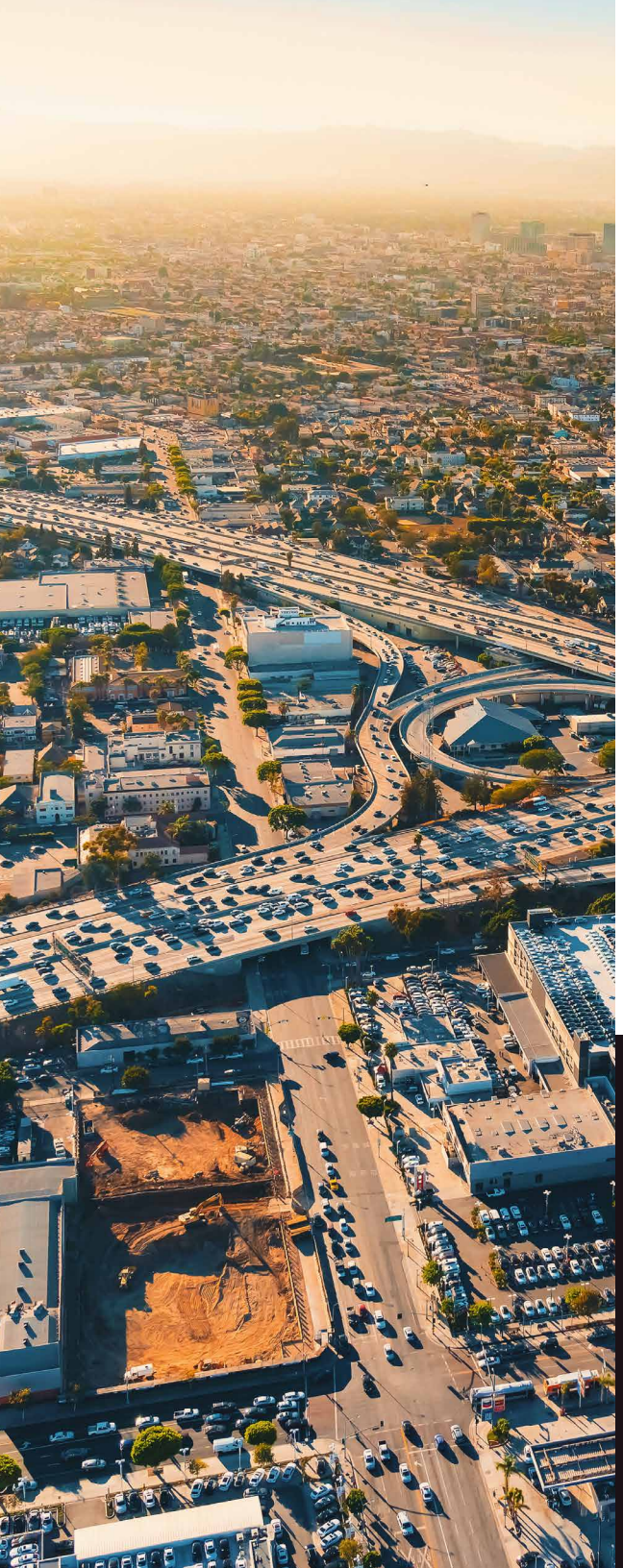
U.S. Department of Transportation

Federal Highway Administration

OUR NATION'S HIGHWAYS 2026



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OUR NATION'S HIGHWAYS

With 4.2 million miles of public roads, our Nation is connected coast-to-coast and community-to-community by our vast roadway system. The 2026 edition of Our Nation's Highways includes updates on our complex roadway infrastructure, transportation-related revenue and spending, travel trends, and travel behavior. This edition also falls on two important anniversaries: the 250th anniversary of the founding of our country and the 70th anniversary of our Interstate System. Recognizing these important milestones, this edition also includes a brief history of highway data collection and a "Drive through History" with historical vignettes.

The FHWA Office of Highway Policy Information establishes highway data policies and guidelines and collects and analyzes a wide range of data, including data on revenue, finance, vehicle registration, licensed drivers, highway fuel consumption, travel trends, travel behavior, and travel conditions to keep the public advised of the state of our Nation's highway system. We hope that this edition will be a valuable resource.

David R. Winter, P.E., Director,
Office of Highway Policy Information
Office of Policy and Governmental Affairs

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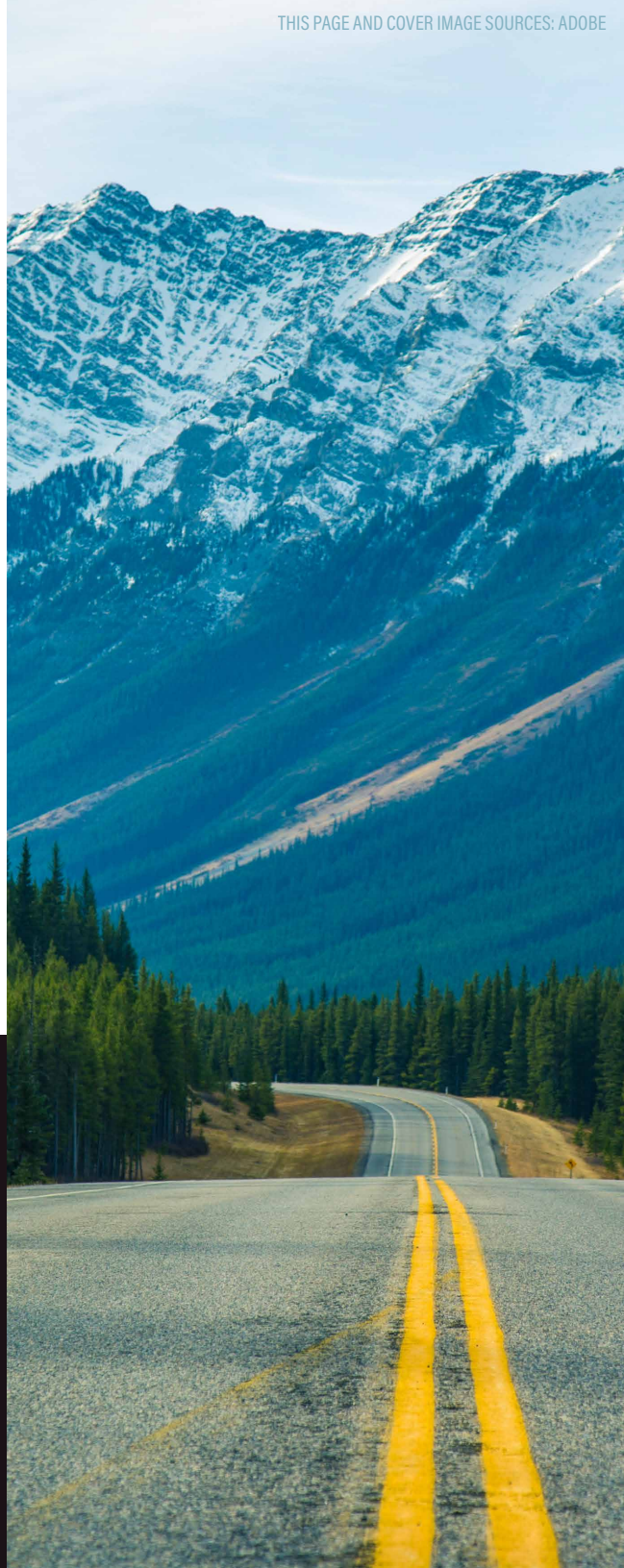
QUALITY ASSURANCE • The Federal Highway Administration provides high-quality information to serve the government, industry, and the public in a manner that promotes public understanding. Standards and policies are used to ensure and maximize the quality, objectivity, utility, and integrity of its information. FHWA periodically reviews quality issues and adjusts its programs and processes to ensure continuous quality improvement.



SOURCE: LIBRARY OF CONGRESS

BEGINNINGS TO TODAY

It has been over eight decades since the first publication of Highway Statistics in 1945, but the collection of highway data and its distribution began long before the end of World War II. As early as 1892, the Good Roads Movement attempted to get a bill passed in Congress that would make an inquiry into the condition of highways throughout the United States and what means would be necessary to improve them.

This bill did not succeed, but the following year a bill authorized the Secretary of Agriculture to "make inquiry regarding public roads" and to "make investigation for a better system of roads." With this bill's enactment and an appropriation of $10,000, the Secretary established the Office of Road Inquiry (ORI) on October 3, 1893, and appointed General Roy Stone as Special Agent and Engineer for Road Inquiry. General Stone's authority, however, was limited to investigating and disseminating information, and he was "not to direct and formulate any system of organization, however efficient or desirable it may be." The ORI is considered the antecedent of today's Federal Highway Administration (FHWA).

Another stipulation of the 1893 Act was to make investigations regarding the best methods of road-making and to assist agricultural colleges in disseminating this information. General Stone and his one clerk immediately set to work soliciting information from governors, Secretaries of State, members of

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SOURCE: LIBRARY OF CONGRESS

Congress, State geologists, and railroad presidents regarding highway laws, materials, and hauling rates. By the end of June 1894, the ORI had issued nine bulletins on these subjects.

By the turn of the century, there were about 8,000 automobiles in the United States, practically all concentrated in major cities and owned by the wealthy for convenience and pleasure. But a host of state and local laws restricted pleasure driving. Furthermore, States began charging motor-vehicle registration fees, and there were often problems of reciprocity among States. Some cities required a "wheel tax," and there might be a personal property tax on the vehicle in some States. All of these obstacles placed a burden on the vehicle owner.

One of the tasks undertaken by ORI, which became the Office of Public Roads in 1905, was to collect data about all the roads in the United States. Through mailed questionnaires, the investigation inquired about taxation, sources of revenue, road laws, and total expenditures. The task ultimately involved about 60,000 printed and typewritten letters sent out during the investigation, an average of about 20 per county. The results were so voluminous that it took over two years to tabulate them. The introduction to Bulletin 32 "Public-Road Mileage, Revenues, and Expenditures in the United States in 1904" summarizes the purpose of the endeavor:

> *While it is known in a general way that some parts of the country have made greater progress than others in the improvement of the public roads and that enormous sums are expended annually on road construction and repairs, there has been no information compiled up to the present time showing just what has been accomplished and how much is expended annually for this purpose in the United States. (Eldridge, 1907, p.5)*

This first national road inventory showed 2,151,570 miles of public roads in the U.S. Only 153,664 miles, or 7 percent, had any improvement, usually gravel. There was 1 mile of road for every 35 Americans or 0.03 miles (about 150 feet) of road per person. However, a limitation of these statistics is that they do not include "streets or boulevards in incorporated cities and villages." Total expenditures for public roads during 1904 were $79 million. This amounted to $37.07 per mile of public road and $1.05 per American.

FEDERAL AID AND SYSTEM SELECTION

By 1912 most members of Congress recognized that some form of Federal aid to roads was necessary. After lengthy investigations by a joint committee, the Federal Aid Road Act of 1916 became law. It provided a matching basis of funding, an apportionment formula, and the requirement for the establishment of State highway departments.

When the United States entered World War I in 1917, men, materials, and equipment were

SOURCE: ADOBE

diverted to the war effort. Heavy truck traffic severely damaged highways that lacked load limit protections. Following the war, Thomas H. MacDonald became the new Chief of the Bureau of Public Roads (BPR) in 1919, a position he would hold for 34 years. During his tenure, he championed the need for a connected system of interstate highways.

The Federal Highway Act of 1921 provided for the selection and approval of a system made up of no more than 7 percent of the highways in each State, interconnected with neighboring States. By November 1923, the job of designating and approving the 48 State systems was completed. In 1926, a uniform numbering system was approved and marked with the familiar black and white shield markers that still guide American motorists today.

THE BEGINNING OF MODERN PLANNING

The Great Depression brought a new challenge: the diversion of highway funds to non-highway purposes. Congress responded with the Hayden-Cartwright Act of 1934, which withheld Federal-aid funds from States that diverted highway revenues. It permitted States to use 1.5 percent of their matched Federal-aid funds for plans, surveys, and engineering investigations.

This led to comprehensive highway planning surveys involving:

ROAD INVENTORIES · Recording width, type, condition, and geographic features of rural highways.

TRAFFIC SURVEYS · Utilizing automatic traffic counters to measure volume, weigh commercial vehicles, and sample origins and destinations.

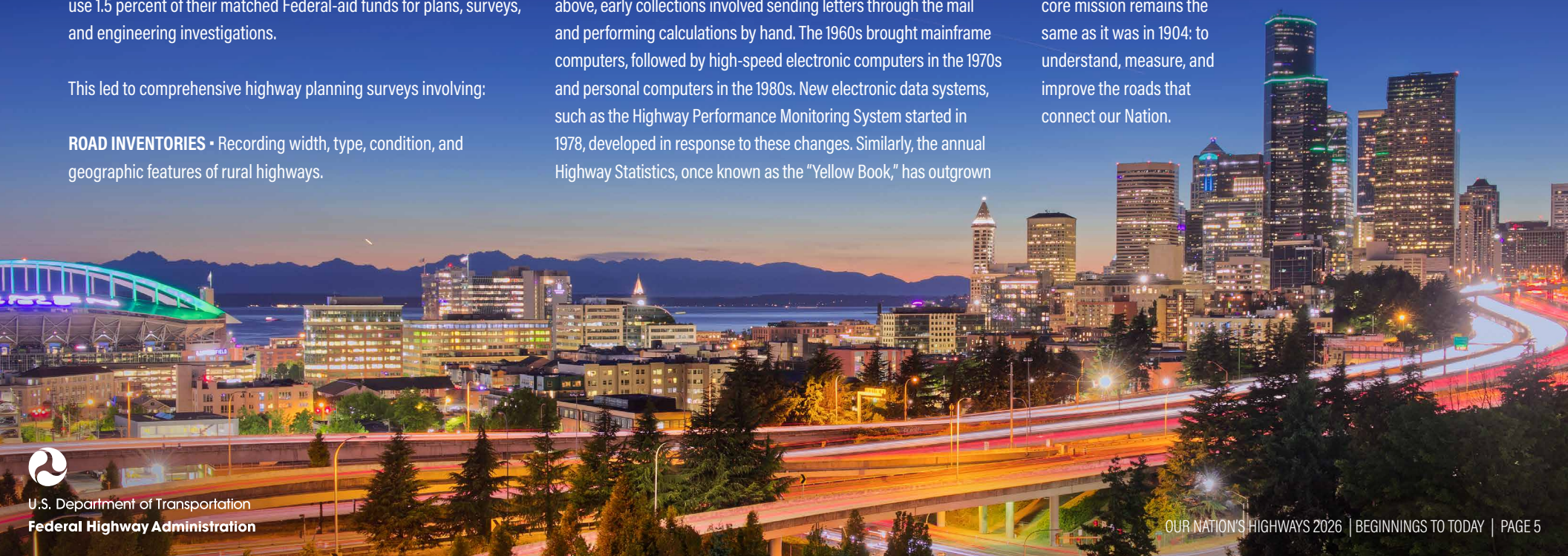
FINANCIAL TRACKING · Recording expenditures and revenues across all units of government.

The data from these surveys proved invaluable. It formed the foundation for the 1939 report Toll Roads and Free Roads and the 1944 report Interregional Highways, which provided the blueprints for the modern Interstate System. This massive data effort also led to the publication of the first Highway Statistics in 1947 with the 1945 data. Highway Statistics have been updated every year since, providing an unbroken statistical narrative of American roadways.

TECHNOLOGY AND THE 21ST CENTURY FUTURE

The Federal Highway Administration, or FHWA, began operations in the newly formed Department of Transportation in 1967. Today FHWA continues the legacy of collecting transportation statistics started by ORI. The evolution of highway data collection mirrors the rapid advancement of technology over the last century. As discussed above, early collections involved sending letters through the mail and performing calculations by hand. The 1960s brought mainframe computers, followed by high-speed electronic computers in the 1970s and personal computers in the 1980s. New electronic data systems, such as the Highway Performance Monitoring System started in 1978, developed in response to these changes. Similarly, the annual Highway Statistics, once known as the "Yellow Book," has outgrown its physical bindings. While still a cornerstone of transportation data, it now lives primarily as a series of electronic files.

Today, in the 2020s, highway data collection has entered the era of big data and artificial intelligence. The physical rubber pneumatic tubes of the 20th century, while still in use, are being augmented or replaced by inductive loop detectors and magnetometers; image detection and radar, microwave, and infrared sensors; and more recently, continuously streaming data from connected vehicles and smartphone telematics. Video cameras on vehicles, high-resolution LiDAR, and drone mapping offer opportunities to enhance highway data and the associated Geographic Information Systems. And static, electronic data files are giving way to online dashboards and digital portals that allow researchers, legislators, and the public to query data, visualize trends, and forecast future needs in real-time. However, as we continue deeper into the 21st century, Federal-State partnership remains the bedrock of America's highway stewardship. Collecting accurate, complete, consistent, and timely highway data will continue to require cooperation across all levels of government. And while data collection methods will continue to modernize, the core mission remains the same as it was in 1904: to understand, measure, and improve the roads that connect our Nation.



SOURCES: ADOBE

MOVING NUMBERS

Today, highways remain central to American life, reflecting immense historical growth in travel habits and infrastructure. In 2024, our 339 million residents traversed over 4 million miles of public roads, logging 3.3 trillion vehicle-miles. That's a massive leap from the mid-20th century, averaging out to 10,000 miles per person today. Our Interstate System, which has steadily expanded to nearly 50,000 miles, handled 854 billion of the overall vehicle-miles. While early automobiles were scarce, today's 240 million drivers own 298 million vehicles — about 1.2 vehicles per driver. On average, each vehicle covered 11,100 miles and burned roughly 577 gallons of fuel, contributing to a staggering 172 billion gallons of gasoline and special fuels consumed nationally and demonstrating a scale of motorized travel unimaginable just a few generations ago.

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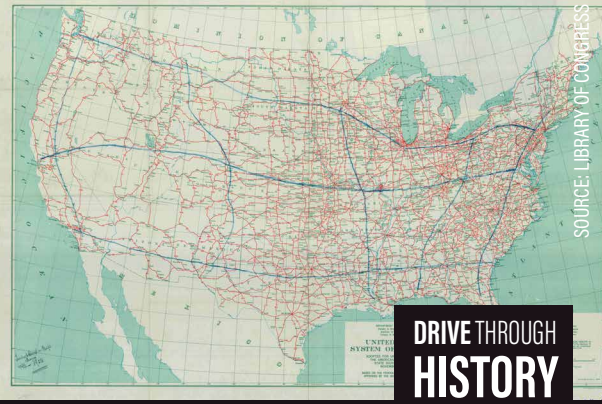
SOURCE: ADOBE

ROADS

The economic growth of the United States in the 250 years of its existence and the record of individual prosperity achieved by its people in this short period of time are attributable to the success of the transportation system it developed - a system almost totally dependent on our highways. Over its history, the U.S. has devoted significant resources to the creation of a road network that connects its people, agriculture, and industry. In 1900, the U.S. had an estimated 2.3 million miles of roads. The first census of roads occurred in 1904 and recorded 2.2 million miles of mostly rural roads, of which 7 percent were "surfaced." Most of the designated systems of State highways were established during the early years of the 20th century, and many resulted from the Federal-Aid Road Act of 1916. The Nation reached 3.0 million miles of roads in 1918 but did not see substantial growth again until the 1950s. The Nation surpassed 4.0 million miles of roads in 2005. Public roads, which include interstates, U.S. highways, State highways, and local roads, now stretch 4.2 million miles throughout the country.

FEBRUARY 2, 1938

President Roosevelt gives Thomas MacDonald, then Chief of the Bureau of Public Roads, the map, pictured right, with his own hand-drawn blue lines illustrating where five north-south and east-west transcontinental highway routes should be built.



