_tourism\\_text.pdf](http://www.bea.gov/scb/pdf/2013/06%20June/0613_travel_and_tourism_text.pdf),

**TABLE 4-6 EMPLOYMENT IN FOR-HIRE TRANSPORTATION AND SELECTED TRANSPORTATION-RELATED INDUSTRIES, 2000 AND 2010 - 2012 <sup>A</sup>**

(thousands)

	2000	2010	2011	2012	Percent Change 2000 v. 2012
<b>TOTAL U.S. labor force <sup>b</sup></b>	<b>131,881</b>	<b>129,917</b>	<b>131,497</b>	<b>133,739</b>	<b>1.4</b>
<b>Transportation share of total U.S. labor force</b>	<b>10.5</b>	<b>9.3</b>	<b>9.4</b>	<b>8.8</b>	
<b>Transportation related labor force</b>	<b>13,907</b>	<b>12,086</b>	<b>12,305</b>	<b>11,734</b>	<b>-15.6</b>
<b>Transportation and warehousing (48-49) <sup>c</sup></b>	<b>4,410</b>	<b>4,191</b>	<b>4,302</b>	<b>4,415</b>	<b>0.1</b>
Air transportation (481)	614	458	457	458	-25.4
Scheduled air transportation (4811)	570	417	416	417	-26.8
Nonscheduled air transportation (4812)	45	42	41	42	-7.1
Rail transportation (482)	232	216	228	230	-0.6
Transit and ground passenger transportation (485)	372	430	440	448	20.3
Urban transit, interurban, rural, and charter bus transportation (4851, 4852, 4855)	97	94	94	96	-1.1
Urban transit systems (4851)	35	U	U	U	U
Interurban and rural bus transportation (4852)	23	U	U	U	U
Taxi and limousine service (4853)	72	68	72	75	3.3
School and employee bus transportation (4854)	152	186	187	186	22.6
Other transit and ground passenger transportation (4859)	51	82	88	91	78.0
Scenic and sightseeing transportation (487)	28	27	28	27	-0.7
<b>Other transportation related industries</b>					
Motor vehicle parts dealers (441)	1,847	1,629	1,691	1,732	-6.2
Automobile dealers (4411)	1,217	1,012	1,057	1,091	-10.3
Other motor vehicle dealers (4412)	132	129	128	130	-1.1
Automotive parts, accessories, and tire stores (4413)	499	489	507	511	2.4
Gasoline stations (447)	936	819	831	841	-10.1
Automotive equipment rental and leasing (5321)	208	161	165	173	-16.8
Travel arrangement and reservation services (5615)	299	186	190	193	-35.4
Other ambulatory health care services (6219)	173	251	258	266	53.5
Automotive repair and maintenance (8111)	888	801	820	830	-6.5

<sup>a</sup> Annual averages, <sup>b</sup> Excludes farm employment, <sup>c</sup> Does not include postal service

**NOTES:** U = data are unavailable. Details may not add to totals due to independent rounding.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics Data, *National Employment Hours and Earnings*, available at <http://www.bls.gov/data/> as of Apr. 30, 2013, as reported in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, Table 3-23.

In 2012 the transportation-related labor force in the for-hire transportation sector and selected transportation-related industries accounted for 8.8 percent of the total U.S. labor force, down from 10.5 percent in 2000. Between 2000 and 2012, the total U.S. labor force increased 1.4 percent, while the transportation related labor force dropped 15.6 percent.

The number of airline pilots, copilots, and flight engineers dropped 30.1 percent between 2000 and 2012, while the number of commercial pilots nearly doubled, increasing 94.0 percent.

#### BOX 4-B Differences Between Airline and Commercial Pilots

**Airline pilots** fly and navigate multiengine aircraft in regularly scheduled service for the transport of passengers and/or cargo. They must have a Federal Air Transport rating and certification in the specific aircraft type used.

**Commercial pilots** fly and navigate fixed-wing aircraft or helicopters on nonscheduled routes and must have a Commercial Pilot certificate. This category includes charter, air ambulance, air tour, and air courier pilots, and excludes regional, national, and international airline pilots.

**TABLE 4-7 EMPLOYMENT IN TRANSPORTATION AND TRANSPORTATION-RELATED OCCUPATIONS, VARIOUS YEARS**

Occupation	2000	2010	2011	2012	Percent change 2000 v. 2012
<b>Vehicle operators and primary support</b>					
Airline pilots, copilots, and flight engineers (53-2011) <sup>a</sup>	94,820	68,580	68,350	66,270	-30.1
Commercial pilots (53-2012) <sup>b</sup>	18,040	29,900	31,630	34,990	94.0
Air traffic controllers (53-2021)	23,350	23,970	23,580	23,260	-0.4
Ambulance drivers and attendants, except emergency medical technicians (53-3011)	15,700	19,440	18,080	18,540	18.1
Bus drivers, transit and intercity (53-3021)	175,470	179,700	176,190	162,840	-7.2
Bus drivers, school (53-3022)	457,050	467,610	477,400	489,750	7.2
Taxi drivers and chauffeurs (53-3041)	130,200	161,940	166,890	167,360	28.5
Subway and street car operators (53-4041)	3,190	6,360	5,920	8,750	174.3
<b>Transportation equipment manufacturing and maintenance occupations</b>					
Automotive body and related repairers (49-3021)	168,170	129,730	131,040	135,610	-19.4
Automotive glass installers and repairers (49-3022)	21,240	14,020	13,690	14,780	-30.4
Automotive service technicians and mechanics (49-3023)	692,570	587,510	589,750	596,830	-13.8
Motorcycle mechanics (49-3052)	11,720	14,750	15,010	14,950	27.6
Bicycle repairers (49-3091)	7,940	9,530	9,950	10,490	32.1
Recreational vehicle service technicians (49-3092)	12,200	9,540	10,110	10,970	-10.1
Tire repairers and changers (49-3093)	88,530	94,120	94,740	96,880	9.4
<b>Secondary support service occupations</b>					
Insurance appraisers, auto damage (13-1032)	12,320	10,280	10,950	11,770	-4.5
Parking enforcement workers (33-3041)	8,040	9,430	9,310	9,210	14.6
Travel guides (39-7012)	5,200	3,620	4,110	4,210	-19.0
Flight attendants (53-2031)	126,380	88,020	87,190	84,960	-32.8
Transportation attendants, except flight attendants and baggage porters (53-6061)	23,550	25,150	27,040	23,790	1.0
Travel agents (41-3041)	124,030	70,930	67,490	64,680	-47.9
Reservation and transportation ticket agents and travel clerks (43-4181)	199,700	121,250	126,790	135,930	-31.9

<sup>a</sup> Airline pilots fly and navigate the flight of multi-engine aircraft in regularly scheduled service for the transport of passengers and cargo. They must have a Federal Air Transport rating and certification in specific aircraft type used.

