CHAPTER 2

Moving People

Highlights

- In 2015 Americans traveled more than in 2014. Cars and other personal vehicles remain the dominant choice for most trips.
- All-time highs for air travel were reached in 2016, following record-setting years in 2014 and 2015. Total enplanements in 2016 were 928 million, compared to 835 million in 2007 and 768 million in the recession year of 2009.
- International air travel passenger-miles surpassed domestic air travel passengermiles for the fourth consecutive year in 2016.
- 2016 was the first year that foreign carriers transported more passengers to and from the United States than did U.S. carriers.
- There were 75.6 million international visitors to the United States in 2016, down from 77.5 million in 2015—the first annual decline since 2009. Foreign visitors spent an estimated \$244.7 billion in their 2016 visits, down about 2 percent from 2015.
- Children walking and biking to school fell from nearly half of children in 1969 to just 13 percent in 2009 and has remained a small

proportion despite modest recent growth.

- Bike-share systems operate in more than 150 cities nationwide, with riders taking 28 million trips on the larger systems during 2016.
- App-enhanced ride-hailing companies are capturing a growing share of the forhire passenger transportation in many metropolitan markets. In the largest market, New York City, these services provided 80 million trips and carried 133 million passengers in 2016.
- Transit use grew between 2000 and 2015, with total ridership growing 1.2 billion and transit's share of commuters growing from 4.7 to 5.2 percent.
- Rural residents have greater reliance than urban residents on automobiles with more than 95 percent having access to a vehicle.

The Nation's transportation system accommodates extensive local and longdistance travel demanded by nearly 325 million U.S. residents and about 76 million foreign visitors [USDOC CENSUS 2017a, USDOC NTTO]. In 2015 person-miles of travel (PMT) in the United States was roughly 5.6 trillion. People used cars or other personal vehicles for 3.8 trillion of these travel-miles, or nearly 70 percent. Domestic and international air travel to and from this country accounted for 1.3 trillion of the 5.6 trillion PMT (23 percent)-of which 631.1 billion (11 percent of total PMT) was domestic and 661.1 billion (12 percent of total PMT) was international. Transit, intercity rail, and bus services

accounted for the remaining PMT (table 2-1). Walking and biking also tallied a large number of local trips and travel-miles, with nearly 5 million people getting to work under their own power daily [USDOC CENSUS 2017c].

The number of commercial air passengers and airline revenue passenger-miles reached a record high in 2016, as discussed in the long-distance travel section, rebounding fully from declines during and after the 2007 to 2009 economic recession. After falling from 2007 through 2009, domestic air PMT rose above the pre-recession level in 2015 and reached a record high of 631.1 trillion in 2016. International air PMT to and from the

TABLE 2-1	Person-Miles of	f Travel in	Selected	Travel	Modes
(million miles)					

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	TOTAL	Light-duty highway vehicles	Air carrier, domestic	U.S. and foreign air carrier, international	Bus	Motorcycle	Transit	Intercity/ Amtrak
2005	5,704,012	4,319,993	583,771	451,386	278,864	17,492	47,125	5,381
2006	5,769,816	4,332,465	588,471	472,005	297,631	24,329	49,504	5,410
2007	5,838,220	4,341,984	607,564	496,088	307,753	27,173	51,873	5,784
2008	5,735,729	4,248,783	583,292	503,056	314,278	26,430	53,712	6,179
2009	5,045,642	3,625,598	551,741	481,049	305,014	22,428	53,898	5,914
2010	5,082,855	3,646,451	554,618	510,884	291,914	19,941	52,627	6,420
2011	5,124,375	3,650,223	564,685	535,928	292,716	19,927	54,328	6,568
2012	5,195,569	3,669,278	569,931	(R) 558,046	313,357	23,034	55,169	6,752
2013	5,262,358	3,688,161	578,723	(R) 588,249	321,539	21,937	56,467	7,283
2014	5,372,132	3,731,888	595,970	(R) 621,915	339,177	21,510	54,998	6,675
2015	5,552,941	3,828,301	631,100	666,115	344,073	21,118	55,698	6,536
2016	U	U	660,473	711,759	U	U	U	6,520

KEY: R = revised; U = unavailable.

NOTES: *U.S. and foreign air carrier, international* includes only scheduled flight segments to and from the United States. *Light-duty highway vehicle* includes both short and long wheel base passenger cars, pickup trucks, vans, and sport utility vehicles (SUVs). Bus and demand response are included in both Bus and Transit, which results in some double counting. *Amtrak* does not include contract commuter passenger miles. The data in table above may not be consistent with other sources, particularly data that are revised on an irregular or frequent basis. Different vehicle occupancy rates were used to estimate passenger miles for *Light-duty highway vehicles* and *Bus* beginning with 2009. Nationwide travel data for walking and biking are not collected on an annual basis. Highway PMT data for 2016 had yet to be released when this report was finalized.

SOURCES: U.S. foreign air carrier, international: U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, Scheduled Passenger Data Tool, available at http://www.transtats.bts.gov as of March 2017. **All other categories**: Various sources as cited in U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, National Transportation Statistics, table 1-40, available at http://www.bts.gov/publications/national_transportation.

United States experienced a smaller decline during the recession and rose steadily from 2009 to reach an all-time high of 666.1 trillion in 2016. Highway PMT by cars and other personal vehicles in 2015 was still below the peak set in 2007 prior to the recession (table 2-1). Highway PMT data for 2016 had yet to be released when this report was finalized. However, monthly vehicle miles of travel (VMT) data, seasonally adjusted by the Bureau of Transportation Statistics (BTS), shows continuing VMT growth beyond 2007 levels throughout 2016 and in the first half of 2017 [USDOT BTS SA].1 Transit and intercity passenger rail services grew in number of passengers and passenger-miles during the recession and in most years thereafter (table 2-1).

Local Travel

Local travel often involves repetitive daily trips (e.g., the daily commute to and from work or school). Social/recreational activities, family/ personal errands, and shopping accounted for nearly 60 percent of household travel and 70 percent of household trips in 2009 (figure 2-1). That year U.S. households averaged about 9.6 trips per day, with the average trip slightly under 10 miles in length (table 2-2). Total travel per household was about 33,000 miles, or 13,200 miles per capita that year. These 2009 benchmarks are the most recent data available from the National Household Transportation Survey (NHTS) [USDOT FHWA 2011]. Data collection for the 2017 NHTS was completed in April 2017, with a data release date of early 2018.² Work commutes and work-related trips are typically longer than other types of local travel, making

Purpose	Total household trips in year	Trip length (miles)	Person-miles traveled per household (miles)	Percent of household PMT by trip purpose (percent)
Work	541	11.8	6,256	19.0
Work-related	106	20.0	2,078	6.3
Shopping	725	6.5	4,620	14.0
Family/personal errands	748	7.0	5,134	15.6
School/church	333	6.3	2,049	6.2
Social and recreational	952	10.7	9,989	30.3
Other	61	51.5	2,878	8.7
TOTAL	3,466	9.7	33,004	100.0

TABLE 2-2 Person Trips, Trip Length, and PMT by Trip Purpose: 2009 NHTS

KEY: PMT = Person-Miles of Travel; NHTS = National Household Travel Survey.