SOURCE: LIBRARY OF CONGRESS

DRIVE THROUGH HISTORY

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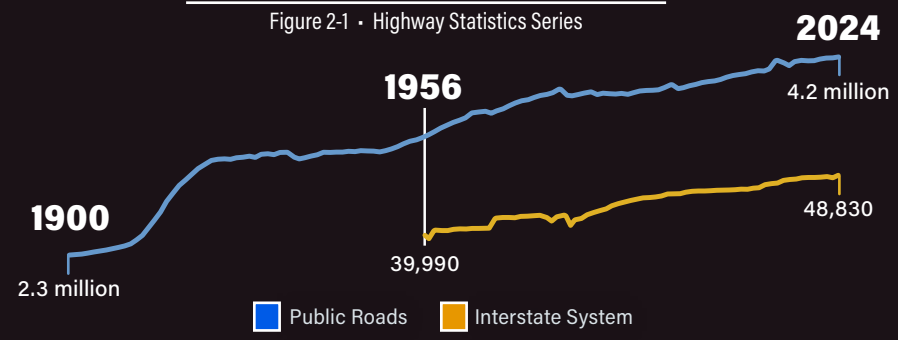
Public Road and Interstate System Miles, 1900-2024

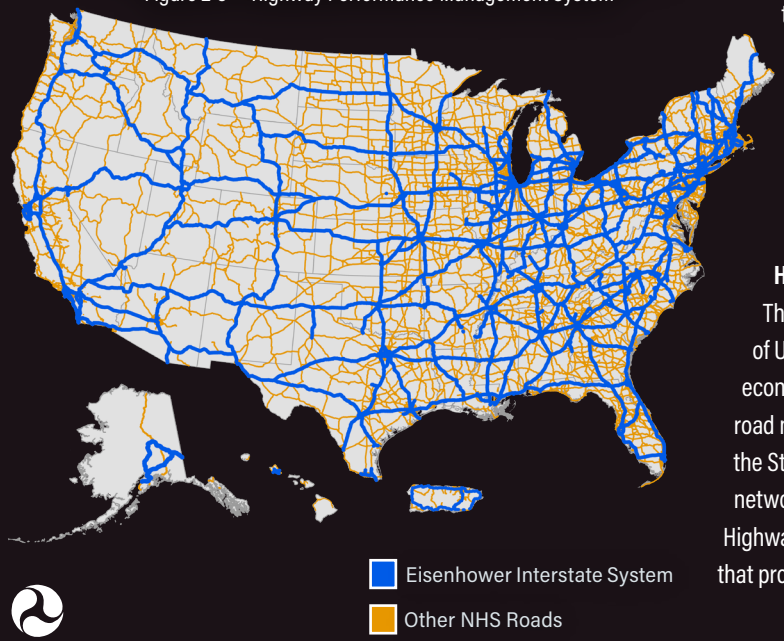
Figure 2-1 • Highway Statistics Series



In 2026, the U.S. celebrates the 70th anniversary of the Interstate System. From the day President Dwight D. Eisenhower signed the Federal-Aid Highway Act of 1956, the Interstate System has been a part of our culture as construction projects, as transportation in our daily lives, and as an integral part of the American way of life. And similar to the growth in all public roads, the U.S. Interstate System has grown from 39,990 miles in 1956 to 48,830 miles today with an additional 286 miles in Puerto Rico.

Interstate System and Other National Highway System Roads

Figure 2-3 • Highway Performance Management System



Hierarchy of Our Road System by Miles, 2024

Figure 2-2 • Highway Statistics Series

HIGHWAY FUNCTIONAL CLASSIFICATION

FHWA provides guidance to States for the classification of their roads, which categorizes roads according to their purposes: local, collector, and arterial. The classifications are defined on a continuum of access and mobility. A roadway that connects homes, businesses, and other destinations provides access. A roadway that leads to interruption-free driving provides mobility. Local roads provide high access to homes, businesses, and other community functions with lower mobility. Arterial roads, which include interstates, provide safe, reliable, and efficient travel between towns and cities with high mobility but lower access. Collector roads channel traffic from local roads to arterials and vice-versa. As such, they tend to balance access and mobility. Local roads, with 2.9 million miles, account for the largest share of public roads at 69 percent. Collectors account for 20 percent, and arterials are 11 percent.

HIGHWAY SYSTEMS

The National Highway System (NHS) comprises 221,568 miles of U.S. public roads. These roads are important to the Nation's economy, defense, and mobility. Comprising 5 percent of public road mileage, the NHS includes interstates, other principal arterials, the Strategic Highway Network, other major strategic highway network connectors, and intermodal connectors. (The Strategic Highway Network, or STRAHNET, is a system of public highways that provides access, continuity, and emergency transportation of personnel and equipment for national defense purposes.) While the NHS accounts for 5 percent of public road miles, it carries 55 percent of all travel. Fifty-eight percent of NHS miles are in rural areas, and 42 percent are in urban areas.

The Interstate System, including Puerto Rico, is 49,116 miles long and comprises 1 percent of all public roads. However, it carries 26 percent of all travel and plays an outsized role in linking our country. All U.S. cities with a population over 1 million are connected by the Interstate System. The Interstate System connects 46 of the 50 State capitals, as well as the Nation's capital. Sixty percent of interstate miles are in rural areas, and 40 percent are in urban areas. As shown in Figure 2-1, the Interstate System has experienced steady growth since 1980. However, it has remained around 1 percent of all public roads since its formation in 1956.

SOURCES: ADOBE

U.S. Department of Transportation
Federal Highway Administration

BRIDGES

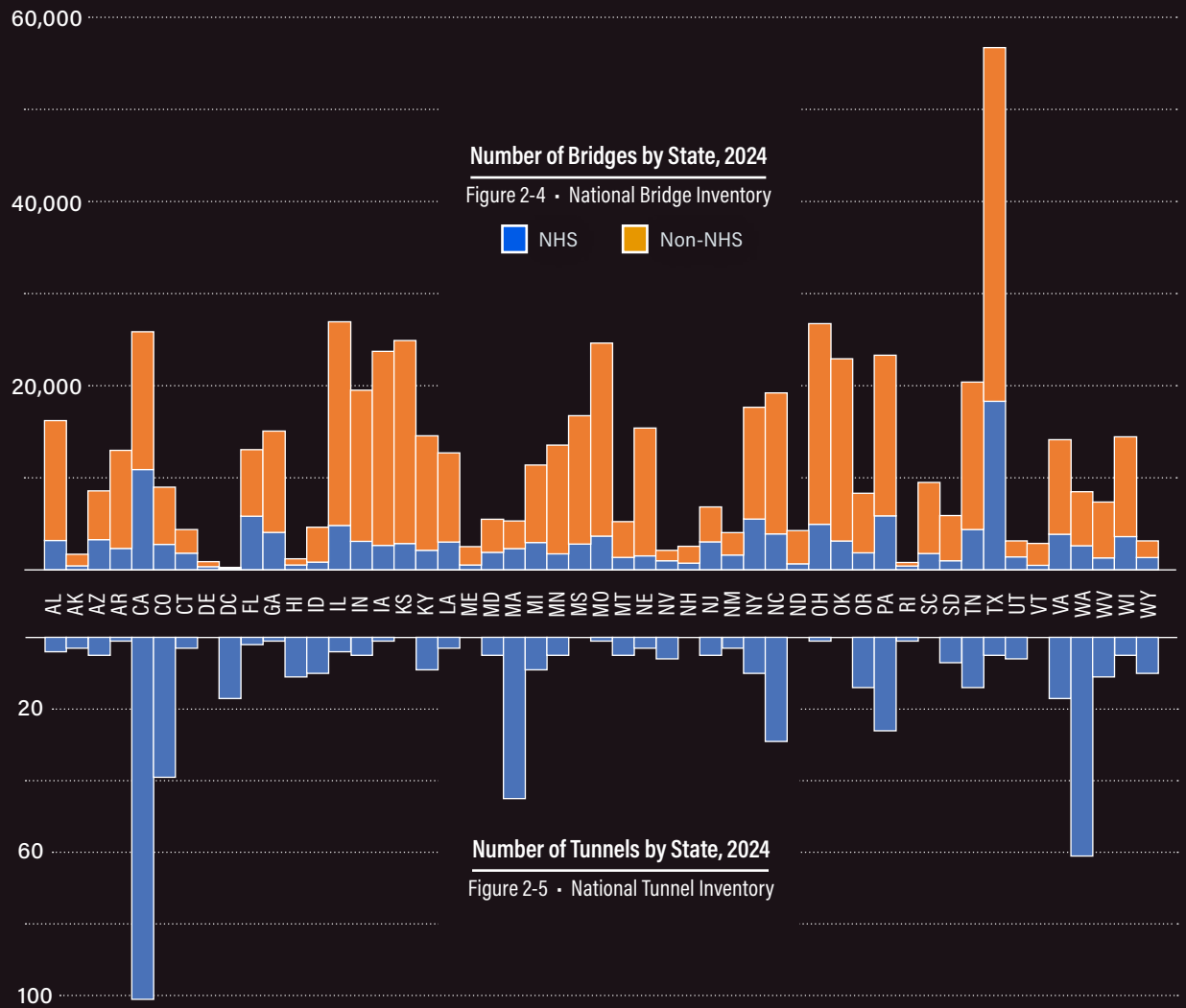
Bridges are key components of our Nation's roadway system. Maintaining their integrity is critical for safe and efficient travel. States and Federal agencies conduct periodic inspections of all highway bridges on public roads that are more than 20 feet long. These bridges include those located on interstates, U.S. highways, and State and local roads, as well as publicly accessible bridges on Federal and Tribal lands. These agencies report inspection data to FHWA, which compiles it into the National Bridge Inventory (NBI). In 2024, there were 620,762 bridges on public roads in the 50 States and DC. This number includes 146,594 bridges on the NHS and 58,504 on interstates.

TUNNELS

Tunnels are another crucial part of our roadway system. Routine and thorough inspections of our Nation's tunnels maintain safe operation and prevent failures. FHWA's National Tunnel Inventory (NTI) contains tunnel data from all public roads, including tribally and federally-owned tunnels. Governments have reported annually to the NTI since 2018. In 2024, there were 566 tunnels on public roads across 43 States and D.C. Seven States reported not having tunnels: Delaware, Maine, Mississippi, New Hampshire, North Dakota, South Carolina, and Vermont.

TOLL FACILITIES

Toll facilities are roads, bridges, and tunnels that require drivers to pay a fee for usage. Governments typically collect tolls from these facilities to repay the money borrowed for facility construction and for ongoing operations and maintenance. Toll mileage in 2023 included 6,289 miles of toll roads and 337 miles of toll bridges and tunnels. This mileage compares to 5,434 miles of toll roads and 312 miles of toll bridges and tunnels in 2013. Although most interstates do not require tolls, in 2023 the Interstate System included 3,725 miles of toll roads and 131 miles of toll bridges and tunnels.

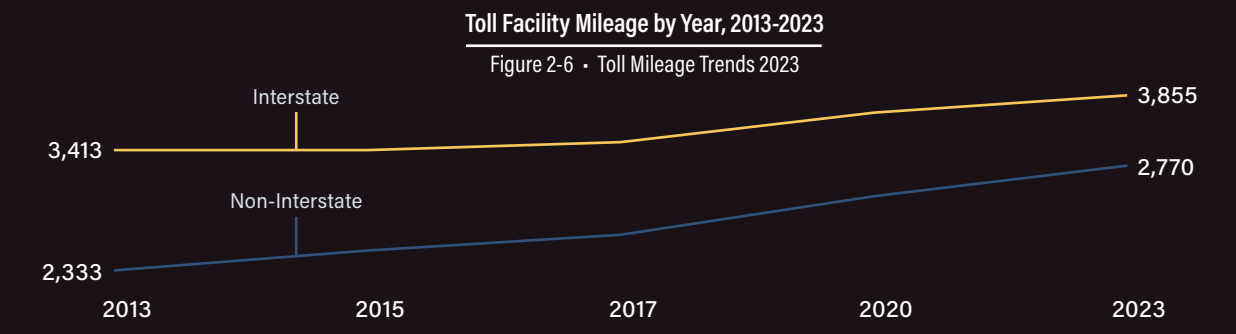


Number of Bridges by State, 2024

Figure 2-4 • National Bridge Inventory

Number of Tunnels by State, 2024

Figure 2-5 • National Tunnel Inventory



Toll Facility Mileage by Year, 2013-2023

Figure 2-6 • Toll Mileage Trends 2023

SOURCE: ADOBE

TRAVEL

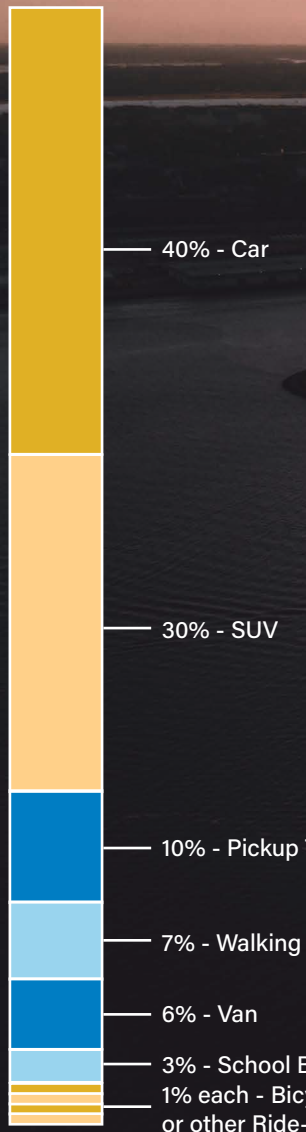
Whether for commuting to work, moving freight, or taking a vacation, Americans make significant use of our 4.2 million miles of public roads, especially the 221,568 miles on the NHS. Americans rely heavily on motor vehicles for travel on these roads. Motor vehicles accounted for 91 percent of trips. Most motor vehicle trips were in private cars, SUVs, pick-ups, or vans. Smaller portions of motor vehicle trips took place in buses, in taxicabs and other ride-sharing services, in recreational vehicles, and on motorcycles. Walking and biking accounted for only 8 percent of people's trips. Other modes of transportation, including rail and air, accounted for the remaining 1 percent.

APRIL 2020

While the 1973 oil embargo was the first major break in VMT growth, the COVID-19 Pandemic holds the record for the most significant statistical event in VMT history. In April 2020 alone, U.S. VMT plummeted to 40 percent compared to the same month the previous year — a drop unprecedented in history, far surpassing the drops seen during the 1970s or the 2008 Great Recession.

SOURCE: ADOBE

SOURCE: ADOBE



Share of Passenger Travel Trips by Mode, 2022

Figure 3-1 • National Household Travel Survey

ROAD USAGE

Road usage is measured in Vehicle-Miles of Travel (VMT). We calculate VMT for a given roadway segment by multiplying its length (in miles) by the number of vehicles (traffic volume) on the segment for a given time period. For example, on a 10-mile road segment traveled by 1,000 vehicles each day, VMT is 10,000 vehicle-miles per day. The annual VMT on the same segment is 3,650,000 vehicle-miles per year (10,000 vehicle-miles per day times 365 days per year). In addition, vehicle-miles times the number of occupants in the vehicles gives person-miles of travel. An annual VMT of 3,650,000 vehicle-miles with an average of two occupants per vehicle is 7,300,000 person-miles. Another commonly used measure for traffic volume is the Annual Average Daily Travel or AADT. AADT is the total volume of vehicle traffic on a segment for a year, divided by 365 days. It represents the "typical" daily traffic load while smoothing out the spikes caused by weekends, holidays, and seasonal fluctuations.

Annual VMT on Public Roads, 1900-2024

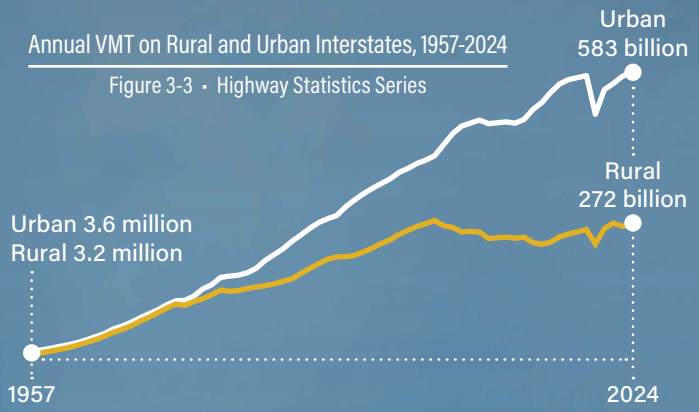
Figure 3-2 • Highway Statistics Series

In 2024, usage on public roads in the 50 States and D.C. was 3.3 trillion vehicle-miles (3,300,000,000,000). Person-miles of travel was 5.2 trillion person-miles. With a population of 339 million residents, VMT was 9,714 vehicle-miles per person. Travel was 15,289 miles per person.

VMT has increased steadily since 1900 with a steep increase from 1946 through 2007. The occasional decreases were associated with global events: the Great Depression in the 1930s, World War II in the 1940s, the OPEC oil embargo and an economic recession in the 1970s, the Great Recession in the 2000s, and the global pandemic in 2020. VMT first passed 1 trillion vehicle-miles in 1968, surpassed 2 trillion in 1988, and surpassed 3 trillion in 2005.

In 1957, vehicle-miles for rural and urban areas were similar (3.2 billion versus 3.6 billion). However, as seen in figure 3-2, rural VMT rose more slowly than urban VMT from 1957 through 2000. Rural VMT reached a peak of 281 billion in 2002 and has decreased slightly since. Urban VMT continued to increase after 2002, although at a slower rate, and reached a peak of 583 billion vehicle-miles in 2024. Because of these diverging patterns,

SOURCE: ADOBE



Annual VMT on Rural and Urban Interstates, 1957-2024

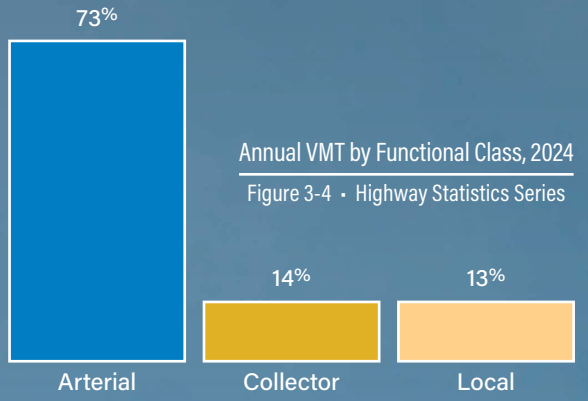
Figure 3-3 • Highway Statistics Series

urban areas now account for about two-thirds (68 percent) of the Interstate System VMT.

The 6.8 billion vehicle-miles of interstate travel in 1957 comprised 1 percent of all VMT. By 2024, the 854 billion vehicle-miles of interstate travel comprised 26 percent of all VMT. Travel on the Interstate System followed similar patterns seen in overall travel, reflecting the same global events. The percentage of travel on the Interstate System rose rapidly from 1957 and reached 20 percent in 1981. The percentage has risen more slowly since the 1980s and appears to have plateaued at 26 percent in recent years.

TRAVEL BY FUNCTIONAL CLASS

Figure 3-4 shows the VMT by functional class for the 50 States and D.C. As discussed in the previous chapter, arterial roads, which include interstates, are designed to provide high mobility but lower access. As a result, arterials should carry a disproportionate amount of travel compared to roads with lower mobility. This is indeed the case because arterials carried 73 percent of the VMT in 2024 even though they only comprised 11 percent of road miles. On the other hand, local roads, which provide high access with lower mobility, accounted for only 13 percent of VMT even though they were 69 percent of the road miles. Collectors, which balance mobility and access, carried 14 percent of the VMT and accounted for 20 percent of road miles.

