



The California Asphalt Pavement Association

BACKGROUNDER

THE ASPHALT INDUSTRY IN CALIFORNIA / ROAD CONDITION CRISIS

About the industry & CalAPA

The asphalt industry in California and its related businesses are an integral part of California's vast economy and its cherished quality of life. The industry includes asphalt producers, oil refiners, material suppliers, paving contractors, engineering firms, testing labs, equipment manufacturers and other related firms employing more than 200,000 well-paid workers in California. **Asphalt covers about 93 percent of all roadways and parking lots in California**ⁱ and for more than a century has been considered the pavement of choice for its versatility, durability, value, smooth ride and, in recent years, its flourishing "green" credentials. New technology, equipment and best-practices are resulting in **modern asphalt pavement designs that will last 50 years or more, consume less energy, are 100 percent recyclable, help eliminate mountains of discarded vehicle tires and prevent water and air pollution.**



The California Asphalt Pavement Association, originally founded in 1953, is a non-profit trade association that focuses exclusively on the asphalt pavement industry in California.

CalAPA has an educational mission and works closely with Caltrans, local agencies, university researchers and other stakeholders, and has strategic alliances with public agencies and national organizations. CalAPA is dedicated to serving the industry, working in partnership with public agencies, with the goal of improving our asphalt pavement infrastructure for the benefit of all Californians.

CalAPA represents about 180 member firms that operate in hundreds of locations and employ tens of thousands of workers who help build roads, airfields, reservoirs, parking lots and other vital infrastructure projects in every part of the state.

Roads: The backbone of our transportation system

More than 2 million miles of paved roads connect our nation's cities to towns and the countryside; farms to the markets; factories to stores. These roads take Californians from their homes to their places of work, recreation, study, and worship. With just-in-time inventory systems, the highway is the warehouse, and getting materials to where they need to go – on time – is essential to the process.

In the second half of the 20th century, interstate highways, constructed largely with asphalt, have resulted in California's long period of economic prosperity. California's massive economy literally rides on the asphalt pavements that crisscross the state and connect us with the rest of the nation. Asphalt pavements are the principal physical platform for moving people and freight in the United States, **comprising 94 percent of all paved roadways in America (about 93 percent in California)**ⁱⁱ. About 70

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percent of all asphalt produced by CalAPA members is intended for public roads, highways and freeways. The rest is used for private roads, airfields, parking lots and other facilities.ⁱⁱⁱ

California has the largest and most complex roadway system in America, totaling 362,000 lane-miles. The breakdown is 179,000 lane-miles in cities (49 percent), 133,000 lane-miles in counties (37 percent) and 50,000 in the state highway system (14 percent), according to Caltrans. Numerous studies have found that **more than 80 percent of all trips are made by car.**^{iv} Walking is second, at about 10 percent of all trips, and all other modes are in single digits. All travel modes except rail require roads, and even rail must have a system of roads to feed riders to stations.

Roads are vital to goods-movement in the state, whether it is getting crops to market or goods from our busy ports to destinations across the state and the country. The Office of Freight Management at the Federal Highway Administration estimates that the amount of freight moved on California highways will increase from 971 million tons in 2002 to 2,179 million tons in 2035, an increase of more than 100 percent.^v

Our system of roads, highways and bridges is falling apart, costing lives, money

Our pavements, due largely to neglect, is now at great risk. The current condition of the Interstate Highway System, designed and built in the 20th century, is not capable of sustaining America's economic growth in the 21st century. The 44,000 miles of Interstate Highway pavements and bridges were neither designed nor built to handle the traffic loads—both in volume and weight—that exist today or that are projected into the future.



In a study recently released by the Transportation Construction Coalition, researchers found that **the unsafe condition of America's roads and bridges is a contributing factor in more than half of the 42,000 annual motor vehicle deaths** in this country and 38 percent of all non-fatal injuries.^{vi} Moreover, those accidents **cost us \$217 billion a year in property damage, medical costs and productivity losses,** not to mention untold suffering. That's more than 3 ½ times the amount of money government at all levels is investing annually in roadway capital improvements, according to the Federal Highway Administration.

The most recent “Statewide Transportation Needs Assessment” prepared for the California Transportation Commission concluded that “California’s transportation system is in jeopardy.” A 2007 statewide pavement condition survey found more than **one-quarter of California’s lane-miles to be “distressed,”** which was defined as bad structural conditions or that provide a poor ride quality to users. According to the report, 26 percent of California roadways (12,998 lane miles) are distressed and require rehabilitation & reconstruction work, and 32 percent (16,055 lane miles) require pavement maintenance.^{vii}

California is home to four of the top 25 large urban areas (500,000+ population) and seven of the top 25 mid-sized urban areas (200,000-500,000 population) with the highest share of roads in poor condition, according to a report by TRIP, a national transportation research group. **Some of the annual operating costs to motorists for this lack of maintenance are about \$1,000 per year.**^{viii}

Our transportation funding crisis

Over the past century, most of California's vast system of freeways and highways was paid for by transportation system users in the form of fuel taxes. But those taxes have not kept pace with inflation. Caltrans recently reported that the cost of transportation system preservation (rehabilitation and maintenance) is estimated at **\$341 billion to bring California transportation facilities into a state of good repair within 10 years**. The cost of system expansion and system management over the same period is estimated at \$197 billion based on fiscally constrained regional transportation plans. The revenue from all sources during that same 10-year period is estimated at \$240 billion, which represents about 45 percent of the estimated total need, or a shortfall of \$298 billion.

