TRIP

A National Transportation Research Nonprofit

www.tripnet.org

CALIFORNIA TRANSPORTATION BY THE NUMBERS:

PROVIDING A MODERN, SUSTAINABLE TRANSPORTATION SYSTEM IN THE SUNSHINE STATE

JUNE 2026

Founded in 1971, TRIP ® of Washington, DC, is a nonprofit organization that researches, evaluates and distributes economic and technical data on surface transportation issues. TRIP is sponsored by insurance companies, equipment manufacturers, distributors and suppliers; businesses involved in highway and transit engineering and construction; labor unions; and organizations concerned with efficient and safe surface transportation.

CALIFORNIA KEY TRANSPORTATION FACTS

THE HIDDEN COSTS OF DEFICIENT ROADS

Driving on California roads that are deteriorated, congested and that lack some desirable safety features costs California drivers a total of $100 billion each year. TRIP has calculated the cost to the average motorist in the state's largest urban areas in the form of additional vehicle operating costs (VOC) as a result of driving on rough roads, the cost of lost time and wasted fuel due to congestion, and the financial cost of traffic crashes. The chart below shows the cost of deficient roads statewide and for the average driver in the state's largest urban areas.

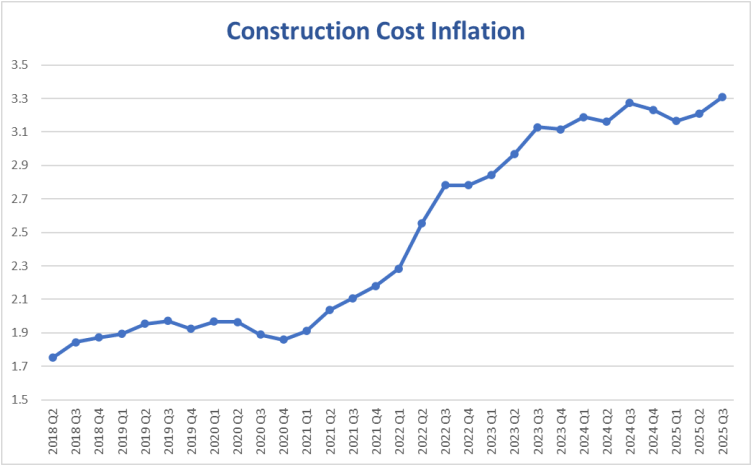
Location	VOC	Safety	Congestion	TOTAL
Los Angeles	$1,186	$307	$4,029	$5,522
Riverside-San Bernardino	$712	$591	$2,057	$3,360
Sacramento	$988	$441	$1,681	$3,110
San Diego	$796	$344	$2,253	$3,393
San Francisco-Oakland	$1,048	$209	$3,406	$4,663
San Jose	$1,040	$250	$2,023	$3,313
California Statewide	**$24.5 Billion**	**$12.5 Billion**	**$63 Billion**	**$100 Billion**

CALIFORNIA TRANSPORTATION FUNDING

Improvements to California's roads, highways and bridges are funded by local, state and federal governments. In April 2017, the California legislature enacted SB 1 -- the Road Repair and Accountability Act. SB 1 increased state revenues for transportation by increasing the state's gasoline and diesel taxes, implementing a transportation investment fee on vehicles and initiating an annual fee on zero emission vehicles. It is estimated that SB 1 will increase state revenues for California's transportation system by an average of $5.2 billion annually through to 2027.

In addition to state transportation funding, the Infrastructure Investment and Jobs Act (IIJA), signed into law on November 2021, provides $25.3 billion in federal funds to the state for highway and bridge investments in California over five years, representing a 29 percent increase in annual federal funding for roads and bridges in the state over the previous federal surface transportation program. The IIJA expires on September 30, 2026.

Revenue from California's motor fuel tax — a primary transportation funding source — is falling behind future needs as improved fuel efficiency and growing electric and hybrid vehicle use reduce gas tax collections. At the same time, inflation has significantly increased highway construction costs. The Federal Highway Administration's national highway construction cost index rose 52 percent from early 2022 through the third quarter of 2025, significantly reducing the purchasing power of available transportation dollars.



CALIFORNIA ROADS PROVIDE A ROUGH RIDE

More than half – 58 percent- of major locally and state-maintained roads and highways in California are in poor or mediocre condition. Driving on rough roads costs the average California driver $885 annually in additional vehicle operating costs – a total of $24.5 billion statewide. The chart below details pavement conditions on major roads in the state's largest urban areas and statewide.

Location	Poor	Mediocre	Fair	Good
Los Angeles	62%	21%	8%	9%
Riverside-San Bernardino	27%	27%	16%	30%
Sacramento	48%	22%	9%	21%
San Diego	32%	28%	14%	26%
San Francisco-Oakland	51%	23%	12%	14%
San Jose	49%	29%	9%	13%
California Statewide	**35%**	**23%**	**12%**	**29%**

CALIFORNIA BRIDGE CONDITIONS

Five percent of California's bridges (1,284 of 25,975 bridges) are rated in poor/structurally deficient condition, meaning there is significant deterioration of the bridge deck, supports or other major components. Forty-eight percent of the state's bridges are rated in fair condition, and the remaining 47 percent are in good condition. Most bridges are designed to last 50 years before major overhaul or replacement, although many newer bridges are being designed to last 75 years or longer. In California, 54 percent of the state's bridges were built in 1969 or earlier. The chart below details bridge conditions statewide and in the state's largest urban areas.

	POOR/STRUCTURALLY DEFICIENT		FAIR		GOOD		TOTAL
	Number	Share	Number	Share	Number	Share	BRIDGES
Los Angeles	127	3%	1,731	37%	2,872	61%	4,730
Riverside-San Bernardino	80	3%	1,175	46%	1,287	51%	2,542
Sacramento	55	4%	735	47%	762	49%	1,552
San Diego	39	2%	724	44%	869	53%	1,632
San Francisco-Oakland	115	8%	756	55%	503	37%	1,374
San Jose	50	5%	550	53%	442	42%	1042
CALIFORNIA STATEWIDE	**1,284**	**5%**	**12,452**	**48%**	**12,239**	**47%**	**25,975**

CALIFORNIA ROADWAYS ARE CONGESTED

In 2025, the state's transportation system carried more than 325 billion annual vehicle miles of travel (VMT). Congested roads choke commuting and commerce and cost California drivers $63 billion each year in the form of lost time and wasted fuel.

Increasing congestion on California's major highways and roads hampers the state's ability to support economic development and quality of life by reducing the reliability and efficiency of personal and commercial travel, including the transport of goods and services. Traffic congestion robs commuters of time and money and imposes increased costs on businesses, shippers and manufacturers, which are often passed along to consumers.