<sup>b</sup> Commercial pilots fly and navigate the flight of fixed-wing aircraft on nonscheduled air carrier routes, or helicopters. They must have a Commercial Pilot certificate. This category includes charter pilots with similar certification, and air ambulance and air tour pilots. This category includes air courier pilots. It excludes regional, National, and international airline pilots.

**NOTES:** SOC = Standard Occupational Classification; U = data are unavailable.

**SOURCE:** U.S. Department of Labor, Bureau of Labor Statistics, Occupational Employment Statistics, Occupational Employment and Wages (Washington, DC: Annual Issues), available at [http://www.bls.gov/oes/current/oes\\_nat.htm](http://www.bls.gov/oes/current/oes_nat.htm), as of March 2014.



## 5. SAFETY, ENERGY, AND ENVIRONMENTAL IMPACTS OF PASSENGER TRAVEL

The number of transportation-related fatalities has declined in recent decades. Compared to 1990 transportation fatality numbers, in 2001 there were 13,030 fewer fatalities—93.9 percent of this reduction is attributable to highway transportation.

**TABLE 5-1 FATALITIES BY TRANSPORTATION MODE, VARIOUS YEARS**

	1990	2000	2005	2009	2010	2011
<b>TOTAL fatalities</b>	<b>47,379</b>	<b>44,376</b>	<b>45,645</b>	<b>35,921</b>	<b>34,968</b>	<b>34,349</b>
<b>Air, total</b>	<b>866</b>	<b>764</b>	<b>603</b>	<b>548</b>	<b>473</b>	<b>485</b>
U.S. air carrier	39	92	22	52	2	0
Commuter carrier	6	5	0	0	0	0
On-demand air taxi	51	71	18	17	17	41
General aviation	770	596	563	479	454	444
<b>Highway, total</b>	<b>44,599</b>	<b>41,945</b>	<b>43,510</b>	<b>33,883</b>	<b>32,999</b>	<b>32,367</b>
Passenger car occupants	24,092	20,699	18,512	13,135	12,491	11,981
Motorcyclists	3,244	2,897	4,576	4,469	4,518	4,612
Truck occupants, light	8,601	11,526	13,037	10,312	9,782	9,272
Truck occupants, large	705	754	804	499	530	635
Bus occupants	32	22	58	26	44	54
Pedestrians	6,482	4,763	4,892	4,109	4,302	4,432
Pedalcyclists	859	693	786	628	623	677
Other	584	591	845	705	709	704
<b>Pipeline, total</b>	<b>9</b>	<b>38</b>	<b>14</b>	<b>13</b>	<b>22</b>	<b>14</b>
<b>Railroad, total<sup>a</sup></b>	<b>729</b>	<b>631</b>	<b>626</b>	<b>535</b>	<b>600</b>	<b>557</b>
Highway rail grade crossing	130	119	101	88	125	110
Railroad	599	512	525	447	475	447
<b>Transit, total<sup>b</sup></b>	<b>125</b>	<b>110</b>	<b>57</b>	<b>103</b>	<b>109</b>	<b>106</b>
Highway rail grade crossing	U	20	23	35	36	18
Transit	U	90	34	68	73	88
<b>Waterborne, total</b>	<b>1,051</b>	<b>888</b>	<b>835</b>	<b>839</b>	<b>765</b>	<b>820</b>
Vessel-related, commercial ship	85	53	78	50	41	28
Nonvessel-related, commercial ship <sup>c</sup>	101	134	60	53	52	34
Recreational boating	865	701	697	736	672	758

<sup>a</sup> Excludes fatalities involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories.

<sup>b</sup> Includes automated guideway, heavy rail, and light rail fatalities. Other transit fatalities are assumed to be counted under Highway or Rail categories.

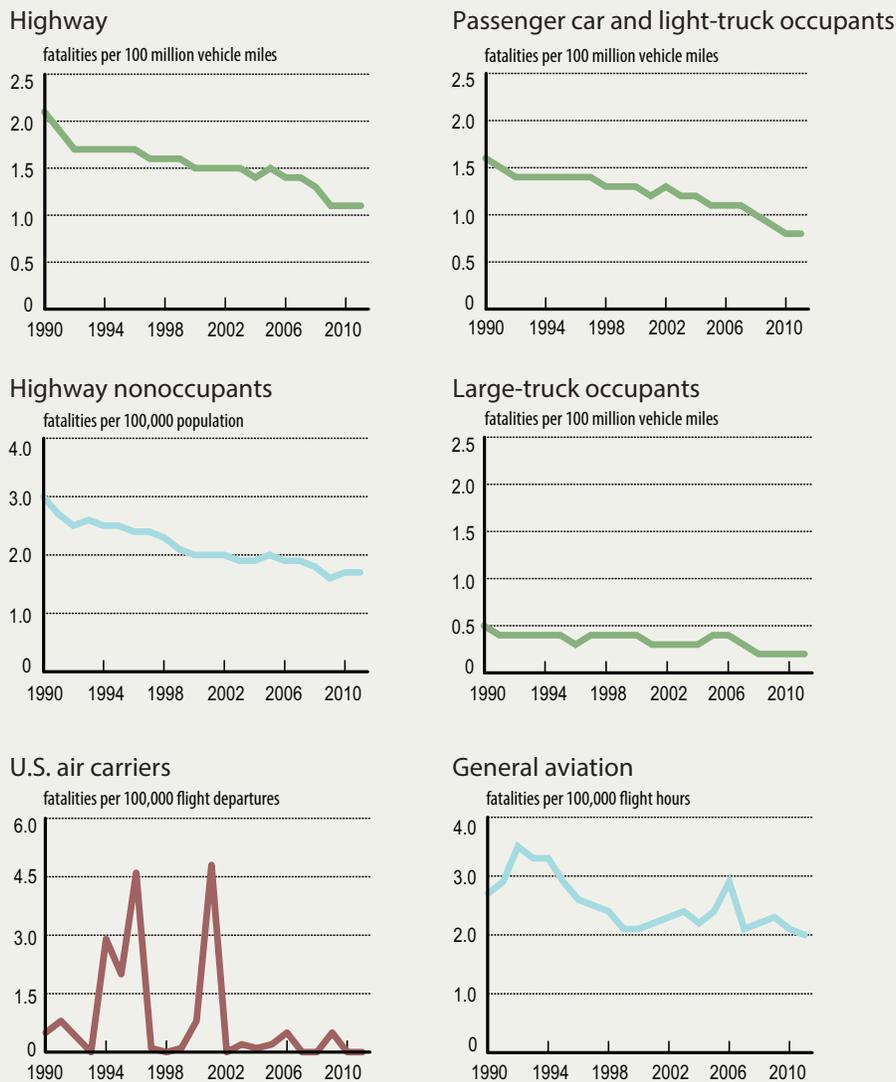
<sup>c</sup> Fatalities unrelated to vessel accidents, e.g., individual falling overboard and drowning.