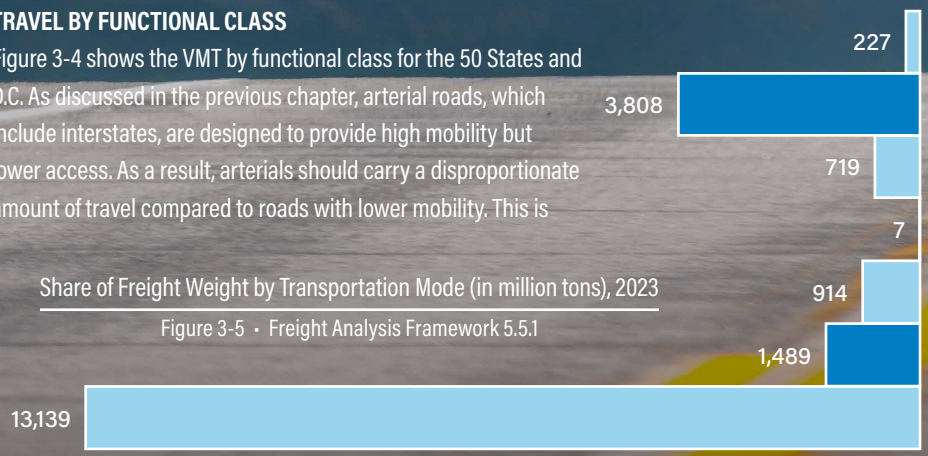


Annual VMT by Functional Class, 2024

Figure 3-4 • Highway Statistics Series

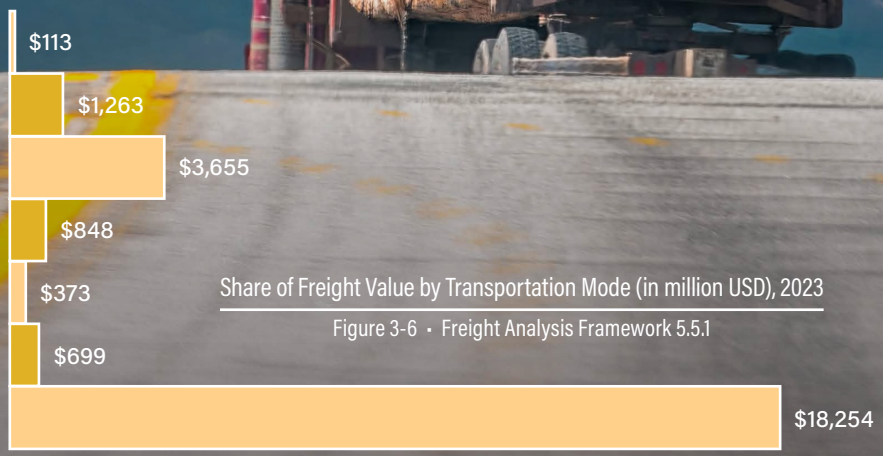
FREIGHT TRAVEL

The movement of freight along public roads, primarily via trucking, remained the backbone of the U.S. supply chain, accounting for the vast majority of freight movement. According to FHWA's Freight Analysis Framework Data Visualization, in 2023, trucks carried 13.1 billion tons of freight within the U.S., which accounted for 65 percent of freight traveled domestically by weight. Trucks carried 2,483.9 billion ton-miles of freight, which was 45 percent of domestic freight travel by ton-miles. The value of this freight was $18.3 trillion (adjusted to 2023 USD), which accounted for 72 percent of freight by value.



Share of Freight Weight by Transportation Mode (in million tons), 2023

Figure 3-5 • Freight Analysis Framework 5.5.1



Share of Freight Value by Transportation Mode (in million USD), 2023

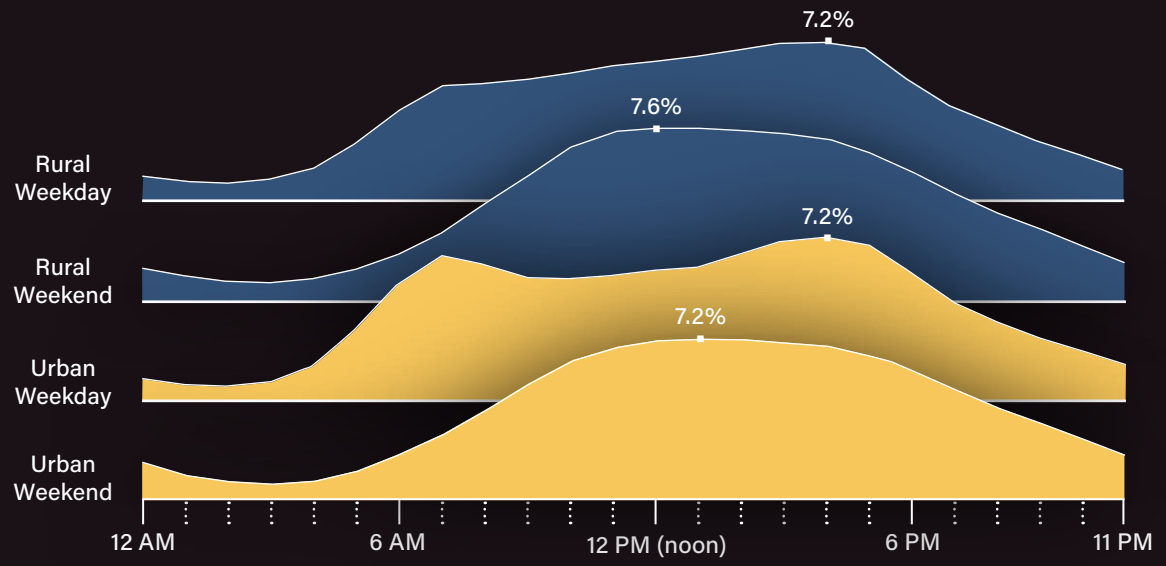
Figure 3-6 • Freight Analysis Framework 5.5.1

TRAVEL BY TIME AND PURPOSE

Not only does travel vary by the total mileage, it also varies by the hour of the day, the day of the week, and the month of the year. The FHWA's Travel Monitoring Analysis System (TMAS) provides data used to report VMT on all U.S. public roads monthly. As seen in Figure 3-7, hourly travel volumes illustrate the differences in travel patterns for urban and rural interstate highways during weekday and weekend periods. Weekday travel on urban interstates showed morning (7:00 to 7:59 AM peak) and afternoon (4:00 to 4:59 PM peak) commuting peaks. Weekday travel on rural interstates, however, showed a different pattern with only one peak. The peak for weekday travel on rural interstates occurred at 4:00 PM, the same as the afternoon peak for urban interstates. Weekend travel by hour appears similar on rural and urban interstates. The weekend peak for rural interstates occurred at 12:00 PM, and the peak for urban interstates was 1:00 PM.

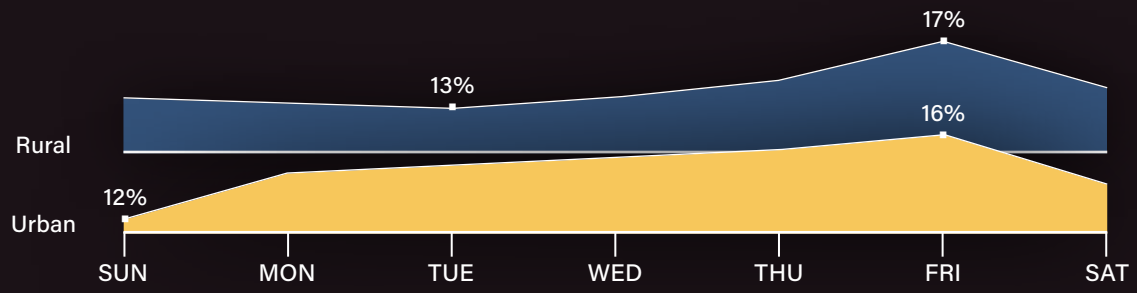
As seen in Figure 3-8, patterns in traffic volume throughout the week show that Friday is the busiest travel day on both rural and urban interstates with Thursday being the second busiest. Comparing rural to urban travel, rural travel is more similar across the days of the week while urban travel shows disproportionately more travel on weekdays and less travel on weekends. In fact, Tuesday is the least busy day on rural interstates, but Sunday is the least busy day on urban interstates.

Figure 3-9 shows the proportion of travel occurring each month for urban and rural interstates, illustrating typical travel patterns. Summer is the busiest time of year with July as the peak month for rural interstates and August for urban interstates. Comparing rural to urban travel, rural travel is less spread out across the months with disproportionately more travel in the summer (particularly June and July) and less in the winter (particularly January and February) than travel on urban interstates.



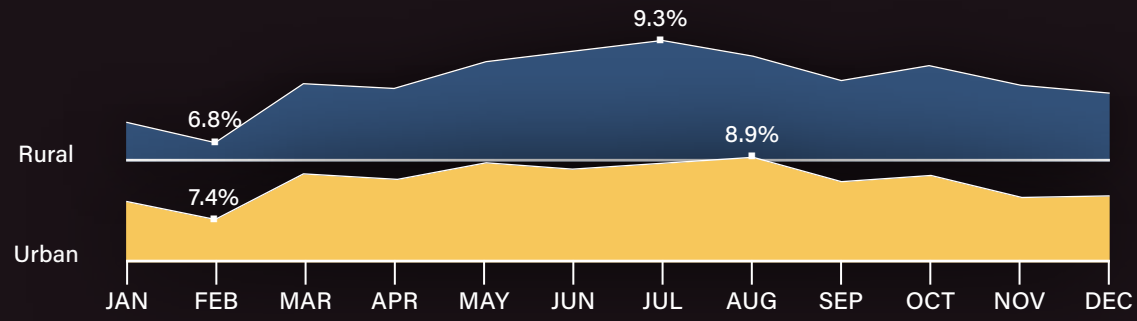
Interstate Traffic Volume Distribution Pattern by Hour of Day, 2023

Figure 3-7 • Travel Monitoring Analysis System



Interstate Traffic Volume Distribution Pattern by Day of Week, 2023

Figure 3-8 • Travel Monitoring Analysis System



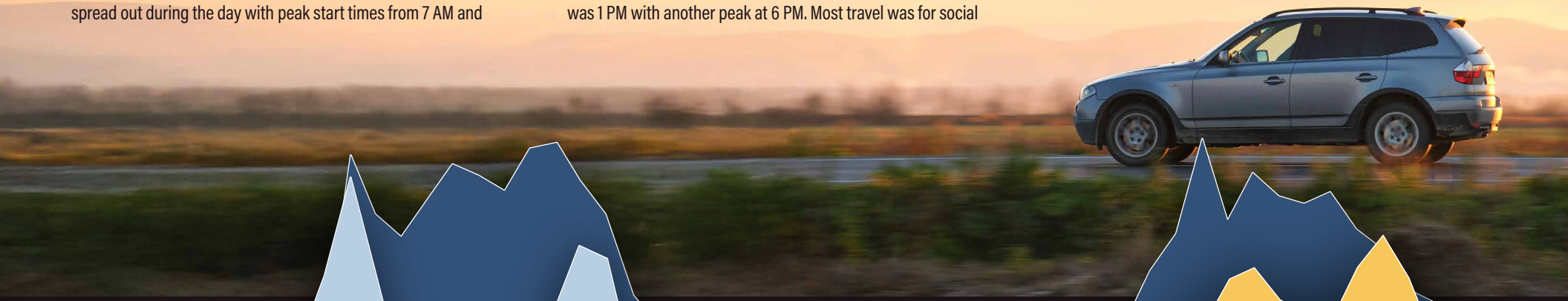
Interstate Traffic Volume Distribution Pattern by Month of Year, 2023

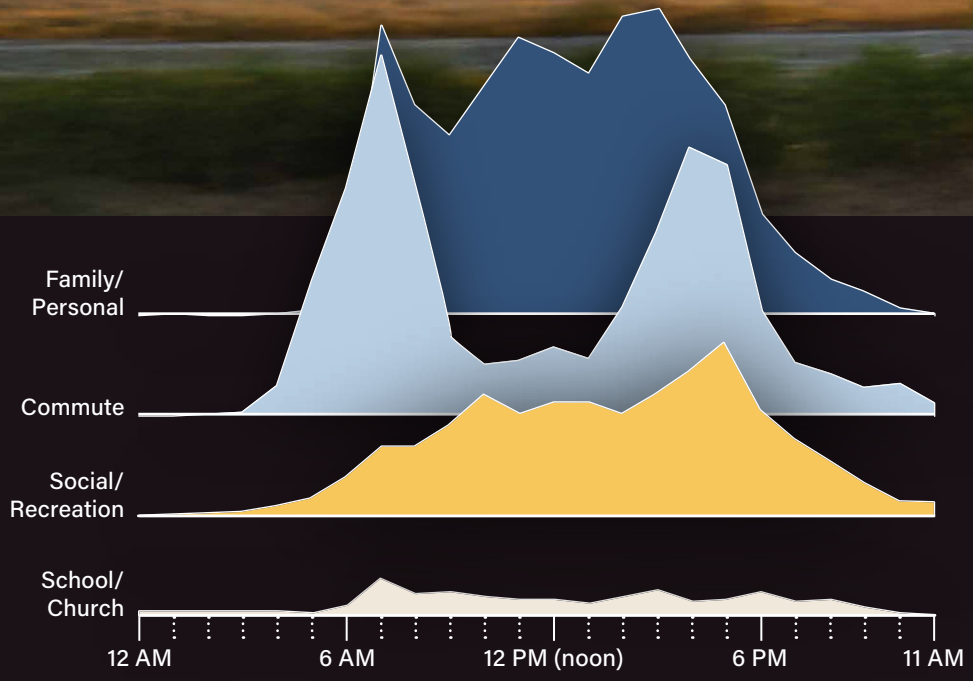
Figure 3-9 • Travel Volume Trend Report

SOURCE: ADOBE

According to the 2022 National Household Travel Survey (NHTS), there were almost 161 billion trips by privately operated vehicles, regardless of the number of persons in the vehicle. Drivers made 72 percent of these trips on weekdays and the remaining 28 percent on weekends. On weekdays, the most common time drivers started trips was 7 AM, which represented a morning peak. A second peak occurred in the afternoon between 3 and 5 PM. About one-third (31 percent) of the weekday trips were commuting and followed the same pattern as overall travel. Another 39 percent of trips were for family and personal reasons, including shopping and medical appointments. These trips were spread out during the day with peak start times from 7 AM and then again from 2 through 3 PM. Social and recreational trips, which accounted for 20 percent of weekday trips, generally started later in the day with a peak at 5 PM. As seen in Figure 3-10, commuting, family, and personal trips dominated the morning peak while the afternoon peak included social and recreational trips. School and church-related trips were a small part of overall travel (3 percent) but did show a peak at 7 AM and a second peak at 3 PM.

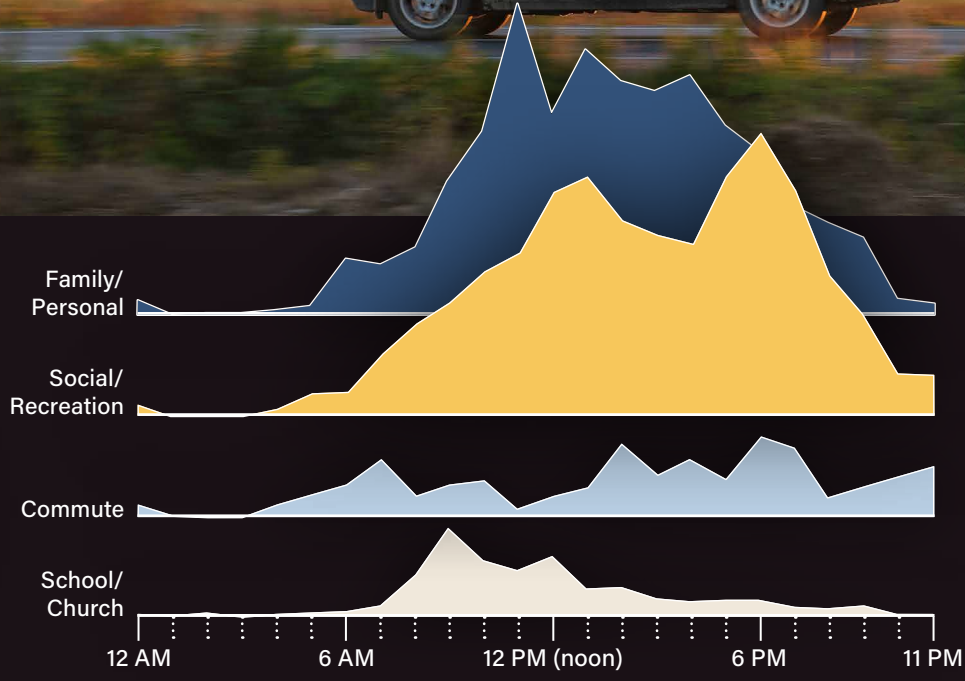
As seen in Figure 3-11, weekend trips tend to start later than weekday trips. The most common start time for weekend trips was 1 PM with another peak at 6 PM. Most travel was for social and recreational (40 percent) or for family and personal (37 percent) reasons. However, family and personal trips tended to start earlier in the day with a peak at 11 AM than social and recreational trips, which had a peak at 6 PM. The early afternoon peak for all travel was mostly family, personal, social, and recreational trips, but the early evening peak included some commuting. Commuting accounted for 12 percent of weekend travel with peaks at 2 and 6 PM. School and church trips were 6 percent of weekend travel and showed a peak at 9 AM.





Trip Start Times by Purpose: Weekday, 2022

Figure 3-10 • 2022 National Household Travel Survey



Trip Start Times by Purpose: Weekend, 2022

Figure 3-11 • 2022 National Household Travel Survey

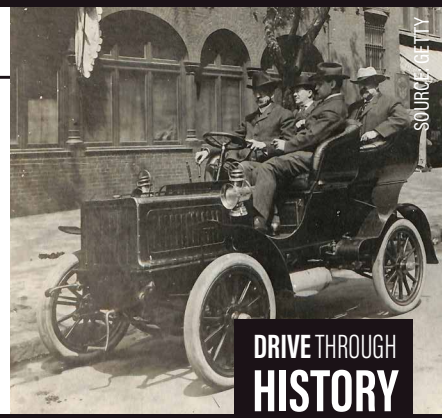
SOURCE: ADOBE

VEHICLES

Motor vehicles play a significant role in American history and culture. In 2024, the United States had 298 million registered motor vehicles. With a population of 339 million, this amounts to about 88 vehicles for every 100 residents. These vehicles, which are registered across the 50 States and D.C., include automobiles, pick-ups and large trucks, buses, and motorcycles. As discussed in the previous chapter on travel, Americans rely heavily on motor vehicles, particularly privately operated vehicles, for travel. An estimated 92 percent of households have at least one vehicle available for personal use, and privately operated cars, SUVs, pick-ups, vans, and motorcycles account for 87 percent of person trips. Other motor vehicles including school buses, public and commuter buses, taxicabs, and other ride-sharing services account for another 3 percent of person trips. This chapter examines changes in the number of registered vehicles over time, differences across States, characteristics of privately operated vehicles, and changes in overall vehicle use.

APRIL 15, 1901

New York becomes the first State to require all owners of motor vehicles to register, identifying themselves and their vehicles. At the time it affected less than 1,000 vehicles compared to the 21 million New York vehicles registered in 2024.



SOURCE: GETTY

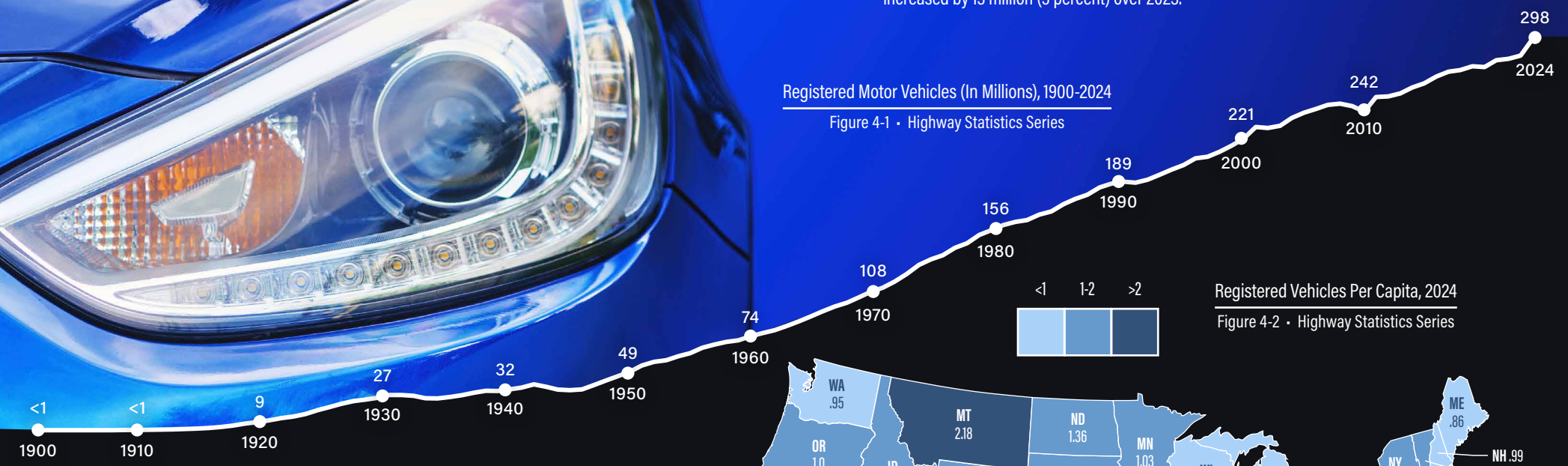
DRIVE THROUGH **HISTORY**

U.S. Department of Transportation
Federal Highway Administration

SOURCE: ADOBE

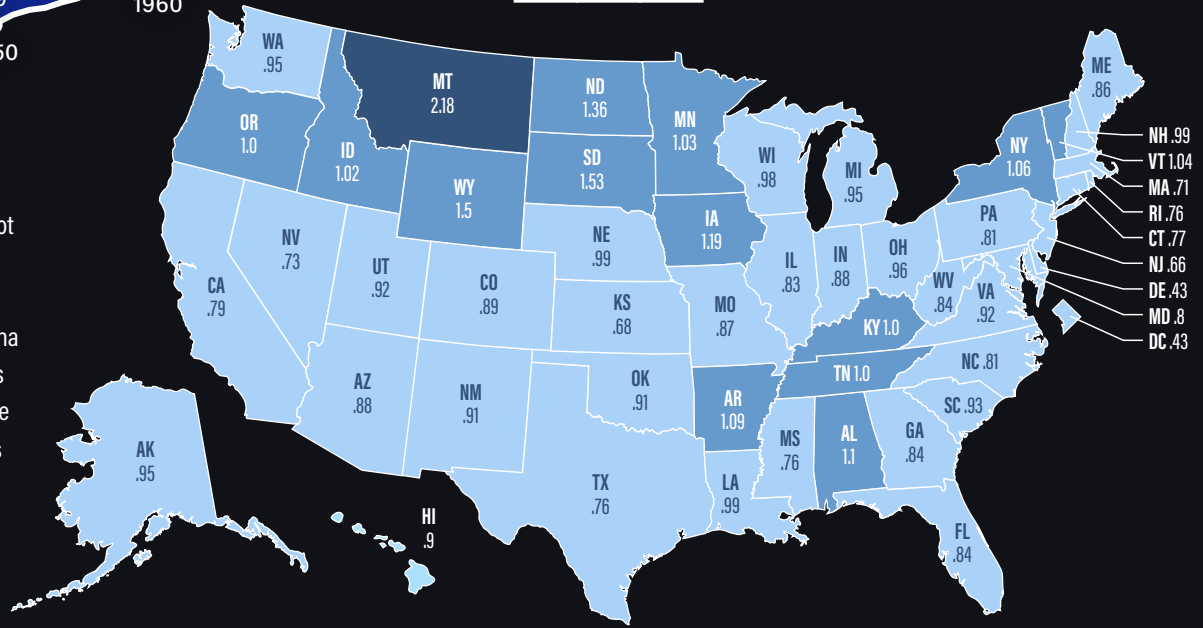
REGISTRATIONS OVER TIME AND ACROSS THE U.S.