The chart below shows the annual number of hours lost to congestion, the cost of lost time and wasted fuel, and gallons of fuel lost to congestion for the average driver in the state's largest urban areas.

ANNUAL CONGESTION IMPACT PER DRIVER			
Location	Hours Lost	Cost of Lost Time & Fuel	Gallons of Fuel Wasted
Los Angeles	137	$3,935	33
Riverside-San Bernardino	95	$2,009	21
Sacramento	72	$1,642	25
San Diego	88	$2,200	30
San Francisco-Oakland	134	$3,326	30
San Jose	94	$1,976	25

CALIFORNIA TRAFFIC SAFETY AND FATALITIES

From 2021 to 2025, there were 20,727 traffic fatalities in California, an average of 4,145 fatalities each year. Traffic fatalities spiked nationwide and in California in 2020 and 2021 during the height of the Covid-19 pandemic but have since fallen. In the last five years (2021-2025), the number of traffic fatalities in California has fallen 20 percent and the state's traffic fatality rate per 100 million vehicle miles of travel (VMT) has fallen 23 percent. But despite recent progress, the number of traffic fatalities in California is still seven percent higher than a decade ago and the traffic fatality rate is 10 percent higher.

CALIFORNIA TRAFFIC FATALITY DATA								
	2015	2021	2022	2023	2024	2025	2015-2025 Change	2021-2025 Change
Traffic Fatalities	3,387	4,513	4,539	4,169	3,876	3,630	7%	-20%
Fatalities per 100M VMT	1.01	1.45	1.44	1.32	1.19	1.11	10%	-23%

From 2020 to 2024, 30 percent of those killed in crashes in California involving motorized vehicles were pedestrians or bicyclists, a total of 5,645 pedestrian fatalities and 767 bicyclist fatalities over the five-year period. The chart below details the number of pedestrian, bike and total traffic fatalities in California from 2020 to 2024 and the overall share of pedestrian and bicycle fatalities.

Year	Total Fatalities	Pedestrian Fatalities	Bicycle Fatalities	Share Bike and Ped.
2020	3,980	1,013	136	**29%**
2021	4,513	1,179	134	**29%**
2022	4,539	1,213	183	**31%**
2023	4,169	1,150	151	**31%**
2024	3,876	1,090	163	**32%**
TOTAL	21,077	5,645	767	**30%**
AVERAGE	**4,215**	**1,129**	**153**	**30%**

Traffic crashes in California imposed a total of $37.7 billion in economic costs in 2024. TRIP estimates that roadway features, while not the primary factor, were likely a contributing factor in approximately one-third of all fatal traffic crashes, resulting in $12.5 billion in economic costs in California in 2024. The economic costs of traffic crashes include work and household productivity losses, property damage, medical costs, rehabilitation costs, legal and court costs, congestion costs and emergency services. The chart below shows the number of people killed in traffic crashes in the state's largest urban areas between 2020 and 2024, and the economic cost of traffic cashes per driver.

Location	Average Fatalities 2020-2024	Safety Costs per Driver
Los Angeles	1040	$307
Riverside-San Bernardino	721	$591
Sacramento	280	$441
San Diego	297	$344
San Francisco-Oakland	191	$209
San Jose	129	$250

IMPROVING TRANSPORTATION SAFETY, RESILIENCY & EFFICIENCY

Recognizing that extreme weather, sea level change, wildfires, and changes in environmental conditions may threaten the condition and longevity of the nation's transportation infrastructure, transportation agencies are putting more focus on assessing these vulnerabilities to consider the resilience of their transportation assets during the transportation planning process.

Caltrans has assessed vulnerability to its transportation assets that could include increased erosion rates, exacerbated bridge scour, intensified and enlarged geo-hazards, expanded areas vulnerable to flooding, and impacts due to wildfires. The costs of these risks could include significant mitigation, relocation, resilience and reconstruction costs. Caltrans is prioritizing its transportation assets for adaptation based on their potential risk level and their potential impact on the public if a bridge or route was damaged, which would require a detour of traffic. The Los Angeles wildfires in early 2025 are one such example of significant transportation system impacts shutting down key highways for months to repair damage.

Based on the importance of maximizing the level and safety of mobility provided by its transportation system, transportation agencies are adopting Transportation Systems Management and Operations (TSMO) practices and incorporating improved resiliency into their transportation network.

A TSMO program adopts an integrated set of strategies to improve traffic flow and safety on a portion of a roadway, including work zone management, traffic incident management, freight management, traveler information, traffic signal coordination, ramp management, transit management and improved bicycle and pedestrian crossings.

FREIGHT TRANSPORTATION IN CALIFORNIA

In 2024 California's freight system moved nearly 1.4 billion tons of freight, valued at $2.8 trillion. From 2024 to 2050, annual freight movement by trucks in California is expected to increase 68 percent by weight and 101 percent by value (inflation-adjusted dollars). This anticipated growth in freight transport in California, and the rest of the U.S., is a result of further economic growth, changing business and retail models, increasing international trade, and rapidly changing consumer expectations that place an emphasis on faster deliveries, often of smaller packages or payloads.

As the largest national gateway for international trade and domestic commerce, California's economy depends on an efficient, integrated, sustainable, and multimodal freight transport system. The state's freight sector is broadly defined to encompass industries that heavily rely on the transportation of their raw materials, intermediate goods and components, and their finished products. The sector includes businesses in the transportation, warehousing, utilities, trade, manufacturing, construction, agriculture, and mining industries.

California's freight transportation system includes 3,054 miles on its National Highway Freight Network, 12 seaports, 12 airports with cargo operations, two Class I railroads and 27 Class III railroads, three existing and one future commercial land border ports of entry with Mexico, approximately 19,390 miles of hazardous liquid and natural gas pipelines, and a large warehousing and distribution sector.

Caltrans' California Freight Mobility Plan 2020 outlines the state's plans to make further improvements to its multimodal freight system that can protect the environment and support a transportation system that can meet current and future freight demands.

Sources of information for this report include AAA, the AAA Foundation for Traffic Safety, the American Association of State Highway and Transportation Officials (AASHTO), the American Road & Transportation Builders Association (ARTBA), the Bureau of Transportation Statistics (BTS), the California Department of Transportation (CalTrans), the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), , the Texas Transportation Institute (TTI), The Transportation Research Board (TRB), the U.S. Census Bureau, and the U.S. Department of Transportation. Cover photo credit: road trippers.com.

