PROJECT GREEN LIGHT:

Moving California's Critical Transportation Improvements Forward

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TRIP
a national transportation research group
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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.

Executive Summary

California's transportation system plays a significant role in the state's development, providing mobility and access for residents, visitors, businesses and industry. The state's roads, highways, rails, public transit systems, ports, bicycle paths and walking routes are the backbone of the Golden State's economy. California's transportation system also provides for a high quality of life and helps make the state a desirable place to live and visit. The condition and quality of its transportation system will play a critical role in California's ability to continue to capitalize on its economic advantages and meet the demands of the 21st Century.

But, ensuring that California achieves its goals for a high quality of life as well as civic and economic growth will require the ability to "green light" the transportation projects in the state that are critically needed to improve key roads, bridges, highways, public transit systems, rail networks and other transportation facilities. Improving critical segments of California's transportation system will enhance economic competitiveness and improve the quality of life for the state's residents and visitors by reducing travel delays and transportation costs, improving access and mobility, enhancing safety, and stimulating sustained job growth.

In this report, TRIP provides information on the 125 transportation improvements in California that TRIP believes are critically needed, including projects in the Los Angeles, Sacramento, San Diego and San Francisco urban areas as well as projects located elsewhere in the state. Information on all projects is included in the appendices. Each project has been rated as having a green light, yellow light or red light, to reflect whether the project has adequate funding, partial funding or limited or no funding available over the next five years. The report also includes information on the development of California's high-speed rail system, which is currently under construction and which will have a significant impact on the state's future level of mobility.

Most of California's currently available transportation funding is already being used to address critical preservation needs on the state's transportation system, leaving insufficient resources to adequately maintain all of the system or address needed improvements. As a result, many of the critically needed transportation improvements in California face either a yellow or red funding light. Supporting the state's need to enhance quality of life and make further gains in economic growth will require a significant boost in local, state and federal funding.

Sources of information include the California Department of Transportation (CALTRANS), the Metropolitan Transportation Commission (MTC), the Sacramento Area Council of Governments (SACOG), the San Diego Association of Governments (SANDAG), the Southern California Association of Governments (SCAG), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the American Association of State Highway and Transportation Officials (AASHTO) and the U.S. Census Bureau. All data used in the report is the latest available.

TRIP has identified road, highway, bridge, rail, transit, maritime, bicycle and pedestrian projects that are critically needed to support a high quality of life and economic growth in California. TRIP has assigned a color to each project - red, yellow or green - based on whether funding is likely to be available for the project by 2020. "Green Light" projects are likely to have funding available by 2020, "Yellow Light" projects are likely to have partial funding in place by 2020 and "Red Light" projects are likely to remain unfunded or have only limited funding available by 2020.

- The critically needed transportation improvements in California include projects to operate, maintain, build, expand or modernize roads, highways, bridges, mass transit systems, rail, maritime, pedestrian and bicycle facilities. These improvements would enhance economic development opportunities throughout the state by increasing mobility and freight movement, easing congestion, and enhancing California's desirability as a place to live, visit and do business.

- TRIP selected needed transportation projects for this report based on the following criteria: short-term economic benefits, including job creation; the level of improvement in the condition of the transportation facility, including safety improvements; the degree of improvement in access and mobility; and the long-term improvement provided in quality of life and regional or state economic performance and competitiveness.

- Information regarding the projects was provided to TRIP by CALTRANS, the MTC, SACOG, SANDAG, and SCAG, in response to a request from TRIP.

- All project cost estimates are preliminary, and may not reflect the final costs, which in many cases will not be determined until the projects have advanced further in the planning and development stage.

- TRIP finds 14 of the state's 125 most needed transportation projects have a green light, to signify that full funding is likely to be available or is anticipated to be available by 2020; 69 projects are rated a yellow light because a portion of needed funding is anticipated to be available by 2020, and 42 projects are rated a red light because no funding or limited funding are expected to be available through 2020 based on current funding.

- In the Los Angeles urban area, TRIP finds that none of the region's 20 most critically needed transportation projects has a green light to signify that full funding is available or is anticipated to be available by 2020; 11 projects are rated a yellow light because either a portion of needed funding is anticipated to be available by 2020 or the funding is uncertain; and nine projects are rated a red light because funding is not currently available and under current funding is not anticipated to be available through 2020.

- The following table details the 20 most critically needed transportation projects in the Los Angeles urban area, as determined by TRIP, to support economic development and a high quality of living and their funding status. Additional information on critically

needed transportation projects in the Los Angeles urban area can be found in Appendix A.

LOS ANGELES URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Convert I-405 HOV lanes to HOT lanes and add two lanes.** This project on I-405 from SR-73 to I-606 would convert the existing HOV lanes to HOT lanes in each direction and add one HOT lane and one general purpose lane. The addition of capacity and managed facilities would ease congestion and improve efficiency.
3	**Extension of the Metro Green Line to LAX.** This project would close a major gap in the regional transit system by providing an extension of the Green Line to LAX from Aviation/Century station to the 96th Street Station on the Crenshaw Line. The improvement will create an important link for residents, business travelers and tourists using LAX, reducing congestion around the airport, improving regional mobility and reducing greenhouse gas emissions.
4	**I-5 Expansion and Interchange Reconstruction from SR-73 to El Toro.** This project would add one general purpose lane in each direction on I-5 from Avery to Alicia, extend a second HOV lane from El Toro to Alicia and reconstruct the Avery and La Paz interchanges. It would provide additional managed lane capacity, eliminate chokepoints and improve accessibility to and from major employment centers.
5	**Extension of the Purple Line Metro.** This project would provide a 2.55 mile extension of the Purple Line Metro with the addition of stations at Wilshire/Rodeo and Century City/Constellation. The expansion will provide a high-capacity, high speed, dependable alternative for commuters between downtown Los Angeles and Century City. The Wilshire Boulevard corridor is one of the nation's most congested arterials.
6	**Add capacity on SR-55 between I-5 and I-405.** This project would add capacity on SR-55 between I-5 and I-405, which is one of the few major facilities that run perpendicular to I-405 and I-5, creating much needed connectivity. It will improve mobility by eliminating chokepoints and addressing travel demand on the corridor.

7	**Expansion of I-5 from SR-55 to SR-133.** This project would add one lane northbound from the truck bypass onramp to SR-55, add one lane southbound from SR-55 to Alton and one auxiliary lane from Alton to the truck bypass. This would improve mobility by eliminating chokepoints and addressing travel demand on the corridor.
8	**Expansion of OCTA Bus Service.** This project would enhance transit service, primarily in the high demand core of Orange County.
9	**Construction of the High Desert Corridor.** This project would construct the High Desert Corridor, including a new freeway and high speed passenger rail from SR-14 in Los Angeles County to SR-18 in San Bernardino County. It would provide an alternative connection between Los Angeles and San Bernardino Counties, facilitate the movement of goods, and provide an alternative corridor to divert significant truck trips away from the core LA metro area. The project will also include a high speed rail connection between the California High Speed Rail in Palmdale and the XpressWest in Victorville.
10	**Implementation of Express Lanes and Managed lanes on I-10.** This project would include the implementation of roadway pricing on I-10 from the Los Angeles County Line to Ford Street, including the conversion of existing HOV lanes into limited access express lanes and the construction of new express lanes that would offer solo drivers a choice to pay a fee and use the available capacity to save time. It will ease congestion and reduce travel times while maximizing the use of the available roadway capacity.
11	**Purple Line Extension from Century City/Constellation to Westwood/VA Hospital.** This project would extend the Metro Purple Line 2.5 miles with the addition of stations at Westwood/UCLA and Westwood/VA Hospital. It will provide a high-capacity, high speed, dependable alternative for commuters to travel between downtown LA and Westwood in just 25 minutes.
12	**Rehabilitation and Replacement of Metro Transit Assets.** This project would rehabilitate or replace Metro's existing transit assets, including bus and rail vehicles, guideway elements, systems, stations and facilities.
13	**Add one HOV Lane on I-5 between SR-55 and SR-57.** This project would add one HOV lane in each direction on I-5 between SR-55 and SR-57. This would provide additional managed lane capacity, improving mobility to and from major employment centers.

14	**Improvements to the SR-57/SR-60 Interchange.** This project would upgrade the existing SR-57/SR-60 interchange to address significant congestion and complex travel patterns. The improvements would enhance regional and corridor mobility and enhance safety.
15	**I-5 Expansion and Improvements from SR-14 to Parker Road.** This project would improve and expand I-5 from SR-14 to Parker Road, including widening of carpool lanes, extension of truck lanes, pavement rehabilitation and bridge work. It would accommodate future growth in North County, improve mobility and support movement of goods across the state.
16	**Construction of Express Lanes from Cajalco Road to Sr-60 along I-15.** This project would construct one to two tolled express lanes in each direction between the I-15/Cajalco Road interchange and the I-15/SR-60 interchange (total of 14.6 mi), including the following: one tolled express lane in each direction from Cajalco Road to Hidden Valley Parkway (7.1 miles); paving the existing unpaved median to create two tolled express lanes in each direction from Hidden Valley Parkway northbound and Second Street southbound (Norco) to Cantu Galleano Ranch Road (Eastvale/Jurupa Valley); and paving the unpaved median to create one tolled express lane in each direction from Cantu Galleano Ranch Road (Eastvale/Jurupa Valley) to SR-60. This project will improve traffic flow, reduce air pollution and provide greater and more efficient access to neighboring communities.
17	**Expanding I-405 from SR-55 to I-5.** This project would add one general purpose lane in each direction on I-405 from SR-55 to I-5 and add a southbound auxiliary lane from SR-133 to Irvine Center Drive. It would eliminate chokepoints and provide connectivity on a major travel corridor to activity centers in west Orange County and west Los Angeles.
18	**Construction of the Mid-County Parkway.** This project would construct the Mid-County Parkway (MCP) in Riverside County from I-215 on the west to SR-70 to the east. The MCP would provide a direct and continuous route from I-215 to SR-79, and is needed to accommodate the substantial population and employment growth and foster the economic vitality of the region.
19	**Extension of the Gold Line Metro**. This project would extend light rail service on the Metro Gold Line connecting the eastern end of the San Gabriel Valley with Pasadena, downtown LA and other destinations on the rail system. It would continue the line for 12 miles east from Azusa to Claremont, including five new stations at Glendora, San Dimas, La Verne, Pomona, and Claremont. It will provide alternative travel options, improving mobility and reducing greenhouse gas emissions.