**KEY:** U = data are unavailable

**SOURCE:** Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-1, available at [www.bts.gov](http://www.bts.gov), as of April 2014.

In 2011 the overall rate for highway fatalities was 47.2 percent less than the 1990 rate as the highway modes showed across-the-board reductions in highway-related deaths. Fatalities for light-duty vehicles (passenger cars and light-trucks) decreased 51.3 percent, followed by decreases in the deaths of large-truck occupants and highway nonoccupants (pedestrians and bicyclists) of 50.7 and 43.1 percent, respectively. The general aviation fatality rate (as measured by fatalities per flight hour) decreased by 27.0 percent during this 1990–2011 period, while the rate for air carrier (as measured by fatalities per departure) remained stable and low.

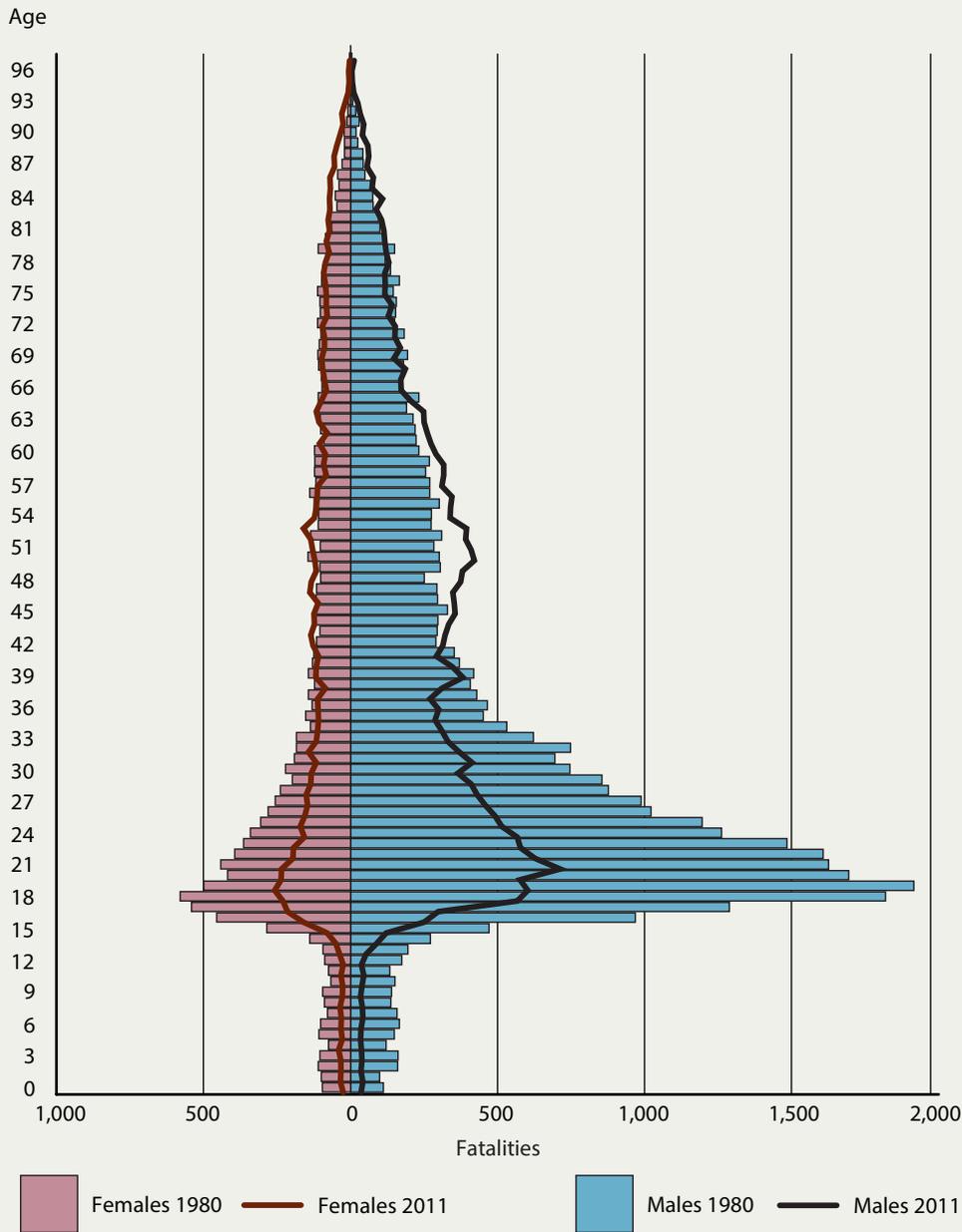
**FIGURE 5-1 FATALITY RATES BY TRANSPORTATION MODE: 1990–2011**



**NOTES:** Graphs with same color trend lines have identical scales. *Air carrier* fatalities resulting from the Sept. 11, 2001 terrorist acts include only onboard fatalities. *Light-duty vehicles* includes passenger car and light truck occupants.

