

State Board of Equalization ECONOMIC PERSPECTIVE

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A Review of Transportation

Significance of Transportation

Transportation is a significant component of state revenues and spending. In Fiscal Year (FY) 2015-16, gasoline and diesel excise and sales taxes totaled over seven billion dollars. That number will grow with the recent enactment of Senate Bill (SB) 1, which increases gasoline and diesel taxes to augment funding for maintenance of roads and highways. Given the importance of transportation of the overall economy, this edition of the Economic Perspective reviews the transportation sector to better understand its components and trends.

U.S. Transportation Trends

Information from the U.S. Department of Transportation indicates that transportation by major modes of highway, rail, and air either have increased only slightly or declined over the most recent ten years for which statistics are available on a consistent basis.¹ Chart 1 shows that vehicle miles traveled (VMT) on U.S. highways rose only 2.1 percent from 2004 to 2014. Over the same time period, rail freight VMT inched up 0.3 percent, while air transportation VMT declined 9.9 percent.

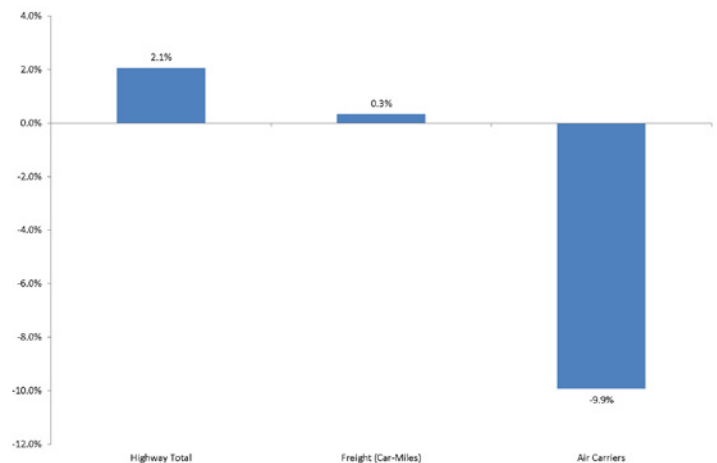
Growth by Type of Vehicle

Trends in vehicle miles traveled by modes of transportation varied greatly. Travel by cars and light trucks fell 0.2 percent from 2004 to 2014, while travel by heavy duty trucks climbed 26.4 percent, and buses jumped 135 percent. Passenger rail travel increased 12.8 percent.

Cars Dominate Miles Traveled

Cars and light trucks account for more than 90 percent of U.S. VMT. Trucks account for nine percent, and buses make up the remaining one percent. According to the U.S. Department of Energy, miles driven per car or light duty truck average about 11,500 per year, heavy duty trucks average 68,000 miles annually, and buses log 34,000 miles per year.²

Chart 1
CHANGES IN U.S. VEHICLE MILES TRAVELED BY
MAJOR MODE (2004 to 2014)



Household Travel Patterns

U.S. Department of Transportation surveys reveal where people choose to drive their cars. The average household makes 3,466 trips per year, at an average length of ten miles. Chart 2 (page 2) indicates that social and recreational trips, running errands, shopping, and commuting dominate travel. Combined they account for close to 90 percent of all trips.³ The average number of household trips is down about 9.5 percent from 1995.

Gallons Purchased by Household

Last year the U. S. Bureau of Labor Statistics (BLS) published a special study of household gasoline use based on household consumption surveys.⁴ The BLS surveys indicate that the average household purchased 707 gallons of gas in 2014, a 13.4 percent decline from 816 gallons in 2004. The BLS notes that more fuel efficient cars likely contributed to at least some of the reduction in gallons consumed.