NOTES: *Family/personal errands* includes personal business, shopping, and medical/dental appointments; other includes trips not falling in any of the other trip purpose categories.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, Summary of Travel Trends. Table 5. Available at <u>http://nhts.ornl.gov/</u> as of April 2016.

¹ PMT estimation requires information on the number of vehicle occupants that is not available in the monthly vehicle-miles traveled data. Additionally, the monthly VMT data does not distinguish between passenger and freight vehicle-miles traveled.

² Prior national surveys have been conducted every 8 to 10 years going back to 1969.

up about one-fourth of total mileage traveled but less than one-fifth of total trips. The shorter trips were typically for shopping, personal business, and social/recreation—each with large shares of the number of trips (table 2-2).

People use automobiles or other personal motor vehicles for the overwhelming majority of their travel, whether local or long distance. In 2015 about 91 percent of U.S. households had at least one vehicle available, with 57 percent of households having two or more [USDOC CENSUS 2017c].

Supporting the high percentage of travel by personal vehicle, the share of households without a vehicle declined from 11.5 percent in 1990 to 8.9 percent in 2015. Roughly 10.5 million households did not have access to a vehicle in 2015 [USDOC CENSUS 2017b]. The number of households without vehicles has stayed about the same, at 10 to 11 million for several decades, despite a growing number of households [AASHTO 2013]. People who rent their living place and people in low-income households are less likely to have access to a vehicle [USDOC CENSUS 2017b].

The 2009 NHTS survey found that about onefifth of trips involve trip-chaining in which people sandwich in daily errands and activities, such as dropping off and picking up children at school/day care or stopping at a fitness center, while on the way to and from work [USDOT FHWA NHTS 2011].

The number of trips varies throughout the week. Friday accounted for the most trips in 2009, because of more social/recreational and family/ personal/errand trips, and Sunday for the least. Reduced numbers of work trips and errands on Saturday and Sunday are partially offset by shopping and social/recreational trips, as well as travel to religious services [USDOT FHWA NHTS 2011].

As shown in figure 2-1, the overwhelming majority of person trips are taken in cars or other personal vehicles. Walking is used for a substantial number of errands and social/ recreational trips. Family/personal errands and social/recreational activities accounted for more than two-thirds of trips, followed by trips to and from work, which accounted for 15.6 percent.

Journey to Work

Personal vehicles were used for about 86 to 88 percent of journeys-to-work in the 2000 to 2015 period. However, driving alone continued to rise in share and numbers, while carpooling declined. Roughly 16.5 million more people said they usually drove alone to work in 2015 than in 2000, while the number of carpoolers fell by nearly 2.3 million as shown in figure 2-2. Transit's share of commuters rose to 5.2 percent, up from 4.7 percent in 2000. About 752,000 more people walked or biked to work in 2015 than in 2000, accounting for about 5 million commuters or about 3.4 percent of all workers in 2015 [USDOC CENSUS 2017c, CENSUS 2004].

The geography and characteristics of commuting have changed:

• More people are working at home. The availability of computers and other advanced information technologies has increased the ability of people to work at home while performing their job responsibilities.



NOTES: Person trip is a trip by one person in any mode of transportation. *Family/Personal Errands* includes personal business, shopping, and medical/dental appointments. Other includes trips not falling in any of the other trip purpose categories. 2009 is the most recent year available.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, *Summary of Travel Trends*. Table 11. Available at http://ntts.ornl.gov/ as of April 2016.

FIGURE 2-2 Net Change in Number of Commuters by Transportation Mode: Journey to Work 2000 and 2015



NOTES: Data are for journey to work only. *Drives self* includes people who usually drove alone to work as well as people who were driven to work by someone who then drove back home or to a non-work destination. *Public transportation* refers to bus, streetcar, subway, railroad, and elevated trains for 2000. *Other* means includes ferryboats, surface trains, and van service and other means not classified for years 2000.

SOURCE: 2000: U.S. Department of Commerce (USDOC), Census Bureau (CB), Decennial Census. About Commuting (Journey-to-Work). Available at http://www.census.gov/ as of June 2015. **2015**: USDOC/CB as cited in U.S. Department of Transportation, Bureau of Transportation Statistics, National Transportation Statistics, Table 1-41. Available at http://www.bts.gov as of February 2017.

- For workers who commute to work, the average distance from their home to their places of work has increased in recent years. A recent study of 96 major metropolitan areas found an overall decline of 7 percent in the number of jobs within a typical commuting distance³ between 2000 and 2012. While the number of jobs in 29 metro areas increased within the typical commuting distance, 67 metro areas showed a decrease [BROOKINGS 2015].
- Workers leaving their home county to work in another in-state county or in a different state increased from 23.5 million to 40.9 million between 1990 and 2015; their percentage share of the workforce grew from 20.4 to 27.6 percent [USDOC CENSUS 1990, 2017c].

According to the Bureau of Labor Statistics, 22.3 percent of workers did some or all of their work at home in 2016, averaging about 3.1 hours per workday. This compares with 19 percent of workers averaging 2.6 hours of their workday at home in 2003 [USDOL BLS 2017a]. Another Census survey found that Monday and Friday were the most likely days to telework and Thursday was least likely [USDOC CENSUS 2013].⁴ Consistent with the increase in telecommuting, average commute is down from 0.78 hours in 2010 to 0.76 hours per day in 2016 [USDOL BLS 2017a].

About 14.8 percent of workers with no available vehicle walked to work, roughly four times the percentage for workers with one available vehicle. Similarly, 2.8 percent of those without a vehicle biked to their workplace, compared with 0.8 percent for workers with one available vehicle. Only 4.5 percent of households with workers had no vehicle in 2014, but this percentage represents 6.3 million workers [MCKENZIE 2015].

About 11.6 percent of households have more workers than vehicles. The other 88.4 percent are about evenly split (about 44 percent each) between households with more vehicles than workers and households where the number of vehicles equals the number of workers [AASHTO 2013].