INTRODUCTION

California's roads, highways and bridges form vital transportation links for the state's residents, visitors and businesses, providing daily access to homes, jobs, shopping, natural resources and recreation. Modernizing California's transportation system is critical to quality of life and economic competitiveness in the Sunshine State. Inadequate transportation investment, which will result in deteriorated transportation facilities and diminished access, will negatively affect California's economic competitiveness and quality of life.

To accommodate population and economic growth, maintain its level of economic competitiveness and achieve further economic growth, California will need to maintain and modernize its roads, highways and bridges by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient, reliable and safe mobility for residents, visitors and businesses. Making needed improvements to California's roads, highways, bridges and transit systems could also provide a significant boost to the state's economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

This report examines the condition, use and safety of California's roads, highways and bridges, and the state's future mobility needs. Sources of information for this report AAA, the AAA Foundation for Traffic Safety, the American Association of State Highway and Transportation Officials (AASHTO), the American Road & Transportation Builders Association (ARTBA), the Bureau of Transportation Statistics (BTS), the California Department of Transportation (CalTrans), the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), the Texas Transportation Institute (TTI), The Transportation Research Board (TRB), the U.S. Census Bureau, and the U.S. Department of Transportation.

In addition to statewide data, the TRIP report includes regional data for the following areas: Los Angeles, Riverside-San Bernardino, Sacramento, San Diego, San Francisco-Oakland and San Jose. An urban area is defined as a region's municipalities and surrounding suburbs for pavement condition and congestion data; bridge and traffic fatality data include a region's major counties.[1]

POPULATION, TRAVEL AND ECONOMIC TRENDS IN CALIFORNIA

California motorists and businesses require a high level of personal and commercial mobility. To foster quality of life and spur continued economic growth, the state must provide a safe and modern transportation system that can accommodate future growth in population, tourism, business, recreation and vehicle travel.

California's population grew to approximately 39.4 million residents in 2025, an increase of 16 percent since 2000.[2] California had approximately 27.8 million licensed drivers in 2024.[3]

In 2025 the state's transportation system carried approximately 325.4 billion vehicle miles of travel, a six percent increase since 2000.[4]

From 2000 to 2024, California's gross domestic product (GDP), a measure of the state's economic output, increased by 85 percent, when adjusted for inflation.[5] U.S. GDP increased 66 percent during the same period.[6]

CONDITION OF CALIFORNIA ROADS

The life cycle of California's roads is greatly affected by the state and local governments' ability to perform timely maintenance and upgrades to ensure that road and highway surfaces last as long as possible.

The pavement data in this report, which is for all arterial and collector roads and highways, is provided by the Federal Highway Administration (FHWA), based on data submitted annually by the

California Department of Transportation (CalTrans) on the condition of major state and locally maintained roads and highways. Pavement data for Interstate highways and other principal arterials is collected for all system mileage, whereas pavement data for minor arterial and all collector roads and highways is based on sampling portions of roadways as prescribed by The Federal Highway Administration (FHWA) to ensure the data collected is adequate to provide an accurate assessment of pavement conditions on these roads and highways.

Statewide, more than half of California's major roads are in poor or mediocre condition. Thirty-five percent of California's major locally and state-maintained roads are in poor condition and 23 percent are in mediocre condition.[7] Twelve percent of California's major roads are in fair condition, and the remaining 29 percent are in good condition.[8]

Forty-one percent of California's major locally and state-maintained **urban** roads and highways have pavements rated in poor condition and 26 percent are in mediocre condition.[9] Twelve percent are in fair condition, and the remaining 21 percent California's major urban roads are rated in good condition.[10]

Thirty-one percent of California's major locally and state-maintained **rural** roads and highways have pavements rated in poor condition and 21 percent are in mediocre condition.[11] Thirteen percent are in fair condition, and the remaining 35 percent of California's rural roads are rated in good condition.[12]

The chart below details pavement conditions on major roads in the state's largest urban areas and statewide.[13]

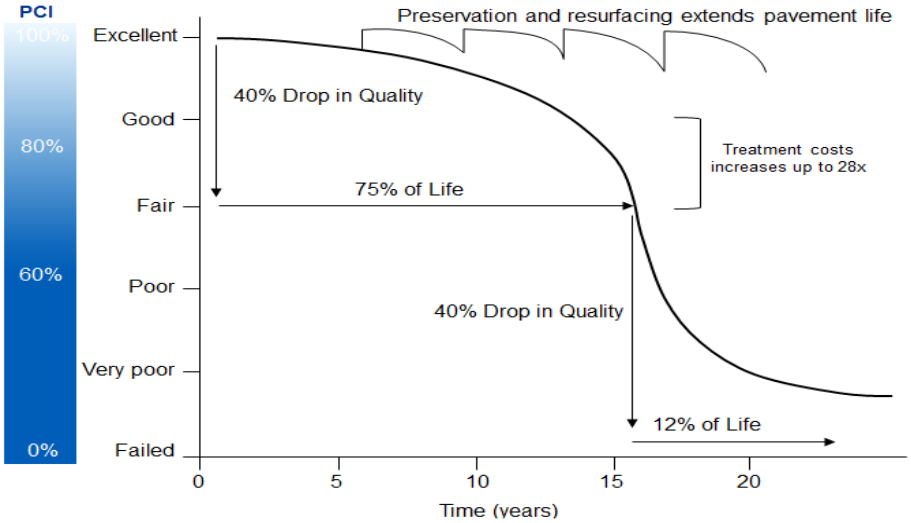
Chart 1. Pavement conditions on major urban roads in California's largest urban areas and statewide.

Location	Poor	Mediocre	Fair	Good
Los Angeles	62%	21%	8%	9%
Riverside-San Bernardino	27%	27%	16%	30%
Sacramento	48%	22%	9%	21%
San Diego	32%	28%	14%	26%
San Francisco-Oakland	51%	23%	12%	14%
San Jose	49%	29%	9%	13%
California Statewide	**35%**	**23%**	**12%**	**29%**

Source: TRIP analysis of Federal Highway Administration data.

