CALIFORNIA MOBILITY

INVESTMENT OPPORTUNITIES

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This report was prepared for the Commission in partnership with the organizations listed below. Without their contributions this report would not have been possible.

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California Department of Transportation
California State Association of Counties
California Transit Association
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Imperial County Transportation Commission
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Kern Council of Governments
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Lake County/City Area Planning Council
League of California Cities
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Metropolitan Transportation Commission
Modoc County Transportation Commission
Mono County Local Transportation Commission
Nevada County Transportation Commission
North State Super-Region
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Sacramento Area Council of Governments
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San Luis Obispo Council of Governments
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JULY 2017

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Executive Summary

Over the past decade, the California Transportation Commission (Commission) has urged the Legislature and Administration to address the need for reliable and sustainable funding to preserve and expand the state's transportation system.

Proposals arose from both the Legislature and the Administration in previous legislative sessions to provide for the transportation funding shortfall through a comprehensive framework of both revenue and reforms to address California's transportation needs. In April of 2017, the Legislature passed Senate Bill (SB) 1 (Beall), also known as the Road Repair and Accountability Act of 2017, which provides significant resources and accountability measures toward addressing the state's challenge.

This report includes important aspects related to the former transportation funding crisis and recent solution. First, this report describes the existence and condition of public transportation infrastructure and how critical it is to the state's economic health and every individual's quality of life. Due to a variety of factors, the condition of California's transportation infrastructure has deteriorated to a point that requires the type of immediate, significant attention that SB 1 provides in order to avoid increased future costs and decreased safety and mobility.

Second, chapters 4-11 of this report identify specific consequences of the existing funding shortfall in every corner of the state. The diminishing condition of the local road system, as well as the transit infrastructure and the state highways, is impacting the lives of Californians in every region. Each region has identified specific projects that could become reality with the availability of new resources, and has described some of the benefits these investments might achieve.

The Road Repair and Accountability Act of 2017 is the largest transportation infrastructure investment in California history. The Act places California in an opportune position to address the transportation funding crisis. The benefits of addressing the problem today are significant, and this report describes specific examples of those benefits. Without SB 1, Californians would continue to face detrimental impacts to the quality of life they have come to expect from the public sector, namely:

- Deceleration of the state's economy;
- Reduction of social equity and accessibility;
- Deterioration of our shared environment.

Chapter 1 – Introduction

Over the past decade, the Commission has urged the Legislature and Administration to address the need for reliable and sustainable funding to preserve and expand the state's transportation system. Recognizing the growing pressure on California's transportation system, the Commission launched an effort in 2010 to develop a statewide multi-modal transportation needs assessment report. That report detailed a comprehensive list of needs for California's transportation system in cooperation with various transportation agencies and stakeholder groups to make the case to decision makers about the importance of transportation and the backlog of needs.

In October 2011, the Commission released the final report titled "The 2011 Statewide Transportation Needs Assessment" (2011 Needs Assessment). Through collaboration with metropolitan planning organizations, urban and rural regional transportation planning agencies, the California Department of Transportation (Caltrans), transit agencies, rail, ports and airports, the 2011 Needs Assessment identified a staggering amount of transportation need for the state.

Since the release of the 2011 Needs Assessment, the state has struggled to develop a comprehensive solution to address the identified shortfall, and therefore the condition of the state's transportation system has only grown worse. With this in mind, the Commission requested a report on unfunded transportation investment needs to be prepared in collaboration with the state's transportation agencies and stakeholders.

In April 2017, the Legislature passed Senate Bill (SB) 1 (Beall), also known as the Road Repair and Accountability Act of 2017 (summarized on page 3). SB 1 raises transportation revenue for state, regional, and local agencies to address deferred needs on the transportation system. The bill also makes a multitude of reforms regarding funding structures, processes, and oversight.

As a result, Commission staff and stakeholders worked together to provide information through the development of this 2017 Mobility Investment Opportunities Report.