20	**Construction of an HOV Lane in Each Direction on a Portion of Route 101 in Ventura County.** This project would construct an HOV lane in each direction on Route 101 from Moorpark Avenue in Thousand Oaks to Route 23 to Route 33 in Ventura. Route 101 serves as Ventura County's main thoroughfare, provides an important technology corridor in Southern California as well as access to the Port of Hueneme.

- In the San Diego urban area, TRIP finds that five of the region's 15 most critically needed transportation projects have a green light to signify that full funding is available or is anticipated to be available by 2020; five projects are rated a yellow light because either a portion of needed funding is anticipated to be available by 2020 or the funding is uncertain; and five projects are rated a red light because funding is not currently available and under current funding is not anticipated to be available through 2020.

- The following table details the 15 most critically needed transportation projects in the San Diego urban area, as determined by TRIP, to support economic development and a high quality of living and their funding status. Additional information on critically needed transportation projects in the San Diego urban area can be found in Appendix B.

SAN DIEGO URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Construction of Managed Lanes on I-805.** This project includes the construction of two Managed Lanes on I-805 from SR 52 to Carroll Canyon Rd. It would construct express lanes in the median area, direct access ramps for buses and high occupancy vehicles. I-805 serves some of the most heavily populated communities and key employment centers and is a critical corridor for international traffic.
3	**Construction of Managed Lanes on SR 94.** This project would evaluate two express lanes and other strategies on SR 94 from I-5 to I-805 including potential direct freeway-to-freeway connectors at I-805. The strategies would accommodate carpools/vanpools, new Rapid services and new transit access to the community. SR 94 is a vital east-west route, serving as a primary commuter route to and from downtown San Diego.

4	**Extension of Mid-Coast Light Rail Corridor.** This project includes an 11-mile light rail extension, including nine new stations, five park and ride facilities, parking structures and upgraded power substations. It would link downtown San Diego with major activity centers such as hospitals, universities, shopping centers, major parks and visitor attractions.
5	**Construction of Managed Lanes on SR 78.** This project would construct managed lanes on SR 78 from I-15 to I-5 in order to provide congestion relief along the corridor. SR 78 serves as the primary east-west corridor between Escondido and Oceanside and provides north-south connections to I-5 and I-15. Included in the project are direct freeway–to-freeway connectors at I-5 and managed lane connectors at I-5 and I-15.
6	**Construct two managed lanes on I-5 North Coast.** This project would construct two managed lanes in the median of I-5 from Manchester Avenue to SR 78, including noise barriers, ramp meters, fiber optic cables and the replacement of two major lagoons and a bridge. This project would reduce congestion, allow for increased north-south mobility and restore and maintain wildlife habitats.
7	**Construction of SR 11 Toll Lanes and a Port of Entry at Otay Mesa East.** The SR 11 and Otay Mesa East Port of Entry project will improve the movement of people and goods between the United States and Mexico and will provide shorter and more predictable border crossing times. Annually, $54 billion worth of goods move across the region's borders, and at each crossing wait times regularly exceed two hours.
8	**Rapid Service in South Bay.** This project will implement rapid service from the Otay Mesa Port of Entry to Downtown San Diego via eastern Chula Vista. The project will include 11 stations along the 21-mile Rapid route, connecting residents to employment and activity centers in downtown and the South Bay.
9	**Adding managed lanes to I-15.** This project would add two managed lanes to I-15 from I-8 to SR 163 in order to relieve congestion and improve mobility.
10	**Implementing Rapid options on I-805.** This project would address congestion with transit/Bus Rapid Transit options on I-805 from SR 94 to Carroll Canyon Road.

11	**Extending the Bayshore Bikeway**. This project would extend 24 miles of the Bayshore Bikeway around San Diego Bay, providing vital and scenic connections to tourist destinations and well as major bay front employers.
12	**Widening SR 76.** This project would widen SR 76 from Mission to I-15, including widening the roadway to four lanes, interchange improvements, ramp realignment and bridge widening.
13	**Construction of a Regional Bikeway Corridor.** This project would construct a Regional Bikeway Corridor to ease congestion, improve air quality, and enhance public health and livability.
14	**Construction of Managed Lanes on I-5**. This project would construct two managed lanes on I-5 from La Jolla Village Drive to the I-5/I-1805 Merge.
15	**COASTER Double Tracking.** This project includes double tracking of the Coastal rail corridor between Oceanside and San Diego to provide 20-minute peak frequencies.

- In the San Francisco Bay urban area, TRIP finds that three of the region's 20 critically needed transportation projects have a green light to signify that full funding is available or is anticipated to be available by 2020; 11 projects are rated a yellow light because either a portion of needed funding is anticipated to be available by 2020 or the funding is uncertain; and six projects are rated a red light because funding is not currently available and under current funding is not anticipated to be available through 2020.

- The following table details the 20 most critically needed transportation projects in the San Francisco Bay area, as determined by TRIP, to support economic development and a high quality of living and their funding status. Additional information on the most needed transportation projects in the San Francisco Bay area can be found in Appendix C.

SAN FRANCISCO BAY URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Region-wide Improvements to Transit Systems.** This project would make operating and capital improvements to various Bay Area transit operators, including BART, SF MTA, VTA and AC Transit. It would improve the transit system and reduce congestion on area roads.
3	**Seismic Retrofitting of Golden Gate Bridge.** This project would include seismic retrofitting of the Golden Gate Bridge to withstand a maximum credible earthquake (Richter of 8.3) occurring on the nearby San Andreas or Hayward Faults. A seismically induced structural failure could result in loss of life as well as closure of the bridge for many months or possibly years, causing loss of jobs, traffic congestion and lengthened commutes.
4	**Construction of MTC Regional Express Lane Network.** This region-wide project would convert existing HOV lanes to express lanes and widen lanes to add new express lanes on freeway segments that constitute the Regional Express Lane Network. This project would increase the efficiency of the freeway system, provide reliable travel times, and allow for congestion relief.
5	**BART Extension to San Jose and Santa Clara.** This project would extend BART from Berryessa Station to San Jose and Santa Clara in order to reduce traffic congestion, accommodate future travel demand, conserve energy, improve regional air quality and meet local land use goals.
6	**Infrastructure Improvements at Port of Oakland Army Base.** This project would include infrastructure improvements at the former Army Base, including the Outer Harbor Intermodal Terminal (OHIT), a proposed intermodal rail facility and surrounding trade and logistics park, which is planned to be located on the former base. It would also include new tracks across 7th and Maritime Streets. The project would allow the Port of Oakland to continue serving as a viable container port and generator of local economic activity, while facilitating more efficient movement of freight and improved air quality.

7	**Improvements to the I-680/SR-4 Interchange.** This project would reconstruct the I-680/SR-4 Interchange, including a two lane direct connector from NB 680 to WB SR 4 with a ramp to Pacheo Boulevard, a direct connector from EB SR-4 to SB I-680 and additional modifications. The existing interchange is no longer configured appropriately to handle existing and forecasted traffic demands, leading to excessive congestion and delays. The congested conditions and short weaving distance have resulted in a high crash concentration in the area. The improvements would ease congestion and enhance safety.
8	**BART Transbay Tube Seismic Retrofit.** This project would seismically retrofit the BART Tube/Tunnel that connects Oakland to San Francisco. These seismic improvements would improve safety and allow the TransBay Tube to return to operation shortly after a large Bay Area earthquake.
9	**Replacement and Expansion of Transbay Transit Center Terminal.** This project would provide a multi-modal transit facility that meets future transit needs. Phase 1 of this project includes all above ground facilities associated with the bus terminal, ground level lobbies, retail space, public amenities, below grade train box construction, and pedestrian and bike improvements. This project will improve transit passenger connectivity to employment centers in downtown San Francisco, linking it with other communities in the region.
10	**Regionwide Maintenance of State Highways, Bridges and Local Streets.** This undertaking would maintain the roadway system to ensure a healthy transportation network, including improving state highways and bridges, pavement and rehabilitation of local roads, and improving traffic signals, roadways markings and signage.
11	**I-80/I-680/SR-12 Interchange Improvements.** This project will improve and widen I-80 and I-680 as well as improve the connections from WB I-80 to I-680 and SR-12. These improvements will reduce congestion in the interchange area by upgrading freeway connectors to modern standards and improving local access alternatives. While the first of seven phases is under construction, the remaining six phases have no funding identified for construction.
12	**Regionwide Improvements to BART.** This project would increase investment in BART to more effectively and efficiently serve regional travel markets while providing a reliable and attractive passenger experience. Projects could eventually include trackway enhancements on the core system, route service changes, capacity improvements to stations and supporting facilities, infill stations and an improved track control system.

13	**Regionwide Freeway Improvements.** This project would improve the performance of Freeways throughout the Bay Area through the use of freeway ITS infrastructure, arterial management, incident management, emergency preparedness and traveler information/511. These improvements would maximize the efficiency and improve the management, reliability and arterial infrastructure, while limiting traditional expansion of the freeway system to only the most essential locations.
14	**Implementing the VTA Express Lane Network Throughout Santa Clara County.** This project would implement a VTA Express Lane Network throughout Santa Clara County to manage congestion and provide commuters with additional travel options. The express lane network will convert existing continuous carpool or HOV lanes into limited access express lanes that offer solo drivers a choice to pay a fee and use the available capacity to save time.
15	**Construction of the Transbay Transit Center Downtown Rail Extension.** This project would extend the Caltrain commuter rail service from its current San Francisco terminus at Fourth and King Streets to a new underground terminus beneath the proposed new Transbay Transit Center building. This project would reduce travel time for commuter rail passengers and lay the foundation for California High Speed Rail's terminus in San Francisco.
16	**Extension of the Third Street Light Rail Line.** This project would extend the Third Street Light Rail Line into a new subway running north-south under Fourth Street to Market, then under Geary to Stockton to Clay Street. It would provide enhanced transit service with improved travel times to the Chinatown area.
17	**Widening and Realignment of SR-152 from US-101 to SR-156.** This project would widen a 12-mile section of SR-152 from US-101 to SR-156, which is one of the only segments of SR-152 between US 99 and US 101 that is not currently a freeway or four-lane expressway. The project would include a new interchange at SR-25/US-101, roadway and access control improvements, and new east bound truck climbing lanes over Pacheo Pass. It would improve safety and goods movement between the Bay Area and the Central Valley.
18	**Improvements and Additional Lanes on US-101 at Marin-Sonoma Narrows.** This project would add one HOV lane in each direction from Old Redwood Highway in Petaluma to the Marin/Sonoma County Line making the freeway six lanes wide. It would also extend the US-101 HOV lane in Marin County from Route 37 to Atherton Avenue to the north and Rowland Boulevard to the south. It would improve safety and reduce traffic congestion.