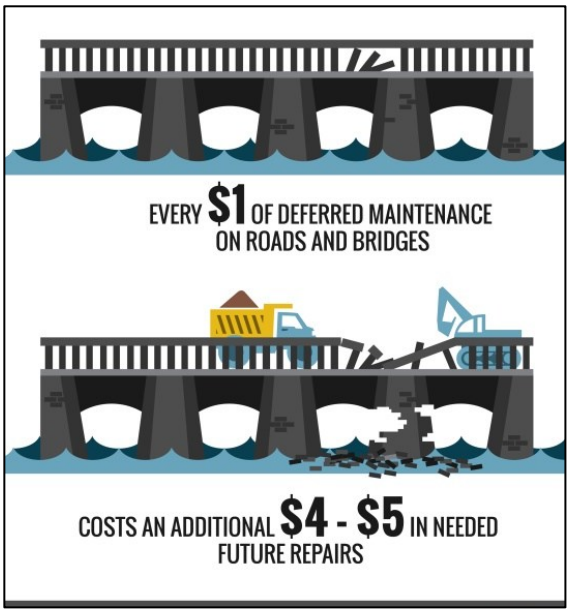
Pavement failure is caused by a combination of traffic, moisture and climate. Moisture often works its way into road surfaces and the materials that form the road's foundation. Road surfaces at intersections are more prone to deterioration because the slow-moving or standing loads occurring at these sites subject the pavement to higher levels of stress. It is critical that roads are fixed before they require major repairs because reconstructing roads costs approximately four times more than resurfacing them.[14] As roads and highways continue to age, they will reach a point of deterioration where routine paving and maintenance will not be adequate to keep pavement surfaces in good condition and costly reconstruction of the roadway and its underlying surfaces will become necessary.

Chart 2. Pavement Condition Cycle Time with Treatment and Cost.



Source: North Carolina Department of Transportation (2016). [2016 Maintenance Operations and Performance Analysis Report.]

Long-term repair costs increase significantly when road and bridge maintenance is deferred, as road and bridge deterioration accelerates later in the service life of a transportation facility and requires more costly repairs. A [report on maintaining pavements] found that every $1 of deferred maintenance on roads and bridges costs an additional $4 to $5 in needed future repairs.[15]



THE COST TO MOTORISTS OF ROADS IN INADEQUATE CONDITION

TRIP has calculated the additional cost to motorists of driving on roads in poor, mediocre or fair condition. When roads are in poor, mediocre or fair condition – which may include potholes, rutting or rough surfaces – the cost to operate and maintain a vehicle increases. These additional vehicle operating costs (VOC) include accelerated vehicle depreciation, additional vehicle repair costs, increased fuel consumption and increased tire wear. TRIP estimates that additional VOC borne by California motorists as a result of deteriorated road conditions is $24.5 billion annually, an average of $885 per driver statewide.[16] The chart below shows additional VOC per motorist in the state's largest urban areas.

Chart 3. Vehicle operating costs per motorist as a result of driving on deteriorated roads.

Location	VOC
Los Angeles	$1,186
Riverside-San Bernardino	$712
Sacramento	$988
San Diego	$796
San Francisco-Oakland	$1,048
San Jose	$1,040
California Statewide	**$24.5 Billion**

Source: TRIP estimates.

Additional vehicle operating costs have been calculated in the Highway Development and Management Model (HDM), which is recognized by the U.S. Department of Transportation and more than 100 other countries as the definitive analysis of the impact of road conditions on vehicle operating costs. The HDM report is based on numerous studies that have measured the impact of various factors, including road conditions, on vehicle operating costs.[17] The HDM study found that road deterioration increases ownership, repair, fuel and tire costs. The report found that deteriorated roads accelerate the pace of depreciation of vehicles and the need for repairs because the stress on the vehicle increases in proportion to the level of roughness of the pavement surface. Similarly, tire wear and fuel consumption increase as roads deteriorate since there is less efficient transfer of power to the drive train and additional friction between the road and the tires.

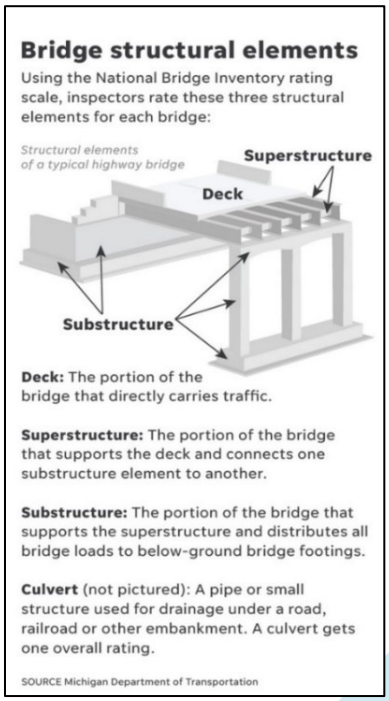
TRIP's additional VOC estimate is based on taking the average number of miles driven annually by a motorist, calculating current VOC based on AAA's driving cost estimates and then using the HDM model to estimate the additional VOC paid by drivers as a result of substandard roads.[18] Additional research on the impact of road conditions on fuel consumption by the Texas Transportation Institute (TTI) is also factored into TRIP's vehicle operating cost methodology.

BRIDGE CONDITIONS IN CALIFORNIA

California's bridges form key links in the state's highway system, providing communities and individuals access to employment, schools, shopping and medical facilities, and facilitating commerce and access for emergency vehicles.

Five percent (1,284 of 25,975) of California's locally and state-maintained bridges are rated in poor/structurally deficient condition.[19] This includes all bridges that are 20 feet or more in length. A bridge is deemed structurally deficient if there is significant deterioration of the bridge deck, supports or other major components.

Bridges that are structurally deficient may be posted for lower weight limits or closed if their condition warrants such action. Deteriorated bridges can have a significant impact on daily life. Restrictions on vehicle weight may cause many vehicles – especially emergency vehicles, commercial trucks, school buses and farm equipment – to use alternate routes to avoid posted bridges.



Redirected trips also lengthen travel time, waste fuel and reduce the efficiency of the local economy.

Forty-eight percent of California's locally and state-maintained bridges have been rated in fair condition.[20] A fair rating indicates that a bridge's structural elements are sound but minor deterioration has occurred to the bridge's deck, substructure or superstructure. The remaining 47 percent of the state's bridges are rated in good condition.[21]

The chart below details the condition of bridges statewide and in California's largest urban areas.

Chart 4. Bridge conditions statewide and in California's largest urban areas.

	POOR/STRUCTURALLY DEFICIENT		FAIR		GOOD		TOTAL BRIDGES
	Number	Share	Number	Share	Number	Share	
Los Angeles	127	3%	1,731	37%	2,872	61%	4,730
Riverside-San Bernardino	80	3%	1,175	46%	1,287	51%	2,542
Sacramento	55	4%	735	47%	762	49%	1,552
San Diego	39	2%	724	44%	869	53%	1,632
San Francisco-Oakland	115	8%	756	55%	503	37%	1,374
San Jose	50	5%	550	53%	442	42%	1042
CALIFORNIA STATEWIDE	**1,284**	**5%**	**12,452**	**48%**	**12,239**	**47%**	**25,975**

Source: TRIP analysis of Federal Highway Administration National Bridge Inventory (2025).