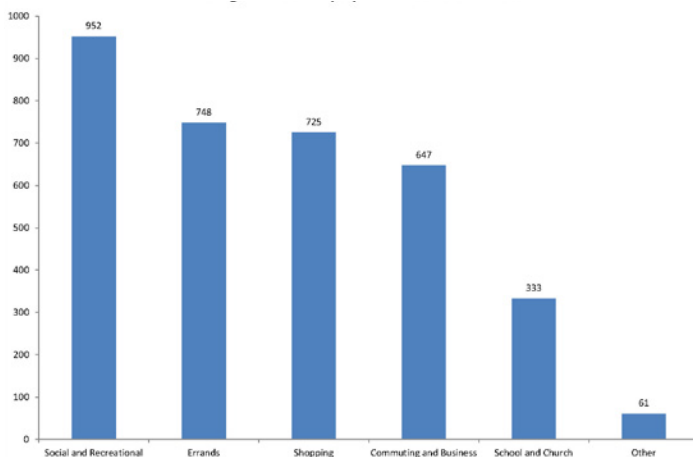
¹ U.S. Department of Transportation, Bureau of Transportation Statistics, https://www.rita.dot.gov/bts/sites/rita.dot.gov/bts/files/publications/national_transportation_statistics/html/table_01_35.html

² <http://www.afdc.energy.gov/data/10309>

³ Summary of Travel Trends: 2009 National Household Travel Survey, U.S. Department of Transportation, <http://nhts.ornl.gov/2009/pub/stt.pdf>

⁴ "Using Gasoline Data to Explain Inelasticity," *Beyond the Numbers*, March 2016, U.S. Bureau of Labor Statistics, <https://www.bls.gov/opub/btn/volume-5/using-gasoline-data-to-explain-inelasticity.htm>

Chart 2
AVERAGE ANNUAL TRIPS PER HOUSEHOLD IN 2009



Motor Vehicle Spending

The U.S. Bureau of Economic Analysis (BEA) publishes per capita spending on motor vehicles and parts by state. Table 1 displays average per capita spending on motor vehicles and parts by state in 2015. North Dakota led all states with \$2,521 per person spending, 74 percent above the U.S. average.

California ranked 45th, at \$1,258 per capita spending on motor vehicles and parts, 13 percent below the U.S. average. The BEA statistics also reveal that California per capita spending on cars is 8.0 percent less than in 2005. This decline is counter to the national trend; U.S. spending on cars is up 4.3 percent from 2005.

Vehicle Miles Traveled

The U.S. Department of Transportation annually publishes VMT per capita by state.⁵ Table 2 (page 3) ranks states by 2013 VMT, the most recent year available. In 2013, California placed 41st, at 8,575 miles per capita. California VMT per capita is below the U.S. average and 3.7 percent lower than it was ten years earlier.

Table 1
2015 PER CAPITA SPENDING ON MOTOR VEHICLES AND PARTS (Dollars)

| | | Percent of U.S. Average |
|----------------------|----------------|-------------------------|
| North Dakota | \$2,521 | 174% |
| South Dakota | \$2,018 | 140% |
| Nebraska | \$1,908 | 132% |
| Delaware | \$1,899 | 131% |
| Vermont | \$1,854 | 128% |
| Texas | \$1,849 | 128% |
| Montana | \$1,816 | 126% |
| Oklahoma | \$1,787 | 124% |
| Wyoming | \$1,744 | 121% |
| New Hampshire | \$1,725 | 119% |
| Louisiana | \$1,705 | 118% |
| Iowa | \$1,660 | 115% |
| Maine | \$1,634 | 113% |
| New Jersey | \$1,599 | 111% |
| Maryland | \$1,581 | 109% |
| Florida | \$1,563 | 108% |
| Arkansas | \$1,519 | 105% |
| Kansas | \$1,517 | 105% |
| Missouri | \$1,511 | 104% |
| Connecticut | \$1,505 | 104% |
| Alabama | \$1,496 | 103% |
| Virginia | \$1,496 | 103% |
| Pennsylvania | \$1,494 | 103% |
| North Carolina | \$1,477 | 102% |
| Tennessee | \$1,470 | 102% |
| Idaho | \$1,463 | 101% |
| Massachusetts | \$1,463 | 101% |
| West Virginia | \$1,462 | 101% |
| Wisconsin | \$1,460 | 101% |
| Minnesota | \$1,452 | 100% |
| Ohio | \$1,449 | 100% |
| United States | \$1,446 | 100% |
| Utah | \$1,440 | 100% |
| Illinois | \$1,436 | 99% |
| New Mexico | \$1,433 | 99% |
| Georgia | \$1,417 | 98% |
| Arizona | \$1,385 | 96% |
| Nevada | \$1,337 | 92% |
| Indiana | \$1,324 | 92% |
| South Carolina | \$1,323 | 91% |
| District of Columbia | \$1,322 | 91% |
| Colorado | \$1,287 | 89% |
| Mississippi | \$1,287 | 89% |
| Kentucky | \$1,285 | 89% |
| Washington | \$1,285 | 89% |
| California | \$1,258 | 87% |
| Oregon | \$1,194 | 83% |
| Hawaii | \$1,185 | 82% |
| Michigan | \$1,183 | 82% |
| Rhode Island | \$1,181 | 82% |
| Alaska | \$1,169 | 81% |
| New York | \$1,030 | 71% |