19	**Retrofit, Maintenance and Operation of Bay Area Toll Bridge System.** This project would provide needed seismic retrofits as well as needed maintenance, including pavement preservation and operations on the region's seven state-owned toll bridges. The improvements and needed repairs, operation and maintenance will ensure continued connectivity in the region.
20	**Implementation of a Citywide Variable Pricing Program and Congestion Pricing Program in San Francisco.** This project would reduce traffic congestion in San Francisco by implementing a variable pricing program and a congestion pricing program.

- In the Sacramento urban area, TRIP finds that none of the region's 15 most critically needed transportation projects has a green light to signify that full funding is available or is anticipated to be available by 2020; five projects are rated a yellow light because either a portion of needed funding is anticipated to be available by 2020 or the funding is uncertain; and 10 projects are rated a red light because funding is not currently available and under current funding is not anticipated to be available through 2020.

- The following table details the 15 most critically needed transportation projects in the Sacramento area, as determined by TRIP, to support economic development and a high quality of living and their funding status. Additional information on the most needed transportation projects in the Sacramento area can be found in Appendix D.

SACRAMENTO URBAN AREA	
1	**Improve pavement conditions on region's major roads and highways.** This project would include needed pavement and subbase repairs as well as reconstruction of full pavement sections, when needed. These repairs would address the Sacramento region's estimated $450 million pavement maintenance backlog.
2	**Construction of bus and carpool lanes from Richards Boulevard to the I-5/US 50.** This project would add bus/carpool lanes in both directions from Richards Boulevard in Davis to the I-5/US 50 interchange. The improvements would also include the construction of a new bike bridge across the Yolo Causeway.

3	**Extension of the Green Line from Richards Boulevard to the Sacramento International Airport.** This project would provide rail service to the Sacramento International Airport, which would relieve congestion and provide improved access to and from the airport for passengers.
4	**Construction of a new bridge over the Sacramento River**. The construction of the Broadway Bridge, a new southern crossing over the Sacramento River from West Sacramento and Sacramento, including auto, transit, bicycle and pedestrian facilities, will greatly improve access in this region and help relieve congestion on other routes.
5	**Construction of a new bridge over the Lower American River.** The construction of a new all-modal bridge between Sacramento and South Natomas across the Lower American River will greatly improve access in the area and help relieve congestion on other routes. The bridge will include auto, transit, bicycle and pedestrian facilities.
6	**Construct improvements to the I-80/SR 65 interchange in Placer County.** This four-phase project would include widening portions of Taylor Road from two to four lanes; widening the southbound to westbound and eastbound to northbound ramps including the addition of one-lane HOV direct connectors from eastbound to northbound and southbound to westbound.
7	**Construction of an Intermodal Transportation Facility in Sacramento.** This project would construct a larger multi-modal transportation center in Sacramento that can meet the region's growing transportation needs by accommodating high speed trains, commuter rail, light rail, streetcars, transit bus lines and intercity buses.
8	**Construct of a downtown/riverfront streetcar system.** This project would be the first phase of implementing a downtown streetcar system which would run from the West Sacramento Civic Center/Riverfront Street to the Midtown entertainment, retail and residential district of Sacramento.
9	**Rebuild and revitalize Auburn Boulevard from northern city limits to Rusch Park.** This project would re-construct Auburn Boulevard from the northern city limits to Rusch Park to better support mixed land use, with improvements including improved bicycle and pedestrian facilities, improved lighting, placing utilities underground and improved landscaping.

10	**Dredge the Sacramento Deep Water Ship Channel from Collinsville to the Port of West Sacramento.** This project would dredge the remaining 35 miles of the ship channel to a 35-foot depth, which will increase allowable ship capacity by 40 percent (from 25,000 to 35,000 tons) greatly increasing the productivity of the Port of West Sacramento.
11	**Develop enhanced bus corridors along several major Sacramento routes to improve regional transit service.** This project would provide enhanced bus corridors along portions of several major routes in Sacramento, including Watt Avenue, Florin Road, Stockton Boulevard, Arden Way, Sunrise Boulevard, Auburn Boulevard and Bruceville Road increasing regional mobility.
12	**Widen the Capital City Freeway (SR 51) bridge over the American River.** This project would widen the Capital City Freeway (SR 51) bridge over the American River to four lanes plus a bus/carpool lane in each direction and also add a Class 1 bike path next to the freeway, greatly improving access and mobility in this corridor.
13	**Construction of the Easton Valley Parkway from Prairie Road to Empire Ranch Road.** This project would construct the Easton Valley Parkway, a new four-lane highway from Prairie City Road to Empire Ranch, which would serve as an extension of U.S. 50 and greatly improve mobility in this corridor.
14	**Construction of a third rail track on the UP line from Elvas Tower in Sacramento County to Rosevill Station in Placer County.** This project would improve mobility in this corridor by adding a third track and making other related improvements which will allow up to ten daily round trips to Roseville.
15	**Construction of a new interchange at Goldfields Parkway and Highway 65 in Yuba County**. This project would relieve congestion and improve mobility at the interchange of these two routes.

- In portions of the state outside the urban areas outlined above, TRIP finds none of the 20 critically needed transportation projects have a green light, to signify that full funding is available or is anticipated to be available by 2020; 20 projects are rated a yellow light because a portion of needed funding is anticipated to be available by 2020.

- The following table details the 20 most critically needed transportation projects in areas outside the Los Angeles, San Diego, San Francisco and Sacramento urban areas, as determined by TRIP, to support economic development and a high quality of living and their funding status. Additional information on the most critically needed transportation projects outside major urban areas can be found in Appendix E.

CALIFORNIA STATEWIDE	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**US 101 Corridor Improvements in Santa Barbara.** This project would improve the 101 Corridor from Ventura County to southern Santa Barbara County, including HOV lanes and rail siding improvements along the southern Central Coast. The project would reduce delays and support goods movement and regional travel to large employment centers in the Santa Barbara South Coast.
3	**I-5 Improvements in San Joaquin County.** This project would improve I-5 in San Joaquin County, the main north-south route for transportation along the west coast from Canada to Mexico. Improvements include highway widening and addition of HOV and auxiliary lanes, construction of new interchanges and improvements to existing interchanges. The project will improve the flow of goods and services from major multi-modal facilities, relieve congestion and provide for efficient movements of agricultural goods and services
4	**Improvements to the Capitol Corridor Amtrak Route.** This project would increase Amtrak service from Roseville to San Jose and blend operations and facilities with California High Speed Rail. Improvements will lead to travel time reliability, integrate with California's High Speed Rail line, and reduce greenhouse gas emissions. The increase in service will provide riders more opportunities to travel between Sacramento and the Bay Area for business and recreation.
5	**Improvements to SR-152 Trade Corridor in Merced.** This project would make improvements to the SR-152 Trade Corridor, on US 101 from Monterrey Street to the SR-25/US 101 Interchange. Improvements include widening US 101 from Monterey Street to the SR 25/US 101 Interchange, the construction of a new interchange at SR 25/US 101, new SR 152 alignment between US 101 and SR 156, new eastbound truck climbing lanes over Pacheco Pass, and possible toll facilities. SR 152 is a major east-west

	corridor for national, interregional and regional traffic connecting the South San Francisco Bay Area, North Central Coast and Central Valley regions. This project would improve safety and reliability along the corridor.
6	**Improvements to US 101 from Willits to Eureka.** This project would make improvements to US 101 from Willis to Eureka, including a new segment of US 101 that would bypass Willits (the only city between San Francisco and Eureka where US 101 remains on city surface streets). It would also include improvements to seven at-grade intersections to enhance safety and mobility.
7	**Improvements to I-5 Corridor.** This project would implement various improvements to I-5 within the northern Sacramento Valley to improve goods movement, ease congestion, improve safety and improve the performance of the highway system.
8	**Improvements to the SR-46 Corridor from San Louis Obispo to Kern Counties.** This project would convert 63 miles of SR-46 from a two-lane undivided highway to a four-lane divided expressway between US 101 in San Louis Obispo and I-5 in Kern County, including the construction of an interchange at the SR-46 and SR-41 junction. This project will relieve congestion and improve safety while connecting the Central Coast to the San Joaquin Valley.
9	**Improvements to SR-156 West Corridor in Monterey and San Benito Counties.** This project would widen SR-156 to four lanes in San Juan Bautista from The Alameda to just east of 4th Street, and it would widen SR-156 to a four lane divided expressway from 0.6 miles west of Castroville Boulevard to the Route 101/156 separation. This project will increase capacity, reduce congestion and improve safety.
10	**Improvements to Pacific Surfliner Passenger Rail.** This project will improve passenger safety system wide and increase passenger train frequency and reliability. It will increase daily round trip train service, improve multimodal connectivity, increase accessibility to major economic, recreational and cultural centers, and will contribute to the reduction of greenhouse gas emissions.
11	**Improve service on the San Joaquin Passenger Rail Line between Bakersfield, Oakland, Stockton and Sacramento.** This project would improve service on the San Joaquin Passenger Rail Line by increase the number or daily round trips, implement track and signal improvements and improving stations. These improvements will improve passenger train frequencies and reliability and passenger safety.

12	**Widen US 395 from San Bernardino County to Inyo County to four lanes.** This project would relieve congestion and improve safety on a portion of US 395, which is the only north-south route to access the Eastern Sierras. Yosemite and Death Valley National Parks and Mammoth Lakes can be accessed via US 395, as well as other significant recreational destinations.
13	**Widen SR 99 from Madera to Merced Counties from four to six lanes.** This project would reduce congestion and improve freight movement along a major north-south corridor, which services the Sacramento and San Joaquin Valleys and which runs parallels I-5. This route also connects to some of the fastest growing urbanized areas in California and provides access to agricultural production and manufacturing distribution centers.
14	**Improve service on the Altamont Commuter Express (ACE) Passenger Rail Line from the Bay Area to Stockton and extend service to Modesto.** This project would add two additional round trips on the Bay Area to Stockton and add rail service to Modesto, which would help relieve traffic congestion on I-205, I-580 and I-680 and improve passenger safety.
15	**Widen a two-lane portion of SR 41 – to a four-lane portion of the Excelsior Expressway from the Kings County Line near Fresno to Elkhorn Avenue.** This project will close the highway gap between the cities of Fresno and Lemoore, which will improve the regional movement of freight, including local farm to market travel as well as improving safety.
16	**Construction of the Mid-County Parkway from I-215 to SR 79 in Riverside County.** This project would provide a 16-mile highway that will create a critical east-west regional transportation corridor, which will facilitate the movement of goods, people and services and would be compatible with future multi-modal transportation improvements. Construction of the Mid-County Parkway would also relieve traffic congestion in Western Riverside County along I-215 and SR 60, 74 and 79.
17	**Realign a portion of US 101 in Del Norte County that is prone to Landslides.** This project would reduce congestion that results from regular roadway failures and road closures as a result of the Last Chance Grade section of US 101, which will provide reliable and safe connectivity along this route and prevent the potential isolation of the Yurok Tribe and Redwood National and State Parks.
18	**Widen the Freeman Gulch portion of SR 14 in Kern Lane to four lanes.** This project would widen the final two-lane portion of SR 14 between Mojave and the junction with Route 395 by widening SR 14 from near Ridgecrest to SR 178. This improvement will relieve congestion and improve traffic safety on SR 14.