Most bridges are designed to last 50 years before major overhaul or replacement, although many newer bridges are being designed to last 75 years or longer. In California, 54 percent of the state's bridges were built in 1969 or earlier.[22]

The service life of bridges can be extended by performing routine maintenance such as resurfacing decks, painting surfaces, ensuring that a facility has good drainage and replacing deteriorating components. But most bridges will eventually require more costly reconstruction or major rehabilitation to remain operable.

TRAFFIC CONGESTION IN CALIFORNIA

Traffic congestion causes significant delays in California, particularly in its larger urban areas, choking commuting and commerce. Traffic congestion robs commuters of time and money and imposes increased costs on businesses, shippers and manufacturers, which are often passed along to the consumer. Increased levels of congestion can also reduce the attractiveness of a location to a business when considering expansion or where to locate a new facility.

Based on the Texas Transportation Institute's 2025 Urban Mobility Report, which analyzes urban traffic congestion levels and provides estimates on the amount of time and the value of lost time and wasted fuel as a result of traffic congestion, the chart below includes the average annual per-driver number of hours and gallons of fuel lost and the cost of lost time and wasted fuel due to congestion in each of California's largest urban areas.

Chart 5. Annual hours lost to congestion, congestion costs and gallons of fuel wasted per driver.

ANNUAL CONGESTION IMPACT PER DRIVER			
Location	Hours Lost	Cost of Lost Time & Fuel	Gallons of Fuel Wasted
Los Angeles	137	$4,029	33
Riverside-San Bernardino	95	$2,057	21
Sacramento	72	$1,681	25
San Diego	88	$2,253	30
San Francisco-Oakland	134	$3,406	30
San Jose	94	$2,023	25

Source: Texas Transportation Institute 2025 Urban Mobility Report.

TRAFFIC SAFETY IN CALIFORNIA

From 2020 to 2025, there were 20,727 traffic fatalities in California, an average of 4,145 fatalities each year. [23] (Data for 2025 is preliminary.) Traffic fatalities spiked nationwide and in California in 2020 and 2021 during the height of the Covid-19 pandemic but have since fallen. In the last five years (2021-2025), the number of traffic fatalities in California has fallen 20 percent and the state's traffic fatality rate per 100 million vehicle miles of travel (VMT) has fallen 23 percent.[24] But despite recent progress, the number of traffic fatalities in California is still seven percent higher than a decade ago and the traffic fatality rate is 10 percent higher.[25]

The chart below details the number of fatalities and the traffic fatality rate per 100 million VMT in California in 2015 and from 2021 to 2025.

Chart 6. Traffic Fatalities and Fatality Rate per 100M VMT in California, 2015 and 2020-2025.

CALIFORNIA TRAFFIC FATALITY DATA								
	2015	2021	2022	2023	2024	2025	2015-2025 Change	2021-2025 Change
Traffic Fatalities	3,387	4,513	4,539	4,169	3,876	3,630	7%	-20%
Fatalities per 100M VMT	1.01	1.45	1.44	1.32	1.19	1.11	10%	-23%

Source: National Highway Traffic Safety Administration.

Three major factors are associated with fatal vehicle crashes: driver behavior, vehicle characteristics and roadway features. Roadway features that impact safety include the number of lanes, lane widths, lighting, lane markings, rumble strips, shoulders, guard rails, other shielding devices, median barriers and intersection design.

Traffic crashes in California imposed a total of $37.7 billion in economic costs in 2024.[26] TRIP estimates that roadway features, while not the primary factor, were likely a contributing factor in approximately one-third of all fatal traffic crashes, resulting in $12.6 billion in economic costs in California in 2024.[27]

According to a 2023 National Highway Traffic Safety Administration (NHTSA) report, the tangible economic costs of traffic crashes include medical care, lost productivity, legal and court costs, insurance administrative costs, workplace costs, congestion impacts (travel delay, excess fuel consumption and pollution), emergency services, and property damage. NHTSA has also estimated the annual value of the lost quality-of-life cost of traffic crashes causing serious injury or death. The lost quality-of-life costs include the loss of remaining lifespan, extended or lifelong physical impairment, or physical pain.

The chart below shows the average number of people killed in traffic crashes in the state's largest urban areas between 2020 and 2024 and the cost of traffic crashes per driver.[28]

Chart 7. Average fatalities between 2020 and 2024 and the annual cost of crashes per driver.

Location	Average Fatalities 2020-2024	Safety Costs per Driver
Los Angeles	1040	$307
Riverside-San Bernardino	721	$591
Sacramento	280	$441
San Diego	297	$344
San Francisco-Oakland	191	$209
San Jose	129	$250

Source: TRIP analysis of NHTSA data.

From 2020 to 2024, 30 percent of those killed in crashes in California involving motorized vehicles were pedestrians or bicyclists, a total of 5,645 pedestrians and 767 bicyclist fatalities over the five-year period.[29] The chart below details the number of pedestrian, bicyclist and total traffic fatalities in California from 2020 to 2024 and the overall share of pedestrian and bicyclist fatalities.

Chart 8. California bicyclist and pedestrian fatalities 2020-2024.

Year	Total Fatalities	Pedestrian Fatalities	Bicycle Fatalities	Share Bike and Ped.
2020	3,980	1,013	136	**29%**
2021	4,513	1,179	134	**29%**
2022	4,539	1,213	183	**31%**
2023	4,169	1,150	151	**31%**
2024	3,876	1,090	163	**32%**
TOTAL	21,077	5,645	767	**30%**
AVERAGE	**4,215**	**1,129**	**153**	**30%**

Source: TRIP analysis of National Highway Traffic Safety Administration data.