While the average commute to work is 24.6 minutes long, about 9 percent of commuters spend an hour or longer getting to work [USDOC CENSUS 2017c]. For so called megacommuters (workers who commute for more than 90 minutes and travel at least 50 miles one-way to and from work), the journey-to-work is more or less a form of long-distance travel. In the 10 counties attracting the most megacommuters, the mean distance to work among them ranged from just under 60 to over 90 miles, and their mean travel time ranged from 1 hour 44 minutes to just over 2 hours [RAPINO AND FIELDS 2013].

National trends do not portray travel in individual metropolitan areas. For example, transit serves a higher share of work trips

³ The "typical commute distance" was calculated separately for each area based on median commute distances between Census tracts. Thus, in the Atlanta area, the typical commute distance was calculated to be 12.8 miles while in Stockton, CA, it was 4.7 miles.

⁴ The findings of the two Census Bureau surveys are not comparable because among other details, they use different definitions. The 2015 estimate is from the American Community Survey while the other estimate is from the Survey of Income and Program Participation.

in larger metropolitan areas: 11.0 percent in areas with a population over 5 million, 4.0 percent in areas between 2.5 and 5 million, and 2.2 percent in areas between 1 and 2.5 million. Transit ridership is highest in the New York-Newark-Jersey City, NY-NJ-PA; San Francisco-Oakland-Fremont, CA; Washington-Arlington-Alexandria, DC-VA-MD-WV; Boston-Cambridge-Quincy, MA-NH; and Chicago-Naperville-Elgin, IL-IN-WI metropolitan areas (figure 2-3).

Overall transit ridership has been on an upward trajectory since reaching a low in 1995, increasing by about 30 percent in 20 years. Most of the growth has been in the various transit rail modes; bus, the largest transit mode, has shown little growth in ridership over the period [APTA 2017]. Transit ridership stood at about 10.7 billion unlinked passenger trips in 2014, before declining slightly in 2015 and 2016, when ridership was 10.2 billion. The decline continued in the first half of 2017 [USDOT BTS 2017c].

Since 2010, transportation networked companies (TNC), app-based ride-hailing services in which drivers use their own cars to transport passengers for a fee, have emerged



SOURCE: U.S. Department of Commerce, Census Bureau, 2015 American Communities Survey 5-year Estimates, available at <u>http://www.census.gov</u> as of August 2017.

in many metropolitan areas around the world. TNCs, the largest of which are Uber and Lyft in the United States, are challenging the traditional taxi business in many large cities. They have become a new feature of urban transportation. As is discussed in box 2-A, public data are limited, but in the biggest market, New York City, TNCs provided 80 million trips in 2016, carrying 133 million passengers, compared to virtually no riders in 2012. Some of the TNC trips replaced traditional taxi and livery service trips [SCHALLER 2017]. The cell phone app has also revived interest in a variety of other mobility options, such as short-term car and

Box 2-A Ridesourcing: The Emergence of the Transportation Networking Company (TNC)

Tens of thousands of people now drive their own personal vehicle on a for-hire basis for others on their own schedule. They can do this on a full- or part-time basis because there are few requirements aside from owning a suitable motor vehicle, adequate car insurance, a driver's license indicating a good driving record, and a smartphone app from a TNC. Uber, Lyft, and other TNCs organize ridesourcing (also called app-enhanced ride services, transportation network services, and, somewhat misleadingly, ridesharing). The TNCs serve as intermediaries between drivers and people seeking rides, providing both with the requisite mobile phone app, handling the generally cashless credit-card based transaction, vetting drivers and vehicles, and providing a feedback mechanism for both the passenger and the driver. While most TNC drivers own their vehicles, a variety of leasing arrangements are available that allow people who do not own a car to drive for a TNC [USA TODAY 2017].

In less than a decade, these ridesourcing companies have come to greatly affect urban transportation in cities around the world where these services are permitted. Intense competition now exists between TNCs and traditional taxi services in many large metropolitan areas. Most data on ridership are closely held by the TNCs. However, NYC now collects TNC ridership data, allowing comparison with traditional taxi services, based on 2015 and 2016 data. A 2017 report [SCHALLER 2017] details the rapid growth of TNC services in NYC:

- From virtually no service available in 2012, TNCs carried 15 million passengers a month in 43,000 vehicles by the fall of 2016. This was nearly as many trips as carried by the city's yellow cab industry, the largest single component of NYC's traditional taxi industry.
- TNC ridership outpaced growth in NYC transit (subway and bus) ridership during 2014–2016. This contrasts with 2012–2013, when TNC service first began in the city and transit ridership accounted for two-thirds of the increase in non-auto trip making.

TNC services and other ridesourcing companies now operate in some 500 cities or communities in the United States. Uber and other such services (but not yet Lyft as of May 2017) are also available in dozens of foreign countries, making it possible for a U.S. resident traveling overseas to use the same cell phone app to hail a ride in a foreign country. While Uber is a major presence in many large cities around the world, it no longer operates in China, where its Chinese operations were acquired by DiDi Chuxing in August 2016. Didi is considered the largest ridesourcing company in the world. bike rentals, car sharing, and van pooling as discussed in more detail in the *Passenger Access and Connectivity* section of this chapter.

Walking and Biking to Work and to School

Nationally, only a small percentage of people walk or bike to work. However, these nonmotorized modes of commuting are important in many cities of all sizes, as shown by the 2008–2012 American Community Survey. In the 50 largest U.S. cities, 5.0 percent of workers walked to work and another 1.0 percent biked. Over 15 percent of workers in Boston, MA, walked to work, as did more than 10 percent of commuters in Washington, DC, Pittsburgh, PA, and New York City. Portland, OR (6.1 percent) and Minneapolis, MN (4.1 percent) had the highest percentage of bicycle commuters. These cities have also invested in infrastructure to facilitate biking (e.g., building dedicated bike lanes). Some small cities have higher rates of walking and biking, especially where colleges and universities are located. For example, about 42 percent of workers in Ithaca, NY, walk to work and nearly 19 percent in Davis, CA, commute by bike [MCKENZIE] 2014].

Among regions, the Northeast has the highest rate of walking to work, while the West had the highest rate of biking. The South had the lowest rate of walking and bicycling to work for most city-size categories.

People walking or biking to work spend less time on their commute than those using other modes—walkers average 11.5 minutes and bikers 19.3 minutes, compared to 25.9 minutes for other modes. Women were slightly less likely to walk to work than men, but less than half as likely to commute by bike. People who walk or bike to work also tend to be younger than the average commuter. Many people walk or bike to work, in part, for the exercise it provides in contrast to less active means of commuting [MCKENZIE 2014].