The number of registered private, commercial, and public motor vehicles in the U.S. increased significantly over time from 8,000 vehicles in 1900 to an all-time high of 298 million in 2024. As seen in Figure 4-1, the number of registered vehicles in the United States has increased steadily from 1945 until today. Over the past 50 years, the number of vehicles increased in all but five years (1991, 2002, 2009, 2010, and 2020). From 1974 to 2024, the U.S. added 168 million vehicles or about 3.4 million per year. However, in 2024 the number of registered vehicles increased by 13 million (5 percent) over 2023.



Registered Motor Vehicles (In Millions), 1900-2024

Figure 4-1 • Highway Statistics Series

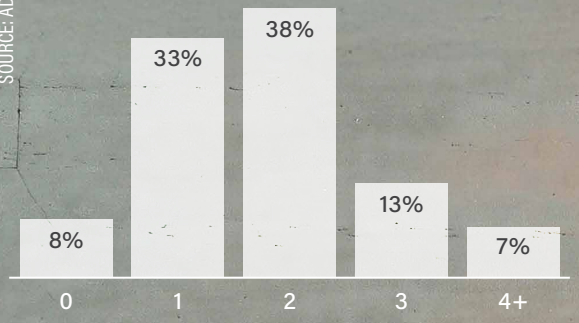


Registered Vehicles Per Capita, 2024

Figure 4-2 • Highway Statistics Series

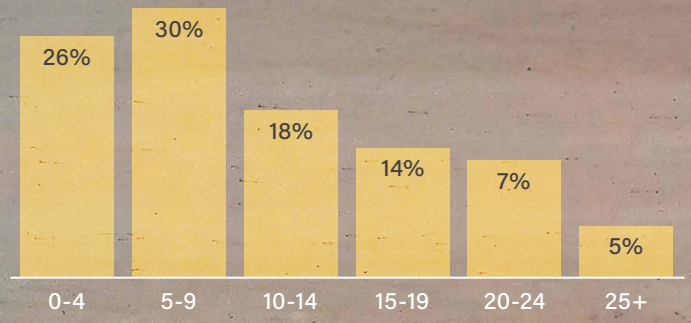
While the number of registered vehicles has increased steadily, these vehicles are not evenly dispersed across the 50 States. Figure 4-2 shows that the registered vehicles per resident varies significantly from State to State, from 0.43 vehicles per person in Delaware and the District of Columbia to 2.18 vehicles per person in Montana. Montana is the only State with more than two vehicles per person, and the neighboring States of South Dakota and Wyoming are the only additional States with 1.5 vehicles or more per person. Delaware and the District of Columbia are the only jurisdictions with less than 0.5 vehicles per person — less than one vehicle for every two residents.

SOURCE: ADOBE



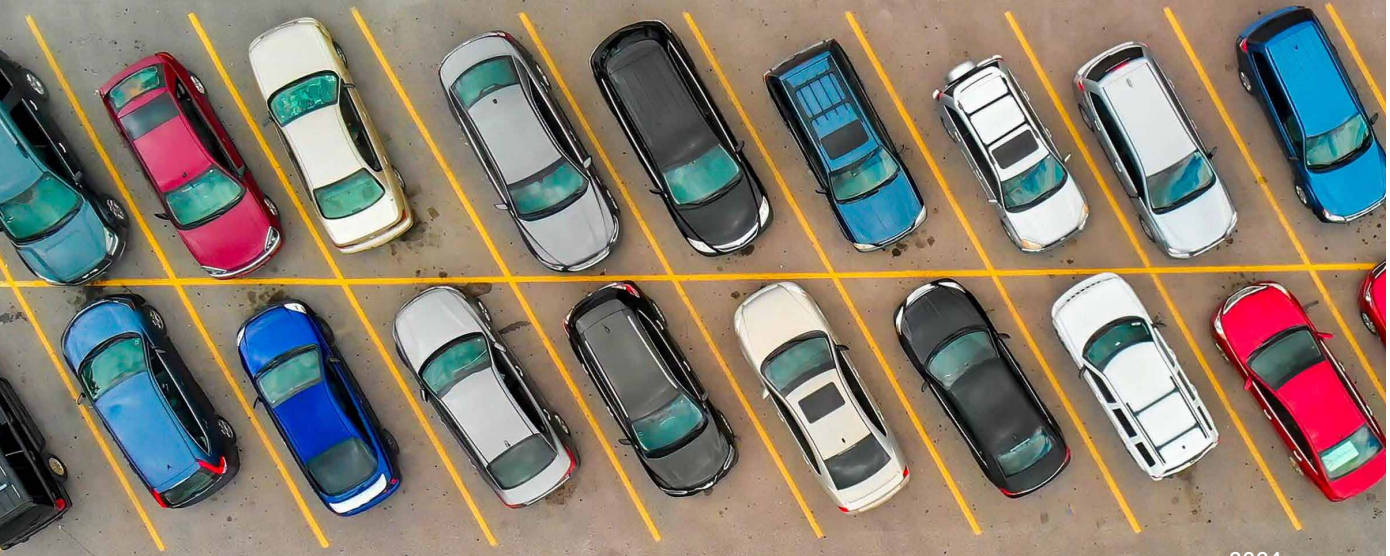
Number of Vehicles Available to Households • 2022

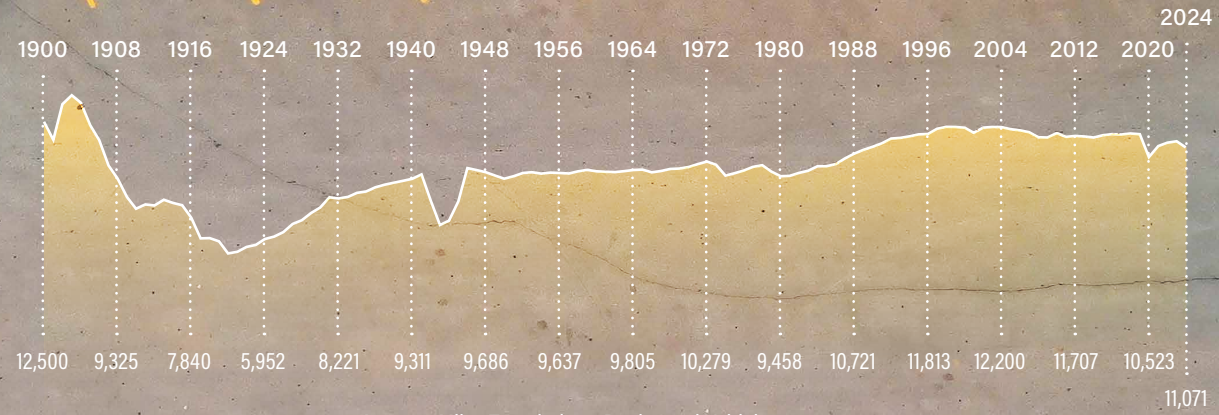
Figure 4-3 • National Household Travel Survey



Percent of Vehicles by Age • 2022

Figure 4-4 • National Household Travel Survey





Average Miles Traveled per Registered Vehicle, 1900-2024

Figure 4-5 • Highway Statistics Series

U.S. Department of Transportation
Federal Highway Administration

PRIVATELY OPERATED VEHICLES

Among the registered motor vehicles available to American households for regular use are cars, SUVs, vans, pickups, and motorcycles. As indicated above, these vehicles are used for 87 percent of trips. However, not all households have access to the same number of vehicles. As shown in Figure 4-3, the most common number of vehicles is two, which accounts for 38 percent of households. Two is also the median number of vehicles per household. An estimated 8 percent of households do not have access to a motor vehicle while an estimated 7 percent of households have four or more vehicles.

These privately operated vehicles also vary substantially in terms of their ages. As shown in Figure 4-4, the largest group of vehicles is between five and nine years old, accounting for 30 percent of vehicles, and the median vehicle age is eight years. The youngest category includes the 10 percent of vehicles that are one year old or less, and the oldest category contains the 3 percent of vehicles that are 30 years old or older.

VEHICLE USE

One way to estimate just how much Americans use their vehicles is to divide the number of miles traveled on our roads by the number of registered vehicles to get an average number of miles per vehicle. In 2024, dividing the 3.3 trillion miles traveled by the 298 million registered vehicles gives 11,071 miles per vehicle. Vehicle use fell rapidly from 1900 until 1920, when it reached a low of 5,152 miles per vehicle. Vehicle use rose to almost 10,000 miles per vehicle in 1946 after a significant drop during World War II. Vehicle use remained around 10,000 miles per vehicle until it began to rise rapidly in the mid-1980s. After reaching a peak in 1998 at 12,211 miles per vehicle, vehicle use began a slight downward trend. It experienced a drop to 10,523 miles per vehicle in 2020 but has been over 11,000 since 2021.

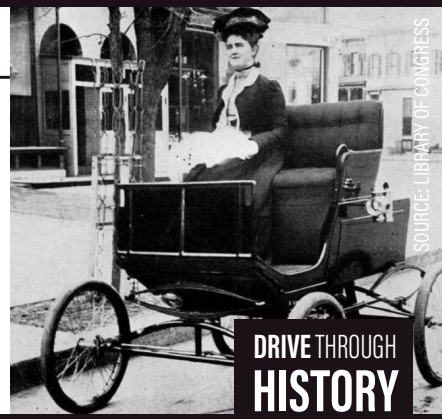
SOURCE: ADOBE

DRIVERS

Historically, getting a driver's license has been a rite of passage for American adolescents, and retaining a driver's license has been a sign of continuing independence for American seniors. The Nation reached 240 million licensed drivers in 2024. With a population aged 16 and over of 275 million, 87 percent of the driving-age population has a license. From 2004 to 2024, the median age of a person with a driver's license increased from 40 to 44 years old to 45 to 49 years old due in part to a smaller proportion of younger people (below 20) with licenses and a larger portion of older people (70 and above) with them. In 2024, licensed drivers traveled an average of 13,735 miles. This chapter examines changes in the number of licensed drivers over time, differences across States, changes in licensing by age and sex, and characteristics of personal vehicle trips.

MARCH 22, 1900

Anne Rainsford French becomes the first licensed woman driver in Washington, D.C., and possibly the first in the U.S. (although the claim is debated), obtaining a steam engineer's license to operate a "four-wheeled vehicle powered by steam or gas."



SOURCE: LIBRARY OF CONGRESS

DRIVE THROUGH HISTORY

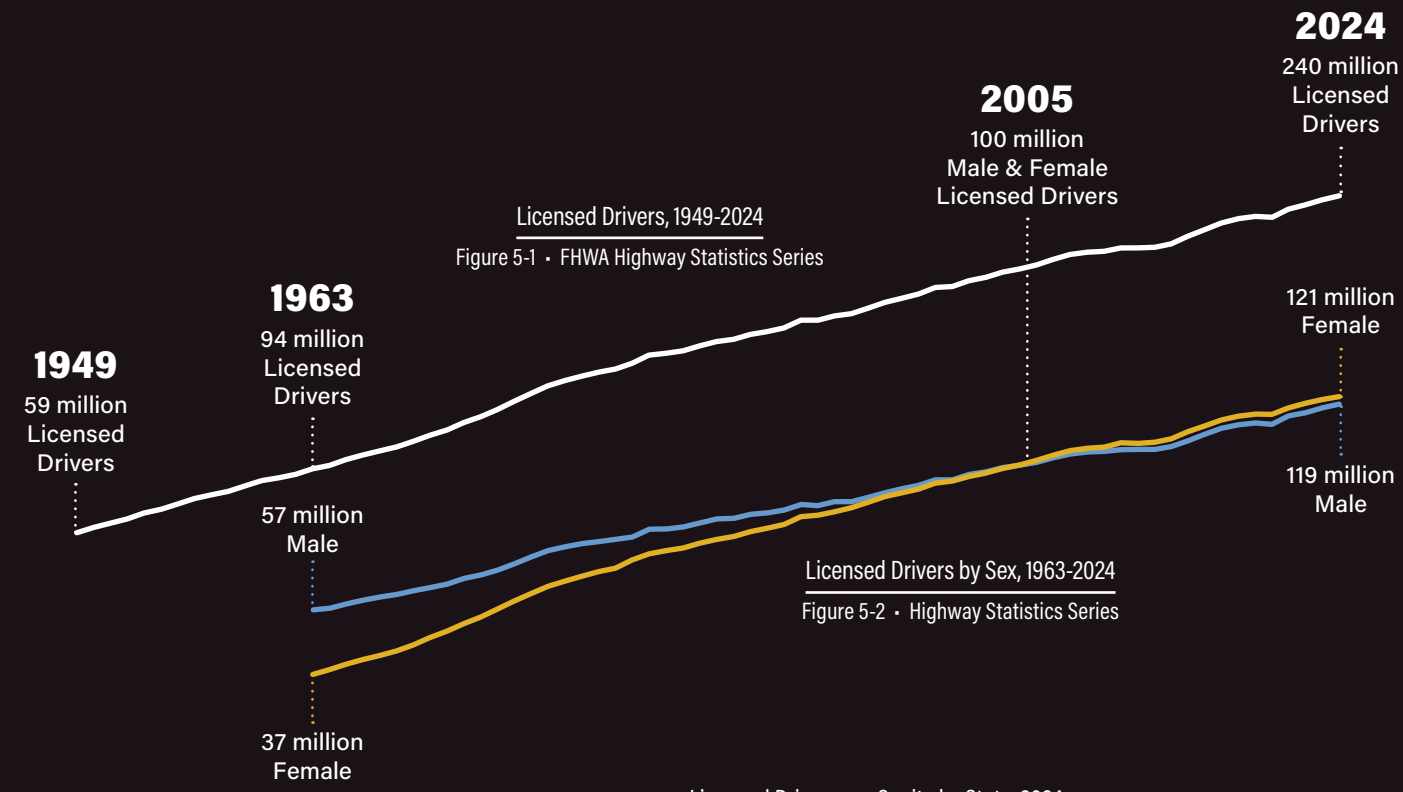
U.S. Department of Transportation
Federal Highway Administration

DRIVER'S LICENSES OVER TIME AND ACROSS THE U.S.

The number of licensed drivers in the U.S. increased significantly over time from 59 million in 1949 to the all-time high of 240 million in 2024. As seen in Figure 5-1, the number of licensed drivers has increased steadily from 1963 until today. Over this period, total drivers increased in all but two years (2012 and 2020). In the 50 years from 1974 to 2024, the U.S. added about 114 million licensed drivers or about 2.3 million per year.

Figure 5-2 shows how female versus male licensed drivers have changed over time. In 1963, there were about 19 million more licensed male than female drivers. In 2005, for the first time, the number of licensed female drivers exceeded the number of licensed male drivers. By 2024, there were 2.3 million more licensed female than male drivers.

Nationally, there were 71 licensed drivers for every 100 residents in 2024. However, the number of licensed drivers per 100 residents differs significantly from State to State. As shown in Figure 5-3, licensed drivers per 100 residents ranged from a low of 59 in Kansas to a high of 96 in Arkansas. In addition to Kansas, D.C., Kentucky, New York, Oklahoma, and Texas also had fewer than 65 licensed drivers per 100 residents. Besides Arkansas, only one other State, Delaware, had more than 80 licensed drivers per 100 residents.



Licensed Drivers, 1949-2024

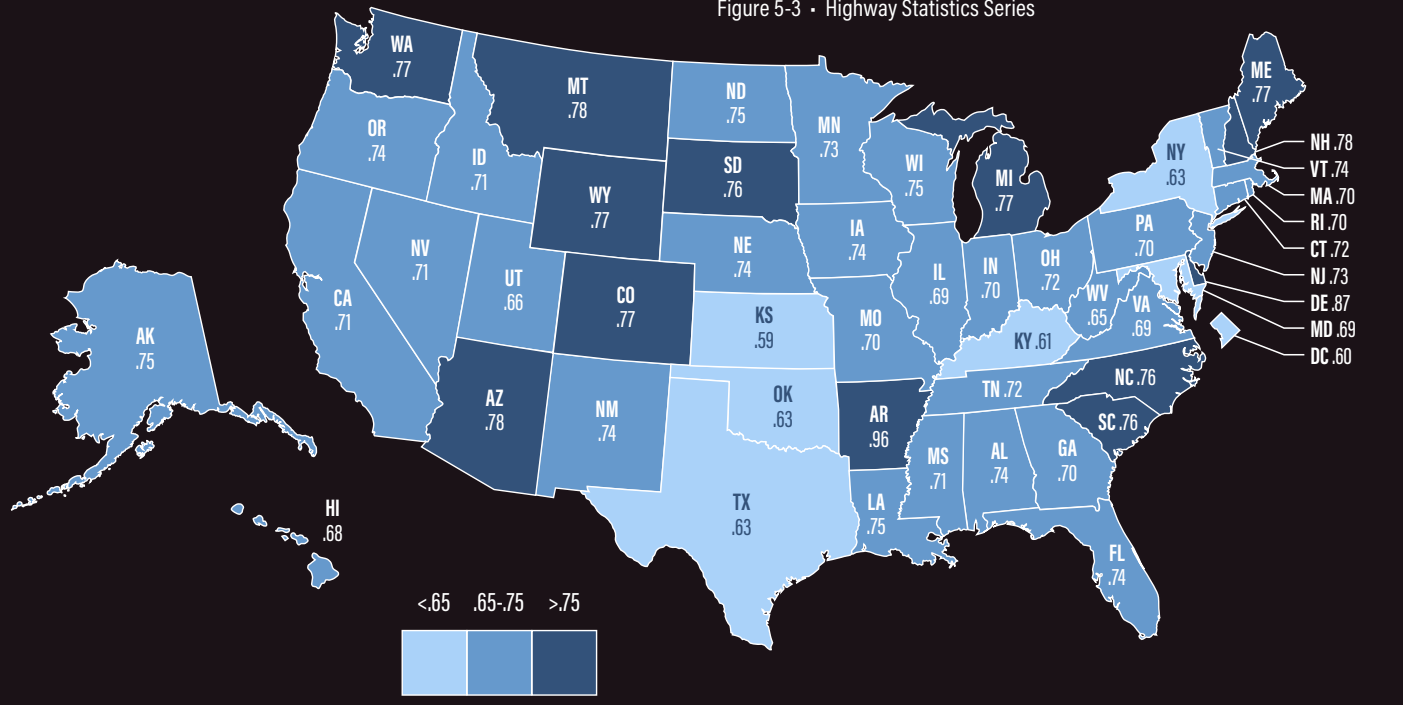
Figure 5-1 • FHWA Highway Statistics Series