**SOURCE:** Calculated by U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS) based upon multiple sources as cited in USDOT, BTS, *National Transportation Statistics* (October 2013). Tables 2-9, 2-14, 2-17, 2-19, 2-21, and 2-23. Available at [www.bts.gov](http://www.bts.gov), as of October 2013.

**FIGURE 5-2 NUMBER OF HIGHWAY FATALITIES BY AGE AND GENDER, 1980 AND 2011**

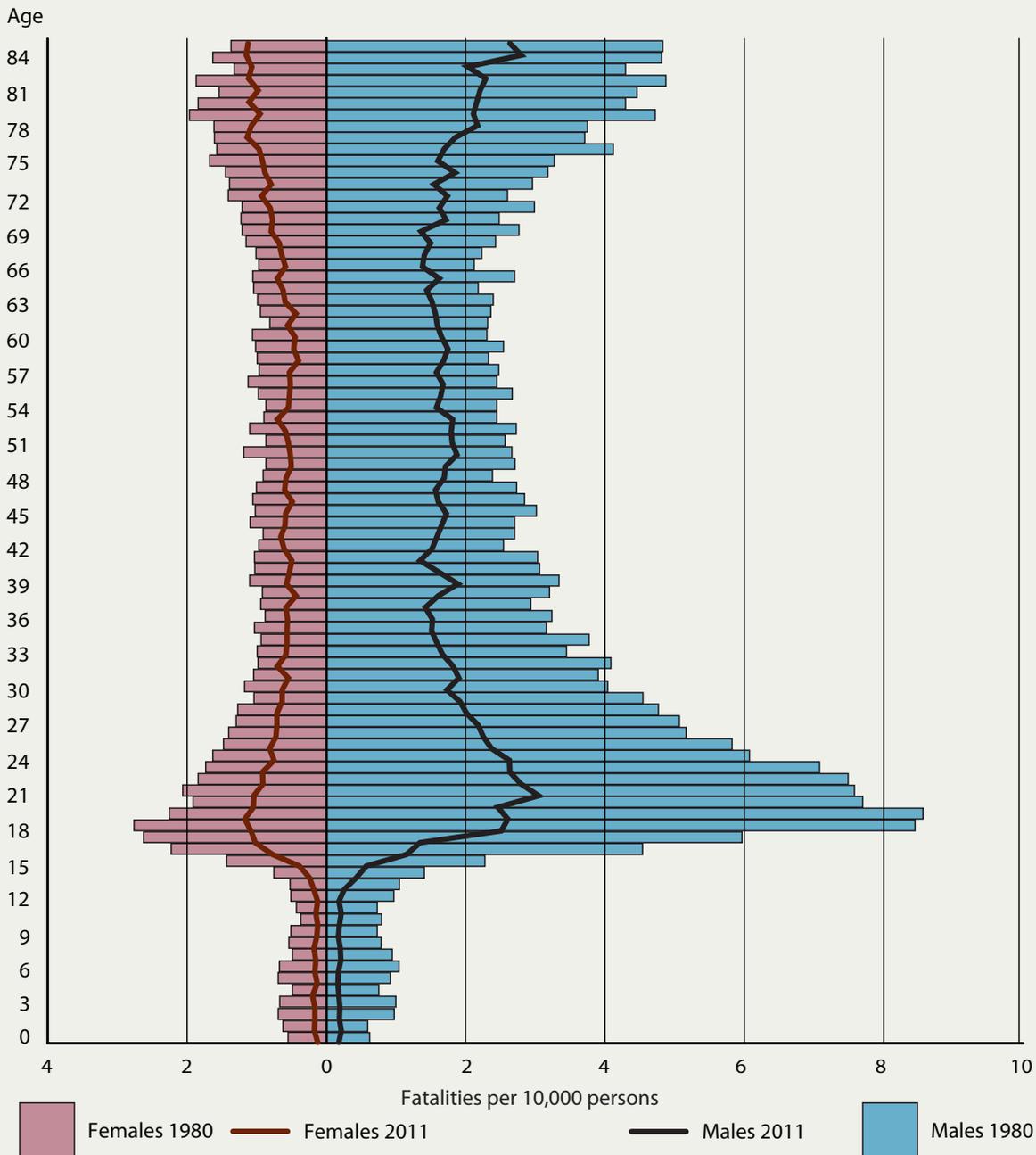


**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), available at: <http://www.nhtsa.gov/FARS>, as of September 2013.

Highway fatalities accounted for 94.2 percent of all transportation-related deaths in 2011. The number of males killed on the highway exceeded the number of female fatalities for most age groups in 1980 and 2011. Persons under the age of 30 continued to have the highest fatality numbers in 2011, although deaths for that age group declined substantially from 1980. In 2011 males comprised 70.6 percent of highway fatalities, down from 73.2 percent in 1980. The greatest numbers of highway fatalities by gender in 2011 were among 21-year-old males and 19-year-old females.

Since 1980 there has been a considerable decrease in fatalities per capita across all age groups for both genders. In 2011 the greatest proportion of fatalities per capita was among males aged 15 to 29 and 78 to 84, as it was in 1980 at higher rates. Female fatalities per capita peaked between the ages of 15 and 23 in 2011 between the ages of 70 and 84, as it did in 1980 at higher rates.

**FIGURE 5-3 RATE OF HIGHWAY FATALITIES RATE BY AGE AND GENDER, 1980 AND 2011**



**SOURCES: Fatality Data**—U.S. Department of Transportation, National Highway Traffic Safety Administration, Fatality Analysis Reporting System (FARS), available at: <http://www.nhtsa.gov/FARS> as of September 2013. **Population Data**—U.S. Department of Commerce, United States Census Bureau, 1980 and 2011 population estimates available at <http://www.census.gov/popest.data/state/asrh/2011/index.html>, as of September 2013.