The state of our local streets, which comprise 81 percent of California roadways, is just as dire. In the "California Statewide Local Streets and Roads Needs Assessment," researchers described the system as "in crisis" and "falling into disrepair at an alarming rate." The report projected that, unless something is done soon, **25 percent of local roads will be in the "failed" category in 10 years**.^{ix} The report, a collaborative effort of several groups, including the League of California Cities and the California State Association of Counties, concluded, "Either pay now to update communities' deteriorating thoroughfares, or pay much more later to replace them."

Transportation funding in California can be represented as a three-legged stool, with federal, state and local components. On the local level, voters in 24 of California's 58 counties have approved sales tax measures devoted to transportation improvements by a two-thirds vote. At the state level, on April 29, 2017, the governor signed SB1, which represents an historic investment in California's transportation infrastructure, and the first time fuel taxes have been adjusted in California since 1994. The Road Repair & Accountability Act of 2017 has key protections to ensure the priority for funds is on protecting our existing infrastructure, and agencies are working to get improvement projects underway quickly.

On the federal level, which is the third leg of the funding stool, President Donald Trump has at various times called for a \$1 trillion infrastructure plan, but his guidance document released in early 2018 contains few details and does not address the chronic shortfalls in the Highway Trust Fund. Stakeholders, including the U.S. Chamber of Commerce, are proposing a prudent, long-term and sustainable fix that includes adjusting of the federal fuel tax over five years.

Adequate investments in transportation are good for the economy

Providing more funding for road construction creates jobs and boosts economic activity. Recent studies have shown that **every \$1 spent on new construction generates \$3.60 in economic activity** in other industries. **Every \$1 billion of new construction creates 50,000 new jobs** (13,000 jobs in the construction industry and 34,000 jobs in suppliers and services).^x

The most recent "Statewide Transportation Needs Assessment" prepared for the California Transportation Commission found **that adequate investments in transportation infrastructure would add between 77,000 and 108,000 jobs annually in California. Over 20 years the activity could pump between \$290 billion and \$317 billion into the state's economy**.^{xi}

Asphalt is the ‘green’ pavement

Asphalt is the world’s most recycled product, and 100 percent of reclaimed asphalt can be recycled into new or rehabilitated roadways.^{xii} Rubberized asphalt utilizes ground-up tires that otherwise might end up in our landfills. For example, a 2-inch overlay of Rubberized Hot Mix Asphalt (RHMA) utilizes about 2,000 scrap tires per lane mile. Warm Mix Asphalt, which is rapidly gaining acceptance in California, can be produced at lower temperatures, reducing fuel consumption and emissions. Incorporating reclaimed asphalt roofing shingles into pavement mixes also is gaining momentum in California.



Porous asphalt pavements are growing in popularity to mitigate storm-water runoff and reduce pollution in our streams, rivers, lakes and the ocean. The use of porous asphalt can also earn builders “LEED” credits for innovative “green” design and lowering energy consumption.^{xiii} Asphalt plants have made dramatic leaps over the years in controlling emissions.

New research, including from the University of California Pavement Research Center and Arizona State University, has shown that certain pavement types, such as porous asphalt (an “open-graded friction course” commonly used on freeways to improve traction and drainage), also can reduce air temperatures and lessen “Urban Heat Island Effect” in warm-weather cities that may contribute to GHG emissions.^{xiv}

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ⁱ Source: National Asphalt Pavement Association, Federal Highway Administration data.

ⁱⁱ Source: National Asphalt Pavement Association, Federal Highway Administration *Highway Statistics Report* data.

ⁱⁱⁱ Source: California Asphalt Pavement Association annual survey of members.

^{iv} Source: California Department of Transportation

^v Source: Federal Highway Administration

^{vi} Source: Transportation Construction Coalition

^{vii} Source: California Transportation Commission “Statewide Transportation Needs Assessment”

^{viii} Source: TRIP, a national transportation research group, “Bumpy Road Ahead: America’s Roughest Rides and Strategies to Make Our Roads Smoother.” (2016)

^{ix} Source: California State Association of Counties (CSAC) and League of California Cities.

^x Source: White House Council of Economic Advisers (2017)

^{xi} Source: California Transportation Commission, “Statewide Transportation Needs Assessment.”

^{xii} Source: National Asphalt Pavement Association

^{xiii} Source: National Asphalt Pavement Association, Asphalt Pavement Alliance

^{xiv} Arizona State University, “Unintended Consequences: A Research Synthesis Examining the Use of Reflective Pavements to Mitigate the Urban Heat Island Effect.” (2013)