Licensed Drivers by Sex, 1963-2024

Figure 5-2 • Highway Statistics Series

Licensed Drivers per Capita by State, 2024

Figure 5-3 • Highway Statistics Series

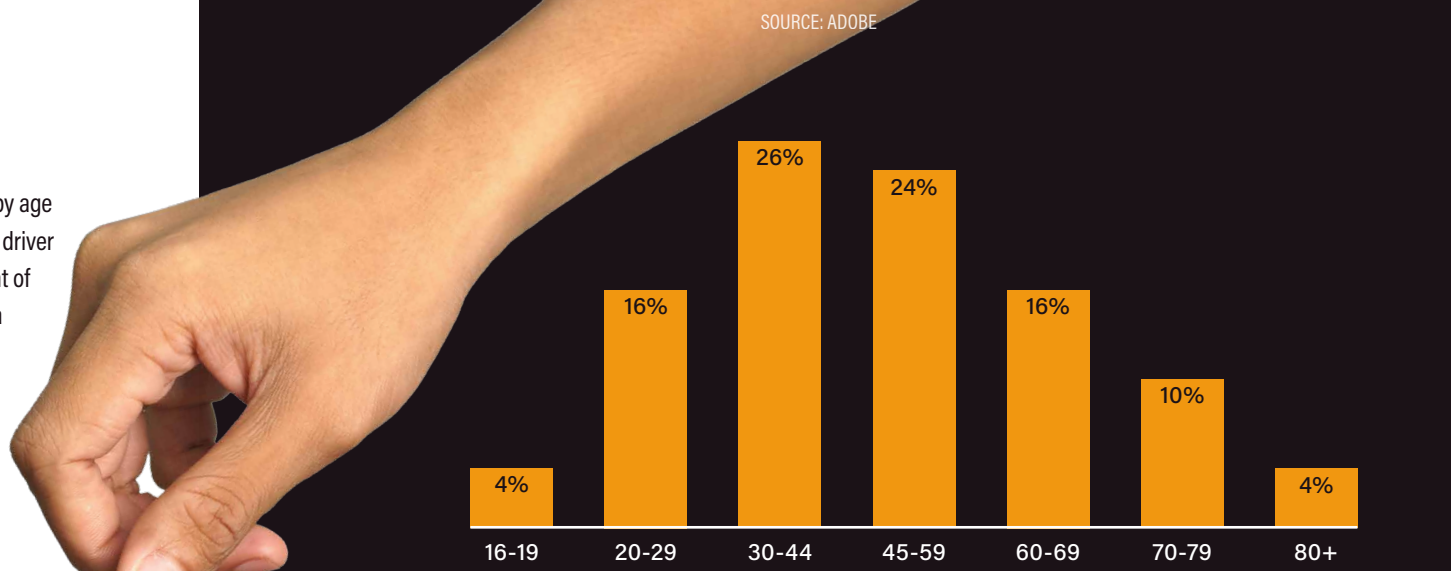


U.S. Department of Transportation
Federal Highway Administration

Figure 5-4 shows the distribution of licensed drivers by age groups. Based upon 5-year cohorts, the median aged driver is 45 to 49, but the largest cohort is 30 to 34 (9 percent of drivers). Licensed drivers aged 80 or older comprise a slightly larger percentage (4.4 percent) than drivers under 20 (3.7 percent).

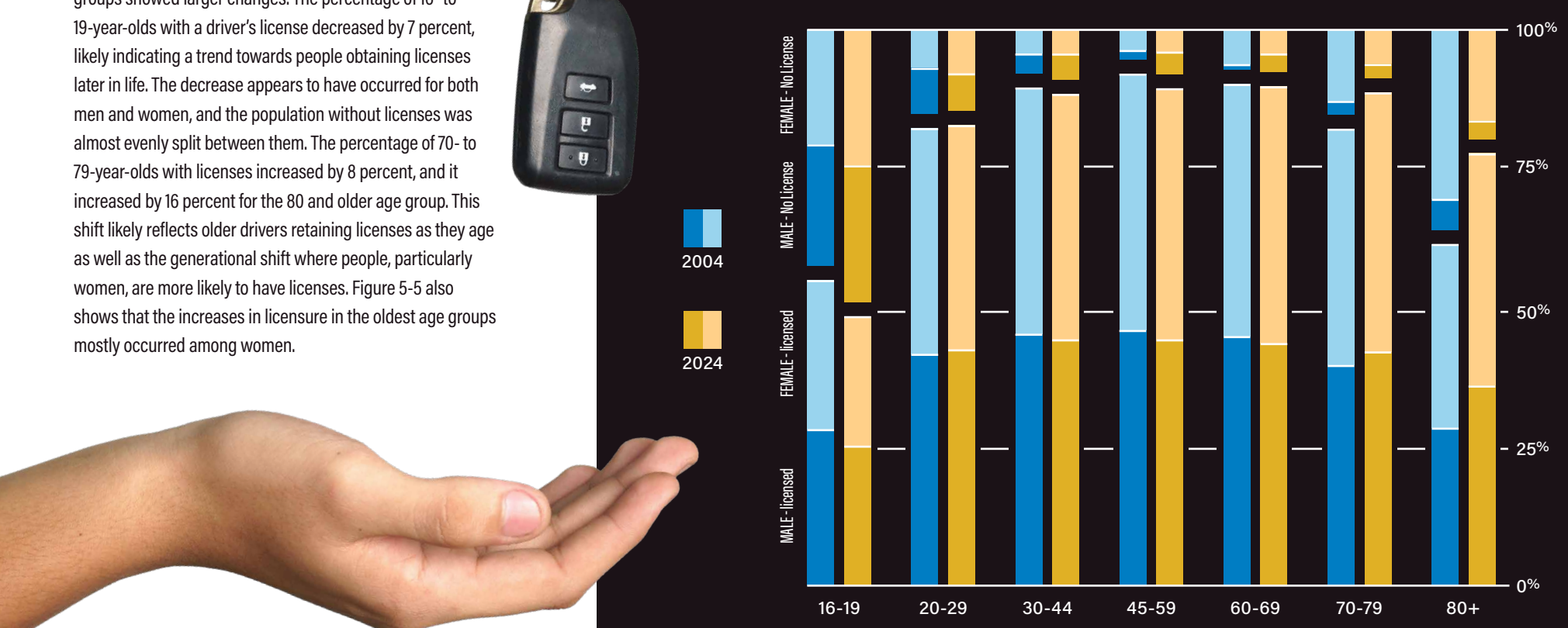
Figure 5-5 compares the percentage of the population with driver's licenses across age groups in 2004 and 2024. In most age groups and by sex, the percentage of people with a driver's license did not change more than 2 percent from 2004 to 2024. However, three age groups showed larger changes. The percentage of 16- to 19-year-olds with a driver's license decreased by 7 percent, likely indicating a trend towards people obtaining licenses later in life. The decrease appears to have occurred for both men and women, and the population without licenses was almost evenly split between them. The percentage of 70- to 79-year-olds with licenses increased by 8 percent, and it increased by 16 percent for the 80 and older age group. This shift likely reflects older drivers retaining licenses as they age as well as the generational shift where people, particularly women, are more likely to have licenses. Figure 5-5 also shows that the increases in licensure in the oldest age groups mostly occurred among women.

SOURCE: ADOBE



Licensed Drivers by Age, 2024

Figure 5-4 • Highway Statistics Series



Percent of Population by License Status, Age and Sex, 2004 and 2024

Figure 5-5 • Highway Statistics Series

U.S. Department of Transportation
Federal Highway Administration

SOURCE: PUBLIC DOMAIN

DRIVE THROUGH HISTORY

MAY - JULY 1903

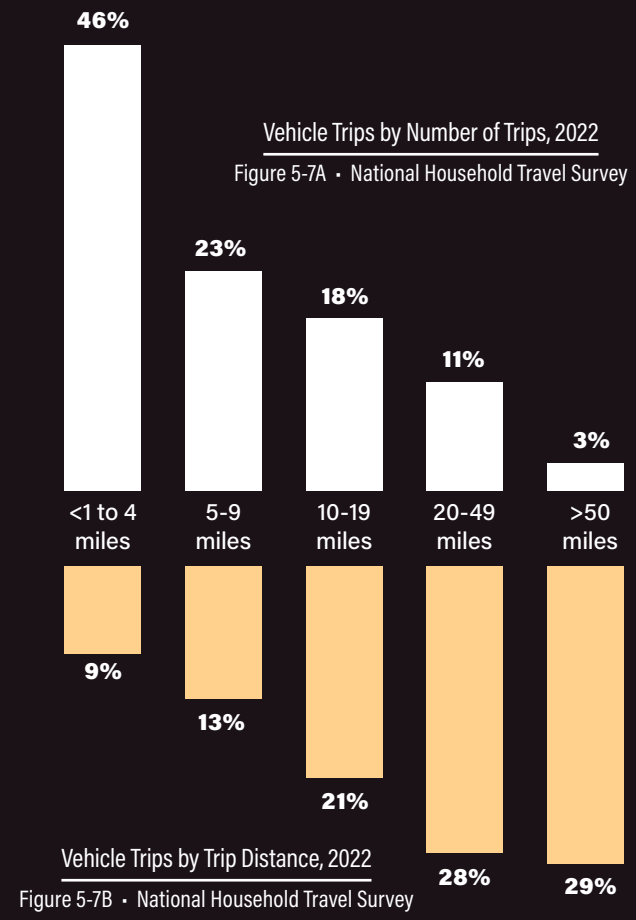
The first transcontinental trip by automobile was made by Dr. H. Nelson Jackson, a prominent surgeon, from Burlington, Vermont, in a 20-horsepower Winton touring car. Without fanfare, at his own expense, and motivated only by the ambition to be the first to complete the cross-country journey, Jackson left the Golden Gate City on May 23, 1903. Jackson avoided newspaper publicity because of a lingering doubt that the trip was possible. He arranged to have parts forwarded as needed along the road and loaded his vehicle with supplies including a block and tackle. The route led across the Sierra Nevada Mountains, to Oregon and then east to the plains of Nebraska and black mud of Iowa. Jackson noted that from Nebraska east to the Hudson River "it rained every day and all day." His rope pulley changed defeat into victory again and again, un-miring his car eighteen times in one day using the rear axle as a windlass to power the rope tackle. Continuing on through Illinois to New York, traversing all eleven States, the journey's numerous detours added nearly 3,000 miles, avoiding impassable trails and flooded areas. On July 26, 1903, averaging more than 90 miles a day, Jackson finally reached the New York metropolis.

TRAVEL DISTANCES

Figure 5-6 shows the change in vehicle-miles traveled (VMT) per licensed driver over time. The amount of travel per licensed driver generally increased from 1949 to a peak in 2005. The only years with declines before 2005 were 1974, 1979, and 1980. After dropping from the 2005 peak of about 15,000 miles to about 14,000 miles in 2011, VMT per driver leveled off before declining precipitously in 2020. The 13,735 miles in 2024 represented the fourth continuous year of increases after the low of 12,724 miles per licensed driver in 2020.

The National Household Travel Survey (NHTS) provides detailed information on daily travel by all modes of transportation and for all purposes. It includes vehicle trips, which are trips by a single privately-operated vehicle. The NHTS provides information about the number of vehicle trips and their distances. As such, it provides insight into the driving patterns associated with Americans' personal vehicles.

As seen in Figure 5-7, most personal vehicle trips were short with almost half (46 percent) under 5 miles in length. In fact, an estimated 16 percent of vehicle trips were 1 mile or less in length. These frequent short trips of less than 5 miles, however, only accounted for 9 percent of vehicle miles driven. At the other extreme, long-distance travel (trips of 50 miles or greater) accounted for 3 percent of all trips, but this long-distance travel accounted for 29 percent of vehicle miles driven. Overall, most personal vehicle trips were less than 10 miles (69 percent), but most of the driving (57 percent of total miles) occurred on trips 20 miles or greater in length.

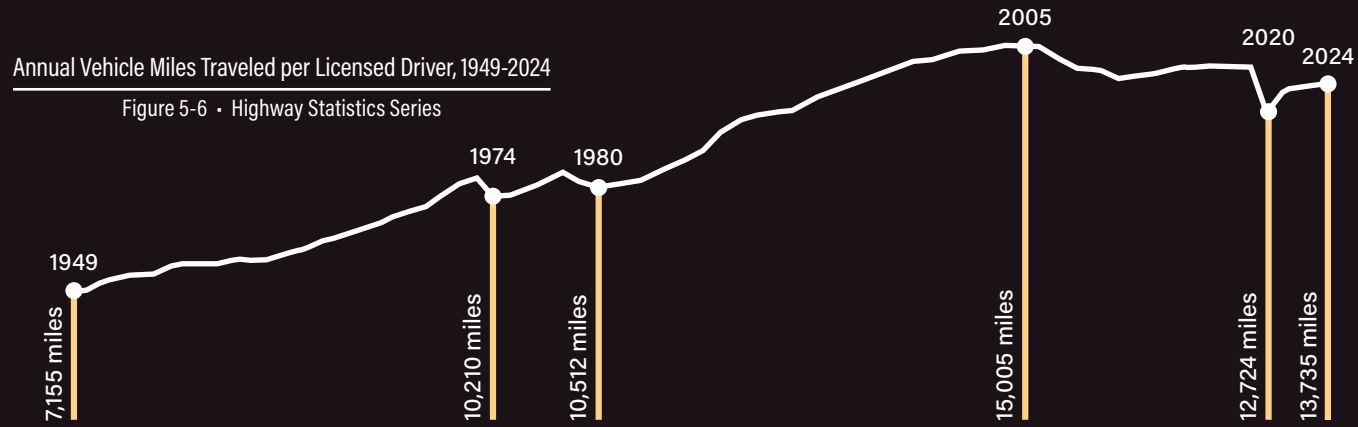


Vehicle Trips by Number of Trips, 2022

Figure 5-7A • National Household Travel Survey

Vehicle Trips by Trip Distance, 2022

Figure 5-7B • National Household Travel Survey



Annual Vehicle Miles Traveled per Licensed Driver, 1949-2024

Figure 5-6 • Highway Statistics Series

U.S. Department of Transportation
Federal Highway Administration

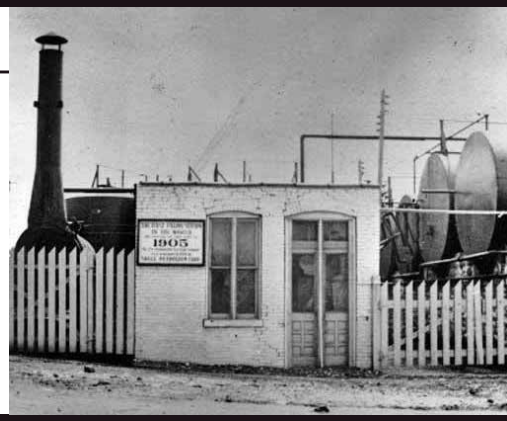
SOURCE: ADOBE

MOTOR FUEL

The millions of motor vehicles described in the previous chapter all require an energy source to operate, and as such, refueling vehicles at gas stations is a familiar task for most American drivers. The U.S. uses four major categories of energy sources for transportation: petroleum products (gasoline and diesel), biofuels (such as ethanol, which can be blended into gasoline), natural gas, and electricity. According to motor vehicle registrations of cars, trucks, and buses, 96 percent of vehicles have engines that use gasoline, gasohol, or diesel. Among the remaining vehicles, 3 percent are hybrid vehicles and 1 percent are plug-in electric vehicles. A smaller number of vehicles use natural gas, propane, or other sources. Internal combustion and hybrid vehicles consumed 172 billion gallons of fuel. Of this total, 74 percent (127 billion gallons) was gasoline, and 26 percent (the remaining 45 billion gallons) was special fuels such as diesel. In total this amounts to an average of 577 gallons of fuel consumed per vehicle in 2024.

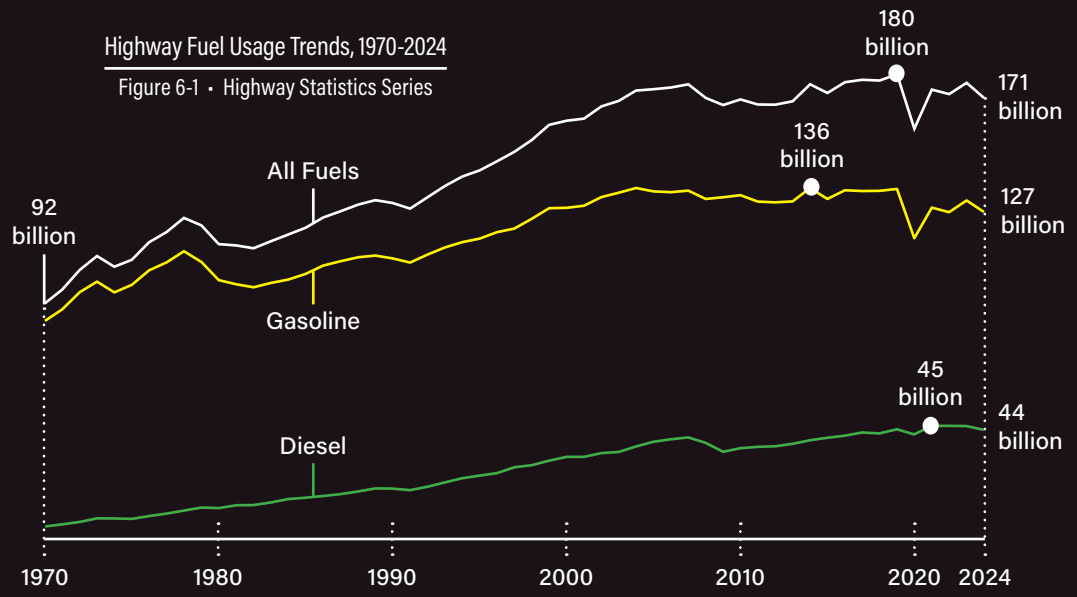
JANUARY 6, 1905

The world's first purpose-built gas station is established in St. Louis, Missouri. At a time when motorists relied on stores or curbside pumps, the Automobile Gasoline Company constructed a dedicated facility featuring a simple gravity-fed tank connected to a garden hose, marking a pivotal shift toward the modern drive-in service station.



U.S. Department of Transportation
Federal Highway Administration

SOURCE: ADOBE

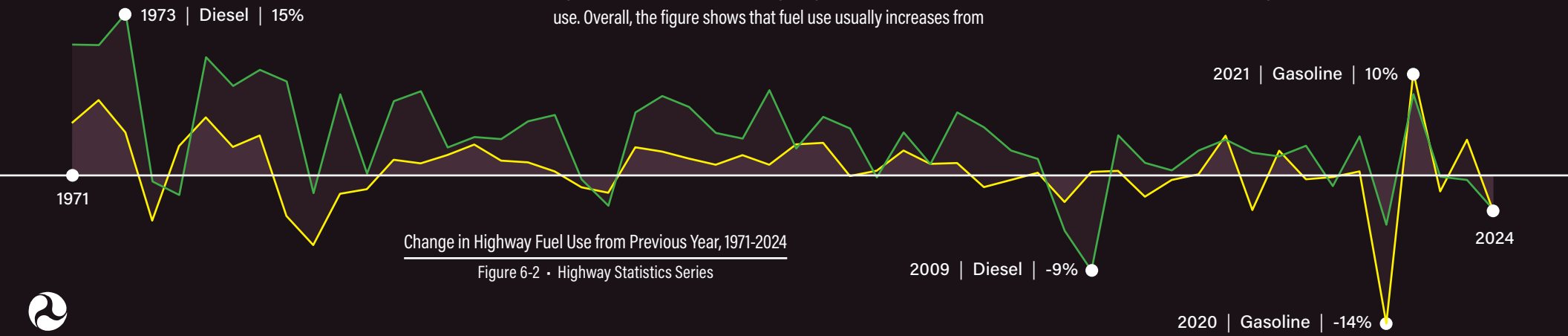


Highway Fuel Usage Trends, 1970-2024

Figure 6-1 • Highway Statistics Series

As seen in Figure 6-1, highway fuel use has increased substantially from the 92 billion gallons in 1970 to 172 billion gallons in 2024. However, highway fuel use in 2024 was still 8 billion gallons lower than the peak of 180 billion gallons in 2019. Highway use of gasoline increased from 86 billion gallons in 1970 to 127 billion in 2024 but was still 9 billion lower than the peak of 136 billion in 2014. Special fuel use increased from 7 billion gallons in 1970 to 44.5 billion gallons in 2024. Highway use of special fuel in 2024 reached a peak of over 45 billion in 2022. While special fuel use appeared to decrease from 2023 to 2024, a change in the estimation of non-highway fuel use confounds the comparison to previous years. Figure 6-1 also shows that special fuel use increased more rapidly than gasoline use over the past 50 years with special fuels such as diesel becoming a larger portion of highway fuel use over time.