Some people combine biking and transit to make their commutes and other trips. Many transit vehicles can accommodate bicycles onboard. Another option, increasingly available at cities with bike-share systems, is to combine a transit trip with a short-term bicycle rental. Bike-share systems now exist in 124 U.S. cities, according to a BTS database. The National Association of City Transportation Officials estimates that ridership was 28 million in 2016 on bike-share systems with at least 100 bicycles and 10 docking stations, up from just 320,000 in 2010 [NACTO]. Bikeshare systems and their proximity to transit and other transportation modes are discussed in more detail in the Passenger Access and Connectivity section of this chapter.

Walking and biking to school has declined dramatically from roughly half of students in 1969 to roughly 15 percent today, with nearly as many students driven to school in family cars as those who walk or take the bus. The decline is apparent even among children who live a short distance—a mile or less from school. Among Kindergarten through eighth grade (K-8) students residing within one mile of school, nearly 90 percent usually walked or biked in 1969, but this percentage fell to 35 percent in 2009 [NCSRTS 2011]. More recent data (albeit based on a different sampling approach) show increases in biking and walking to school, up to 15 percent in the morning and 18 percent in the afternoon in 2014 [NCSRTS 2016]. See box 2-B for more details.

Time Spent Traveling

On weekdays in 2016, the average person spent 83.6 minutes per day traveling for a variety of activities—up from 82.0 minutes in 2015, according to the American Time Use Survey (ATUS), an annual survey conducted by the Bureau of Labor Statistics. Among the 46.0 percent of people who engaged in travel for work, the average person in this group spent 45.5 minutes per day on work travel, the most travel time for all activities in 2016 [USDOL BLS 2017a].

People averaged 3.3 more minutes in weekend and holiday travel activities than on weekdays

Box 2-B How Children Travel To and From School: A Changing Picture

In the four decades between 1969 and 2009, the last year for which NHTS national survey data are available, walking/biking to school and going to school in a family vehicle roughly switched positions as the modal choice of parents for getting their children to and from school:

- In 1969, 48 percent of elementary and middle school children walked or biked to school; in 2009, just 12.7 percent did so.
- In 2009, 45 percent of children were taken to school in a family vehicle, compared to just 12 percent in 1969,
- In both years, children riding the school bus accounted for roughly the same percentages, 38 percent in 1969 and 39.4 percent in 2009.

Even when students live one mile or closer to school, they are less likely to walk or bike, and more likely to be dropped off by parents:

- In 1969, 88.6 percent of students living a mile or less from school usually walked or biked; in 2009 only 35.2 percent did so.¹
- Children dropped off at a nearby school in a

family vehicle increased from 6.9 percent in 1969 to 42.8 percent in 2009.

 Students living near their school also are more likely to take the school bus, rising from 3.8 to 20.4 percent over 40 years [NCSRTS 2011].

It is possible that the decline in walking and biking to school may have tapered off or even reversed since 2009. The National Center for Safe Routes to School (NCSRTS) estimates that walking to school increased from 11.9 to 15.2 percent between 2007/2008 and 2014. Walking home from school increased from 15.2 to 18.4 percent. Biking to and from school declined to under 2 percent between 2007/2008 and 2011, but then stabilized at about 2 percent between 2012 through 2014.

NCSRTS also found fewer children taking the school bus as walking increased in the 2007/2008 to 2014 period. The likelihood of getting to school on a school bus decreased from 36.8 to 29.8 percent over the period, and the likelihood of taking a bus home fell from 42.5 to 34.6 percent in the afternoon. However, the percentage of students taken to school by car increased from 49.1 to 51.5 percent, while those picked up after school rose from 40 to 45.9 percent [NCSRS 2016].

¹ The numbers for 1969 and 2009 do not sum to 100 percent because a small percentage of children also took transit or other means to get to school.

in 2016—an average of 86.9 minutes per day. The average person spent the most weekend and holiday travel time (43.7 minutes) for activities related to consumer purchases, about 8.8 minutes per day more than on weekdays. Travel related to eating and drinking on weekends and holidays accounted for 31.3 minutes—about 6 minutes more than on weekdays.

People spent less time traveling in 2016 than in 2003, according to the ATUS. On weekdays in 2016, people spent 3.3 fewer minutes traveling per day, a decrease of 3.8 percent from 2003. On weekends and holidays, people spent 3.5 fewer minutes traveling per day, a 3.9 percent decrease (figure 2-4).

Long-Distance and International Travel

Americans primarily use airlines and personal vehicles for their long-distance travel. There

is no longer a comprehensive national data source for long-distance travel (usually considered as trips to places at least 50 miles away). Although totals could be estimated from a variety of sources, the end result is incomplete-in terms of system usage for long-distance trips, trip purpose and length, and traveler characteristics. The missing pieces include trips by car or other personal motor vehicle (used by most people for their longdistance trips), general aviation, and cruise ships. VMT on rural interstate highways are occasionally used as a surrogate for longdistance highway travel, but there is no methodology for separating local from longdistance travel within rural areas. Takeoffs and landings of general aviation aircraft are not a good proxy for long-distance travel because many flights take off and land at the same airport rather than transport plane occupants



to distant destinations. Numbers of passengers boarding and debarking from cruise ships in each port are counted, but detailed statistics on cruises, cruise passengers, departure ports, and destinations have not been compiled since June 2012.

Long-distance travelers include international visitors who enter the United States at official land border crossing checkpoints, airports, and to a far lesser extent, seaports as well as returning U.S. citizens and day workers (figure 2-5). The land crossing checkpoints along the border with Mexico process more than 3 million people entering the United States in an average week. In 2015, 182.1 million passed into the United States along the U.S.-Mexico border. The border crossing stations with Canada are more numerous, but process far fewer people—52.4 million in 2016 [USDOT BTS NTS].



NOTE: Truck crossings are not included because they are primarily freight related.

SOURCE: Person Crossings: U.S. Department of Transportation, Bureau of Transportation Statistics, Border Crossing/Entry Database, available at <u>transborder.bts.gov</u> as of October 2017. **Air Passengers:** U.S. Department of Transportation, Bureau of Transportation Statistics, T-100 Data, available at <u>www.transtats.bts.gov</u> as of October 2017.

While the largest international airports are located at major cities along the East and West Coast, as well as Chicago and Atlanta, the number of smaller airports offering international services has grown. Since 1993 the number of U.S. airports with non-stop international flights has grown from 72 to 122. In 2016 approximately 75.6 million foreign visitors stayed for at least overnight in the United States, a decline of 1.9 million from a peak in 2015 following 6 years of year-to-year growth (figure 2-6). The number of foreign visitors declined the consecutive years following the September 2001 terrorist





Percent Change from Previous Year in Total Foreign Visits: 2001–2016

SOURCE: U.S. Department of Commerce, Office of Travel and Tourism Industries, U.S. Monthly Arrivals Trend Line: Overseas, Canada, Mexico &

attacks and in 2009 during the global economic recession [USDOC NTTO]. Many more people passed through land border crossing checkpoints from Mexico and Canada on day trips compared to overnight/multiday trips [USDOC NTTO].