Nationwide, the significant increase in traffic fatalities since the onset of the pandemic appears largely related to increased risks being taken by drivers. In an October 2021 report, the National Highway Traffic Safety Administration found that "after the declaration of the public health emergency in March 2020, driving patterns and behaviors in the United States changed significantly. Of the drivers who remained on the roads, some engaged in riskier behavior, including speeding, failure to wear seat belts, and driving under the influence of alcohol or drugs."[30]

The AAA Foundation for Traffic Safety (AAAFTS) drew similar conclusions about the role of increased risks being taken by drivers during the pandemic. A survey taken of drivers in October and November 2020 by the AAAFTS asked whether their level of driving had decreased, remained the same or increased since the beginning of COVID-19 related restrictions, and whether the motorist had engaged in a variety of risky driving behaviors in the previous 30 days.[31] In a February 2022 brief about the survey, the AAAFTS noted that drivers who maintained or increased their pre-COVID travel levels indicated that they were more likely to engage in risky driving behavior, including speeding, not wearing a seat belt, being impaired and driving aggressively. "It is possible that many of the individuals

who were willing to travel—and even increase their travel—despite the health risks associated with the pandemic were already more willing than average to take other risks," the AAAFTS report found.[32]

In early 2022 the U.S. Department of Transportation adopted a comprehensive National Roadway Safety Strategy, a roadmap for addressing the nation's roadway safety crisis based on a Safe System approach that acknowledges the following: humans make mistakes and are physically vulnerable; traffic deaths and serious injuries are unacceptable; traffic deaths and serious injuries need to be reduced by the provision of a redundant transportation system that reduces or minimizes crashes and ensures that, if crashes do occur, they do not result in serious injury or death.[33]

Chart 9. The Safe System Approach.

Source: Federal Highway Administration.

The Safe System approach, which is also being adopted by state and local transportation agencies has five objectives:

- Safer People: Encourage safe, responsible behavior by people who use our roads, and create conditions that prioritize their ability to reach their destination unharmed.
- Safer Roads: Design roadway environments to mitigate human mistakes and account for injury tolerances, to encourage safer behaviors, and to facilitate safe travel by the most vulnerable users.
- Safer Vehicles: Expand the availability of vehicle systems and features that help to prevent crashes and minimize the impact of crashes on both occupants and non-occupants.
- Safer Speeds: Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.
- Post-Crash Care: Enhance the survivability of crashes through expedient access to emergency medical care, while creating a safe working environment for vital first responders and preventing secondary crashes through robust traffic incident management practices.

Improving safety on the nation's roadways will require that additional steps are taken to make further progress in achieving the Safe System's objectives. NHTSA, which provides states with roadway

safety grants, requires states to submit annually a state highway safety plan. The state plans outline numerous steps states are taking to improve traffic safety. Elements of these state roadway safety plans aimed at addressing the Safe System objectives include:

- Safer People: education on speeding, impaired or disadvantaged driving; education on safe pedestrian and bicycling behavior; education on driving safely around large commercial vehicles; enforcement of commercial driver license and vehicle weight requirements; extension of safety belt laws and their enforcement to include all passenger vehicle occupants; enhancing enforcement action of speeding, impaired, aggressive and distracted driving, particularly at high-risk locations; increase penalties, particularly for repeat offender drivers; and increased enforcement at work zones.
- Safer Roads: converting intersections to roundabouts; removing or shielding roadside objects; the addition of left-turn lanes at intersections; improved signalization and lighting at intersections; adding or improving median barriers; improved roadway lighting; adding centerline or shoulder rumble strips; improving pedestrian and bicycle facilities, including sidewalks and bike lanes and providing pedestrian crossing islands; improved work zone safety measures; wider lanes and paved shoulders; upgrading roads from two lanes to four lanes; providing or improving lane markings; updating rail crossings; eliminating vertical pavement drop-offs; and providing large truck parking spaces.
- Safer Vehicles: Support the development, testing and deployment of connected and autonomous vehicle technology such as collision avoidance, lane departure avoidance systems and turning detection systems.
- Safer Speeds: Where appropriate, provide roadway features to encourage safer speeds, including traffic roundabouts and curb extensions; improved signage and dynamic speed signing at high-risk locations; education on the consequences of speeding; and increased speeding enforcement, particularly at high-risk locations.
- Post-Crash Care: Reduce crash response time including the use of emergency vehicle preemption technology; improve emergency response to multi-vehicle or hazardous material crashes; and increase access to level one or two trauma centers for seriously-injured crash victims.

Improving safety on California's roadways can be achieved through further improvements in vehicle safety; improvements in driver, pedestrian, and bicyclist behavior; and a variety of improvements in roadway safety features. The severity of serious traffic crashes could be reduced through roadway improvements, where appropriate, such as converting intersections to roundabouts; removing or shielding roadside objects; the addition of left-turn lanes at intersections; the signalization of intersections; adding or improving median barriers; improved lighting; adding centerline or shoulder rumble strips; providing appropriate pedestrian and bicycle facilities, including sidewalks and bicycle lanes; providing wider lanes, wider and paved shoulders; upgrading roads from two lanes to four lanes; providing better road and lane markings; and updating rail crossings.

The U.S. has a $146 billion backlog in needed roadway safety improvements, according to a 2017 report from the AAA Foundation for Traffic Safety. The report found implementing these cost-effective and needed roadway safety improvements on U.S. roadways would save approximately 63,700 lives and reduce the number of serious injuries as a result of traffic crashes by approximately 350,000 over 20 years.

FREIGHT TRANSPORTATION IN CALIFORNIA

As the largest national gateway for international trade and domestic commerce, California's economy depends on an efficient, integrated, sustainable, and multimodal freight transport system.[34] The state's freight sector is broadly defined to encompass industries that heavily rely on the transportation of their raw materials, intermediate goods and components, and their finished products. The sector includes businesses in the transportation, warehousing, utilities, trade, manufacturing, construction, agriculture, and mining industries.[35]

California's freight transportation system includes 3,054 miles on its National Highway Freight Network, 12 seaports, 12 airports with cargo operations, two Class I railroads and 27 Class III railroads, three existing and one future commercial land border ports of entry with Mexico, approximately 19,390 miles of hazardous liquid and natural gas pipelines, and a large warehousing and distribution sector.[36]

Technological innovations are having a significant impact on current and future freight demand in California. These innovations include the growth of e-commerce, which is increasing the need for strategically located warehouses and timely local deliveries; the automation of marine terminals, warehouses and vehicles; and the use of robotics in logistic facilities resulting in improved supply chain efficiencies.[37]

In 2024 California's freight system moved 1.4 billion tons of freight, valued at $2.8 trillion.[38] From 2024 to 2050, freight moved annually in California by trucks is expected to increase 68 percent by weight and 101 percent by value (inflation-adjusted dollars).[39] This anticipated growth in freight transport in California, and the rest of the U.S., is a result of further economic growth, changing business and retail models, increasing international trade, and rapidly changing consumer expectations that place an emphasis on faster deliveries, often of smaller packages or payloads.

Local, regional and state economic performance is improved when a region's surface transportation system is expanded or repaired. This improvement comes as a result of the initial job creation and increased employment created over the long-term because of improved access, reduced transport costs and improved safety.

The ability of California's, and the nation's, freight transportation system to accommodate the growing demand for freight movement efficiently and safely could be hampered by inadequate transportation capacity, a lack of adequate safety features on some transportation facilities, institutional barriers to enhancing the nation's freight facilities, a lack of adequate funding for needed improvements to the freight network, and a shortage of drivers.