19	**Realign and provide grade separations by eliminating an at-grade crossing on a portion of SR 58 in San Bernardino County.** This project on SR 58 from Kramer Junction to Hinkley will relieve congestion and improve traffic safety on this key interregional east-west facility that provides access to the San Joaquin Valley and the California's Central Coast.
20	**Add passing lanes on a portion of SR 70 in Butte County.** This project on a portion of SR 70 from Palermo Road to just north of the Ophir Road/Pacific Heights intersection would improve traffic safety and improve access and freight delivery on this segment of SR 70 by providing continuous passing lane opportunities.

California's high-speed rail system, which is currently under construction, will connect the state's largest urban areas and provide additional mobility in the state's most congested transportation corridors.

- Construction of the initial phase of California's high-speed rail system began in 2015 near Fresno. The initial $68.4 billion phase of the state's high-speed rail system will link the San Francisco Bay area and the Los Angeles area. The initial portion of the rail line is expected to be opened in sections between 2022 and 2029 and will allow passengers to travel between San Francisco and Los Angeles in approximately two hours and forty minutes. Trains will travel at speed as high as 220 miles per hour on exclusive portions of track and up to 110 miles-per-hour on shared commuter rail lines within larger urban areas.

- A second phase of California's high-speed rail system is expected to include segments from the San Francisco Bay area and the Central Valley to Sacramento, and from Los Angeles to the Inland Empire and San Diego. Completion of the second phase will result in a combined high-speed rail network of approximately 800 miles and up to 24 stations.

- California's high-speed rail system is expected to increase mobility in corridors served by high speed rail, compliment the state's highway and aviation systems, add employment as a result of the system's development, increase economic development opportunities, and reduce greenhouse gas emissions.

Transportation projects that improve the efficiency, condition or safety of a highway, transit, bicycle or pedestrian route provide significant economic benefits by reducing transportation delays and costs associated with a deficient transportation system. Some benefits of transportation improvements include the following.

- With an economy based largely on agriculture, entertainment, health care, manufacturing, government services, tourism and recreation, the quality of California's transportation system will play a vital role in the state's level of economic growth and in the quality of life in California.

- Improved business competitiveness due to reduced production and distribution costs as a result of increased travel speeds and fewer mobility barriers.

- Improvements in household welfare resulting from better access to higher-paying jobs, a wider selection of competitively priced consumer goods, additional housing and healthcare options, and improved mobility for residents without access to private vehicles.

- Gains in local, regional and state economies due to improved regional economic competitiveness, which stimulates population and job growth.

- Increased leisure/tourism and business travel resulting from the enhanced condition and reliability of a region's transportation system.

- Improved public health as a result of increased activity.

- A reduction in economic losses from vehicle crashes, traffic congestion and vehicle maintenance costs associated with driving on deficient roads.

- The creation of both short-term and long-term jobs.

- Transportation projects that expand congested roadways or add needed transit capacity can produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods while reducing fuel consumption.

- Transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits by improving travel speeds, capacity, load-carry abilities and safety, and reducing operating costs for people and businesses. Such projects also extend the service life of a road, bridge or transit vehicle or facility, which saves money by either postponing or eliminating the need for more expensive future repairs.

- Highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2013 survey of corporate executives by Area Development Magazine.

California's growing economy is served by an extensive surface transportation system that has some deficiencies and experiences severe congestion in key areas. Safety improvements could reduce the number of crashes and fatalities on the state's roads. The majority of freight shipped in California travels on the state's roads.

- California's population reached approximately 39.1 million residents in 2015, a 16 percent increase since 2000.

- From 2000 to 2014, California's gross state product (GSP), a measure of the state's economic output, increased by 27 percent, when adjusted for inflation.

- Vehicle miles traveled (VMT) in California increased by nine percent from 2000 to 2014 –from 307 billion VMT in 1990 to 333 billion VMT in 2014.

- Vehicle miles of travel in California in 2015 were 5.3 percent higher than in 2014. During 2015, U.S. vehicle miles of travel were 3.5 percent higher than in 2014.

- California's system of 174,989 miles of roads and 25,406 bridges, maintained by local, state and federal governments, carries 329.5 billion vehicle miles of travel annually.

- More than half of California's major urban roads are deficient, with 51 percent rated in poor condition, and an additional 39 percent rated in mediocre or fair condition. The remaining 10 percent were rated in good condition.

- The chart below details pavement conditions on major roads in the state's largest urban areas:

Urban Area	Poor	Mediocre	Fair	Good
Los Angeles	73%	21%	3%	4%
San Diego	51%	34%	5%	10%
San Francisco--Oakland	74%	20%	4%	2%
Sacramento	42%	42%	4%	12%
San Jose	53%	28%	8%	12%

- Eight percent of California's bridges were rated structurally deficient in 2015. A bridge is structurally deficient if there is significant deterioration of the bridge deck, supports or other major components. Without adequate investment in the repair or replacement of structurally deficient bridges, load restrictions or bridge closures may be necessary.

- In 2015, 17 percent of California's bridges were rated as functionally obsolete. Bridges that are functionally obsolete no longer meet current highway design standards, often because of narrow lanes, inadequate clearances or poor alignment.

- Every year, approximately $1.3 trillion in goods are shipped annually from sites in California and another $1.3 trillion in goods are shipped annually to sites in California, mostly by truck.

- Sixty-seven percent of the goods shipped annually from sites in California are carried by trucks and another 20 percent are carried by parcel, U.S. Postal Service, courier services or by multiple modes, which use trucks for part of the deliveries**.**

- California's roads and highways are becoming increasingly congested, leading to longer delays and increased costs to motorists. The chart below details the average, per-driver annual congestion cost in the form of lost time and wasted fuel in California's largest urban areas, as well as the annual number of hours lost per driver.

	Congestion Cost	Hours Lost
Los Angeles	$1,711	80 Hours
San Diego	$887	42 Hours
San Francisco--Oakland	$1,675	78 Hours
Sacramento	$958	43 Hours
San Jose	$1,422	67 Hours

- A total of 14,437 people were killed in crashes on California's major roads from 2010 to 2014, an average of 2,887 fatalities each year. California had a traffic fatality rate of 0.92 fatalities per 100 million vehicle miles of travel in 2014, lower than the national average of 1.08. The state's rural non-interstate roads have a traffic fatality rate that is nearly four and a half times higher than that on all other roads in the state (2.72 fatalities per 100 million vehicle miles of travel vs. 0.70).

- Where appropriate, roadway improvements can reduce traffic fatalities and crashes while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; improved lighting; adding rumble strips, wider lanes, wider and paved shoulders; improved bicycle and pedestrian facilities; improved intersection design; upgrading roads from two lanes to four lanes; and better road markings and traffic signals.

Investment in California's roads, highways and bridges is funded by local, state and federal governments. The recently approved five-year federal surface transportation program includes modest funding increases and provides states with greater funding certainty, but falls far short of providing the level of funding needed to meet the nation's highway and transit needs. The bill does not include a long-term and sustainable revenue source.

- Signed into law in December 2015, the Fixing America's Surface Transportation (FAST) Act, provides modest increases in federal highway and transit spending, allows states greater long-term funding certainty and streamlines the federal project approval process. But the FAST Act does not provide adequate funding to meet the nation's need for highway and transit improvements and does not include a long-term and sustainable funding source.

- The five-year, $305 billion FAST Act will provide approximately a 15 percent boost in highway funding and an 18 percent boost in transit funding over the duration of the program, which expires in 2020.

- In addition to federal motor fuel tax revenues, the FAST Act will also be funded by $70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.

- According to the 2015 AASHTO Transportation Bottom Line Report, a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs.

- AASHTO's report found that based on an annual one percent increase in VMT that annual investment in the nation's roads, highways and bridges needs to increase 36 percent, from $88 billion to $120 billion, to improve conditions and meet the nation's mobility needs, based on an annual one percent rate of vehicle travel growth. Investment in the nation's public transit system needs to increase from $17 billion to $43 billion.

- The AASHTO report found that if the national rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to increase by 64 percent to $144 billion. If vehicle travel grows by 1.6 percent annually the needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent to $156 billion.

Sources of information include the California Department of Transportation (CALTRANS), the Metropolitan Transportation Commission (MTC), the Sacramento Area Council of Governments (SACOG), the San Diego Association of Governments (SANDAG), the Southern California Association of Governments (SCAG), the U.S. Department of Transportation (USDOT), the Federal Highway Administration (FHWA), the U.S. Bureau of Transportation Statistics (BTS), the American Association of State Highway and Transportation Officials (AASHTO) and the U.S. Census Bureau. All data used in the report is the latest available.

Introduction

An efficient, safe and well-maintained transportation system provides economic and social benefits by affording individuals access to employment, housing, healthcare, education, goods and services, recreation, entertainment, family, and social activities. It also provides businesses with access to suppliers, markets and employees, all critical to a business' level of productivity and ability to expand. Conversely, reduced accessibility and mobility - as a result of traffic congestion, a lack of adequate capacity, or deteriorated roads, highways, bridges and transit facilities - diminishes a region's quality of life by reducing economic productivity and limiting opportunities for economic, health or social transactions and activities.

With an economy based largely on agriculture, entertainment, health care, manufacturing, government services, tourism and recreation, the quality of California's transportation system will play a vital role in the state's level of economic growth and in the quality of life in California.

