

## The Interstate Highway System in California:

# Saving Lives, Time and Money

*A report on the condition, impact, use and future needs  
of California's Interstate Highway System*

### Executive Summary

Fifty years ago the nation embarked on its greatest public works project, the construction of the Interstate Highway System. President Dwight D. Eisenhower provided strong support for the building of an Interstate Highway System that would improve traffic safety, reduce travel times and improve the nation's economic productivity.

Serving as the most critical transportation link in the state's economy, California's Interstate highways have significantly improved the lives of the state's residents and visitors. In California, and throughout the nation, the Interstate system allows for high levels of mobility by reducing travel times and providing a significantly higher level of traffic safety than other routes.

But 50 years after President Eisenhower articulated a vision for the nation's 20<sup>th</sup> century transportation system, California and the nation again face a challenge in modernizing the system of aging, increasingly congested Interstate highways. If California residents are to continue to enjoy their current level of mobility on Interstate highways and bridges, the state will need to make a commitment to providing the public with a 21<sup>st</sup> Century highway system.

In this report, TRIP looks at the history and benefits of California's Interstate Highway System, its current use and condition and the future needs of the state's most critical transportation system. Sources of data for this study include the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the National Highway Traffic Safety Administration (NHTSA), the Transportation Research Board, the U.S. Census Bureau, the California Transportation Commission, the Office of the Governor, the Business, Transportation and Housing Agency, the California Department of Transportation (Caltrans), the (California) Legislative Analyst's Office, the Public Policy Institute of California, and the Texas Transportation Institute. The major findings of the report are:

**Without the Interstate Highway System, Californians would waste a significant amount of fuel and time on the roads, and pay higher prices for basic services.**

- The state's Interstates save the average California resident \$2,766 per year in reduced accident-related costs, the value of time saved, reduced motor fuel consumption and reduced consumer expenses for apparel, food, housing and transportation. The total statewide savings is approximately \$99.3 billion.

- Improved traffic safety provided by the Interstate system saves the state \$3.2 billion annually and the average state resident \$88 annually in reduced healthcare costs and costs associated with lost productivity.
- By reducing travel times, the Interstate system saves each California resident 74 hours of travel time annually – 2.7 billion hours statewide.
- Because it provides more efficient and direct routes, the Interstate system saves California residents approximately \$42.6 billion annually in the value of saved time and fuel – \$1,185 per person (\$1,097 in time and \$88 in fuel).
- California's Interstate system annually reduces statewide motor fuel consumption by approximately 1.3 billion gallons.
- Consumer costs have been significantly lowered by the Interstate Highway System. The cost of transporting goods has been reduced because the time it takes to make trips has been decreased.
- TRIP estimates that consumer costs in California for apparel, food, housing and transportation are reduced by \$53.6 billion annually, or \$1,493 per state resident, as a result of the Interstate Highway System.
- TRIP's estimates of reduced consumer costs are based on consumer expenditure estimates by the U.S. Department of Labor and estimates of the Interstate's impact on consumer costs collected in a survey of transportation economists.

**Today, three-quarters of California's urban Interstates are congested as a result of continued growth in travel.**

- Seventy-five percent of California's urban Interstates are considered congested because they carry traffic levels that result in significant delays during peak travel hours.
- California's urban interstates are the busiest in the country, with the highest amount of traffic per lane mile among all states. The average lane mile of urban Interstate carried 22,264 vehicles per day in 2004.
- Travel is increasing at a rate five times faster than capacity has been added. Vehicle miles traveled on California's Interstates between 1990 and 2004 increased 36 percent, from approximately 66 billion to 90 billion miles traveled. Between 1990 and 2004, the number of lane miles increased by 7 percent (from 13,854 to 14,772), but travel per lane mile increased by 28 percent during that period.

**California faces a significant challenge over the next 20 years in maintaining the physical condition of its aging Interstate system and expanding Interstate capacity to address growing traffic congestion.**

- Vehicle miles of travel in California have increased by 457 percent since Interstate construction began in 1956. Since 1956, the number of vehicles has increased by 380 percent, and the state's population has increased by 163 percent.
- By the year 2026, travel on California's Interstate highways is expected to increase by 40 percent.
- In ten years, daily congestion is expected to increase by 35 percent.
- Not only will California's population-dense regions experience worsening congestion, severe congestion will be seen in the Inland Empire and the northernCentral Valley.
- Urban traffic in some areas of California has reached capacity, resulting in a growth in the duration of severe congestion. As population, vehicles, and travel grow, peak periods of congestion will increase in duration.
- With increasing congestion and duration of peak periods, the Interstate highway system will be challenged to deliver the cost benefits associated with enhanced mobility.
- Increasing urban traffic congestion—combined with a projected 187 percent increase in the dollar value of exports by 2020—may erode the logistics advantages that California producers, distributors, and ports have over competitors as the cost and reliability of shipping goods is negatively affected.
- Transportation programs are losing ground. The gas tax value has deteriorated over time and is inadequate to fund existing, planned preservation projects. The sales tax on gasoline goes toward system improvements (the STIP), but does not now fund the STIP program at its level five years ago.
- Current transportation funding sources will not address even short-term needs, estimated by the Governor's Office at \$45 billion by 2011.