Canada and Mexico together account for more than half of foreign visitors to the United States. Visitors from China have grown most dramatically—up nearly 1,000 percent since 2000 when only 249,000 Chinese visited the U.S., ranking it low as a source of U.S. tourism. Visitors from the United Kingdom and Japan have declined since 2000 while Italy and Venezuela no longer appear in the top 10 countries. Table 2-3 shows the change in the top 10 countries since 2000, with China growing from 24th to 10th place in the period. Australia also joined the top 10 list, with the number of its visitors more than double.

U.S. and foreign airlines carried 927.8 million passengers on domestic flights and international flights to and from the United States in 2016—an all-time high (table 2-4). Passenger enplanements were up by about 31 million from 2015, the previous peak year. Domestic enplanements in 2016 accounted for 77.4 percent of passengers, while international enplanements on U.S. and foreign airlines accounted for 22.6 percent. U.S. airlines carried less than half (49.5 percent) of passengers traveling between the United States and international points in 2016, making this the first time foreign carriers transported more passengers to and from the United States than did U.S. carriers [USDOT BTS 2017a].

	•						
	1	Thousands of travelers					
Country	2000 Rank		Rank 2016		Country	Percent change, 2000 to 2016	
Canada	14,594	1	1	19,302	Canada	32.3	
Mexico	10,322	2	2	18,730	Mexico	81.5	
Japan	5,061	3	3	4,574	United Kingdom	-2.7	
United Kingdom	4,703	4	4	3,577	Japan	-29.3	
Germany	1,786	5	5	2,972	Chinaª	1,093.6	
France	1,087	6	6	2,035	Germany	13.9	
Brazil	737	7	7	1,693	Brazil	129.7	
South Korea	662	8	8	1,974	South Korea	198.2	
Australia	540	12	9	1,628	France	49.8	
Chinaª	249	24	10	1,346	Australia	149.3	

TABLE 2-3	Countries Sending the Most Travelers to the United States: 2000 and 2016	
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^aArrivals for 2016 excludes Hong Kong.

NOTES: Beginning in 2014, overseas data include one-night stay travelers.

SOURCE: U.S. Department of Commerce, International Trade Administration, Office of Travel & Tourism Industries, *International Visitation in the United States*, available at <u>travel.trade.gov/outreachpages</u> as of April 2017.

TABLE 2-4	Enplanements on Domestic Flights and Flight Segments To and From the United States
	(U.S. and Foreign Carriers): 2005–2016

001100	alea ingitte (Jiny						
	Enplanements (millions)			Load factor (percent)				
	Domestic	International	Domestic and international	Domestic	International	Domestic and international		
2005	657.3	143.6	800.8	77.2	78.7	77.8		
2006	658.4	149.7	808.1	79.1	78.6	78.9		
2007	679.2	156.3	835.4	79.9	79.1	79.5		
2008	651.7	157.7	809.4	79.7	77.6	78.7		
2009	618.1	149.7	767.8	81.1	78.3	79.7		
2010	629.5	157.9	787.5	82.2	81.6	81.9		
2011	638.2	163.9	802.1	82.9	80.3	81.6		
2012	642.3	170.8	813.1	83.4	81.7	82.5		
2013	645.7	179.3	825.0	83.5	82.1	82.8		
2014	662.8	(R) 188.8	(R) 851.6	84.5	81.1	82.7		
2015	(R) 696.0	(R) 200.6	(R) 896.6	85.0	(R) 80.6	82.7		
2016	719.0	208.8	927.8	84.6	80.5	82.4		

NOTE: International enplanements include U.S. and foreign carriers. Load factor is calculated by dividing demand, as measured by revenue passenger-miles (RPMs), by capacity, as measured in available seat-miles (ASMs). Flight segment in this context refers to a non-stop flight stage from taking off in the United States to the first destination in a foreign country or a non-stop flight stage from taking off in a foreign country to its first destination in the United States.

SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, Office of Airline Information, *Airline Data and Statistics*, Passengers. Available at <u>http://www.bts.gov/programs/airline_information/</u> as of March 2017.

Total (domestic and international flights in the United States) revenue passenger-miles also set all-time records in 2016, totaling 1.361 trillion, 4.7 percent more than in 2015, the previous record year. International flights accounted for 51 percent of passenger-miles, the fourth year in a row that passenger-miles on these flights exceeded those on domestic flights.

Schodulad flights only

The number of domestic and international flights rose to 9.7 million in 2016, compared to 9.5 million in both 2014 and 2015. Despite the recent increase, the number of flights remains well below the 2005 peak of over 11.3 million flights. However, flights are carrying more passengers and have higher load factors than a decade ago. Table 2-4 shows that planes have also become more crowded since 2005 as measured by load factors. Domestic flights were, in general, more crowded than international flights. Available seat miles, another measure of plane carrying capacity, increased about 10 percent from 2005 to 2016 on U.S. carriers [USDOT BTS SA]. It can be thought of as the supply of seats.

Flights between domestic airports in 2016 accounted for roughly 84 percent of total U.S. flights, while international flights of U.S. and foreign carriers accounted for about 16 percent. The percent of passengers who flew on international flights rose from 18 percent in 2005 to about 23 percent in 2016. Long-distance railroad travel in the United States is primarily on Amtrak (also known as the National Rail Passenger Corp.). Amtrak ridership grew for 15 consecutive years between 1997 and 2012, rising from 19.7 million annual person-trips in fiscal year 1997, to 31.2 million in 2012. Subsequently, ridership fell for 3 years (declining to 30.8 million in 2015), but then rebounded in 2016 to 31.3 million, a new record. Ridership on Northeast Corridor trains reached a record of 11.9 million in 2016, surpassing the previous peak set in 2015 [AMTRAK 2017, 2015]. On the smaller Alaska Railroad, annual ridership peaked in 2007 at more than one-half million trips, and had not regained this level as of 2015. Customers traveling aboard railcars owned by cruise lines and pulled by the Alaska Railroad accounted for just under half of the 2015 Alaska Railroad passengers [ARRC 2016].