To ensure future mobility and economic competitiveness, California must maintain and modernize its roads, highways, bridges, rail, transit, pedestrian and bicycle facilities by improving the physical condition of its transportation network and enhancing the system's ability to provide efficient and reliable mobility. Making needed improvements to California's transportation system could also provide a 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.

Meeting California's need to modernize and maintain its system of roads, highways and bridges moving forward will require a significant boost in local, state and federal funding.

Population, Travel and Economic Trends in California

California residents and businesses require a high level of personal and commercial mobility. Population and economic growth over the past two decades have resulted in increased demands on California's major roads and highways, leading to additional wear and tear on the transportation system.

To foster a high quality of life and spur economic growth in California, it will be critical that the state provide a safe and modern transportation system that can accommodate future growth in population, tourism, recreation and demand for access.

California's population grew to 39.1 million residents in 2015, a 16 percent increase since 2000, when the state's population was approximately 33.9 million.[1] California has 24.8 million licensed drivers.[2] From 2000 to 2014, California's gross domestic product (GDP), a measure of the state's economic output, increased by 27 percent, when adjusted for inflation.[3]

Population increases and economic growth in the state have resulted in an increase in the demand for mobility as well as an increase in vehicle miles of travel (VMT). Vehicle miles of travel increased nine percent from 2000 to 2014, from 307 billion to 333 billion miles traveled annually.[4]

During 2015, vehicle miles of travel in California were 5.3 percent higher than in 2014. Similarly, U.S. vehicle miles of travel were 3.5 percent higher in 2015 than in 2014.[5]

Condition, Efficiency and Safety of California's Surface Transportation System

California is served by a system of 174,989 miles of roads and 25,406 bridges. This system is maintained by local, state and federal governments and carries 329.5 billion vehicle miles of travel each year.[6]

California's roads, highways and bridges have some deficiencies and are becoming increasingly congested. More than a half of the state's major urban roads are deficient, with 51 percent rated in poor condition in 2013 and another 39 percent rated in mediocre or fair condition.[7] Ten percent of the state's major urban roads are in good condition.[8]

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

Urban Area	Poor	Mediocre	Fair	Good
Los Angeles	73%	21%	3%	4%
San Diego	51%	34%	5%	10%
San Francisco--Oakland	74%	20%	4%	2%
Sacramento	42%	42%	4%	12%
San Jose	53%	28%	8%	12%

Source: TRIP analysis of FHWA pavement data, 2013.

In 2014, 10 percent of California's bridges were rated structurally deficient because they are in need of repair or replacement, and another 17 percent of the state's bridges were rated as functionally obsolete because they do not meet modern design standards.[9]

Commuting and commerce in California are constrained by growing traffic congestion, which will increase in the future unless additional highway and transit capacity is provided. Growing demand for mobility has resulted in the state's transportation system becoming increasingly congested, choking commuting and commerce.

The chart below details the annual hours lost to congestion and the annual cost of congestion in the form of lost time and wasted fuel in the state's largest urban areas.

Chart 2. Average annual congestion cost and hours lost each year to congestion.

	Congestion Cost	Hours Lost
Los Angeles	$1,711	80 Hours
San Diego	$887	42 Hours
San Francisco--Oakland	$1,675	78 Hours
Sacramento	$958	43 Hours
San Jose	$1,422	67 Hours

Source: Texas Transportation Institute.

A total of 14,437 people were killed in crashes on California's major roads from 2010 to 2014, an average of 2,887 fatalities each year.[10] California had a traffic fatality rate of 0.92 fatalities per 100 million vehicle miles of travel in 2014, lower than the national average of 1.08.[11] The state's rural non-Interstate roads have the highest rate of serious crashes, with a traffic fatality rate that is nearly four and a half times higher than that on all other roads in the state (2.72 fatalities per 100 million vehicle miles of travel vs. 0.70).[12]

Where appropriate, roadway improvements can reduce traffic fatalities and crashes while improving traffic flow to help relieve congestion. Such improvements include removing or shielding obstacles; adding or improving medians; improved lighting; adding rumble strips, wider lanes, wider and paved shoulders; improved bicycle and pedestrian facilities; improved intersection design; upgrading roads from two lanes to four lanes; and better road markings and traffic signals.

Transportation and Economic Growth

Today's culture of business demands that an area have well-maintained and efficient roads, highways and bridges if it is to remain economically competitive. Global communications and the impact of free trade in North America and elsewhere have resulted in a significant increase in freight movement, making the quality of a region's transportation system a key component in a business's ability to compete locally, nationally and internationally.

Businesses have responded to improved communications and the need to cut costs with a variety of innovations including just-in-time delivery, increased small package delivery, demand-side inventory management and e-commerce. The result of these changes has been a significant improvement in logistics efficiency as firms move from a push-style distribution system, which relies on large-scale warehousing of materials, to a pull-style distribution system, which relies on smaller, more strategic movement of goods. These improvements have made mobile inventories the norm, resulting in the nation's trucks literally becoming rolling warehouses.

Highways are vitally important to economic development in California. As the economy strengthens, creating more jobs and increasing consumer confidence, the demand for consumer and business products grows. In turn, manufacturers ship greater quantities of goods to market to meet this demand, a process that adds to truck traffic on the state's highways and major arterial roads.

The cost of road and bridge improvements are more than offset by the reduction of user costs associated with driving on rough roads, the improvement in business productivity, the reduction in delays and the improvement in traffic safety. The Federal Highway Administration estimates that each dollar spent on road, highway and bridge improvements results in an average benefit of $5.20 in the form of reduced vehicle maintenance costs, reduced delays, reduced fuel

consumption, improved safety, reduced road and bridge maintenance costs and reduced emissions as a result of improved traffic flow.[13]

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. In fact, highway accessibility was ranked the number two site selection factor behind only the availability of skilled labor in a 2013 survey of corporate executives by Area Development Magazine.[14]

Because it impacts the time it takes to transport people and goods, as well as the cost of travel, the level of mobility provided by a transportation system and its physical condition play a significant role in determining a region's economic effectiveness.

The economic benefits of a well-maintained, efficient and safe transportation system can be divided into several categories, including the following.

Improved competitiveness of industry. An improved transportation system reduces production and distribution costs by lowering barriers to mobility and increasing travel speeds. Improved mobility provides the manufacturing, retail and service sectors improved and more reliable access to increased and often lower-cost sources of labor, inventory, materials and customers.[15] An increase in travel speeds of 10 percent has been found to increase labor markets by 15 to 18 percent. A 10 percent increase in the size of labor markets has been found to increase productivity by an average of 2.9 percent.[16]

Improved household welfare. An improved transportation system gives households better access to higher-paying jobs, a wider selection of competitively priced consumer goods, and additional housing and healthcare options. A good regional transportation system can also

provide mobility for people without access to private vehicles, including the elderly, disabled and people with lower incomes.[17]

Improved local, regional and state economies. By boosting regional economic competitiveness, which stimulates population and job growth, and by lowering transport costs for businesses and individuals, transportation improvements can bolster local, regional and state economies. Improved transportation also stimulates urban and regional redevelopment and reduces the isolation of rural areas.[18]

Increased leisure/tourism and business travel. The condition and reliability of a region's transportation system impacts the accessibility of activities and destinations such as conferences, trade shows, sporting and entertainment events, parks, resort areas, social events and everyday business meetings. An improved transportation system increases the accessibility of leisure/tourism and business travel destinations, which stimulates economic activity.[19]

Reduced economic losses associated with vehicle crashes, traffic congestion and driving on deficient roads. When a region's transportation system lacks some desirable safety features, is congested or is deteriorated, it increases costs to the public and businesses in the form of traffic delays, increased costs associated with traffic crashes, increased fuel consumption and increased vehicle operating costs. Transportation investments that improve roadway safety, reduce congestion and improve roadway conditions benefit businesses and households by saving time, lives and money.

Needed transportation projects that expand capacity and preserve the existing transportation system generate significant economic benefits. Transportation projects that provide additional roadway lanes, expand the efficiency of a current roadway (through improved signalization, driver information or other Intelligent Transportation Systems), or provide

additional transit capacity, produce significant economic benefits by reducing congestion and improving access, thus speeding the flow of people and goods.[20]

Similarly, transportation projects that maintain and preserve existing transportation infrastructure also provide significant economic benefits. The preservation of transportation facilities improves travel speed, capacity, load-carry abilities and safety, while reducing operating costs for people and businesses.[21] Projects that preserve existing transportation infrastructure also extend the service life of a road, bridge or transit vehicle and save money by postponing or eliminating the need for more expensive future repairs.[22]

California's Critically Needed Transportation Projects and their Funding Outlook

TRIP has compiled and ranked transportation projects in California that are critically needed to support quality of life in California and support the state's economic growth. TRIP selected the projects by evaluating the projects on the following:

- ✓ Short-term economic benefits, including job creation.
- ✓ Improvement in the condition of transportation facility, including safety improvements.
- ✓ Improved access and mobility.
- ✓ Long-term improvement in regional or state economic performance and competitiveness.

TRIP has identified 125 critically needed transportation projects in California, including 30 in the Los Angeles area, 20 projects in the San Diego area, 30 in San Francisco, 20 in the Sacramento area and 25 in locations outside the previously mentioned urban areas.

The projects were categorized based on the likelihood that they will have adequate funding in place by 2020. TRIP has assigned a color to each project to reflect the funding status

anticipated by 2020. “Green Light” projects are likely to have funding available by 2020, “Yellow Light” projects are expected to have a partial funding available by 2020. Projects designated as “Red Light” currently do not have funding identified by 2020 or only very limited funding.

The chart below lists 20 critically needed transportation improvements in the Los Angeles area, as determined by TRIP, to support a high quality of life and economic development. The chart also includes a color-coded rating of each project’s funding status. Additional details on these projects and their funding status can be found in Appendix A.

Chart 3. Critically Needed Transportation Projects in the Los Angeles area and their Funding Status.

LOS ANGELES URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Convert I-405 HOV lanes to HOT lanes and add two lanes.** This project on I-405 from SR-73 to I-606 would convert the existing HOV lanes to HOT lanes in each direction and add one HOT lane and one general purpose lane. The addition of capacity and managed facilities would ease congestion and improve efficiency.
3	**Extension of the Metro Green Line to LAX.** This project would close a major gap in the regional transit system by providing an extension of the Green Line to LAX from Aviation/Century station to the 96th Street Station on the Crenshaw Line. The improvement will create an important link for residents, business travelers and tourists using LAX, reducing congestion around the airport, improving regional mobility and reducing greenhouse gas emissions.