Specifically, this report accomplishes two goals. First, the report generally describes both the state's transportation system, its needs, and why the system is so important to California's economy and the quality of life for each individual. Second, the report includes a discussion from each of the state's super-regions in which staff from those regional transportation entities have described a) the condition of the transportation system today, b) the real life consequences of the funding shortfall, and c) their region's unfunded investment needs. These super-regional summaries are intended to generally describe a summary of key unfunded needs of each region and the corresponding benefits constituents might expect from additional resources applied to those needs. This report does not identify each and every project that will be pursued by the state or through revenues generated by SB 1. Therefore the projects identified must be considered for illustrative purposes only.

Why Is Infrastructure Important And What Does It Do?

Throughout the recent efforts to address California's transportation funding challenges, there has been much discussion about various options for crafting a solution. There appears to be less discussion concerning why the needs of our transportation system must be addressed, and how the failure to find a solution would affect every Californian moving forward.

Generally speaking, public infrastructure is developed and exists to directly benefit the community it serves. In California, that service must be aimed at supporting the state's aspirations, expectations, and needs. Citizens enter into a contract with their government – the people allow the government to exist and provide it with necessary resources, while the government provides to the people the desired services they expect. The resources provided by the people, primarily through taxes and fees, fund a multitude of public services, from public safety and education, to public libraries, parks, and open spaces. These resources also pay for the infrastructure necessary to deliver those public services. One of the largest public infrastructure investments in California is the transportation system – our roads, highways, transit, rail, and ports.

Californians expect, first and foremost, that the public sector will maintain, and when possible, improve quality of life. A focus on quality of life means pursuing the following broad aspirations:

- Growth of the state economy.
- Promotion of social equity and accessibility.
- Protection of the environment.

It follows that infrastructure policy decision-making at all levels should be aimed at supporting these shared aspirations. Although external pressures may emerge that challenge Californians' quality of life, the state must remain committed to ensuring that decisions made now and in the future maximize the prospects for maintaining and enhancing the high quality of life enjoyed by most Californians today.

Transportation infrastructure is a critical engine of the state's and the nation's economy and is integral to every person's quality of life. Investments in the national transportation network over the last 60 years have been instrumental in developing one of the world's largest economies and most mobile societies. In addition, the state's transportation system is fundamental to providing opportunity for all Californians. Finally, as a significant contributor to the emission of greenhouse gases and other pollutants, strategic investment in the transportation sector is increasingly critical to the state's fight against global warming and resulting climate change.

Transportation is the thread that knits California together by providing the mobility that is such an important part of overall quality of life. Highways, transit, and local road systems provide critical access to jobs, recreation, education, health care, and the many other activities that sustain and enrich the lives of all Californians.

Unfortunately, investments to preserve the state's transportation systems simply have not kept pace with the demands on them, and this underfunding has led to the decay of one of California's greatest assets.

Prior to SB 1, California's transportation system was in jeopardy. The state's aging infrastructure includes, but is not limited to, roads, highways, bridges, transit vehicles and facilities, passenger and freight rail, airports, harbors, and international ports of entry. Streets and highways carry huge amounts of traffic and absorb continual wear from heavy trucks and other vehicles. Deteriorating roads also serve as a barrier to safe active transportation for bicyclists and pedestrians.

Other transportation infrastructure is called upon to satisfy increasing demands for public transit and to move people and goods by air and sea, along rail lines, and across borders at United States ports of entry. At the same time, the costs to preserve the infrastructure that serves these needs are soaring because these facilities are aging and government had failed to properly fund the regular maintenance of much of this infrastructure. Ongoing budget shortfalls forced agencies to defer maintenance, leading to roads and bridges that are in disrepair, requiring costly rehabilitation, a situation that could have been avoided with adequate funding, in prior years.

The ultimate and unfortunate outcome of inadequate funding is that as the transportation system grows increasingly unreliable, the state becomes less attractive to businesses, residents, and tourists, which exacerbates our revenue problems at a time when we can least afford it.

However, the passage of SB 1 mitigates this potentially devastating outcome, and the Commission applauds the Legislature and Governor for their hard work in securing a solution to the state's transportation funding crisis.

What Might Tomorrow's Transportation Landscape Look Like?

For over a century and a half, California has been a land of boundless opportunity; a place that looks to the future and pushes the rest of the country toward a brighter tomorrow. A thoughtfully conceived future transportation network, with an underlying backbone consisting of a well-maintained existing system and technological solutions to aid in tackling the state's growing transportation challenges, will enable California to continue to grow, lead, and flourish.