Figure 6-2 shows the annual change in gasoline and special fuel use. Overall, the figure shows that fuel use usually increases from year to year and that special fuel use has been growing at a faster rate than gasoline. The largest annual increase in gasoline use was a 10 percent increase in 2021, which followed the largest decrease in gasoline use of 14 percent in 2020. The second largest decrease in gasoline use occurred in 1980 (6 percent). Special fuel use experienced significant increases in the early 1970s with a 15 percent increase in 1973. While special fuels such as diesel use dropped significantly in 2020, the two largest decreases were 5 percent in 2008 and 9 percent in 2009 (during the Great Recession).



Change in Highway Fuel Use from Previous Year, 1971-2024

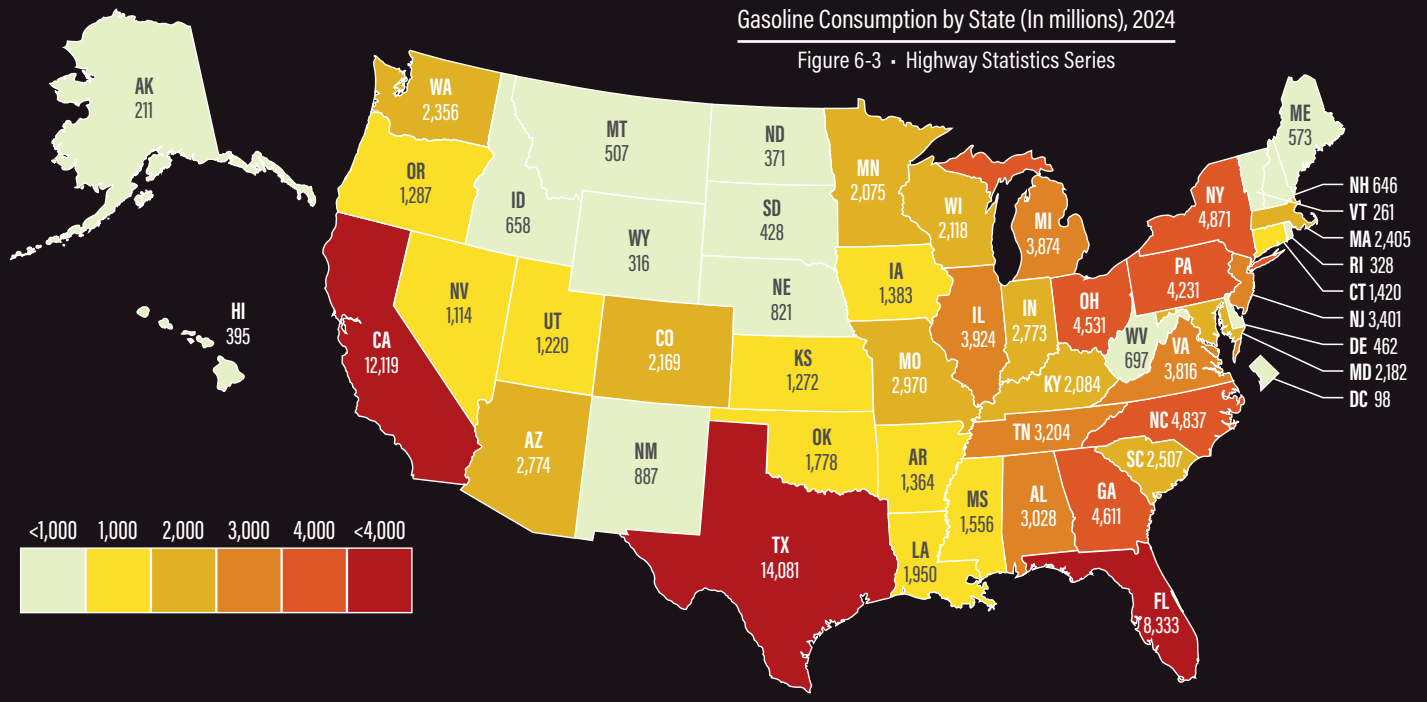
Figure 6-2 • Highway Statistics Series

Figures 6-3 and 6-4 show that gasoline and special fuel use vary substantially across the States. Highway use of gasoline ranged from lows of 98 million in D.C. and 211 million gallons in Alaska to a high of 14 billion gallons in Texas. The five States with the largest gasoline consumption for highway use – Texas, California (12 billion), Florida (8 billion), New York (4.9 billion), and North Carolina (4.8 billion) – used 44 billion gallons of gas or about 34 percent of total gasoline consumption for highway use.

Special fuel use also varies considerably by State. Total special fuel consumption ranged from lows of 14 million in D.C. and 45 million in Hawaii to a high of 6.5 billion gallons in Texas. The five States with the greatest special fuels consumption – Texas, California (3.1 billion), Florida (2.0 billion), Ohio (1.7 billion), and Pennsylvania (1.6 billion) – used 15 billion gallons of special fuel or about one-third (33 percent) of total special fuel consumption. Nationwide, the ratio of special fuel to gasoline consumption is about 0.34, meaning 1 gallon of special fuel consumed for every 3 gallons of gasoline. The lowest ratio is 0.11 in Hawaii, meaning 1 gallon of special fuel consumed for every 9 gallons of gasoline. Wyoming is the only State that consumed more special fuel than gasoline with a ratio of 1.18 (about 6 gallons of special fuel for every 5 gallons of gasoline).

Gasoline Consumption by State (In millions), 2024

Figure 6-3 • Highway Statistics Series



Special Fuel Consumption by State (In millions), 2024

Figure 6-4 • Highway Statistics Series

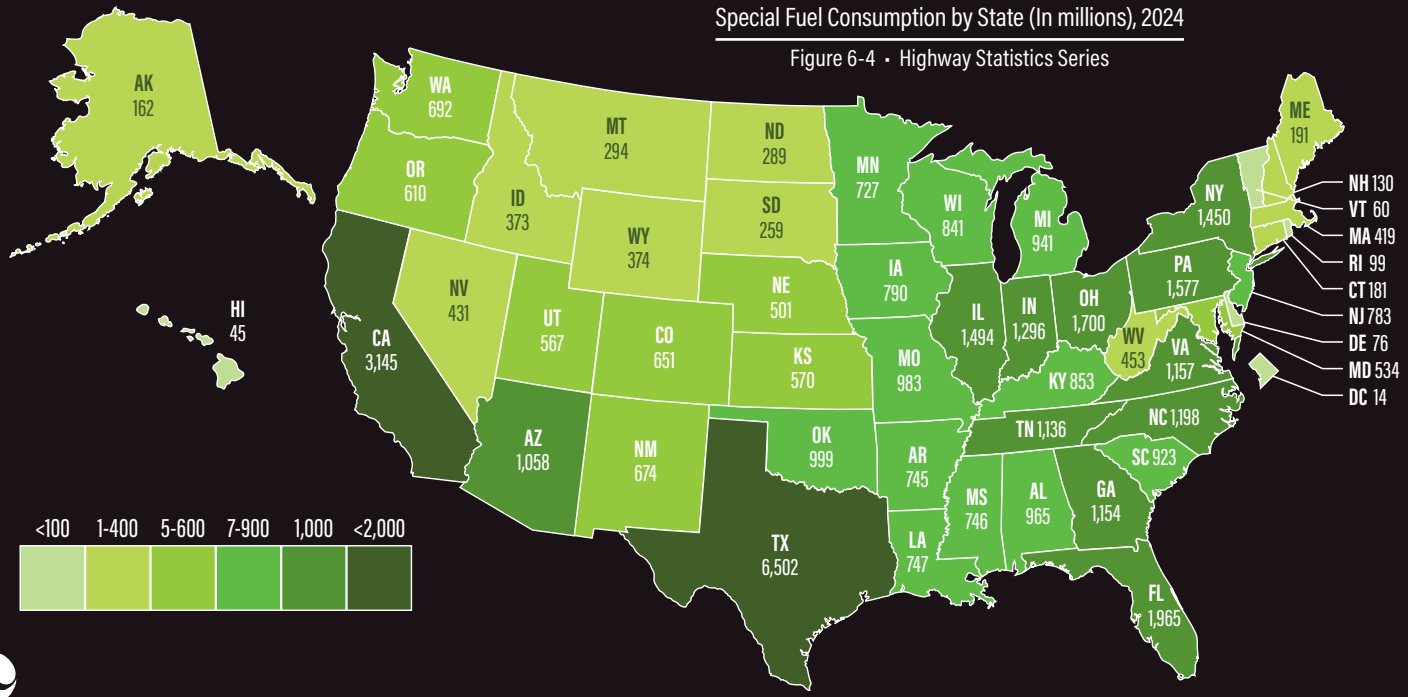
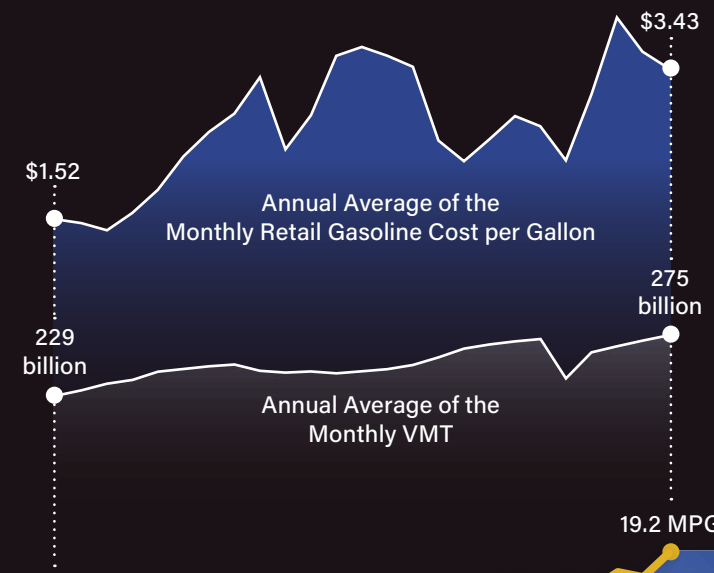


Figure 6-5 illustrates that from 2000 through 2024, annual average of the monthly VMT increased from about 229,000 million miles per month to about 275,000 million miles per month or by 20 percent. The annual average of the monthly price of gasoline also increased from $1.52 per gallon in 2000 to $3.43 per gallon in 2024 or about 125 percent. VMT only decreased in four years: 2008, 2009, 2011, and 2020. Gasoline prices, however, show more fluctuation. Gasoline prices initially fell to their lowest value in 2001 before rising to their second highest value in 2008. Gasoline prices fell substantially in the latter half of 2008 into 2009, which also was a period of declining travel. After a significant increase in prices from 2009 through 2011, prices dropped from 2014 through 2016. And after an initial drop in prices in 2020, which corresponded to the significant drop in travel, prices increased rapidly until reaching a peak in June 2022. While there were some periods where both travel and gas prices declined, the variation in gasoline prices does not appear to track changes in overall travel closely.

Another way of viewing the relationship between travel and fuel consumption is the ratio of vehicle miles traveled to gallons of fuel consumed. In 2024, there were about 3.3 trillion miles of travel and 172 billion gallons of fuel for an average of 19.2 miles per gallon (MPG), which was the highest value recorded. As seen in Figure 6-6, MPG decreased slightly from 1949 until the lowest value of 11.9 in 1973. MPG began increasing significantly in 1980 and continued to increase until declining slightly in 1993. After 1993, MPG slowly increased, with some periods of decline, from 16.7 in 1994 to the 19.2 MPG today.

Monthly Travel and Cost of Gasoline, 2000-2024

Figure 6-5 • Traffic Volume Trends & U.S. Energy Information Agency



Average Miles Traveled per Gallon, 1949-2024

Figure 6-6 • Highway Statistics Series

SOURCE: ADOBE

SOURCE: ADOBE

FUNDING AND SPENDING

Funding the construction and operation of the United States' extensive network of over 4.2 million miles of public roads requires substantial financial commitment. Revenue for highway, bridge, and tunnel expenditures is generated by Federal, State, and local governments for construction, replacement, rehabilitation, maintenance, and other capital outlays. Highway user fees and taxes, along with other revenue streams, provide these funds. In 2024, total government revenue dedicated to highways reached $325 billion. Expenditures in the same year totaled $332 billion. When spending exceeds revenue, as it did in 2024, governments cover the difference by drawing from highway reserve accounts. Based on an estimated 2024 population of 339 million, the United States' highway expenditure was $840 per person.

JULY 11, 1916

President Woodrow Wilson signs the Federal Aid Road Act. The landmark legislation, promoted by the national Good Roads movement, marks the first time that the Federal Government has provided assistance for State highway costs. The 1916 Act is the forerunner of much more Federal highway assistance.

SOURCE: PUBLIC DOMAIN

DRIVE THROUGH HISTORY

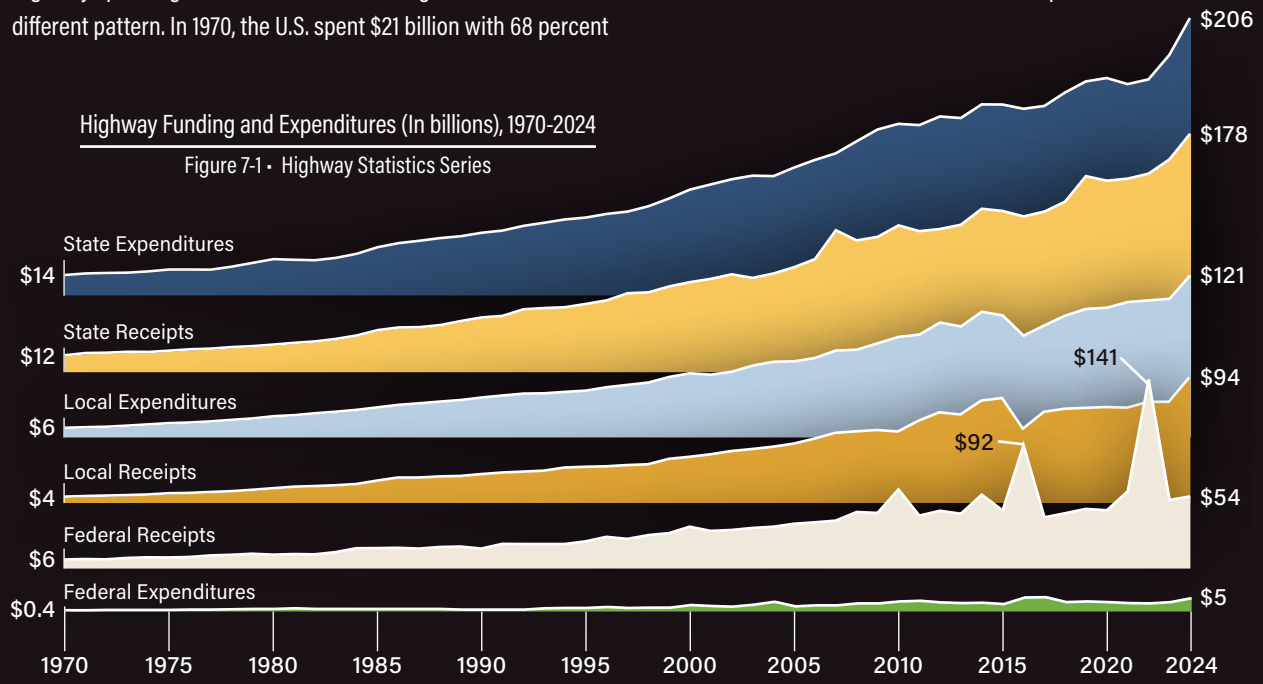
U.S. Department of Transportation
Federal Highway Administration

Figure 7-1 shows the change in funding (receipts) and spending (expenditures) by Federal, State, and local governments over time. In 1970, the U.S. raised $22 billion with 54 percent ($12 billion) by State governments, 28 percent ($6 billion) by the Federal Government, and 18 percent ($4 billion) by local governments. By 2024, the $325 billion of funding comprised 55 percent ($177 billion) from States, 29 percent ($94 billion) from local governments, and 16 percent ($54 billion) from the Federal Government. Over this 54-year period, funding grew by 5 percent per year. State funding generally increased year-over-year and was the largest funding source across all years. During this same period, local governments surpassed the Federal Government as the second largest funding source. While Federal funding was greater than local funding from 1970 through 1979, local funding was greater from 1980 on except for four years (1984, 2010, 2016, and 2022). In those years, the Federal Government provided one-time increases in transportation funding.

Highway spending across the three levels of government shows a different pattern. In 1970, the U.S. spent $21 billion with 68 percent ($14 billion) by State governments, 30 percent ($6 billion) by local governments, and 2 percent (less than $1 billion) by the Federal Government. By 2024, the $332 billion in spending comprised 62 percent ($206 billion) by States, 36 percent ($121 billion) by local governments, and 2 percent ($5 billion) by the Federal Government. Over this period, State and local government expenditures grew by 5 percent each year, and Federal expenditures showed a slower growth rate of 4 percent. Direct Federal spending was much smaller than spending by State and local governments. State and local expenditures include direct transfers and Federal-aid reimbursements. Federal expenditures, however, only include the amount that Federal agencies expended on their own roads, and they do not include funds transferred to State and local governments. In 2024, for example, the Federal Government provided $64 billion in intergovernmental payments to State and local governments for highways. As State and local governments spent $327 billion on highways, the Federal transfers and reimbursements accounted for about 20 percent.

Highway Funding and Expenditures (In billions), 1970-2024

Figure 7-1 • Highway Statistics Series



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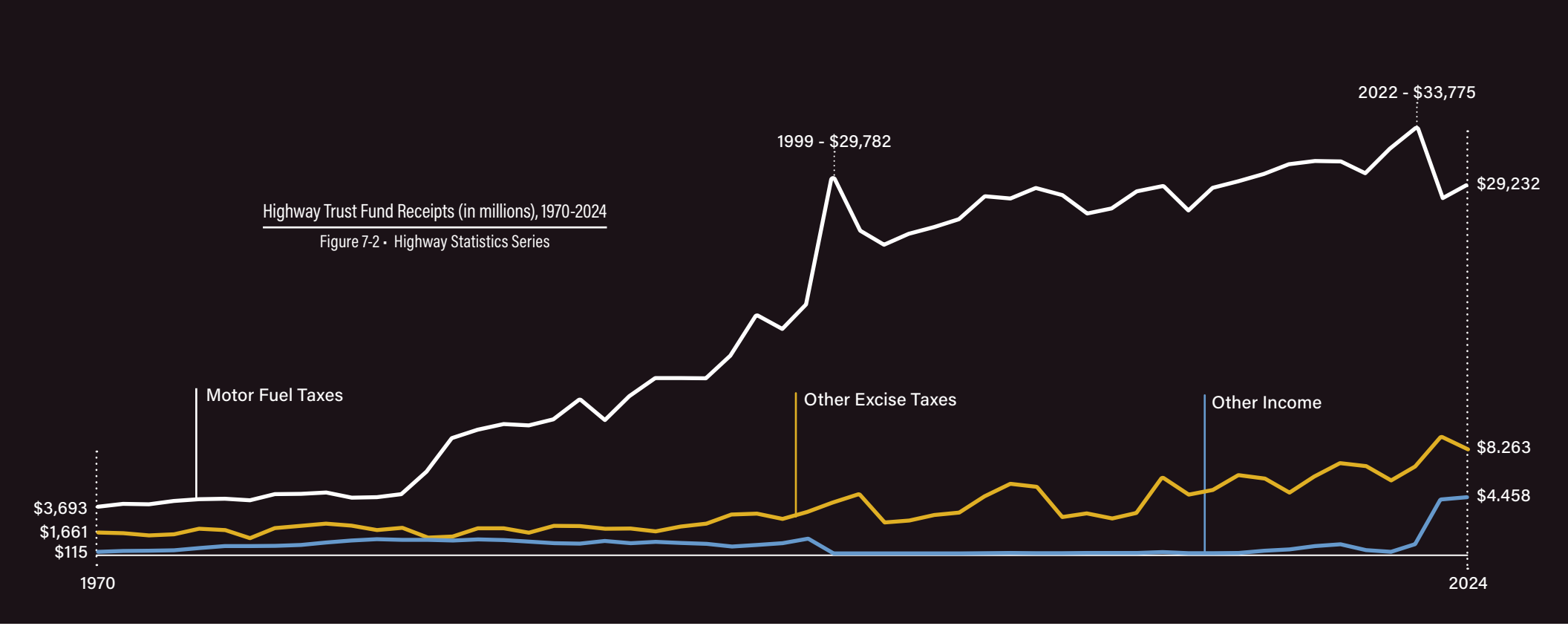
SOURCE: ADOBE



Highway Trust Fund Receipts (in millions), 1970-2024

Figure 7-2 • Highway Statistics Series

HIGHWAY REVENUE

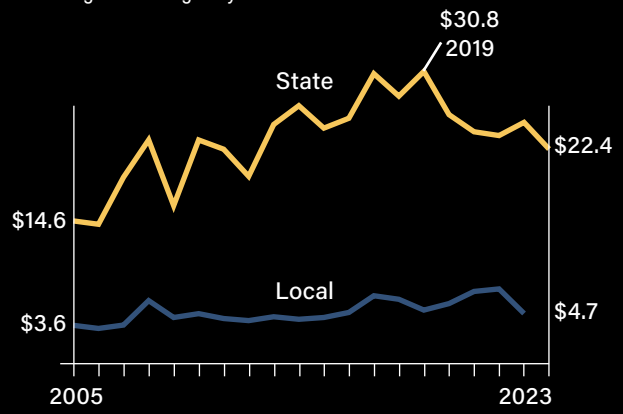
Of the $54 billion Federal revenues used for highways in 2024, 77 percent came from the Highway Trust Fund (HTF) highway account. The HTF has provided a Federal-funding source for highway programs since Congress established it in 1956. Its revenue comes from Federal sales taxes on motor fuel, trucks, and tires, and a heavy vehicle use tax, which have changed several times since the HTF was established. Since 1997, the Federal tax rate has been 18.4 cents per gallon for gasoline and 24.4 cents per gallon for diesel. (Alternative fuels such as liquified petroleum gas, liquified natural gas, and compressed natural gas also are subject to fuel taxes). Tires have a 9.45 cents sales tax for each 10 pounds of the maximum rate load capacity over 3,500 pounds. A 12 percent sales tax applies to tractors, trucks, and buses over 33,000 pounds gross vehicle weight (GVW) and trailers over 26,000 GVW. The heavy vehicle use tax, which applies to trucks with 55,000 or more pounds GVW, is an annual vehicle tax on a sliding scale from $100 to $550 based upon weight.