4	**I-5 Expansion and Interchange Reconstruction from SR-73 to El Toro.** This project would add one general purpose lane in each direction on I-5 from Avery to Alicia, extend a second HOV lane from El Toro to Alicia and reconstruct the Avery and La Paz interchanges. It would provide additional managed lane capacity, eliminate chokepoints and improve accessibility to and from major employment centers.
5	**Extension of the Purple Line Metro.** This project would provide a 2.55 mile extension of the Purple Line Metro with the addition of stations at Wilshire/Rodeo and Century City/Constellation. The expansion will provide a high-capacity, high speed, dependable alternative for commuters between downtown Los Angeles and Century City. The Wilshire Boulevard corridor is one of the nation's most congested arterials.
6	**Add capacity on SR-55 between I-5 and I-405.** This project would add capacity on SR-55 between I-5 and I-405, which is one of the few major facilities that run perpendicular to I-405 and I-5, creating much needed connectivity. It will improve mobility by eliminating chokepoints and addressing travel demand on the corridor.
7	**Expansion of I-5 from SR-55 to SR-133.** This project would add one lane northbound from the truck bypass onramp to SR-55, add one lane southbound from SR-55 to Alton and one auxiliary lane from Alton to the truck bypass. This would improve mobility by eliminating chokepoints and addressing travel demand on the corridor.
8	**Expansion of OCTA Bus Service.** This project would enhance transit service, primarily in the high demand core of Orange County.
9	**Construction of the High Desert Corridor.** This project would construct the High Desert Corridor, including a new freeway and high speed passenger rail from SR-14 in Los Angeles County to SR-18 in San Bernardino County. It would provide an alternative connection between Los Angeles and San Bernardino Counties, facilitate the movement of goods, and provide an alternative corridor to divert significant truck trips away from the core LA metro area. The project will also include a high speed rail connection between the California High Speed Rail in Palmdale and the XpressWest in Victorville.
10	**Implementation of Express Lanes and Managed lanes on I-10.** This project would include the implementation of roadway pricing on I-10 from the Los Angeles County Line to Ford Street, including the conversion of existing HOV lanes into limited access express lanes and the construction of new express lanes that would offer solo drivers a choice to pay a fee and use the available capacity to save time. It will ease congestion and reduce travel times while maximizing the use of the available roadway capacity.

11	**Purple Line Extension from Century City/Constellation to Westwood/VA Hospital.** This project would extend the Metro Purple Line 2.5 miles with the addition of stations at Westwood/UCLA and Westwood/VA Hospital. It will provide a high-capacity, high speed, dependable alternative for commuters to travel between downtown LA and Westwood in just 25 minutes.
12	**Rehabilitation and Replacement of Metro Transit Assets.** This project would rehabilitate or replace Metro's existing transit assets, including bus and rail vehicles, guideway elements, systems, stations and facilities.
13	**Add one HOV Lane on I-5 between SR-55 and SR-57.** This project would add one HOV lane in each direction on I-5 between SR-55 and SR-57. This would provide additional managed lane capacity, improving mobility to and from major employment centers.
14	**Improvements to the SR-57/SR-60 Interchange.** This project would upgrade the existing SR-57/SR-60 interchange to address significant congestion and complex travel patterns. The improvements would enhance regional and corridor mobility and enhance safety.
15	**I-5 Expansion and Improvements from SR-14 to Parker Road.** This project would improve and expand I-5 from SR-14 to Parker Road, including widening of carpool lanes, extension of truck lanes, pavement rehabilitation and bridge work. It would accommodate future growth in North County, improve mobility and support movement of goods across the state.
16	**Construction of Express Lanes from Cajalco Road to Sr-60 along I-15.** This project would construct one to two tolled express lanes in each direction between the I-15/Cajalco Rd interchange and the I-15/SR-60 interchange (total of 14.6 mi), including the following: one tolled express lane in each direction from Cajalco Road to Hidden Valley Parkway (7.1 miles); paving the existing unpaved median to create two tolled express lanes in each direction from Hidden Valley Parkway northbound and Second Street southbound (Norco) to Cantu Galleano Ranch Road (Eastvale/Jurupa Valley); and paving the unpaved median to create one tolled express lane in each direction from Cantu Galleano Ranch Road (Eastvale/Jurupa Valley) to SR-60. This project will improve traffic flow, reduce air pollution and provide greater and more efficient access to neighboring communities.

17	**Expanding I-405 from SR-55 to I-5.** This project would add one general purpose lane in each direction on I-405 from SR-55 to I-5 and add a southbound auxiliary lane from SR-133 to Irvine Center Drive. It would eliminate chokepoints and provide connectivity on a major travel corridor to activity centers in west Orange County and west Los Angeles.
18	**Construction of the Mid-County Parkway.** This project would construct the Mid-County Parkway (MCP) in Riverside County from I-215 on the west to SR-70 to the east. The MCP would provide a direct and continuous route from I-215 to SR-79, and is needed to accommodate the substantial population and employment growth and foster the economic vitality of the region.
19	**Extension of the Gold Line Metro**. This project would extend light rail service on the Metro Gold Line connecting the eastern end of the San Gabriel Valley with Pasadena, downtown LA and other destinations on the rail system. It would continue the line for 12 miles east from Azusa to Claremont, including five new stations at Glendora, San Dimas, La Verne, Pomona, and Claremont. It will provide alternative travel options, improving mobility and reducing greenhouse gas emissions.
20	**Construction of an HOV Lane in Each Direction on a Portion of Route 101 in Ventura County.** This project would construct an HOV lane in each direction on Route 101 from Moorpark Avenue in Thousand Oaks to Route 23 to Route 33 in Ventura. Route 101 serves as Ventura County's main thoroughfare, provides an important technology corridor in Southern California as well as access to the Port of Hueneme.

Source: TRIP based on Survey Responses from the Southern California Association of Governments

The 15 most critically needed transportation improvements in San Diego, as determined by TRIP, to support a high quality of life and economic development are listed below, along with a color-coded rating of their funding status. Additional details on these projects and their funding status can be found in Appendix B.

Chart 4. Critically Needed Transportation Projects in the San Diego Area and their Funding Status.

SAN DIEGO URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Construction of Managed Lanes on I-805.** This project includes the construction of two Managed Lanes on I-805 from SR 52 to Carroll Canyon Rd. It would construct express lanes in the median area, direct access ramps for buses and high occupancy vehicles. I-805 serves some of the most heavily populated communities and key employment centers and is a critical corridor for international traffic.
3	**Construction of Managed Lanes on SR 94.** This project would evaluate two express lanes and other strategies on SR 94 from I-5 to I-805 including potential direct freeway-to-freeway connectors at I-805. The strategies would accommodate carpools/vanpools, new Rapid services and new transit access to the community. SR 94 is a vital east-west route, serving as a primary commuter route to and from downtown San Diego.
4	**Extension of Mid-Coast Light Rail Corridor.** This project includes an 11-mile light rail extension, including nine new stations, five park and ride facilities, parking structures and upgraded power substations. It would link downtown San Diego with major activity centers such as hospitals, universities, shopping centers, major parks and visitor attractions.
5	**Construction of Managed Lanes on SR 78.** This project would construct managed lanes on SR 78 from I-15 to I-5 in order to provide congestion relief along the corridor. SR 78 serves as the primary east-west corridor between Escondido and Oceanside and provides north-south connections to I-5 and I-15. Included in the project are direct freeway–to-freeway connectors at I-5 and managed lane connectors at I-5 and I-15.
6	**Construct two managed lanes on I-5 North Coast.** This project would construct two managed lanes in the median of I-5 from Manchester Avenue to SR 78, including noise barriers, ramp meters, fiber optic cables and the replacement of two major lagoons and a bridge. This project would reduce congestion, allow for increased north-south mobility and restore and maintain habitats.

7	**Construction of SR 11 Toll Lanes and a Port of Entry at Otay Mesa East.** The SR 11 and Otay Mesa East Port of Entry project will improve the movement of people and goods between the United States and Mexico and will provide shorter and more predictable border crossing times. Annually, $54 billion worth of goods move across the region's borders, and at each crossing wait times regularly exceed two hours.
8	**Rapid Service in South Bay.** This project will implement rapid service from the Otay Mesa Port of Entry to Downtown San Diego via eastern Chula Vista. The project will include 11 stations along the 21-mile Rapid route, connecting residents to employment and activity centers in downtown and the South Bay.
9	**Adding managed lanes to I-15.** This project would add two managed lanes to I-15 from I-8 to SR 163 in order to relieve congestion and improve mobility.
10	**Implementing Rapid options on I-805.** This project would address congestion with transit/Bus Rapid Transit options on I-805 from SR 94 to Carroll Canyon Rd.
11	**Extending the Bayshore Bikeway**. This project would extend 24 miles of the Bayshore Bikeway around San Diego Bay, providing vital and scenic connections to tourist destinations and well as major bay front employers.
12	**Widening SR 76.** This project would widen SR 76 from Mission to I-15, including widening the roadway to four lanes, interchange improvements, ramp realignment and bridge widening.
13	**Construction of a Regional Bikeway Corridor.** This project would construct a Regional Bikeway Corridor to ease congestion, improve air quality, and enhance public health and livability.

14	**Construction of Managed Lanes on I-5**. This project would construct two managed lanes on I-5 from La Jolla Village Drive to the I-5/I-1805 Merge.
15	**COASTER Double Tracking.** This project includes double tracking of the Coastal rail corridor between Oceanside and San Diego to provide 20-minute peak frequencies.

Source: TRIP Based on Survey Response from the San Diego Association of Governments

The chart below lists the 20 critically needed transportation improvements in the San Francisco Bay area, as determined by TRIP, to support a high quality of life and economic development. The chart also includes a color-coded rating of each project's funding status. Additional details on these projects and their funding status can be found in Appendix C.

Chart 5. Critically Needed Transportation Projects in the San Francisco Bay area and their Funding Status.

SAN FRANCISCO BAY URBAN AREA	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.
2	**Region-wide Improvements to Transit Systems.** This project would make operating and capital improvements to various Bay Area transit operators, including BART, SF MTA, VTA and AC Transit. It would improve the transit system and reduce congestion on area roads.