Compared to 2012, long-distance travel by motorcoach, including charter as well as scheduled service buses, declined somewhat in 2013 and 2014, the last year for which data

are available (table 2-5). There were about 604 million person trips in the United States and Canada in 2014, roughly 33 million fewer trips than in 2012 but slightly more than in 2010, when there were more carriers and coaches but fewer passenger trips per coach. Just under half of all bus passengers in 2014 were either students or senior citizens [ABA 2016]. Charter service accounted for about 47.5 percent of motorcoach mileage, and scheduled service accounted for another 32.3 percent. The remaining miles were for commuting (4.6 percent); packaged tours (6.6 percent); transport to and from airports (3.7 percent); sightseeing (3.5 percent); and special operations, such as regular-route service to fairs, sports, and other events, and employee transport to work sites (1.8 percent).

Forces of Change in Travel

Many factors affect local, long-distance, and international travel trends. Among the most important are population, employment, car ownership, household income, and economic conditions. A subset of these include:

TABLE 2-5	Motorcoach Carriers.	Coaches, T	Frips. and	Passenger-Miles	: 2010-2014

	2010	2011	2012	2013	2014	Percent change, 2010–2014
Carriers	4,011	3,984	3,954	3,801	3,628	-9.55
Coaches	40,709	40,141	39,607	36,903	36,520	-10.29
Passenger trips (millions)	601	627	637	605	604	0.44
Passenger trips per coach	14,800	15,600	16,100	16,400	16,500	11.49
Passenger miles (billions)	69	76	76	63	62	-10.87
Passenger miles per coach	1,703,200	1,897,400	1,912,500	1,710,000	1,700,000	-0.19

NOTE: The Motorcoach Census measures the size and activity of the motorcoach industry in the U.S. and Canada. The 2014 data year is the last year for which data are available.

SOURCE: American Bus Association, Motorcoach Census, available at www.buses.org as of March 2016.

- how travel preferences may change and differ from each other among the aging baby boom generation (people born between mid-1946 and mid-1964), the equally numerous millennial generation (generally described as people born between the early 1980s and the early 2000s) and the subsequent generation (the first entire generation brought up with the ubiquitous presence of the cell phone);
- the emergence and popularity of appenabled transportation options;
- uncertainties about future levels of immigration both into and within the United States; and
- the diminishing but possibly lingering effects of the economic recession spanning December 2007 to June 2009 on travel patterns.

Economics and Recession

U.S. gross domestic product (GDP) grew at about 3 percent per year between 2000 and 2007, but declined 0.3 percent in 2008 and 2.8 percent in 2009, before again growing each year from 2010 through the end of 2016 at a rate of about 2 percent annually [USDOC BEA].

Figure 2-7 charts GDP and highway VMT during the past quarter of a century, during which three recessions occurred. Highway VMT remained stable or grew in the first two recessions, which were of relatively short duration and relatively mild. VMT shows a different pattern during the longer and more severe 2007–2009 recession. As the figure illustrates, highway VMT peaked in 2007, just as the recession began, then dropped in 2008 and 2009. Again VMT dropped in 2011 before rebounding slowly, only again exceeding



Transportation Statistics (BTS), National Transportation Statistics, Tables 3-10, available: <u>www.bts.gov</u> as of March 2017. VMT: DOT, Federal Highway Administration as cited in DOT, BTS. National Transportation Statistics, Table 1-35. Available: <u>www.bts.gov</u> as of March 2017.

prerecession levels in 2015. GDP has grown more quickly than VMT since the end of the recession, rising 13.7 percent (in chained 2009 dollars) between 2009 and 2015, whereas VMT rose only 4.7 percent [USDOT FHWA 2017].

Airline travel—especially domestic traffic was also adversely affected by the 2007–2009 recession. While the number of passengers on international flights to and from the United States returned to prerecession levels beginning in 2010, it was not until 2015 that enplanements on domestic flights finally exceeded their 2007 levels (figure 2-8).

Transit ridership reached a high point in 2008 at the height of the recession, then dropped 2.8 percent by 2010. This was followed by several years of growth, with 2008 levels exceeded in 2014 when there were 10.75 billion unlinked transit trips. Transit ridership was stimulated in part by rising gas prices in the 2002 to 2008 period, when many people chose to take transit rather than drive.⁵ After a decline in 2009, gas prices bounced up to an all-time high in 2012 [USDOE EIA 2016]. The subsequent and rapid decline in gas prices—a nationwide average decline of \$1.19 per gallon between 2012 and 2015, with \$0.91 of the decline occurring in 2015—raises the question of whether people who switched to transit when gas prices were high will go back to driving if gas prices remain low [NOWAK AND SAVAGE]. Transit ridership declined from the 2014 high point in

⁵ A 2014 report, *Net Effects of Gasoline Price Changes on U.S. Urban Areas*, examines the impact of gasoline price increases on transit ridership in 10 U.S. urban areas [ISEKI; ALI 2014]. The report is discussed in chapter 2 of the *Transportation Statistics Annual Report 2015*.



2015, and the decline continued in 2016 and the first half of 2017 [USDOT BTS 2017c].

As shown in figure 2-9, PMT increased with household income. With the last National Household Travel Survey (NHTS) completed in 2009 at the end of the recession, it remains to be seen what data from the Federal Highway Administration's 2017 NHTS, not yet available when this report was finished, will reveal about how the trip-making propensities of the public may have changed.

Demographic and Geographic Shifts

Demographic factors and related economic forces affect travel demand, traffic patterns, and associated infrastructure needs. Between 2000 and 2016, the U.S. population grew from 282.2 million to 324.1 million people, placing additional travel demands on the transportation system [USDOC CENSUS 2017a]. All census regions added population, but the South and West accounted for more than 85 percent of the population gain, continuing a decadeslong trend [USDOC CENSUS 2017d]. About 60 percent of the Nation's 3,143 counties, including nearly 80 percent of metropolitan counties, gained population from 2000 to 2015, with a total gain of about 42 million people. This contrasts with population losses of 2.7 million residents in the other 40 percent of counties [USDOC CENSUS 2016a, b].

As shown in figure 2-10, counties that lost population, while apparent in all regions, were especially prevalent in the middle of the



NOTE: 2009 is the most recent year available.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, 2009 National Household Travel Survey, Online Analysis Tool. Available at http://nhts.ornl.gov/ as of April 2016.



country, while counties gaining population were especially evident in the Western states and in Texas and Florida. Gains and losses in regional and metropolitan population affect transportation infrastructure needs and travel patterns.

Travel demand is also affected by changes in the labor force and subsequent changes in journeysto-work. Some of the income generated by the labor force is spent not only on essential travel but also on discretionary trips. The number of people in the workforce increased by nearly 33 million, growing from about 126 million in 2000 to about 159 million in 2016 [USDOL BLS 2017b]. While a greater share of the labor force works at home or walks and bikes to their jobs than in 2000, three-fourths or more continue to commute alone in their cars.