With the passage of SB 1, California is now positioned to address the most immediate needs of the existing system and prevent its further descent into disrepair; expand the system to accommodate the state's growing population and economic pressures; and institute reforms that enable technology and innovations to develop. SB 1 will make it possible for California to address these and other unrelenting challenges.

ROAD REPAIR AND ACCOUNTABILITY ACT OF 2017

A brief summary of SB 1 can be found below:

Funding Increases To Local Agencies

The revenues estimated to be available to local agencies over the next ten years:

- $15 billion to local street and road maintenance.
- $7.5 billion for transit operations and capital.
- $2 billion for the local partnership program.
- $1 billion for the Active Transportation Program.
- $250 million for local planning grants.

Funding Increases To The State

The revenues estimated to be available to the state over the next ten years:

- $19 billion for state highway, bridge, and culvert maintenance and rehabilitation.
- $3 billion for high-priority freight corridors.
- $2.5 billion for congested corridor relief.
- $800 million for parks, off-highway vehicles, boating, and agricultural programs.
- $1.1 billion for the interregional share of the STIP.
- $250 million for freeway service patrols.
- $70 million for transportation research at the University of California and California State University.

Transportation Reforms

In addition to various funding increases and programs, SB 1 also implements a number of reforms to improve transportation processes, coordination, and oversight. The following are examples:

- Creation of the Independent Office of Audits and Investigations headed by a Governor appointed Inspector General.
- Assigns to the Commission additional oversight of Caltrans.
- Establishes an Advance Mitigation Program.
- Establishes the Solutions for Congested Corridors Program.
- Updates the Highway Design Manual to incorporate "complete streets" design concepts.

Chapter 2 – State of the Existing Transportation System

California's transportation system is large, complex, and integrally tied to the physical shape and vitality of the state's communities. Californians rely enormously on the state's roads, rails, ports, and transit systems in order to work and live, while businesses depend on a reliable transportation network to effectively offer their products and services at a reasonable cost.

As a result, huge demands are placed on California's transportation systems. For example:

- As of 2015, there are over 34 million vehicles registered in California, more than any state in the nation.
- As of 2014, California experiences 335 billion vehicle miles traveled every year, more than any state in the nation.
- As of 2015, California transit operators served 1.80 billion annual transit trips.
- The Inrix Global Congestion Ranking ranks Los Angeles at the top of their list for the most gridlocked cities. In 2016 drivers spent 104 hours in congestion annually at a total individual cost of $2,408 per year.
- As of 2015, Ports of Los Angeles, Long Beach, and Oakland ranked as some of the busiest containership ports in the nation, handling 47 percent of the containerized seaborne cargo that arrives in the nation.
- Annually, $2.8 trillion in goods are shipped to and from sites in California, mostly by truck.
- As of 2015, the aggregate number of personal vehicles crossing all California land ports of entry from Mexico was 30 million northbound.
- As of 2015, Los Angeles, Sacramento, and San Diego are in the top 10 Amtrak stations in the nation for the number of passengers handled annually.

Preserving the functionality of these systems is vital to the continued mobility and prosperity of the state.

Every aspect of the state's transportation system is important and has become increasingly stressed from chronic underfunding. These components – the state highway system, local streets and roads, the state's transit systems, bicycle and pedestrian facilities, and freight mobility and ports – were selected for inclusion in this report because SB 1 focuses on addressing these needs in particular. Other system components, such as airports, are also critical and may be addressed in a future comprehensive update to the 2011 Needs Assessment.

STATE HIGHWAY SYSTEM

Highways have been, and will continue to be, vital for the state's economy and the movement of its people and goods. Despite increases in other modes of transportation, nearly 80 percent of commuters in California travel to work in single occupancy vehicles. Many alternatives to auto travel rely on these road systems as well, from buses to active transportation options such as bicycling.

The state highway system is expansive and complex with a distance of over 15,000 centerline miles comprising over 50,000 lane miles of pavement. This system includes over 13,000 bridges, as well as over 205,000 culverts and drainage facilities, 87 roadside rest areas, and over 29,000 acres of roadside landscaping. California's highway system has a value of more than $1.2 trillion.