**TABLE 5-2 INJURED PERSONS BY TRANSPORTATION MODE, VARIOUS YEARS**

	1990	2000	2005	2009	2010	2011
<b>TOTAL injuries</b>	<b>3,269,466</b>	<b>3,217,115</b>	<b>2,716,534</b>	<b>2,236,294</b>	<b>2,259,768</b>	<b>2,234,245</b>
<b>Air, total</b>	<b>485</b>	<b>357</b>	<b>304</b>	<b>301</b>	<b>277</b>	<b>362</b>
U.S. air carrier	29	29	14	23	16	20
Commuter carrier	11	7	0	1	2	0
On-demand air taxi	36	12	23	4	3	15
General aviation	409	309	267	273	256	327
<b>Highway, total</b>	<b>3,230,667</b>	<b>3,188,750</b>	<b>2,698,976</b>	<b>2,218,000</b>	<b>2,240,000</b>	<b>2,217,000</b>
Passenger car occupants	2,376,439	2,051,609	1,573,396	1,216,000	1,253,000	1,240,000
Motorcyclists	84,285	57,723	87,335	90,000	82,000	81,000
Truck occupants, light	505,144	886,566	872,137	759,000	733,000	728,000
Truck occupants, large	41,822	30,832	27,284	17,000	20,000	23,000
Bus occupants	32,691	17,769	11,133	12,000	17,000	13,000
Pedestrians	104,805	77,625	64,446	59,000	70,000	69,000
Pedalcyclists	74,903	51,160	45,439	51,000	52,000	48,000
Other	10,578	15,466	17,806	14,000	13,000	15,000
<b>Pipeline, total</b>	<b>76</b>	<b>81</b>	<b>48</b>	<b>64</b>	<b>109</b>	<b>57</b>
<b>Railroad, total<sup>a</sup></b>	<b>22,957</b>	<b>10,614</b>	<b>8,677</b>	<b>7,419</b>	<b>7,671</b>	<b>7,550</b>
Highway rail grade crossing	221	190	180	141	169	216
Railroad	22,736	10,424	8,497	7,278	7,502	7,334
<b>Transit, total<sup>b,c</sup></b>	<b>11,284</b>	<b>12,201</b>	<b>4,434</b>	<b>6,579</b>	<b>7,844</b>	<b>5,436</b>
Highway rail grade crossing	U	123	194	279	321	363
Transit	U	12,078	4,240	6,300	7,523	5,073
<b>Waterborne, total</b>	<b>3,997</b>	<b>5,112</b>	<b>4,095</b>	<b>3,931</b>	<b>3,867</b>	<b>3,840</b>
Vessel-related, commercial ship	175	150	140	196	172	105
Nonvessel-related, commercial ship <sup>a</sup>	U	607	504	377	542	654
Recreational boating	3,822	4,355	3,451	3,358	3,153	3,081

<sup>a</sup> Excludes fatalities involving motor vehicles at public highway-rail grade crossings, which are assumed to be counted under Highway categories.

<sup>b</sup> Includes automated guideway, heavy rail, and light rail fatalities. Other transit fatalities are assumed to be counted under Highway or Rail categories.

<sup>c</sup> Data for 1990 and 2000 are not comparable to later years due to changes in methodology.

**KEY:** U = data are unavailable

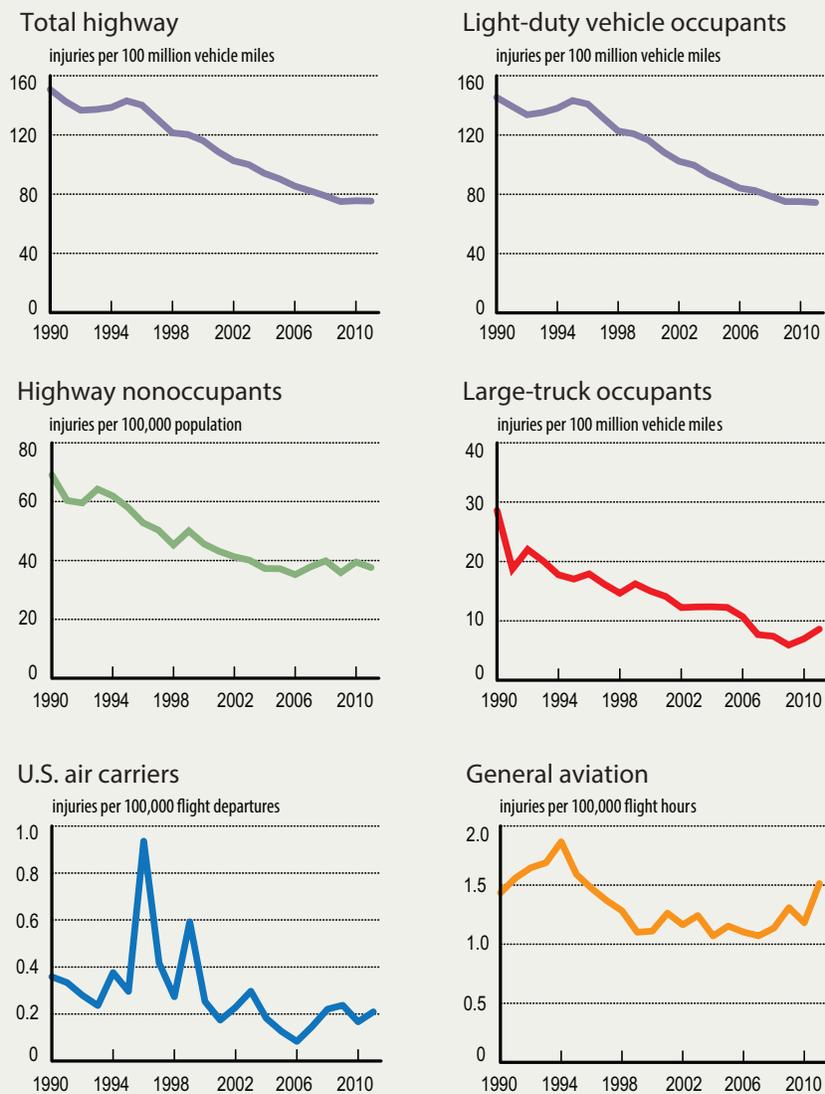
**NOTE:** 2009 and later highway numbers are estimates and not actual counts. The estimates are calculated from data obtained from a nationally representative sample of crashes collected through NHTSA's General Estimates System (GES). Estimates are rounded to the nearest 1,000.