Age is another factor that affects travel demand. Age is closely associated with the progression of the household life cycle (e.g., single person, married couple, households with small children and/or school age children, empty nesters, and retired individuals). Both the youngest (under 16 years of age) and the oldest (over 65 years of age) traveled the least compared to other age groups (figure 2-11). The in-between age groups, particularly those between 36 and 65 years of age, accounted for the majority of PMT. This is a harbinger of future trends as older members of the labor force move toward the 65-year-age threshold where many people move into retirement.

The baby boom generation, people born between mid-1946 and mid-1964, has generated much of the travel activity at the local and intercity level for many decades. Today, even as the trailing edge of the baby boom generation, now in their early 50s, approaches early retirement age, boomers are still affecting travel patterns. They are the first generation in which both women and men have been close to reaching saturation points for driver licenses and vehicle availability.⁶ Thus retired baby boomers could be expected to be more mobile in their retirement years than previous generations [AASHTO 2013]. In fact, the share of people with drivers licenses increased among people aged 55 and above between 1983 and 2014, with the greatest increase occurring among people 70 or more years of age [UMTRI]. By contrast, between 1983 and 2014, the share of people with driver's licenses fell for all age groups between 16 and 44, with the greatest decline occurring

⁶ According to FHWA, more than 89 percent of people 16 and older had a driver's license in 2009. This included 107 million males and 104 million females. People have their licenses until older ages than in the past. About 84 percent of people 70 and above had a driver's license in 2009, compared to just 66 percent of the same age cohort in 1990. About 91 percent of U.S. households have access to a motor vehicle.



NOTES: 1990 person trips were adjusted to account for survey collection method changes. Please see Appendix 2 of 2001 Summary of Travel Trends for specifics. 2009 is the most recent year available.

SOURCE: U.S. Department of Transportation, Federal Highway Administration, National Household Travel Survey (multiple years), 2009 Summary of Travel Trends. Table 14. Available at <a href="http://

among the younger age groups [UMTRI]. As for new vehicle purchases, people 55 and above increased their share of new vehicle purchases in the United States, growing from 21.2 percent in 2000 to 36.4 percent in 2015. Conversely, the share of vehicle purchases among all age groups below the age of 55 declined between 2007, just before the start of the recession, and 2015, with little significant differences once income and employment were taken into account. [KURZ, LI AND VINE].

Challenges for Travel

An important component of the transportation system is offering widespread access to options, in particular for those groups in society who have the most difficulty traveling or those who have limited access to transportation services. This section begins with a discussion of the degree of connectivity between public transportation modes, using data from the BTS Intermodal Passenger Connectivity Database (IPCD). Other challenges discussed include access to transportation for people without a personal vehicle and transportation options for the elderly and the disabled.

Passenger Access and Connectivity

People using public transportation (e.g., Amtrak, intercity bus, or commercial aviation) often need to connect to another mode of transportation to reach their destinations. Proximity to transportation modes (e.g., transit, intercity bus, or train station access at airports) gives travelers more mobility options.

The BTS IPCD inventories the proximity of intercity passenger facilities (e.g., airports,

long-distance bus and ferry, and intercity rail service), certain transit facilities (e.g., local ferry and heavy, light, and commuter rail), and bike-share locations to each other. As of August 2017, there are over 10,000 unique passenger travel facilities in the IPCD (see figure 2-12), of which 40.8 percent did not offer nearby connections to other transportation modes, 50.4 percent connected to one other mode, 8.7 percent connected to two other modes of transportation, and 0.1 percent connected to three or more other modes of transportation.

Specifically, 86.0 percent of the heavy railstations (high-speed transit rail on an exclusive right-of-way) offered connections to other modes and are the most connected of all travel options, followed by bike-share (with 73.8 percent), commuter rail (with 70.3 percent), light-rail transit (with 68.5 percent), and Amtrak/intercity rail (with 54.1 percent). About a quarter (23.7 percent) of airports with scheduled passenger service connect with other public transportation modes. Only 12.5 percent of intercity bus facilities have connections to other modes.

Bike-share systems that connect with other transportation modes extend the transportation network and increase modal options. For example, a bus passenger who disembarks near a bike- share facility and grabs a bike can ride to more area grocery stores or other commercial services than by walking for the same amount of time. A total of 93 bike-share systems operate 4,911 stations in over 150 U.S. cities as of August 2017 (figure 2-13). Most bike-share docking stations (74.1 percent) can be found near local public transportation stops



(transit bus, commuter rail, heavy rail, light rail, and/or transit ferry). Transit bus is the most typical connection, with 72.4 percent of bike-share stations located a block or less from a transit bus stop [USDOT BTS 2017b].

Several U.S. cities are testing or have adopted dockless bike-share (e.g. Washington, DC; Dallas, TX; Seattle, WA; and Revere, MA, among others), where users locate and unlock an available bike using a mobile app and then leave the bike almost anywhere when finished (versus returning the bike to a fixed docking station). Because the location of the bikes changes, it is difficult to measure how these systems extend the transportation system.

People using public transportation often need more information about exactly where and when to get to their next connection. Transit providers are now offering smartphone apps that "push forward" information about nearby connections, and provide GPS walking instructions about how to get to their connection from their current location. These apps can also be used for trip planning, mapping, routing, scheduling, identification of real-time status, and in some cases, cashless fare payment. Some cities also link these apps to bike-share, car-sharing, and ridesourcing services, allowing users to grab a bike at a bike-docking station, hail a TNC vehicle, or locate a car-share vehicle to rent. As new ways to connect transportation users to available services are developed, various niche roles and markets for service providers have proliferated that could enhance access and connectivity, as shown in box 2-C.

Transportation Options for People without Access to a Vehicle

Many people without access to a personal vehicle, especially low-income groups, have difficulty reaching stores, services,



SOURCE: U.S. Department of Transportation, Bureau of Transportation Statistics, *Intermodal Passenger Connectivity Database*, available at <u>http://www.bts.gov</u> as of August 2017.



Box 2-C App-Enhanced Transportation Options

The app-enhanced¹ transportation options that have emerged in the last decade are revamping traditional ways of ride-sharing, such as sharing a taxi, a commuter bus, or taking a vanpool. Various smartphone apps are also making it easier for people to identify and make local transportation choices in real-time, showing what services are available at their specific location. Services include:

- Ridesharing: match customers going the same direction and determine how to split the fare.
- Bus pooling: match commuters going the same direction, allow people to reserve seats in advance, and charge a fixed fare.

and workplaces outside of their immediate neighborhoods. As previously discussed, about 8.9 percent of U.S. households do not have access to a personal vehicle. This share of vehicle-less households in urban areas is 10.1 percent, but in the most densely populated parts of cities (10,000 plus people per square mile), 28.4 percent of households had no vehicle in 2009 [USDOT FHWA NHTS 2011]. Vehicle availability is higher in rural areas than urban areas, with only 4.2 percent of rural households lacking access to a vehicle [NDSU].