Caltrans' California Freight Mobility Plan 2020 outlines the state's plans to make further improvements to its multimodal freight system that can support a transportation system that can meet current and future freight demands, while also protecting the environment.

Highway access has a significant impact on the competitiveness of a region's economy. Increasingly, companies are looking at the quality of a region's transportation system when deciding where to re-locate or expand. Regions with congested or poorly maintained roads may see businesses relocate to areas with a smoother, more efficient and more modern transportation system.

IMPROVING TRANSPORTATION SAFETY, RESILIENCY AND EFFICIENCY

Recognizing that extreme weather, sea level change, wildfires, and changes in environmental conditions may threaten the condition and longevity of the nation's transportation infrastructure, transportation agencies have begun to assess vulnerabilities and consider the resilience of their transportation assets during the transportation planning process. Transportation agencies across the

country have begun to incorporate resilience in asset management plans, addressing resilience in project development and design, and optimizing operations and maintenance practices.[40]

Caltrans has assessed vulnerability of its transportation assets that could include increased erosion rates, exacerbated bridge scour, intensified and enlarged geo-hazards, expanded areas vulnerable to flooding, and impacts due to wildfires.[41] The costs of these risks could include significant mitigation, relocation, resilience and reconstruction costs.[42] Caltrans is prioritizing its transportation assets for adaptation based on their potential risk level and the potential impact on the public if a bridge or route was damaged, requiring a detour of traffic.[43] The Los Angeles wildfires in early 2025 are one such example of significant transportation system impacts shutting down key highways for months to repair from damage.

Based on the importance of maximizing the level and safety of mobility provided by its transportation system, transportation agencies are adopting Transportation Systems Management and Operations (TSMO) practices and incorporating improved resiliency into their transportation network. While a TSMO program does not eliminate the need for capacity expansions along some routes, it helps enhance the mobility of an existing corridor as much as possible.

A TSMO program adopts an integrated set of strategies to improve traffic flow and safety on a portion of a roadway, including work zone management, traffic incident management, freight management, traveler information, traffic signal coordination, ramp management, transit management and improved bicycle and pedestrian crossings.[44] The benefits of a TSMO can include reduced traffic congestion, reduced fuel consumption and reduced emissions.

CALIFORNIA TRANSPORTATION FUNDING

Investment in California's roads, highways and bridges is funded by local, state and federal governments. A lack of sufficient funding at all levels will make it difficult to adequately maintain and improve the state's existing transportation system.

In April 2017, the California legislature enacted SB 1 -- the Road Repair and Accountability Act. SB 1 increased state revenues for transportation by increasing the state's gasoline and diesel taxes, implementing a transportation investment fee on vehicles and initiating an annual fee on zero emission vehicles.[45] It is estimated that SB 1 will increase state revenues for California's transportation system by an average of $5.2 billion annually through 2027.[46] Each year, the SB 1 funding package is expected to provide an average additional: $1.8 billion for the maintenance and rehabilitation of state-maintained highways; $1.7 billion for the maintenance and rehabilitation of locally maintained roads and streets; $750 million for improvements to public transit; $380 million for traffic congestion relief including roadway capacity expansion; $310 million for improvements to freight corridors; $100 million for improved pedestrian and bicycling facilities; and $25 million for freeway service patrols.[47]

In addition to state funds, the federal government is a critical source of funding for California's roads, highways, bridges and transit systems and provides a significant return in road and bridge funding based on the revenue generated in the state by the federal motor fuel tax. Most federal funds for highway and transit improvements in California are provided by federal highway user fees, largely an 18.4 cents-per-gallon tax on gasoline and a 24.4 cents-per-gallon tax on diesel fuel.

The federal Infrastructure Investment and Jobs Act (IIJA), signed into law on November 2021, provides $25.3 billion in federal funds to the state for highway and bridge investments in California over five years, representing a 29 percent increase in annual federal funding for roads and bridges in the state over the previous federal surface transportation program.[48] The IIJA expires on September 30,2026.

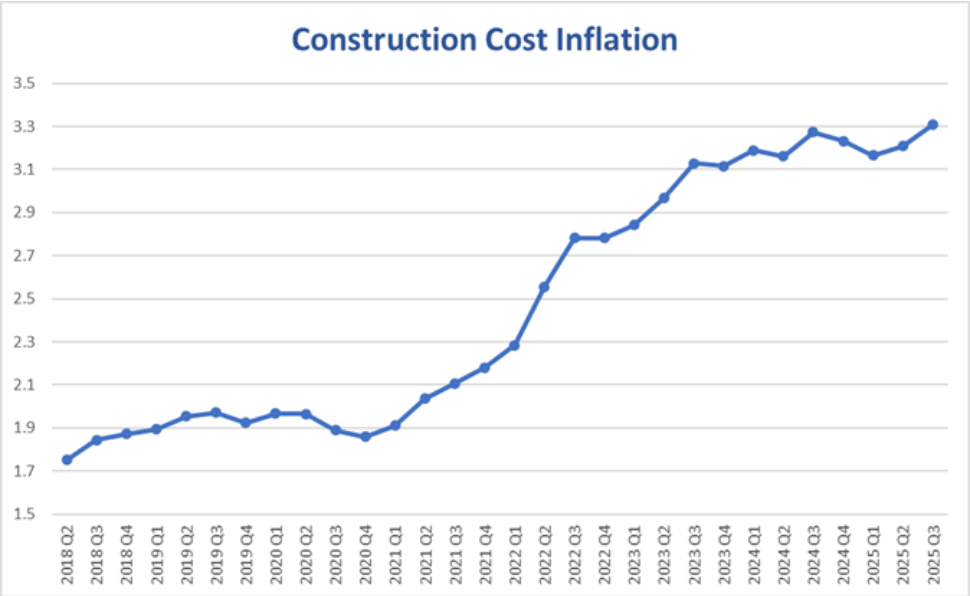
Increasing vehicle fuel efficiency, wider adoption of electric and hybrid vehicles and inflation in highway construction costs will hamper the ability of revenue from state and federal motor fuel taxes

and other sources of state and federal transportation funding to keep pace with the state's transportation needs.