**SOURCE:** Various sources as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 2-2, available at [www.bts.gov](http://www.bts.gov), as of April 2014.

Compared to 1990, there were 31.7 percent fewer transportation-related injuries in 2011. There has been a decrease in injuries in all modes of transportation in recent years. Injuries among passenger-car occupants declined 47.8 percent from 1990 to 2011 and 39.6 percent from 2000 to 2011. The majority of transportation injuries are highway related, accounting for over 90 percent of all injuries in a given year.

The 2011 total highway injury rate was about half the 1990 rate. Injuries for large-truck occupants were down 69.9 percent, followed by light-duty vehicle occupants (passenger cars and light-trucks) and highway non-occupant (pedestrians and bicyclist) injuries down 48.8 and 45.6 percent, respectively. The air carrier injury rate (as measured by injuries per departure) remained low and stable, while the general aviation injury rate (as measured by injuries per flight hour) slightly increased by 5.4 percent over the time period shown.

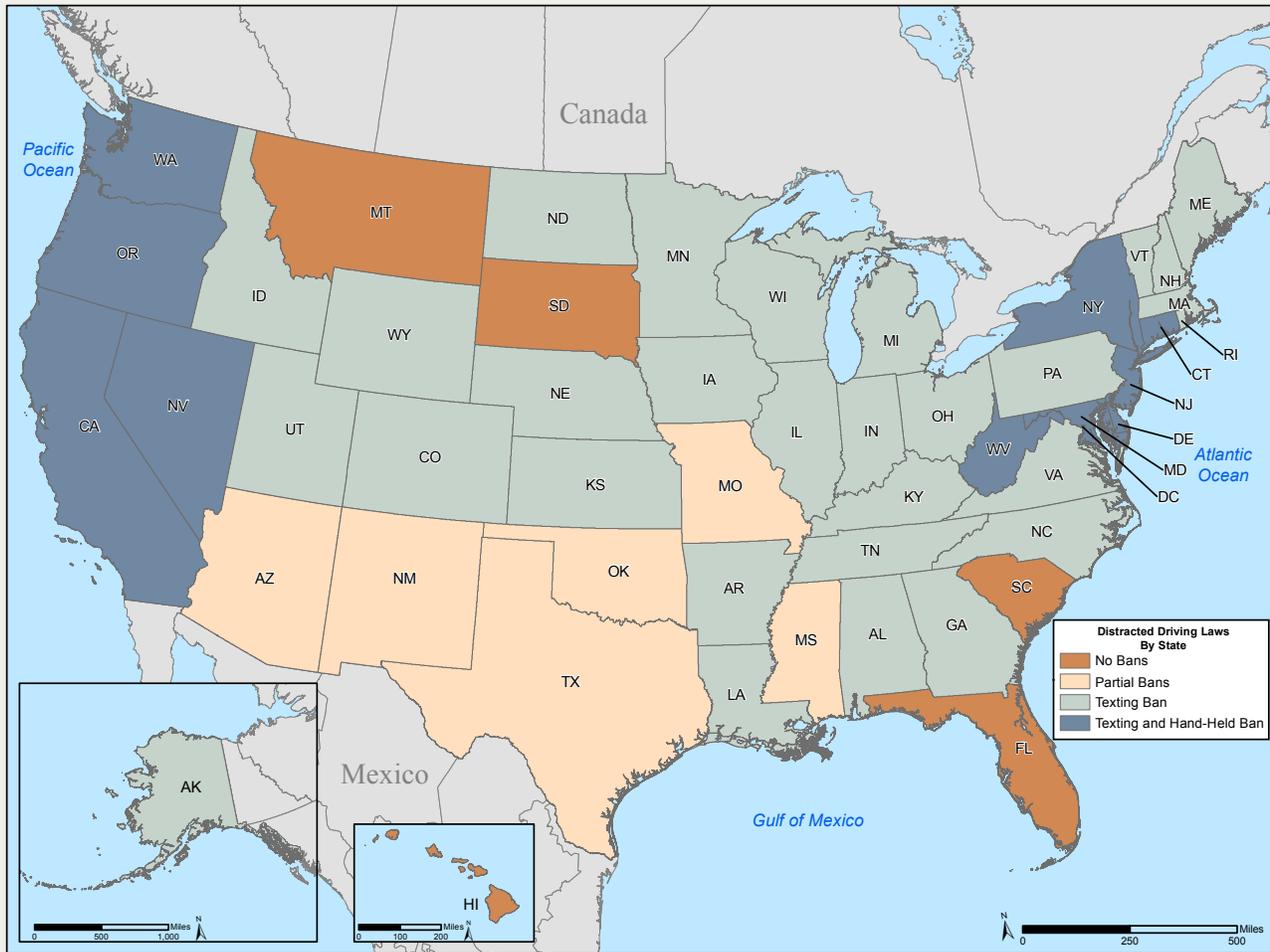
**FIGURE 5-4 INJURY RATES BY SELECT TRANSPORTATION MODE: 1990–2011**



**NOTES:** Graphs with same color trend lines have identical scales. *Light-duty vehicles* includes passenger car and light-truck occupants.

**SOURCE:** Calculated by U.S. Department of Transportation (USDOT), Bureau of Transportation Statistics (BTS) based upon multiple sources as cited in USDOT, BTS, *National Transportation Statistics* (January 2014). Tables 1-35, 2-2, 2-9, and 2-14. Available at [www.bts.gov](http://www.bts.gov), as of March 2014.

**FIGURE 5-5 DISTRACTED DRIVING LAWS FOR MOBILE DEVICES BY STATE, 2012**



**NOTES:** The District of Columbia has a Texting and Hand-Held Ban, Guam has a Texting Ban and the Virgin Islands have a Hand-Held Ban. Partial bans refer to the states that have laws prohibiting certain groups of drivers from using a hand-held device or texting behind the wheel. Often, these bans are directed towards novice or bus drivers. With the exception of Michigan, New Hampshire, and Utah, all states with a texting ban also have a partial hand-held cell phone usage ban in place. New Mexico's hand-held ban is for drivers of within state vehicles and novice drivers.

**SOURCE:** U.S. Department of Transportation, National Highway Traffic Safety Administration, *State Laws*, available at <http://www.distraction.gov/content/get-the-facts/state-laws.html>, as of December 2012.