Figure 7-2 shows the change in the level and composition of the HTF revenue from 1970 until 2024. In 1970, HTF revenue was $5.5 billion with roughly two-thirds ($3.7 billion) collected from motor fuel taxes. By 2024, the HTF revenue grew to $41 billion with roughly two-thirds still from motor fuel taxes. Revenue included $30 billion from motor fuel taxes ($21 billion from gasoline and $9 billion from diesel and special fuels), $8 billion from other excise taxes (less than $1 billion from tire sales, $7 billion from truck, bus, and trailer sales, and $1 billion from the Heavy Vehicle Use Tax), and $3 billion from miscellaneous sources such as fines, penalties, and interest income. The annual growth rate for HTF revenue was 4 percent. The growth rates were 4 percent for motor fuel taxes and 3 percent for other excise taxes. However, the rate of change was not constant. Motor fuel tax revenue rose slowly in the 1970s, rose rapidly in the 1980s and 1990s, and has risen less rapidly since 2000. Motor fuel revenue sometimes exhibits fluctuations, such as in 1999, due to legislative and resulting accounting changes. Also, 2023 and 2024 were unusual years in that other income topped $4 billion when in most years it was $1 billion or less.

SOURCE: ADOBE

Toll Facility Revenue (in billions), 2005-2024

Figure 7-3 • Highway Statistics Series



Toll revenue is typically the only funding source used to repay money borrowed to build a toll facility and to provide for its maintenance and operations. Of the $327 billion State and local revenues used for highways in 2024, 8 percent came from tolls. In 2023, the most recent data available for State and local toll collections, State and local governments raised $30 billion in toll revenue. Of this, State tolls accounted for 84 percent ($25 billion), and local tolls accounted for 16 percent ($5 billion). State and local combined toll revenue have generally increased with a growth rate of 3 percent from 2005 through 2023. However, there is significant year to year variation. State tolls grew from $15 billion in 2005 to a high of $31 billion in 2019 before declining. Local tolls generally increased over this period with the highest value ($8 billion) in 2022.

As seen in the chapter on roads, the total mileage for toll facilities in the U.S., including bridges and tunnels, increased from 5,746 miles in 2013 to 6,626 miles in 2023. The total increase is 15 percent or 88 additional miles per year.

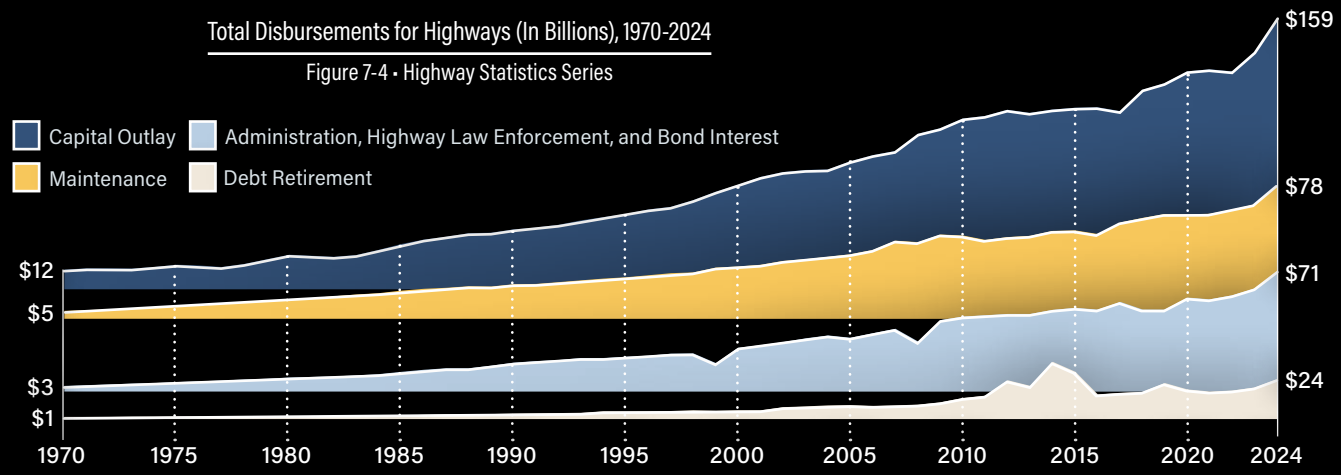
In 2024, capital outlays accounted for the largest category of spending, totaling $159 billion (49 percent of total highway spending). Capital outlays include costs associated with land acquisition; roadway design, construction, reconstruction, resurfacing, rehabilitation, and restoration; and installation of guard rails, fencing, signs, and signals. Maintenance costs totaled $78 billion (24 percent). Administration, enforcement, and bond interest totaled $71 billion (21 percent); service costs associated with debt retirement for highway projects totaled $24 billion (6 percent). Disbursements have increased substantially since 1970, with similar growth across all four categories. The category containing Administration, Highway Law Enforcement, and Bond Interest grew by 6 percent annually, and the other categories grew by 5 percent a year.

Spending on highways tracks closely with population levels. The States with the largest disbursements for highways also have the largest populations. The five largest States were California, Texas, Florida, New York, and Pennsylvania. California spent $14 billion, Texas $22 billion, Florida $12 billion, New York $8 billion, and Pennsylvania $8 billion. These amounts were significantly more than the median value of $2.2 billion. Together, these five States accounted for more than one-third (37 percent) of State highway disbursements.

States not only vary in how much they spend; they also vary by how they spend the money. Nationally, 63 percent was for capital outlays, 20 percent for maintenance and traffic services, 10 percent for administration and research, and the remaining 7 percent for enforcement and safety. Capital outlays represented the largest expenditure category in all States except Massachusetts, and the capital outlays accounted for more than 80 percent of spending in Idaho

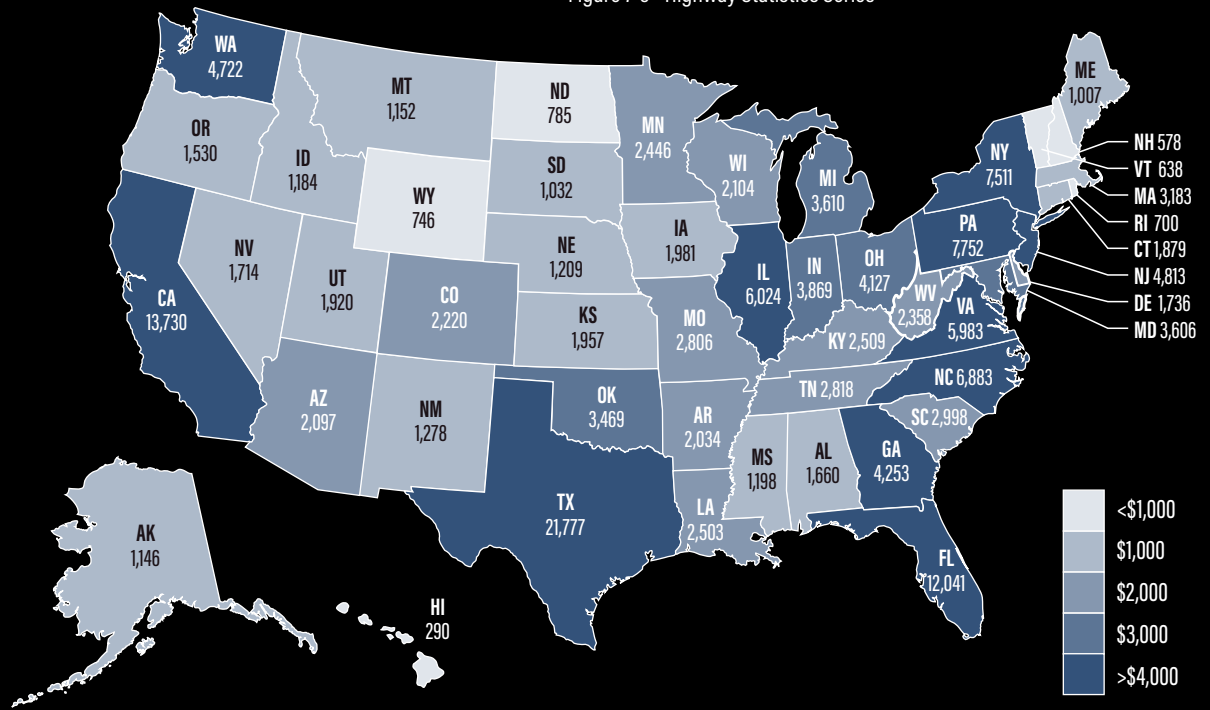
Total Disbursements for Highways (In Billions), 1970-2024

Figure 7-4 • Highway Statistics Series



State Disbursements for Highways (In Billions), 2024

Figure 7-5 • Highway Statistics Series



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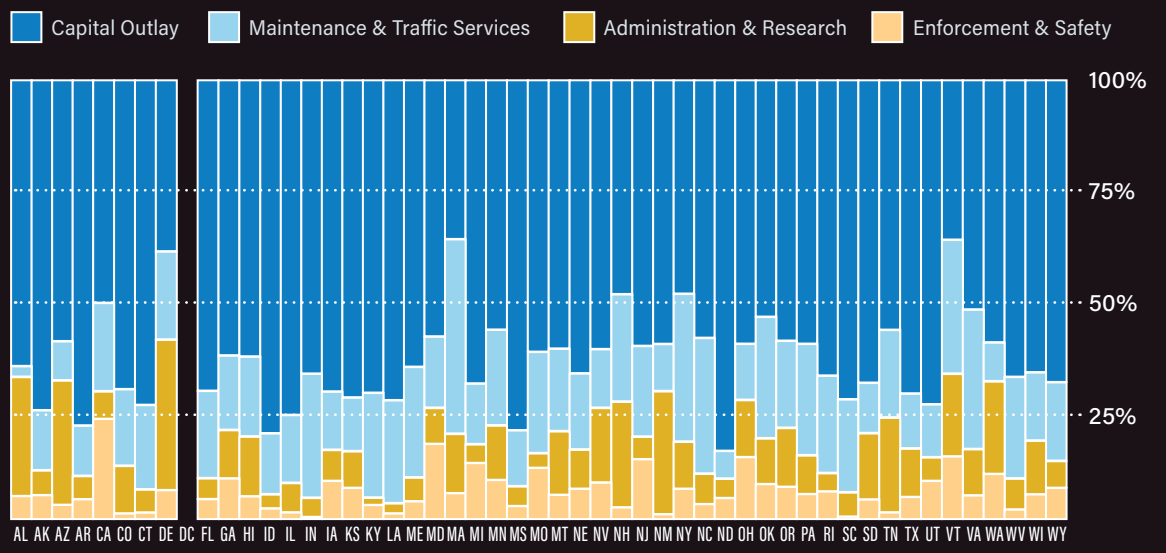
and North Dakota. At the other end of the spectrum, Massachusetts and Vermont only spent 36 percent on capital outlays. Massachusetts spent the largest proportion, 44 percent, on maintenance and traffic services, and four other States spent more than 30 percent. One State, Delaware, spent more than 30 percent on administration and research (34 percent), and another six States spent 20 percent or more. One State, California, spent more than 20 percent on enforcement and safety (23 percent).

States also vary by their payments into the HTF versus their apportionments from it. In 2024, Texas reported the largest payment into the fund at $4.6 billion. California was second at $3.2 billion, and Florida was third at $2.1 billion. These three States accounted for about one-quarter (27 percent) of the payments into the HTF. No other State contributed more than $2 billion, but seven additional States contributed more than $1 billion. These ten States contributing the most money comprise one-half (50 percent) of the total payments. Regarding apportionments and allocations from the HTF, Texas and California both received more than $5 billion ($5.5 billion in both States). Florida received about $3 billion, and three additional States received over $2 billion. These six States accounted for about one-third (36 percent) of the total apportionments and allocations from the HTF.

When comparing payments to spending, every State had larger apportionments and allocations than payments, meaning that they received more than they paid into the HTF. The lowest ratio of apportionments and allocations to payments is for Colorado at 1.2. Most State ratios fall between 1 and 2. However, ten States and the District of Columbia had ratios greater than 2. The largest ratio was 11.3 for the District of Columbia followed by 6.2 for Alaska and 6.1 for Vermont. Three other States had ratios between 3 and 4 (Hawaii, Montana, and Rhode Island), and five States had ratios between 2 and 3 (Connecticut, Delaware, North Dakota, South Dakota, and Wyoming).

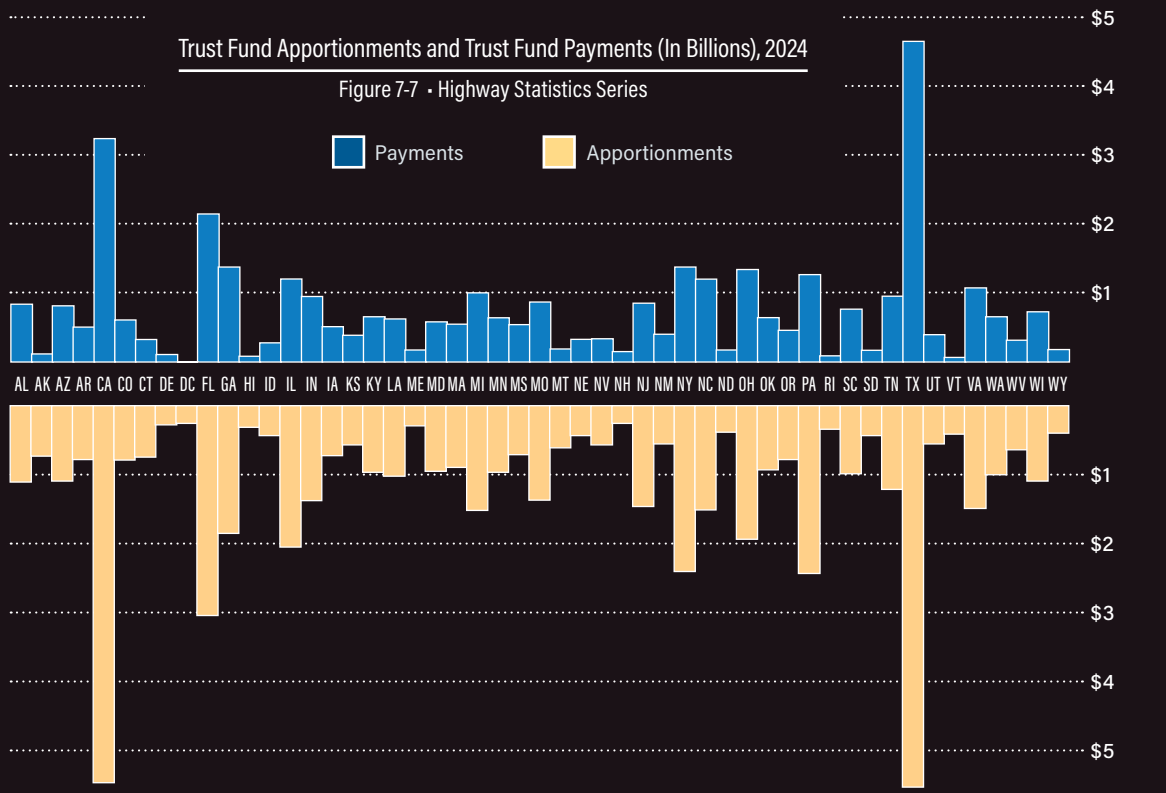
State Disbursements for Highways by Type, 2024

Figure 7-6 • Highway Statistics Series



Trust Fund Apportionments and Trust Fund Payments (In Billions), 2024

Figure 7-7 • Highway Statistics Series



U.S. Department of Transportation
Federal Highway Administration

SOURCE: ADOBE

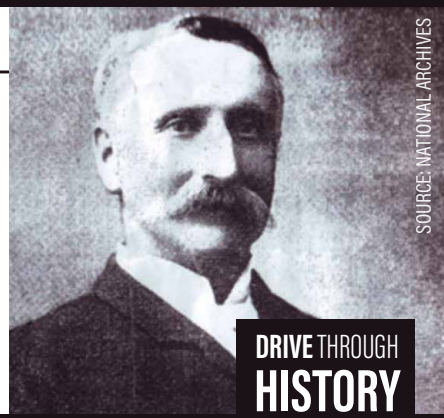
SAFETY, CONDITION, AND PERFORMANCE

Highway data about safety, infrastructure condition, and system performance is necessary to make informed decisions about infrastructure investments. These metrics are crucial to society because they directly impact our daily lives, the efficiency of the economy, and the overall quality of public services. Understanding the state of our highways ensures responsible stewardship of public funds, promotes economic competitiveness through reliable supply chains, and, most importantly, protects the safety of all road users.

DRIVE THROUGH HISTORY

JULY 29, 1870

Chemist Edward de Smedt lays the first asphalt pavement in the U.S. in Newark, New Jersey, revolutionizing roads by replacing muddy dirt tracks and jarring cobblestones with a smooth and weather-resistant surface. By eliminating deep ruts and offering reliable traction, asphalt dramatically improved travel safety and efficiency, laying the foundation for a reliable road network for the coming automobile era.