Most of the system was originally constructed in the period from post-World War II through the 1970s. Despite California's efforts to maintain and efficiently operate its existing highway system, the condition of highway pavement is currently among the worst in the nation.

Condition of the State Highway System

In many places, the transportation system is in need of upgrades to better reflect new concepts in the design and technology of transportation infrastructure and in other areas, capacity expansion is needed to accommodate the doubling of the state's population since 1968. Throughout the system, there is a vital need for infrastructure maintenance, repair and reconstruction. Like previous generations, the current residents and businesses of California must invest in the transportation system to help sustain California's remarkable success. It is necessary to not only invest in the expansion of the transportation system to accommodate increasing population, expanding economy, and changing technology, but to also invest in the preservation of existing transportation system assets, such as bridges and pavement.

Caltrans carries out management, preservation, and safety improvements for the state highway system through the four-year State Highway Operation and Protection Program (SHOPP). In order to anticipate and schedule future needs over a ten-year period, Caltrans develops a Ten-Year SHOPP Plan that identifies goal-based needs over a ten-year period, updated every two years. Caltrans' 2015 Ten-Year SHOPP Plan identified approximately $8 billion in goal-based needs for each year of the ten year plan. Prior to the passage of SB 1, Caltrans expected resources of $2.3 billion per year, creating a funding shortfall of approximately $5.7 billion per year. With the passage of SB 1, Caltrans will now have more resources to address this funding shortfall.

The funding shortfall for the preservation and rehabilitation of the state highway system has occurred annually for years, and as a result, the unfunded annual need tends to increase over time as the system continues to deteriorate and the cost of preservation and rehabilitation escalates. Figure 1 demonstrates this growing trend over the last decade. The recent action taken by the Legislature and the Governor to provide additional resources for transportation will serve to reduce the annual unfunded need and therefore positively impact this trend.

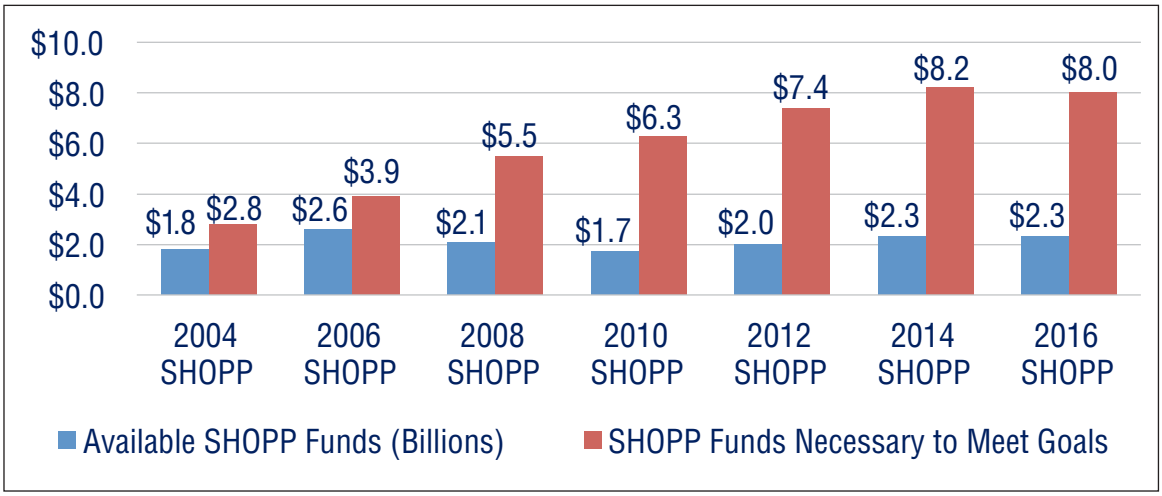
As the state highway system continues to age, the demand of vehicle and truck traffic accelerates the deterioration of these assets. The increased demands and deferred rehabilitation and restoration results in lower operational performance, higher user operating costs, and ultimately requires a higher overall investment when needed repairs to the system are undertaken. By passing SB 1 this year, the state is providing resources to stop this downward spiral and avoid the higher future costs by investing in the infrastructure today.