⁵ State Transportation Statistics, https://www.rita.dot.gov/bts/publications/state_transportation_statistics

Table 2
PER CAPITA VEHICLES MILES TRAVELED BY STATE

| | 2003 | 2013 | Percent Change |
|----------------------|--------|--------|----------------|
| Wyoming | 17,735 | 15,961 | -10.0% |
| North Dakota | 12,191 | 13,953 | 14.5% |
| Alabama | 12,721 | 13,456 | 5.8% |
| Mississippi | 14,875 | 12,953 | -12.9% |
| Oklahoma | 13,315 | 12,457 | -6.4% |
| New Mexico | 13,243 | 12,021 | -9.2% |
| Indiana | 11,130 | 11,918 | 7.1% |
| Montana | 11,176 | 11,856 | 6.1% |
| Missouri | 11,549 | 11,490 | -0.5% |
| Vermont | 11,769 | 11,352 | -3.5% |
| Arkansas | 11,614 | 11,320 | -2.5% |
| Georgia | 11,260 | 10,941 | -2.8% |
| Tennessee | 11,178 | 10,938 | -2.1% |
| South Dakota | 11,174 | 10,789 | -3.4% |
| North Carolina | 11,029 | 10,683 | -3.1% |
| Kentucky | 11,134 | 10,682 | -4.1% |
| Maine | 11,059 | 10,634 | -3.8% |
| Minnesota | 11,109 | 10,508 | -5.4% |
| Kansas | 10,609 | 10,432 | -1.7% |
| West Virginia | 11,449 | 10,376 | -9.4% |
| Wisconsin | 10,210 | 10,358 | 1.4% |
| Nebraska | 10,749 | 10,338 | -3.8% |
| Louisiana | 10,223 | 10,316 | 0.9% |
| South Carolina | 11,071 | 10,266 | -7.3% |
| Iowa | 10,229 | 10,232 | 0.0% |
| Delaware | 10,281 | 10,060 | -2.1% |
| Idaho | 10,008 | 9,908 | -1.0% |
| Florida | 10,837 | 9,832 | -9.3% |
| Virginia | 10,590 | 9,766 | -7.8% |
| New Hampshire | 9,910 | 9,756 | -1.6% |
| Ohio | 9,429 | 9,745 | 3.3% |
| Michigan | 10,179 | 9,611 | -5.6% |
| Maryland | 9,767 | 9,545 | -2.3% |
| United States | 9,779 | 9,442 | -3.5% |
| Utah | 9,492 | 9,303 | -2.0% |
| Texas | 9,676 | 9,225 | -4.7% |
| Arizona | 9,481 | 9,131 | -3.7% |
| Colorado | 9,689 | 8,909 | -8.1% |
| Nevada | 7,992 | 8,830 | 10.5% |
| Connecticut | 9,064 | 8,596 | -5.2% |
| Oregon | 8,830 | 8,581 | -2.8% |
| California | 8,904 | 8,575 | -3.7% |
| Massachusetts | 8,388 | 8,394 | 0.1% |
| New Jersey | 8,480 | 8,363 | -1.4% |
| Washington | 8,483 | 8,204 | -3.3% |
| Illinois | 8,222 | 8,169 | -0.7% |
| Pennsylvania | 8,664 | 7,717 | -10.9% |
| Rhode Island | 7,791 | 7,381 | -5.3% |
| Hawaii | 7,979 | 7,168 | -10.2% |
| New York | 6,880 | 6,587 | -4.3% |
| Alaska | 7,089 | 6,576 | -7.2% |
| District of Columbia | 6,101 | 5,434 | -10.9% |

Metropolitan Area Traffic

The Department of Transportation also publishes statistics for major metropolitan areas. Surveys indicate that, at 22,837 vehicles, average daily traffic per freeway lane mile was higher for Los Angeles than any other U.S. metropolitan area in 2013. Table 3 shows average daily traffic per freeway lane mile for major urban areas in California. Volume per freeway mile fell from 2003 for all major areas except San Jose, which rose 9.0 percent.