SOURCE: NATIONAL ARCHIVES

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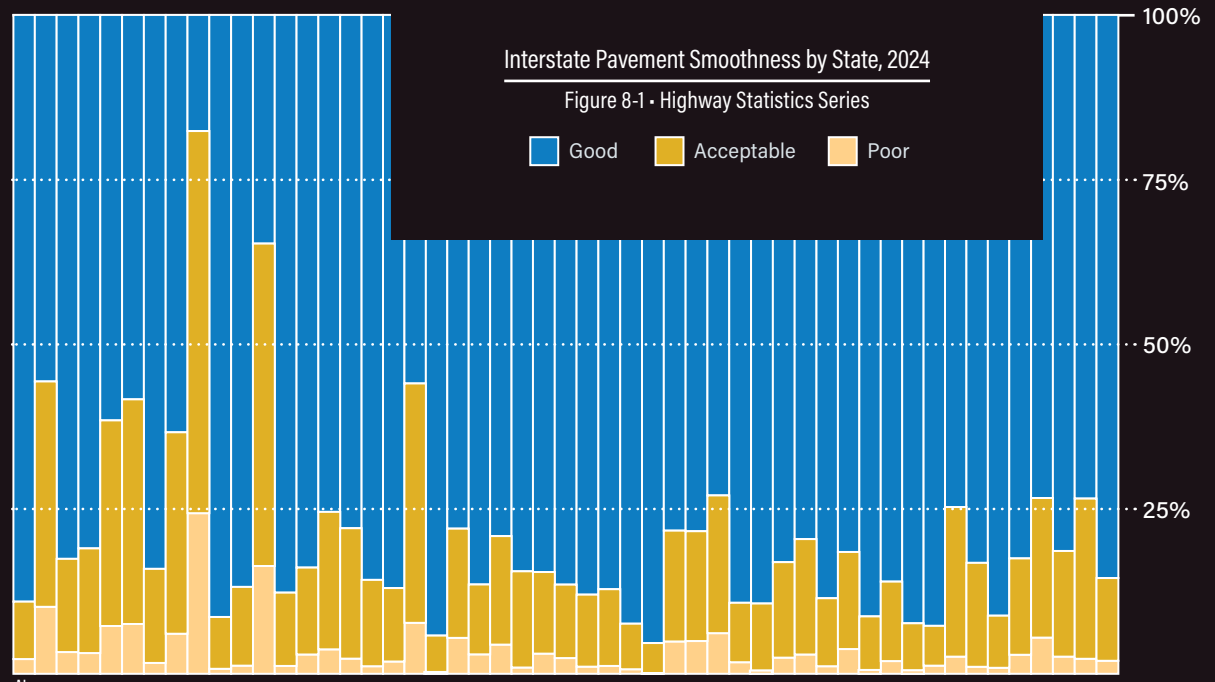
Federal Highway Administration

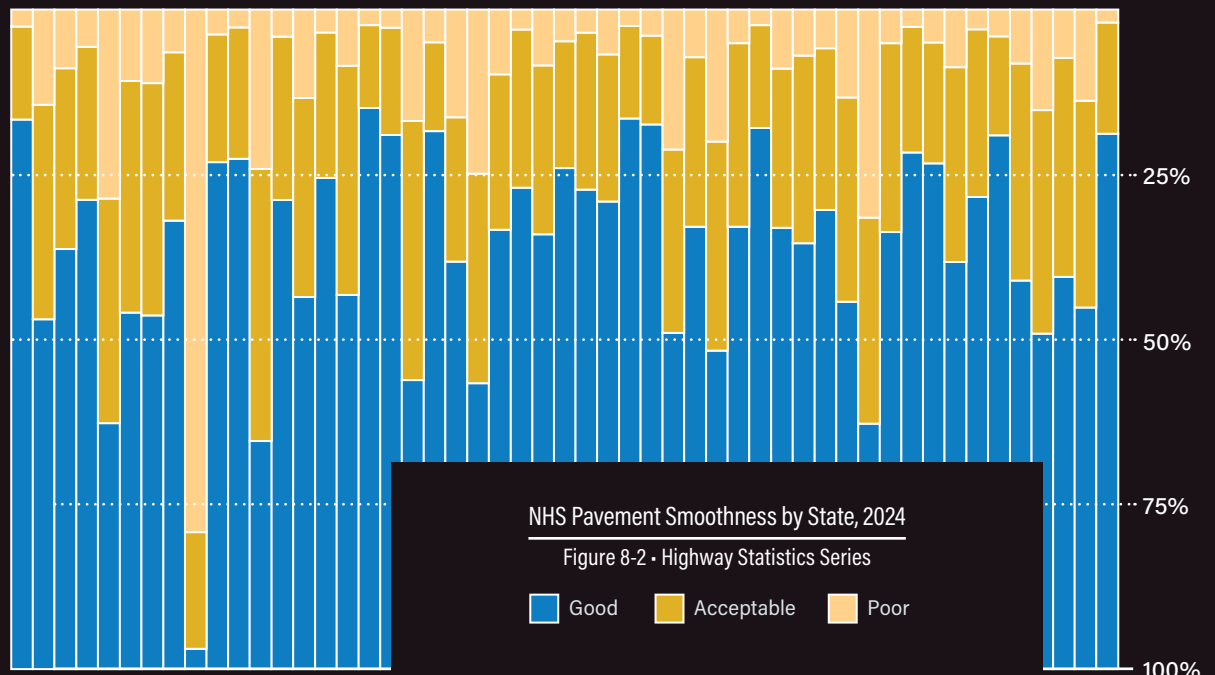
Condition refers to the physical health of an infrastructure asset such as a road or bridge. It is a measure of physical integrity. Performance refers to the user experience and measures how well a system works. For example, mobility captures system throughput and travel delays while reliability has to do with variation in travel times to the same destination. Safety, which can be considered a performance measure, is FHWA's top priority.

CONDITION

The state of the pavement on our 4.2 million miles of roads, especially the 220,790 miles of the U.S. NHS, is an important component of highway conditions. Various types of pavement data are collected and used to evaluate pavement condition. One such measure is the International Roughness Index (IRI), which commonly is used as an indicator of smoothness or ride quality. An IRI of less than 95 is considered good or very good ride quality, while an IRI rating of less than 170 is considered acceptable ride quality. An IRI value equal to or greater than 170 is poor ride quality. Figure 8-1 shows the 48,830 miles of U.S. interstates by the pavement smoothness and by the State. Overall, 39,133 interstate pavement miles (80 percent) were rated "good," 8,009 miles (16 percent) "acceptable," and 1,534 (3 percent) "poor." (Condition was not reported for less than 1 percent of the miles.) The States with the largest portion of interstates with "good" pavement condition are New Hampshire (95 percent) and Maine (94 percent). The District of Columbia reported less than a quarter of the interstate pavement as "good" (18 percent), and Hawaii reported less than half of the interstates with "good" pavement condition (35 percent).

Figure 8-2 demonstrates the proportion of miles of the NHS by pavement condition across the 50 States and D.C. Overall, 139,614 miles (63 percent) were in "good" condition, 57,218 miles (26 percent) were "acceptable," and 21,274 (10 percent) were "poor." (Condition was not reported for about 1 percent of the miles.) As seen in the figure, seven jurisdictions have a "good" condition on less than half of their road miles: California, District of Columbia, Hawaii, Louisiana, Massachusetts, New York, and Rhode Island. And in three of these seven, more than one-quarter of the road miles were in "poor" condition: California, District of Columbia, and Rhode Island.



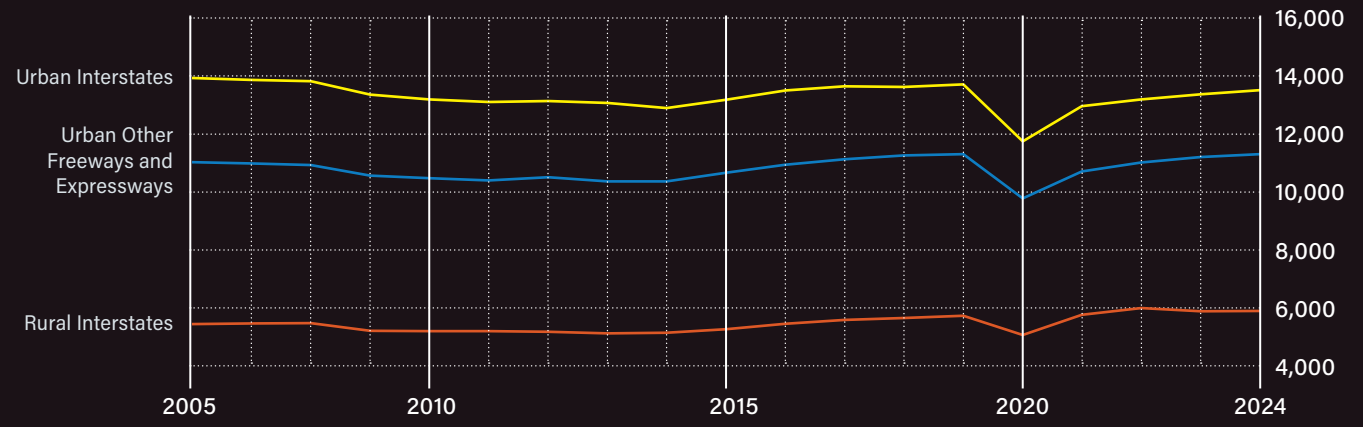


PERFORMANCE

Figure 8-3 demonstrates system travel density trends for urban interstates, other urban freeways and expressways, and rural interstates. The measure of density is the weighted annual average daily vehicles per lane. Travel density on rural interstate generally has increased since 2013 except for a dip in 2020. Travel density on urban interstates and other freeways and expressways show similar patterns. They both decreased until about 2014 and then rose until 2019. Travel density experienced a significant drop on the urban roads in 2020, and in 2024, density is almost back to 2019 values.

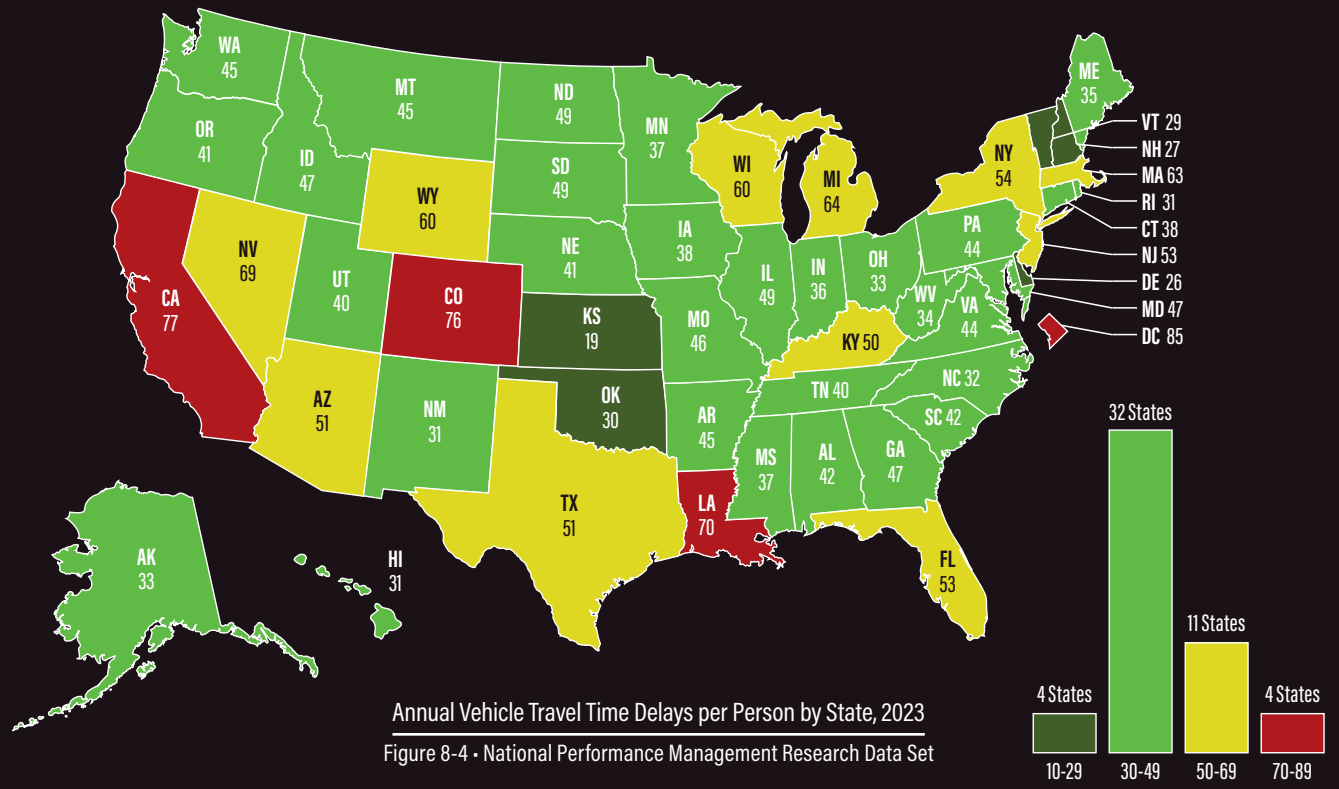
Figure 8-4 shows the annual vehicle travel time delays per person on all arterial highways (including interstates) by State. Calculating delay involved analyzing two scenarios for all vehicle travel on arterial roadways. One is the ideal condition: how long it takes to drive free flow conditions at the posted speed limit. Two is the real world: how long it actually takes drivers based on real-world speeds. (The real world data is from the National Performance Management Research Data Set or NPMRDS.) The difference between the real world and the ideal condition is the delay. Delay per person is the total delay divided by the State's population.

The U.S. average delay is 51 hours per person. The largest value is 85 hours in the District of Columbia, followed by 77 hours in California and 76 hours in Colorado. The smallest value is 19 hours in Kansas, followed by 26 hours in Delaware and 27 hours in New Hampshire. Arizona and Texas are right at the national average, but most States have values between 30 and 50 hours.



System Travel Density Trends, 2005-2024

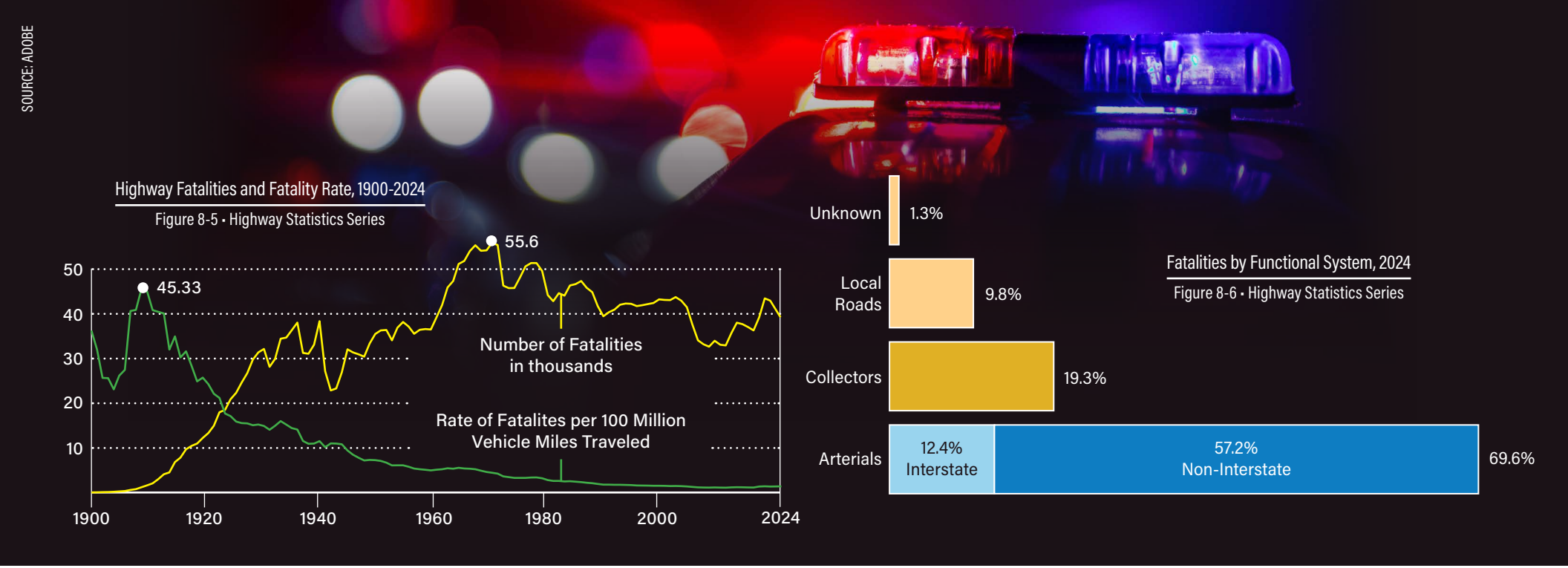
Figure 8-3 • Highway Statistics Series



Annual Vehicle Travel Time Delays per Person by State, 2023

Figure 8-4 • National Performance Management Research Data Set

SOURCE: ADOBE



Highway Fatalities and Fatality Rate, 1900-2024

Figure 8-5 • Highway Statistics Series

Fatalities by Functional System, 2024

Figure 8-6 • Highway Statistics Series

SAFETY

Highway safety is of undeniable societal importance and stands as the FHWA's foremost priority. Ultimately, protecting the safety of all road users, including drivers, passengers, pedestrians, bicyclists, and motorcyclists, is a foundational imperative. This focus is central to ensuring responsible and effective stewardship of public funds, as crashes impose substantial human and economic costs on communities. Moreover, a safe and reliable transportation network intrinsically is linked to promoting economic competitiveness by supporting efficient, predictable, and resilient supply chains, which are essential for the national economy.

One method of measuring safety performance is to quantify the number of fatal crashes and subsequent deaths in motor vehicle traffic crashes in the United States. Traffic fatalities include not just drivers and passengers of motor vehicles but also non-motorists such as pedestrians and bicyclists who are struck by motor vehicles. While counts of traffic fatalities provide useful information, they increase when travel (VMT) increases because there are more people on the roads. One method of controlling for differences in the amount of travel is the ratio of highway deaths to VMT, which at the national level is typically expressed as fatalities per 100 million VMT.

Both the number of traffic fatalities and the fatality rate have changed significantly over time. As motor vehicle travel increased in the early twentieth century, traffic fatalities did as well. Economic factors in the 1930s affected traffic fatalities with notable declines in 1932 and 1938. However, by 1941, fatalities reached 38,142. World War II suppressed travel and traffic fatalities during the 1940s. From a low of 27,007 in 1942, traffic fatalities generally increased but did not surpass 38,000 again until 1962. After reaching a peak of 55,600 deaths in 1972, total fatalities trended downward and reached a low of 32,479 in 2011. Fatalities generally have increased since this low and have been around 40,000 in recent years. In 2024, fatalities dropped to 39,254. The fatality rate, however, tells a different story. After reaching a peak of 45 fatalities per 100 million VMT in 1909, the rate declined rapidly. By 1924, the rate dropped to below 20, and below 10 in 1946. The rate continued to decline throughout the remainder of the twentieth century with a low of 1.55 by 1999. The rate reached a low of 1.08 in 2014 but jumped to 1.34 in 2020. By 2024, the fatality rate dropped back to 1.19.

Figure 8-6 breaks down the 39,254 fatalities in 2024 by the road's functional classification. Over two-thirds of the fatalities (70 percent) took place on arterials, 19 percent on collectors, and 10 percent on local roads. (The road's functional class was unknown for 1 percent of the deaths.) Fatality rates for the different functional classes come from dividing the number of deaths by the VMT in Chapter 3. While the overall rate in 2024 was 1.19 deaths per 100 million VMT, the rates varied by functional class: 1.14 for arterials, 1.66 for collectors, and 0.89 for local roads. Interstates, which are a subset of arterials, were comparatively safe with a fatality rate of 0.57 fatalities per 100 million VMT.

SOURCE: LIBRARY OF CONGRESS

SOURCE: ADOBE

1924

3.2 MILLION
MILES OF PUBLIC ROAD

105 BILLION
VEHICLE-MILES OF TRAVEL

18 MILLION
REGISTERED VEHICLES

10 MILLION
DRIVER LICENSES (ESTIMATED)

7.5 BILLION
GALLONS OF FUEL

$33 BILLION
IN DISBURSEMENTS FOR HIGHWAYS
(INFLATION-ADJUSTED TO 2024)

2024

4.2 MILLION
+1.0 MILLION MILES OF ROADS BUILT

3.3 TRILLION
+3.2 TRILLION VEHICLE-MILES TRAVELED

298 MILLION
+280 MILLION VEHICLES REGISTERED

240 MILLION
+230 MILLION DRIVERS LICENSED

172 BILLION
+164 BILLION GALLONS CONSUMED

$332 BILLION
+299 BILLION DOLLARS DISBURSED

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DRIVING DATA

As mentioned in the Introduction, our country has a long history of compiling highway statistics dating back to at least 1893. *Highway Statistics*, an annual compendium of highway statistics in tabular form, has been published continuously since 1945. FHWA first published *Our Nation's Highways: Selected Facts and Figures* in 1983 to provide a condensed, user-friendly overview of the data found in the much more exhaustive *Highway Statistics*. This edition of *Our Nation's Highways* also falls on two important anniversaries: the 250th anniversary of the founding of our country and the 70th anniversary of our Interstate System. As we celebrate these milestones, we reflect on the significant progress that we have made as a Nation. Consider, for example, the 2024 Moving Numbers from the first chapter compared to 100 years earlier in 1924. FHWA hopes readers found this edition useful and also share our pride in the significant contributions made over the years to produce our world-class highway system.