The National Highway Traffic Safety Administration (NHTSA) estimates that 9.4 percent of highway fatalities in 2011 involved drivers who were distracted by such activities as using a cell phone, texting, eating or drinking, using navigation systems or a map, or grooming themselves.<sup>1</sup> As of December 2012, 39 states and the District of Columbia had laws banning texting while driving, and 10 states prohibit driver use of handheld cell phones. No state had banned all cell phone use by drivers, although 33 states do so for novice drivers and 19 states for school bus drivers.

<sup>1</sup> For more information refer to the 2012 Transportation Statistics Annual Report, Chapter 5: Transportation Performance, available at: [http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/transportation\\_statistics\\_annual\\_report/index.html](http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/transportation_statistics_annual_report/index.html).

Light-duty highway vehicles, such as passenger cars, light trucks, and sport utility vehicles, used 2.7 billion fewer gallons of gasoline in 2011 than in 2007 partially due to the improvements in fuel efficiency (Table 5-5). The largest percentage decrease from 2007 to 2011 was in residual fuel oil usage by water vessels, a decrease of 27.9 percent. Certificated air carriers also experienced a decrease, consuming 2.1 billion fewer gallons of jet fuel in 2011 than in 2007, a 16.4 percent decrease.

**TABLE 5-3 FUEL CONSUMPTION BY TRANSPORTATION MODE, 2007–2011**

	2007	2008	2009	2010	2011
<b>Air</b>					
Certificated carriers <sup>a</sup>					
Jet fuel (million gallons)	12,999	12,469	11,147	11,056	10,864
General aviation <sup>b</sup>					
Aviation gasoline (million gallons)	274	248	227	221	216
Jet fuel (million gallons)	1,486	1,706	1,447	1,435	1,491
<b>Highway</b>					
Gasoline, diesel and other fuels (million gallons)					
Light-duty vehicle <sup>c</sup>	126,962	121,004	121,850	123,466	124,288
Bus	2,022	2,057	1,987	(R) 1,921	1,933
<b>Transit</b>					
Electricity (million kWh)	6,216	6,337	6,492	6,414	6,534
Motor fuel (million gallons)					
Diesel <sup>d</sup>	537	536	658	633	625
Gasoline and other nondiesel fuels <sup>e</sup>	29	31	98	98	101
Compressed natural gas	108	113	142	126	128
<b>Amtrak</b>					
Electricity (million kWh)	578	582	565	559	555
Distillate / diesel fuel (million gallons)	62	63	62	63	63
<b>Water</b>					
Residual fuel oil (million gallons)	6,327	(R) 5,258	(R) 4,589	(R) 5,143	4,560
Distillate / diesel fuel oil (million gallons)	1,924	(R) 1,983	(R) 1,914	(R) 1,997	2,128
Gasoline (million gallons)	1,222	1,136	1,130	1,167	1,104

<sup>a</sup> Domestic operations only.

<sup>b</sup> Includes fuel used in air taxi operations, but not commuter operations. Data for 1996 are estimated using new information on non-respondents and are therefore not comparable to earlier years. See the accuracy statement in the appendix for more detailed information.

<sup>c</sup> Light-duty vehicle includes all passenger cars, light trucks, vans and sport utility vehicles.

<sup>d</sup> Diesel includes Diesel and Bio-Diesel <sup>e</sup> Gasoline and all other nondiesel fuels include Gasoline, Liquefied Petroleum Gas, Liquefied Natural Gas, Methane, Ethanol, Bunker Fuel, Kerosene, Grain Additive and Other Fuel.

**KEY:** kWh = kilowatt-hour; N = data do not exist; R = revised; U = data are unavailable.

**SOURCE:** Various sources as outlined at U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-5 ([http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national\\_transportation\\_statistics/index.html](http://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/index.html)), as of July 2013.

**TABLE 5-4 ENERGY CONSUMPTION BY TRANSPORTATION MODE, VARIOUS YEARS**

	1990	2000	2005	2009	2010	2011
<b>Highway</b>						
Cars						
Btu per vehicle-mile	6,169	5,687	5,607	5,383	5,118	5,214
Btu per passenger-mile	3,856	3,611	3,571	3,473	3,302	3,364
Light truck						
Btu per vehicle-mile	7,746	7,158	7,009	7,231	6,851	6,960
Transit buses						
Btu per vehicle-mile	37,374	41,695	37,430	39,160	35,953	37,718
Btu per passenger-mile	3,794	4,531	4,250	4,224	4,118	4,240
<b>Air</b>						
Certified air carriers						
Btu per vehicle-mile	4,797	3,960	3,346	2,901	2,823	2,779
<b>Rail</b>						
Intercity Amtrak						
Btu per passenger-mile	2,505	3,235	2,709	2,435	2,271	2,214
Rail transit						
Btu per passenger-mile	3,024	2,797	2,783	2,516	2,520	2,462
Commuter rail						
Btu per passenger-mile	2,822	2,551	2,743	2,812	2,897	2,794

**NOTES:** Light truck includes all two-axle, for-hire trucks. Btu = British thermal unit.

**SOURCE:** Oak Ridge National Laboratory, *Transportation Energy Data Book: Edition 32 - 2013* available at: <http://cta.ornl.gov/data/download32.shtml>.

From 1990 to 2011, all transportation modes became more energy efficient with the exception of transit buses. Transit buses consumed the most energy per vehicle mile of travel; however, transit buses typically operate in an urban environment with frequent stops. U.S. airlines reduced energy consumption by 42.1 percent Btu per mile flown, the most of any mode.

The average fuel efficiency of the total U.S. passenger-car and light-truck fleet improved during the last 20 years as new vehicle efficiency increased. Stricter CAFE<sup>2</sup> standards for fuel efficiency in passenger cars and light trucks have pushed automakers to produce vehicles with better fuel efficiency. In 2012 new vehicles, overall, averaged 30.8 miles per gallon (mpg). The fuel efficiency of new passenger cars rose by 12.8 percent, from 31.2 mpg in 2007 to 35.2 mpg in 2012. Fuel efficiency of new light trucks increased 8.2 percent from 23.1 mpg in 2007 to 25.0 mpg in 2012. Light trucks include vehicles such as pickup trucks, minivans, and SUVs.