Table 3
AVERAGE DAILY TRAFFIC PER FREEWAY LANE MILE
(Numbers of Vehicles)

| | 2003 | 2013 | Percent Change |
|---------------------------------------|--------|--------|----------------|
| Los Angeles-Long Beach-Pomona-Ontario | 23,274 | 22,837 | -1.9% |
| Riverside-San Bernardino | 21,747 | 21,476 | -1.2% |
| San Jose | 18,532 | 20,204 | 9.0% |
| San Francisco-Oakland | 20,259 | 18,722 | -7.6% |
| San Diego | 20,027 | 18,692 | -6.7% |
| Sacramento | 19,435 | 17,901 | -7.9% |

High Congestion in Large Urban Areas

Congestion hours of delay for Los Angeles and San Francisco are among the highest in the nation. Table 4 (page 4) indicates average annual hours of traffic congestion in California urban areas.⁶ Congestion varies widely among California urban areas, from 80 hours per year for Los Angeles to one hour for Hanford, Tracy, and Turlock. Among the top ten California urban areas, hours of delay range from 23 for Fresno and Oxnard to 80 for Los Angeles.

Summary

Most of the data reviewed show that long term U.S. travel trends are either flat or down:

- Over the past ten years, total U.S. airline travel has declined sharply, and total travel on roads by households in private vehicles has changed little.
- Several measures indicate declining national travel per household or per person in private vehicles: vehicle miles traveled, trips, and gallons of gasoline.

⁶ Annual Urban Mobility Scorecard, Published jointly by The Texas A&M Transportation Institute and INRIX, 2015, <https://mobility.tamu.edu/ums/>

Table 4
ANNUAL HOURS OF DELAY PER AUTO COMMUTER

| Urban Area | Annual Hours in 2014 |
|--|----------------------|
| Los Angeles-Long Beach-Anaheim | 80 |
| San Francisco-Oakland | 78 |
| San Jose | 67 |
| Riverside-San Bernardino | 59 |
| Sacramento | 43 |
| San Diego | 42 |
| Concord | 35 |
| Mission Viejo-Lake Forest-San Clemente | 28 |
| Thousand Oaks | 25 |
| Fresno | 23 |
| Oxnard | 23 |
| Santa Cruz | 21 |
| Vallejo | 21 |
| Santa Barbara | 20 |
| Santa Rosa | 19 |
| Bakersfield | 19 |
| Modesto | 18 |
| Stockton | 18 |
| Camarillo | 17 |
| Lancaster-Palmdale | 17 |
| Livermore | 16 |
| Redding | 16 |
| Antioch | 15 |
| Santa Clarita | 15 |
| Fairfield | 14 |
| Gilroy-Morgan Hill | 14 |
| Watsonville | 14 |
| Napa | 13 |
| Santa Maria | 13 |
| Seaside-Monterey | 13 |
| Victorville-Hesperia | 12 |
| Salinas | 10 |
| San Luis Obispo | 10 |
| Merced | 9 |
| Petaluma | 9 |
| Yuba City | 9 |
| Chico | 8 |
| Lodi | 8 |
| Visalia | 8 |
| Davis | 7 |
| Manteca | 7 |
| Murrieta-Temecula-Menifee | 7 |
| Vacaville | 7 |
| Lompoc | 6 |
| Indio-Cathedral City | 6 |
| Simi Valley | 5 |
| El Centro-Calexico | 4 |
| Madera | 4 |
| Paso Robles-Atascadero | 4 |
| Hemet | 3 |
| Porterville | 3 |
| Hanford | 1 |
| Tracy | 1 |
| Turlock | 1 |

Many California transportation statistics indicate that travel is below the national average:

- California per capita spending on motor vehicles and parts is below the national average.
- Per capita spending on motor vehicles and parts in California has declined, while U.S. spending has increased.
- The state's vehicle miles traveled per person are well below the U.S. average.
- California urban areas average among the highest numbers of vehicles on freeways per mile of road. However, per mile traffic on California urban freeways has been declining, except for San Jose.

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www.bea.gov

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