In the first quarter of 2025, hybrid vehicles, plug-in hybrid electric vehicles, and battery electric vehicles made up approximately 22 percent of total new light-duty vehicle sales in the U.S.[49] The average fuel efficiency of U.S. passenger vehicles increased from 20 miles per gallon in 2010 to 24.5 miles per gallon in 2020. Average fuel efficiency is expected to increase another 31 percent by 2030, to 32 miles per gallon, and increase 51 percent by 2040, to 37 miles per gallon.[50]

Increasing inflation has also hampered California's ability to complete needed projects and improvements, as the available funding now covers significantly less work. The Federal Highway Administration's national highway construction cost index, which measures labor and materials cost, increased by 52 percent from the beginning of 2022 through the third quarter of 2025. [51]

Chart 10. FHWA's national highway construction cost index.



Source: Federal Highway Administration.

Highway and bridge spending multiplies through the economy by stimulating additional output. A 2021 macroeconomic analysis by IHS Markit found that that every dollar spent on highway and bridge improvements results in $3.4 dollars in combined direct, indirect and induced output from industries throughout the economy, resulting in a multiplier for highway and bridge investment of 3.4.[52]

CONCLUSION

As California works to enhance its thriving, growing and dynamic state, it will be critical that it is able to address the most significant transportation issues by providing a 21st century network of roads, highways, bridges and transit that can accommodate the mobility demands of a modern society.

Numerous projects to improve the condition and expand the capacity of the state's roads, highways, bridges and transit systems will not proceed without a substantial boost in funding. California will need to continue to modernize its surface transportation system by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient, safe and reliable mobility for residents, visitors and businesses. Making needed improvements to the state's roads, highways, bridges and transit systems would provide a significant boost to the economy by creating jobs in the short term and stimulating long-term economic growth as a result of enhanced mobility and access.

If California is unable to complete needed transportation projects, it will hamper the state's ability to improve the condition and efficiency of its transportation system or enhance economic development opportunities and quality of life.

# # #

ENDNOTES

[1] Bridge condition data and safety data for each urban area includes the counties noted: Los Angeles: Los Angeles and Orange Counties; Riverside-San Bernardino: Riverside and San Bernardino Counties; Sacramento: El Dorado, Placer, Sacramento and Yolo Counties; San Diego: San Diego County; San Francisco-Oakland: Alameda, Marin, San Francisco and Sans Mateo Counties; San Jose: San Benito and Santa Clara Counties.
[2] U.S. Census Bureau Quick Facts (2025).
[3]Highway Statistics (2024). Federal Highway Administration. DL-1C.
[4] Federal Highway Administration – Traffic Volume Trends. https://www.fhwa.dot.gov/policyinformation/travel_monitoring/tvt.cfm
[5] TRIP analysis of Bureau of Economic Analysis data (2025). https://apps.bea.gov/itable/iTable.cfm?ReqID=70&step=1#reqid=70&step=1&isuri=1
[6] Ibid.
[7] Federal Highway Administration: Highway Statistics 2024. TRIP analysis of Charts HM-63 and HM-64.
[8] Ibid.
[9] Ibid.
[10] Ibid.
[11] Ibid.
[12] Ibid.
[13] Ibid.
[14] Selecting a Preventative Maintenance Treatment for Flexible Pavements. R. Hicks, J. Moulthrop. Transportation Research Board. 1999. Figure 1.
[15] Pavement Maintenance, by David P. Orr, PE Senior Engineer, Cornell Local Roads Program, March 2006.
[16] TRIP calculation.
[17] Highway Development and Management: Volume Seven. Modeling Road User and Environmental Effects in HDM-4. Bennett, C. and Greenwood, I. 2000.
[18] Your Driving Costs. American Automobile Association. 2024.
[19] Federal Highway Administration National Bridge Inventory. 2025. https://www.fhwa.dot.gov/bridge/nbi/no10/county25.cfm#ca
[20] Ibid.
[21] Ibid
[22] TRIP analysis of Federal Highway Administration National Bridge Inventory data (2025).
[23] TRIP analysis of National Highway Traffic Safety Administration and Federal Highway Administration data, 2015-2025.
[24] Ibid.
[25] Ibid.
[26] TRIP. *Addressing America's Traffic Safety Crisis.* July 2025. https://tripnet.org/reports/addressing-americas-traffic-safety-crisis-july-2025/
[27] Ibid.
[28] Ibid.
[29] TRIP analysis of National Highway Traffic Safety Administration and Federal Highway Administration data, 2020-2024.
[30] Continuation of Research on Traffic Safety During the COVID-19 Public Health Emergency: January-June 2021. U.S. Department of Transportation National Highway Traffic Safety Administration.
[31] Self-Reported Risky Driving in Relation to Changes in Amount of Driving During the COVID-19 Pandemic. February 2022. AAA Foundation for Traffic Safety.
[32] Ibid.
[33] U.S. Department of Transportation National Roadway Safety Strategy, 2022. https://www.transportation.gov/NRSS
[34] Caltrans (2021). California Freight Mobility Plan. P. 5. https://dot.ca.gov/programs/transportation-planning/division-of-transportation-planning/sustainable-freight-planning/cfmp-2020
[35] Ibid.
[36] Ibid. P. 5.
[37] Ibid. P. 7
[38] TRIP analysis of Federal Highway Administration Freight Analysis Framework data, U.S. Department of Transportation. Freight Analysis Framework (FAF) (ornl.gov).
[39] Ibid.

[40] Federal Highway Administration (2019). Resilience.

https://www.fhwa.dot.gov/environment/sustainability/resilience/

[41] Caltrans (2021). 2021 State Highway System Management Plan. P. 7-4. https://dot.ca.gov/-/media/dot-media/programs/asset-management/documents/2021-shsmp-final-10-06-21-a11y.pdf

[42] Ibid.

[43] Ibid. P. 7-5.

[44] Federal Highway Administration (2019). What is TSMO? https://ops.fhwa.dot.gov/tsmo/index.htm#q1

[45] Legislative Analyst's Office (2018). Overview of the 2017 Transportation Funding Package. http://lao.ca.gov/Publications/Report/3688

[46] Ibid.

[47] Ibid.

[48] Federal Highway Administration (2024). Bipartisan Infrastructure Law. Additional analysis by TRIP. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/funding.cfm

[49] U.S. Energy Information Administration. Today in Energy. *Hybrid vehicle sales continue to rise as electric and plug-in vehicle shares remain flat.* May 30, 2025. https://www.eia.gov/todayinenergy/detail.php?id=65384

[50] KPMG. (2019). Evaluating Sustainable Transportation Funding Options.

[51] Federal Highway Administration (2025). National Highway Construction Cost Index. https://www.fhwa.dot.gov/policy/otps/nhcci/

[52] IHS Markit (2021). Economic Impacts of Transportation Infrastructure. ARTBA_EIA_IIJA_Report_Sept2021.pdf