### **Deficiencies exist on California's Interstate roads and bridges.**

- Thirteen percent of California's Interstate pavements are in poor condition and an additional 25 percent are in mediocre condition. Another 19 percent of Interstate pavements are in fair condition and the remaining 42 percent are in good condition.
- Thirteen percent of the California's Interstate bridges are rated structurally deficient and another 12 percent are rated functionally obsolete.
- A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

**California's Interstates provide a network of highways with a variety of safety designs that greatly reduce the likelihood of serious accidents. Travel on California's Interstate highways is more than twice as safe as travel on all other roadways in the state.**

- California's Interstate highways have saved approximately 25,000 lives in the state since 1956, based on an estimate of the number of traffic deaths that would have occurred if California did not have Interstate highways.
- The number of lives saved by the Interstate was calculated by estimating the additional fatalities that would have occurred had Interstate traffic been carried by other major roadways in the state, which often have higher traffic fatality rates and may lack the safety features common to Interstate routes.
- California's Interstate system has saved an average of 550 lives per year over the last 10 years, based on the above criteria.
- The features that make Interstates safer than other roads include: a separation from other roads and rail lines, a minimum of four-lanes, gentler curves and often paved shoulders, median barriers and rumble strips to warn drivers when they are leaving the roadway.
- Travel on California's Interstate highways is approximately twice as safe as travel on all other roadways. The fatality rate per 100 million vehicle miles of travel on California's Interstate system in 2004 was .68, while it was 1.47 on non-Interstate routes in California.
- There were 612 traffic fatalities on California's Interstate highways in 2004. Only 15 percent of the 4,120 traffic fatalities that occurred in California in 2004 were on the Interstate system, even though it carried 27 percent of all travel in the state in 2004.

**The Interstate system is the backbone of the California economy and has played a critical role in improving business productivity in the state.**

- Every year, \$924 billion in goods are shipped annually from sites in California and another \$894 billion in goods are shipped annually to sites in California, mostly by truck.
- Sixty-eight percent of the goods shipped annually from sites in California are carried by trucks and another 19 percent are carried by courier services, which use trucks for part of the deliveries. Similarly, 69 percent of the goods shipped to sites in California are carried by trucks and another 15 percent are carried by courier services, which use trucks for part of their deliveries.
- The Interstate system has led to significant increases in economic productivity. Improvements in the highway system have allowed businesses to adopt more efficient logistics practices, which reduce costs for producers and consumers.
- The initial construction of much of the Interstate system provided a tremendous boost to business productivity as a result of more efficient goods shipment. Economists

have estimated that from the initial phase of Interstate construction in 1956 to 1970, the annual rate of return for every dollar of public investment in highway construction was 54 cents, which meant that investments recovered their costs in two years.

- The completion of the vast majority of the Interstate system by the 1980s and the deregulation of the U.S. trucking industry resulted in a significant improvement in the competitiveness of U.S. business. In fact, the cost of moving freight, as measured by U.S. business logistics costs, dropped from 16 percent of U.S. Gross Domestic Product (GDP) in 1980 to nine percent in 2002.

**The Dwight D. Eisenhower National System of Interstate and Defense Highways, which has been called the most ambitious public works project built since the Roman Empire, is the most critical link in the nation's and California's transportation system.**

- Construction of the Interstate system in California started in 1956 and was completed in 1994, providing the state with 25 Interstate routes totaling 2,458 miles, linking the state's largest urban areas and connecting California to the rest of the nation.
- I-80 opened on June 24, 1957, becoming the first California freeway opened under the Federal Highway Act of 1956. However, I-10 was the first California interstate project to go to construction with Interstate construction funds under the 1956 Act.
- The most recent section of California's Interstate system open to traffic I-105, the Century Freeway, completed in 1994. The 17.3-mile freeway extends from Los Angeles International Airport to Norwalk.
- By 1986 the majority of the state's Interstate system was completed: 97 percent of the center-lane miles (2,389 of the eventual 2,458 total) and 92 percent of lane miles (13,663 of today's 14,777 lane miles) had been built.
- California's Interstate system includes just four percent of all roadway lane miles in the state but carries 27 percent of all vehicle travel in the state.