People living below the poverty level are less likely to own or have access to a personal vehicle to get to work than the population as

- Neighborhood shuttles: follow a fixed route, with some in neighborhoods typically underserved by other transportation services.
- Car-sharing fleets: app-based services allow subscribers to reserve and rent a car for short periods of time.
- Car-sharing by individual owners: services allow car owners to rent their vehicles when unneeded to strangers.
- Bike-share: short-term bike rentals
- Mobile phone app for local trip planning: App displays real-time transit arrivals/ departures, and in some metro areas app can be used to pay fares electronically. Some apps link to bike-sharing, car-sharing, and ridesourcing options discussed above, allowing travelers to determine which option is most convenient for them.

a whole. In 2015, 43.1 million people, 13.5 percent, of the U.S. population were living in poverty⁷ [USDOC CENSUS 2016c]. BTS analysis of the 2009 NHTS found that households with annual incomes less than \$25,000 were eight times more likely, on average, to be zero-vehicle households than households with annual incomes above that level [USDOT FHWA NHTS 2011]. Of workers below the poverty level, 64.3 percent drive to work compared to 76.8 percent of workers overall in 2014. Compared to commuters as a whole, people below the

¹ App is short for application, a software program downloaded to a mobile phone or other computing device that can be used to carry out a specific function.

⁷ As defined by the U.S. Census Bureau, poverty thresholds in 2015 varied from \$12,228 for a single person under the age of 65 to \$49,721 for a family of nine. Lower thresholds pertain for people over the age of 65.

poverty level are more likely to carpool, take public transportation, walk, or use other transportation modes (figure 2-14).

While the app-enhanced transportation options, shown in box 2-C, hold promise for increasing availability of transportation in underserved neighborhoods, expense and other barriers could impede their use. For example, many app-enhanced services can only be accessed by users who have a smartphone linked to a credit/debit card account, or who are enrolled in a subscription service (e.g., bike-share programs or car-share services). Many lowincome people have a hard time getting or affording such services.

Bike-share stations are often located in central or high volume locations that are hard for people to reach without first using another transportation mode. However, some bikeshare systems now offer so called "smart" bikes that contain all the functions of the stationary bike dock. This frees up riders to drop off their rental bike anywhere in the system area, not just a designated docking area. Although many of the newer systems rely exclusively on these smart-bikes, smart bikes only accounted for 13 percent of all bike-share bikes in 2016 [NACTO 2017].

About 24 percent of bike-share systems now offer subsidies for their low-income users, such as a reduced fixed-rate monthly or yearly subscription that can be paid by using an Electronic Benefit Transfer Card or cash.

Transportation Access for Elderly and Disabled Passengers

Access to transportation options is also a challenge for the elderly and for people with



SOURCE: U.S. Census Bureau, American Community Survey, 2016 1 year estimates. Available at www.census.gov as of November 2017.

physical or cognitive impairments. Between 2000 and 2015, the elderly population (those age 65 or older) in the United States grew by 36.6 percent, increasing from about 35 million people to nearly 48 million in 15 years.

The transportation needs of the older population will change over time; some will continue to rely on their personal vehicle or other transportation options they used when younger. Others may make greater use of transit, paratransit services, and perhaps some of the app-enhanced transportation network services shown in box 2-C. Still others may depend on family members or friends for their transportation.

Some transit agencies are contracting with TNCs and traditional taxis to provide "last mile" rides to and from transit stations at subsidized rates. The American Association of Retired Persons Public Policy Institute estimated that 12 percent of all trips and 10 percent of all miles traveled in the United States in 2009 were taken by persons age 65 and older [AARP 2011]. Transit use by people age 65 and older as a share of all the trips they took increased by 40 percent between 2001 and 2009, which represented more than 1 billion trips on public transportation in 2009 (a 55 percent increase from what was reported in 2001).

People with disabilities often reduce their need to travel, or rely on other options, such as asking relatives or friends for a ride (figure 2-15). Since the 1990 enactment of the *Americans with Disabilities Act* (ADA), the Nation's transportation agencies have been charged with making it easier for people with disabilities to use public transportation

through such accommodations as installing lifts and ramps on vehicles for wheelchairs and modifying station platforms, parking facilities, and restrooms. Progress varies among various service providers. All but about 3 percent of transit bus stations (51 out of 1,475) are said to be ADA compliant, as are 98.2 percent of transit buses (at least among those services that report to the Federal Transit Administration). All cars in the heavy rail transit fleet are now reported to be ADA compliant, but only about half (50.6 percent) of heavy rail stations (such as subway stations) are compliant. Similarly, in the case of commuter rail, 87 percent of train cars are compliant, but only 31.5 percent of the commuter rail stations meet ADA requirements. In the case of demand-response transit vehicles that can be assigned based on a passenger's individual needs, about 87 percent of the fleet is reported to be accessible [APTA no date].

As for long-distance passenger rail, Amtrak has had difficulties in meeting its schedule for upgrading its passenger train stations to ADA standards. This was supposed to occur by September 30, 2015, 25 years after passage of the ADA. In 2011 the Amtrak Inspector General found that only 10 percent (48 of 482) of Amtrak stations were compliant [AMTRAK OIG]. Under an understanding with the Department of Justice, Amtrak is developing a strategy to prioritize ADA actions [USDOJ]. As of March 2017, Amtrak information indicated that construction was complete on 57 stations, but noted that platform work could be needed at some stations to make platforms ADA compliant [GREAT AMERICAN STATIONS].

An examination of recent indicators of U.S. travel shows the following:

- Air travel rebounded quickly after the 2007–2009 recession and set new records in 2016.
- Highway travel has lagged recovery rates of prior recessions, with VMT only returning to prerecession levels in 2015 and 2015 PMT still below 2007 levels.
- Cars and other personal vehicles remain the predominant modal choice for most trips, including in urban areas. However, with transit ridership on an upward trajectory, walking and biking trips rebounding, and growing popularity of app-enhanced transport options, modal choices have expanded in many urban centers.

In order to understand possible changes in travel dynamics, good data about local, long-distance, and international travel will need to be collected on a regular basis. The central question for data development will be to distinguish what changes are cyclical phenomena, and therefore transient, from those that are structural and a fundamental part of a new era of travel behavior.

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