**TABLE 5-5 AVERAGE FUEL EFFICIENCY OF U.S. LIGHT-DUTY VEHICLES, VARIOUS YEARS**

Miles per gallon

	Average U.S. light-duty vehicle fuel efficiency (calendar year)		New vehicle fuel efficiency (model year)				CAFE standards (model year)	
	Light duty vehicle, short wheel base	Light duty vehicle, long wheel base	Passenger car	Domestic passenger car	Imported passenger car	Light truck (<8,500 lbs GVWR)	Passenger car	Light truck
1990	20.3	16.1	24.3	26.9	29.9	20.8	27.5	20.2
2000	21.9	17.4	28.5	28.7	28.3	21.3	27.5	20.7
2005	22.1	17.7	30.3	30.5	29.9	22.1	27.5	21.0
2006	22.5	17.8	30.1	30.3	29.7	22.5	27.5	21.6
2007	22.9	17.1	31.2	30.6	32.2	23.1	27.5	22.2
2008	23.7	17.3	31.5	31.2	31.8	23.6	27.5	22.5
2009	23.5	17.3	32.9	32.1	33.8	24.8	27.5	23.1
2010	23.5	17.2	33.9	33.1	35.2	25.2	27.5	23.5
2011	U	U	33.8	32.5	35.3	24.5	30.2	24.2
2012	U	U	35.6	34.4	37.5	25.0	32.8	25.2

**KEY:** CAFE = Corporate Average Fuel Economy; GVWR = Gross vehicle weight rating; U = data are unavailable.

**NOTES:** *New vehicle fuel efficiency* and *CAFE standards* assume 55% city and 45% highway miles. The fuel efficiency figures for light duty vehicles represent the sales-weighted harmonic average of the combined passenger car and light truck fuel economies.

Beginning with model year 2008, *Light truck* manufacturers have the option to comply with the unreformed standard values or the new reformed standard values based upon each manufacturer unique vehicle fleet characteristics. In model years 2008-2010, the values shown for *CAFE standards* for *Light truck* are the standard values applicable under the existing "unreformed" CAFE program.

*Average U.S. passenger car fuel efficiency* (calendar year) data for 2007-09 are based on a new FHWA methodology and are not comparable to previous years in this table. The vehicle categories also only apply to 2007-09; *Light duty vehicle, short wheel base* replaces Passenger car and *Light duty vehicle, long wheel base* replaces Other 2-axle 4-tire vehicle for previous years.

**SOURCES:** *Average U.S. passenger car fuel efficiency:* Federal Highway Administration; *New vehicle fuel efficiency* (based on model year production) and *CAFE standards:* National Highway Traffic Safety Administration as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, *National Transportation Statistics*, table 4-23, available at <http://www.rita.dot.gov/bts/publications> as of January 2013.

<sup>2</sup> Corporate Average Fuel Economy (CAFE) is the sales weighted average fuel economy (expressed mpg) of a manufacturer's fleet of cars or light trucks with a gross weight rating of 8,500 pounds or less, and manufactured for sale in the United States for a given year. The Energy Policy Conservation Act of 1975 (Public Law 94-163) established the first CAFE standards in response to the 1973-1974 Arab oil embargo.

**TABLE 5-6 GREENHOUSE GAS (GHG) EMISSIONS BY MODE: 1990, 2005, 2008–2012**(millions of metric tons of CO<sub>2</sub>, domestic activities only)

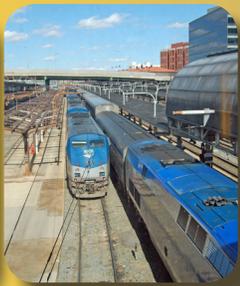
	Passenger cars	Light-duty trucks	Medium- and heavy-trucks	Buses	Aircraft	Ships and boats	Rail	Other	Total, all modes
1990	629.3	321.1	230.1	8.4	187.4	44.5	38.5	49.5	1,508.8
2005	662.3	505.9	396.0	11.8	191.8	44.5	50.3	44.0	1,906.6
2007	769.3	312.8	413.9	17.0	175.1	45.2	47.9	49.5	1,830.7
2008	766.0	317.4	376.3	16.1	155.9	38.7	40.7	49.4	1,760.5
2009	763.7	317.6	390.0	15.9	153.4	44.6	43.5	50.4	1,779.1
2010	760.1	303.8	389.6	17.0	148.5	46.3	45.3	50.4	1,761.0
2011	759.8	301.2	390.6	18.2	145.1	36.6	44.1	51.9	1,747.5

**NOTES:** Other greenhouse gas emissions are from motorcycles, pipelines, and lubricants. International bunker fuel emissions (not included in the total) result from the combustion of fuels purchased in the United States but used for international aviation and maritime transportation. *U.S. Total, all modes; Aircraft; and Ships and boats* include emissions data for only domestic activity only as do all other data shown. International emissions from bunker fuels purchased in the United States are not included. Alternative-fuel vehicle emissions are allocated to the specific vehicle types in which they were classified (i.e., *Passenger cars, Light-duty trucks, All other trucks, and Buses*).

**SOURCE:** U.S. Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks* (Washington, DC: Annual Issues), table 2-15, available at <http://epa.gov/climatechange/emissions/usinventoryreport.html>, as of April 2014.

Transportation is the largest greenhouse gas (GHG) emissions generating sector in the United States, accounting for 28 percent of the U.S. total GHG emissions in 2010.<sup>3</sup> Total transportation GHG emissions peaked in 2007, and has since steadily declined. By 2011 GHG emission levels for all transportation modes decreased by 8.3 percent (compared to 2007). From 2007 to 2011, GHG emissions from passenger cars and light duty trucks declined by 7.4 and 5.8 percent, respectively. GHG emissions from aircraft decreased the most, at 17.8 percent, followed by rail at 12.2 percent. Buses decreased the least, with 0.06 percent less GHG emissions in 2011 than in 2007.

<sup>3</sup> U.S. Environmental Protection Agency, *Sources of Greenhouse Gas (GHG) emissions*, for more information refer to: <http://www.epa.gov/climatechange/ghgemissions/sources.html>



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