3	**Seismic Retrofitting of Golden Gate Bridge.** This project would include seismic retrofitting of the Golden Gate Bridge to withstand a maximum credible earthquake (Richter of 8.3) occurring on the nearby San Andreas or Hayward Faults. A seismically induced structural failure could result in loss of life as well as closure of the bridge for many months or possibly years, causing loss of jobs, traffic congestion and lengthened commutes.
4	**Construction of MTC Regional Express Lane Network.** This region-wide project would convert existing HOV lanes to express lanes and widen lanes to add new express lanes on freeway segments that constitute the Regional Express Lane Network. This project would increase the efficiency of the freeway system, provide reliable travel times, and allow for congestion relief.
5	**BART Extension to San Jose and Santa Clara.** This project would extend BART from Berryessa Station to San Jose and Santa Clara in order to reduce traffic congestion, accommodate future travel demand, conserve energy, improve regional air quality and meet local land use goals.
6	**Infrastructure Improvements at Port of Oakland Army Base.** This project would include infrastructure improvements at the former Army Base, including the Outer Harbor Intermodal Terminal (OHIT), a proposed intermodal rail facility and surrounding trade and logistics park, which is planned to be located on the former base. It would also include new tracks across 7th and Maritime Streets. The project would allow the Port of Oakland to continue serving as a viable container port and generator of local economic activity, while facilitating more efficient movement of freight and improved air quality.
7	**Improvements to the I-680/SR-4 Interchange.** This project would reconstruct the I-680/SR-4 Interchange, including a two lane direct connector from NB 680 to WB SR 4 with a ramp to Pacheo Boulevard, a direct connector from EB SR-4 to SB I-680 and additional modifications. The existing interchange is no longer configured appropriately to handle existing and forecasted traffic demands, leading to excessive congestion and delays. The congested conditions and short weaving distance have resulted in a high crash concentration in the area. The improvements would ease congestion and enhance safety.
8	**BART Transbay Tube Seismic Retrofit.** This project would seismically retrofit the BART Tube/Tunnel that connects Oakland to San Francisco. These seismic improvements would improve safety and allow the TransBay Tube to return to operation shortly after a large Bay Area earthquake.

9	**Replacement and Expansion of Transbay Transit Center Terminal.** This project would provide a multi-modal transit facility that meets future transit needs. Phase 1 of this project includes all above ground facilities associated with the bus terminal, ground level lobbies, retail space, public amenities, below grade train box construction, and pedestrian and bike improvements. This project will improve transit passenger connectivity to employment centers in downtown San Francisco, linking it with other communities in the region.
10	**Regionwide Maintenance of State Highways, Bridges and Local Streets.** This undertaking would maintain the roadway system to ensure a healthy transportation network, including improving state highways and bridges, pavement and rehabilitation of local roads, and improving traffic signals, roadways markings and signage.
11	**I-80/I-680/SR-12 Interchange Improvements.** This project will improve and widen I-80 and I-680 as well as improve the connections from WB I-80 to I-680 and SR-12. These improvements will reduce congestion in the interchange area by upgrading freeway connectors to modern standards and improving local access alternatives. While the first of seven phases is under construction, the remaining six phases have no funding identified for construction.
12	**Regionwide Improvements to BART.** This project would increase investment in BART to more effectively and efficiently serve regional travel markets while providing a reliable and attractive passenger experience. Projects could eventually include trackway enhancements on the core system, route service changes, capacity improvements to stations and supporting facilities, infill stations and an improved track control system.
13	**Regionwide Freeway Improvements.** This project would improve the performance of Freeways throughout the Bay Area through the use of freeway ITS infrastructure, arterial management, incident management, emergency preparedness and traveler information/511. These improvements would maximize the efficiency and improve the management, reliability and arterial infrastructure, while limiting traditional expansion of the freeway system to only the most essential locations.
14	**Implementing the VTA Express Lane Network Throughout Santa Clara County.** This project would implement a VTA Express Lane Network throughout Santa Clara County to manage congestion and provide commuters with additional travel options. The express lane network will convert existing continuous carpool or HOV lanes into limited access express lanes that offer solo drivers a choice to pay a fee and use the available capacity to save time.

15	**Construction of the Transbay Transit Center Downtown Rail Extension.** This project would extend the Caltrain commuter rail service from its current San Francisco terminus at Fourth and King Streets to a new underground terminus beneath the proposed new Transbay Transit Center building. This project would reduce travel time for commuter rail passengers and lay the foundation for California High Speed Rail's terminus in San Francisco.
16	**Extension of the Third Street Light Rail Line.** This project would extend the Third Street Light Rail Line into a new subway running north-south under Fourth Street to Market, then under Geary to Stockton to Clay Street. It would provide enhanced transit service with improved travel times to the Chinatown area.
17	**Widening and Realignment of SR-152 from US-101 to SR-156.** This project would widen a 12-mile section of SR-152 from US-101 to SR-156, which is one of the only segments of SR-152 between US 99 and US 101 that is not currently a freeway or four-lane expressway. The project would include a new interchange at SR-25/US-101, roadway and access control improvements, and new east bound truck climbing lanes over Pacheo Pass. It would improve safety and goods movement between the Bay Area and the Central Valley.
18	**Improvements and Additional Lanes on US-101 at Marin-Sonoma Narrows.** This project would add one HOV lane in each direction from Old Redwood Highway in Petaluma to the Marin/Sonoma County Line making the freeway six lanes wide. It would also extend the US-101 HOV lane in Marin County from Route 37 to Atherton Avenue to the north and Rowland Boulevard to the south. It would improve safety and reduce traffic congestion.
19	**Retrofit, Maintenance and Operation of Bay Area Toll Bridge System.** This project would provide needed seismic retrofits as well as needed maintenance, including pavement preservation and operations on the region's seven state-owned toll bridges. The improvements and needed repairs, operation and maintenance will ensure continued connectivity in the region.
20	**Implementation of a Citywide Variable Pricing Program and Congestion Pricing Program in San Francisco.** This project would reduce traffic congestion in San Francisco by implementing a variable pricing program and a congestion pricing program.

Source: TRIP Based on Survey Response from the Metropolitan Transportation Commission

The 15 most critically needed transportation improvements in Sacramento, as determined by TRIP, to support a high quality of life and economic development are listed below, along with a color-coded rating of their funding status. Additional details on these projects and their funding status can be found in Appendix D.

Chart 6. Critically Needed Transportation Projects in the Sacramento area and their Funding Status.

SACRAMENTO URBAN AREA	
1	**Improve pavement conditions on region's major roads and highways.** This project would include needed pavement and subbase repairs as well as reconstruction of full pavement sections, when needed. These repairs would address the Sacramento region's estimated $450 million pavement maintenance backlog.
2	**Construction of bus and carpool lanes from Richards Boulevard to the I-5/US 50.** This project would add bus/carpool lanes in both directions from Richards Boulevard in Davis to the I-5/US 50 interchange. The improvements would also include the construction of a new bike bridge across the Yolo Causeway.
3	**Extension of the Green Line from Richards Boulevard to the Sacramento International Airport.** This project would provide rail service to the Sacramento International Airport, which would relieve congestion and provide improved access to and from the airport for passengers.
4	**Construction of a new bridge over the Sacramento River**. The construction of the Broadway Bridge, a new southern crossing over the Sacramento River from West Sacramento and Sacramento, including auto, transit, bicycle and pedestrian facilities, will greatly improve access in this region and help relieve congestion on other routes.
5	**Construction of a new bridge over the Lower American River.** The construction of a new all-modal bridge between Sacramento and South Natomas across the Lower American River will greatly improve access in the area and help relieve congestion on other routes. The bridge will include auto, transit, bicycle and pedestrian facilities.

6	**Construct improvements to the I-80/SR 65 interchange in Placer County.** This four-phase project would include widening portions of Taylor Road from two to four lanes; widening the southbound to westbound and eastbound to northbound ramps including the addition of one-lane HOV direct connectors from eastbound to northbound and southbound to westbound.
7	**Construction of an Intermodal Transportation Facility in Sacramento.** This project would construct a larger multi-modal transportation center in Sacramento that can meet the region's growing transportation needs by accommodating high speed trains, commuter rail, light rail, streetcars, transit bus lines and intercity buses.
8	**Construction of a downtown/riverfront streetcar system.** This project would be the first phase of implementing a downtown streetcar system from the West Sacramento Civic Center/Riverfront Street to the Midtown entertainment, retail and residential district of Sacramento.
9	**Rebuild and revitalize Auburn Boulevard from northern city limits to Rusch Park.** This project would re-construct Auburn Boulevard from the northern city limits to Rusch Park to better support mixed land use, with improvements including improved bicycle and pedestrian facilities, improved lighting, placing utilities underground and improved landscaping.
10	**Dredge the Sacramento Deep Water Ship Channel from Collinsville to the Port of West Sacramento.** This project would dredge the remaining 35 miles of the ship channel to a 35-foot depth, which will increase allowable ship capacity by 40 percent (from 25,000 to 35,000 tons) greatly increasing the productivity of the Port of West Sacramento.
11	**Develop enhanced bus corridors along several major Sacramento routes to improve regional transit service.** This project would provide enhanced bus corridors along portions of several major routes in Sacramento, including Watt Avenue, Florin Road, Stockton Boulevard, Arden Way, Sunrise Boulevard, Auburn Boulevard and Bruceville Road increasing regional mobility.
12	**Widen the Capital City Freeway (SR 51) bridge over the American River.** This project would widen the Capital City Freeway (SR 51) bridge over the American River to four lanes plus a bus/carpool lane in each direction and also add a Class 1 bike path next to the freeway, greatly improving access and mobility in this corridor.

13	**Construction of the Easton Valley Parkway from Prairie Road to Empire Ranch Road.** This project would construct the Easton Valley Parkway, a new four-lane highway from Prairie City Road to Empire Ranch, which would serve as an extension of U.S. 50 and greatly improve mobility in this corridor.
14	**Construction of a third rail track on the UP line from Elvas Tower in Sacramento County to Rosevill Station in Placer County.** This project would improve mobility in this corridor by adding a third track and making other related improvements which will allow up to ten daily round trips to Roseville.
15	**Construction of a new interchange at Goldfields Parkway and Highway 65 in Yuba County**. This project would relieve congestion and improve mobility at the interchange of these two routes.

Source: TRIP Based on Survey Response from the Sacramento Area Council of Governments

The following chart details the 20 most critically needed transportation improvements in locations outside Los Angeles, San Diego, San Francisco and Sacramento urban areas, as determined by TRIP, to support a high quality of life and economic development. The chart also includes a color-coded rating of each project's funding status. Additional details on these projects and their funding status can be found in Appendix E.

Chart 7. Critically Needed Transportation Projects Outside of California's Major Urban Areas and their Funding Status.

CALIFORNIA STATEWIDE	
1	**Maintenance and Improvement to Locally Maintained Roads, Streets and Highways.** This would include pavement and subbase repair, pavement overlay, and reconstruction of some segments of locally maintained roads, streets and highways. These roadways serve high volumes of all traffic types and many are in deteriorated condition. Poor pavement conditions impact traffic safety, increase congestion and result in increased costs to motorists, businesses and transit operators due to increased wear and tear on vehicles. It is much more cost effective to maintain and improve pavement conditions before they deteriorate to a level where more costly repairs or replacements are needed.

2	**US 101 Corridor Improvements in Santa Barbara.** This project would improve the 101 Corridor from Ventura County to southern Santa Barbara County, including HOV lanes and rail siding improvements along the southern Central Coast. The project would reduce delays and support goods movement and regional travel to large employment centers in the Santa Barbara South Coast.
3	**I-5 Improvements in San Joaquin County.** This project would improve I-5 in San Joaquin County, the main north-south route for transportation along the west coast from Canada to Mexico. Improvements include highway widening and addition of HOV and auxiliary lanes, construction of new interchanges and improvements to existing interchanges. The project will improve the flow of goods and services from major multi-modal facilities, relieve congestion and provide for efficient movements of agricultural goods and services
4	**Improvements to the Capitol Corridor Amtrak Route.** This project would increase Amtrak service from Roseville to San Jose and blend operations and facilities with California High Speed Rail. Improvements will lead to travel time reliability, integrate with California's High Speed Rail line, and reduce greenhouse gas emissions. The increase in service will provide riders more opportunities to travel between Sacramento and the Bay Area for business and recreation.
5	**Improvements to SR-152 Trade Corridor in Merced.** This project would make improvements to the SR-152 Trade Corridor, on US 101 from Monterrey Street to the SR-25/US 101 Interchange. Improvements include widening US 101 from Monterey Street to the SR 25/US 101 Interchange, the construction of a new interchange at SR 25/US 101, new SR 152 alignment between US 101 and SR 156, new eastbound truck climbing lanes over Pacheco Pass, and possible toll facilities. SR 152 is a major east-west corridor for national, interregional and regional traffic connecting the South San Francisco Bay Area, North Central Coast and Central Valley regions. This project would improve safety and reliability along the corridor.
6	**Improvements to US 101 from Willits to Eureka.** This project would make improvements to US 101 from Willis to Eureka, including a new segment of US 101 that would bypass Willits (the only city between San Francisco and Eureka where US 101 remains on city surface streets). It would also include improvements to seven at-grade intersections to enhance safety and mobility.
7	**Improvements to I-5 Corridor.** This project would implement various improvements to I-5 within the northern Sacramento Valley to improve goods movement, ease congestion, improve safety and improve the performance of the highway system.

8	**Improvements to the SR-46 Corridor from San Louis Obispo to Kern Counties.** This project would convert 63 miles of SR-46 from a two-lane undivided highway to a four-lane divided expressway between US 101 in San Louis Obispo and I-5 in Kern County, including the construction of an interchange at the SR-46 and SR-41 junction. This project will relieve congestion and improve safety while connecting the Central Coast to the San Joaquin Valley.
9	**Improvements to SR-156 West Corridor in Monterey and San Benito Counties.** This project would widen SR-156 to four lanes in San Juan Bautista from The Alameda to just east of 4th Street, and it would widen SR-156 to a four lane divided expressway from 0.6 miles west of Castroville Boulevard to the Route 101/156 separation. This project will increase capacity, reduce congestion and improve safety.
10	**Improvements to Pacific Surfliner Passenger Rail.** This project will improve passenger safety system wide and increase passenger train frequency and reliability. It will increase daily round trip train service, improve multimodal connectivity, increase accessibility to major economic, recreational and cultural centers, and will contribute to the reduction of greenhouse gas emissions.
11	**Improve service on the San Joaquin Passenger Rail Line between Bakersfield, Oakland, Stockton and Sacramento.** This project would improve service on the San Joaquin Passenger Rail Line by increase the number or daily round trips, implement track and signal improvements and improving stations. These improvements will improve passenger train frequencies and reliability and passenger safety.
12	**Widen US 395 from San Bernardino County to Inyo County to four lanes.** This project would relieve congestion and improve safety on a portion of US 395, which is the only north-south route to access the Eastern Sierras. Yosemite and Death Valley National Parks and Mammoth Lakes can be accessed via US 395, as well as other significant recreational destinations.
13	**Widen SR 99 from Madera to Merced Counties from four to six lanes.** This project would reduce congestion and improve freight movement along a major north-south corridor, which services the Sacramento and San Joaquin Valleys and which runs parallels I-5. This route also connects to some of the fastest growing urbanized areas in California and provides access to agricultural production and manufacturing distribution centers.
14	**Improve service on the Altamont Commuter Express (ACE) Passenger Rail Line from the Bay Area to Stockton and extend service to Modesto.** This project would add two additional round trips on the Bay Area to Stockton and add rail service to Modesto, which would help relieve traffic congestion on I-205, I-580 and I-680 and improve passenger safety.

15	**Widen a two-lane portion of SR 41 – to a four-lane portion of the Excelsior Expressway from the Kings County Line near Fresno to Elkhorn Avenue.** This project will close the highway gap between the cities of Fresno and Lemoore, which will improve the regional movement of freight, including local farm to market travel as well as improving safety.
16	**Construction of the Mid-County Parkway from I-215 to SR 79 in Riverside County.** This project would provide a 16-mile highway that will create a critical east-west regional transportation corridor, which will facilitate the movement of goods, people and services and would be compatible with future multi-modal transportation improvements. Construction of the Mid-County Parkway would also relieve traffic congestion in Western Riverside County along I-215 and SR 60, 74 and 79.
17	**Realign a portion of US 101 in Del Norte County that is prone to Landslides.** This project would reduce congestion that results from regular roadway failures and road closures as a result of the Last Chance Grade section of US 101, which will provide reliable and safe connectivity along this route and prevent the potential isolation of the Yurok Tribe and Redwood National and State Parks.
18	**Widen the Freeman Gulch portion of SR 14 in Kern Lane to four lanes.** This project would widen the final two-lane portion of SR 14 between Mojave and the junction with Route 395 by widening SR 14 from near Ridgecrest to SR 178. This improvement will relieve congestion and improve traffic safety on SR 14.
19	**Realign and provide grade separations by eliminating an at-grade crossing on a portion of SR 58 in San Bernardino County.** This project on SR 58 from Kramer Junction to Hinkley will relieve congestion and improve traffic safety on this key interregional east-west facility that provides access to the San Joaquin Valley and the California's Central Coast.
20	**Add passing lanes on a portion of SR 70 in Butte County.** This project on a portion of SR 70 from Palermo Road to just north of the Ophir Road/Pacific Heights intersection would improve traffic safety and improve access and freight delivery on this segment of SR 70 by providing continuous passing lane opportunities.

Source: TRIP Based on Survey Response from California Department of Transportation

California's High Speed Rail System

In January, 2015 construction began near Fresno on the initial segment of California's High Speed Rail system, which will eventually run from Madera to Fresno. California's High Speed Rail system is anticipated to play a significant role in the state's transportation system, connecting the state's largest urban areas. California's high-speed rail system is expected to increase mobility in corridors served by high speed rail, compliment the state's highway and aviation systems, add employment as a result of the system's development, increase economic development opportunities, and reduce greenhouse gas emissions.

The initial $68.4 billion phase of the state's high-speed rail system will link the San Francisco Bay area and the Los Angeles area. It is expected to be opened in sections between 2022 and 2029, when high-speed trains will allow passengers to travel between San Francisco and Los Angeles in approximately two hours and forty minutes. Trains will travel at speed as high as 220 miles per hour on exclusive portions of track and up to 110 miles-per-hour on shared commuter rail lines in the larger urban areas. [23]

A second phase of California's high-speed rail system is expected to include segments from the San Francisco Bay area and the Central Valley to Sacramento and from Los Angeles to the Inland Empire and San Diego. Completion of the second phase will result in a combined high-speed rail network of approximately 800 miles and up to 24 stations.

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 existing transportation system.

Signed into law in December 2015, the Fixing America's Surface Transportation (FAST) Act, provides modest increases in federal highway and transit spending. The five-year bill also provides states with greater funding certainty and streamlines the federal project approval process. But the FAST Act does not provide adequate funding to meet the nation's need for highway and transit improvements and does not include a long-term and sustainable funding source.

The five-year, $305 billion FAST Act will provide approximately a 15 percent boost in highway funding and an 18 percent boost in transit funding over the duration of the program, which expires in 2020.[24] In addition to federal motor fuel tax revenues, the FAST Act will also be funded by $70 billion in U.S. general funds, which will rely on offsets from several unrelated federal programs including the Strategic Petroleum Reserve, the Federal Reserve and U.S. Customs.

According to the 2015 AASHTO Transportation Bottom Line Report, a significant boost in investment in the nation's roads, highways, bridges and public transit systems is needed to improve their condition and to meet the nation's transportation needs. The AASHTO report found that based on an annual one percent increase in VMT that annual investment in the nation's roads, highways and bridges needs to increase by 36 percent, from $88 billion to $120 billion to improve conditions and meet the nation's mobility needs.[25] Investment in the nation's public transit system needs to increase from $17 billion to $43 billion.[26]

The AASHTO report found that if the rate of vehicle travel increased by 1.4 percent per year, the needed annual investment in the nation's roads, highways and bridges would need to increase by 64 percent, to $144 billion. If vehicle travel grows by 1.6 percent annually the

needed annual investment in the nation's roads, highways and bridges would need to increase by 77 percent, to $156 billion.[27]

Conclusion

California's transportation system plays a critical role as the backbone of the state's economy by providing mobility to residents, visitors and businesses. As California looks to further enhance its position as a vibrant, dynamic and growing 21st Century state, continued modernization of its transportation system will allow the state to provide a high quality of life and support continued economic growth while enhancing a healthy environment. Needed transportation improvements will provide California's residents with a high quality of life and afford its businesses a high level of economic competitiveness.

California faces transportation funding challenges similar to other states. As state and local transportation agencies face growing needs without adequate funds, they are forced to balance the demand for improved and expanded facilities to improve quality of life and enhance economic development opportunities with the need to maintain and operate an aging system.

Making needed improvements to California's transportation system will support future economic growth and competitiveness and help ensure that California remain an attractive place to live, visit, work and do business.

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