In addition to maintaining what currently exists, there are significant capacity needs throughout the state. The state's primary funding mechanism for new capacity is the five- year State Transportation Improvement Program (STIP). The STIP is a key planning document for funding future state highway, intercity rail, transit, and pedestrian improvements throughout California. Its primary funding source is the price-based excise tax paid by drivers at the gas pump which, until the passage of SB 1, has been highly volatile.

This volatility forced the Commission in 2016 to adopt a STIP that cut $754 million and delayed another $755 million in highway, rail, transit, bicycle and pedestrian project spending. This was the largest funding reduction in the program since the STIP transportation funding structure was adopted 20 years ago.

The passage of SB 1 addressed the volatility in this revenue structure by pegging the annual adjustment to the growth in the consumer price index instead of on the price of gas. With this change, the state and regional agencies will be able to better forecast expected transportation revenues and more reliably plan for the necessary delivery of transportation improvements.

FIGURE 1 – Annual SHOPP Needs Grow As Necessary Funding Lags



LOCALLY ADMINISTERED STREETS & ROADS AND ACTIVE TRANSPORTATION FACILITIES

Similar to the state highway system, but at a different scale, California has a vast network of local roads and streets. California's 58 counties and 482 cities own and maintain a network of over 143,000 centerline miles of local streets and roads and more than 12,000 local bridges. Local roads account for 81 percent of the state's total publicly maintained centerline miles, and are conservatively valued at $168 billion.

Local transportation systems often serve shorter, regional trips that are accomplished on local roads, streets, and bike and pedestrian facilities. These trips may stay local or feed into the larger transportation system and account for many of the daily trips on the transportation system. Each year, about 146.4 billion vehicle miles – approximately 45 percent of the state's total vehicle miles – are traveled on this local street network.

Many trips are also completed by active forms of transportation such as walking or biking. Jurisdictions throughout California have seen an increase in demand for active forms of transportation infrastructure.

Local rural roads serve an important function in connecting the state's natural resources, agricultural, and recreational destinations. Virtually all of the nation's natural wealth and basic food production – the abundance found in its farms, forests, mines, and other resources – is located outside of the major metropolitan areas and is therefore dependent on local road systems.

Condition of Existing Local Streets and Roads/Active Transportation Facilities

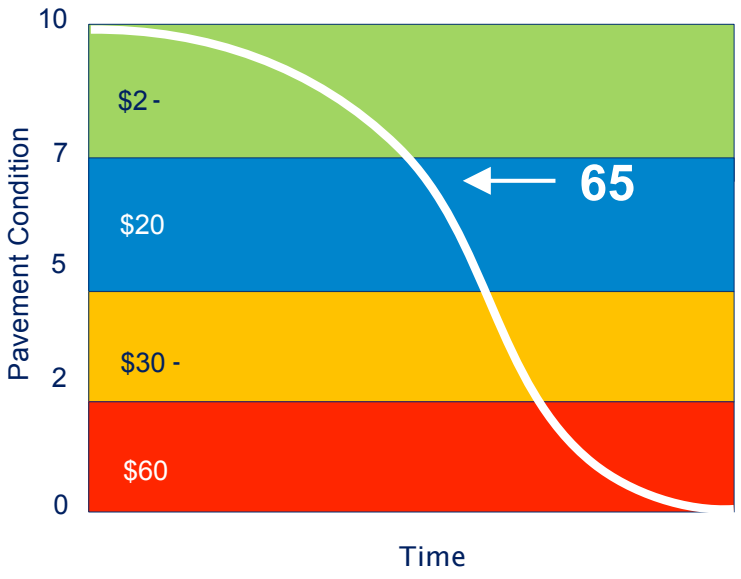
Every two years since 2008, the League of California Cities and the California State Association of Counties have contracted for the development of a Local Streets and Roads Needs Assessment. Based on the results of the most recent report, the current (as of April 2016) pavement condition index (PCI) of local streets and roads statewide is 65, a three point drop from 2008, when it was estimated to be 68. A PCI of 70 or better is considered a "good" pavement condition. Table 1 indicates that major streets or roads continue to be in better condition than local roads. In fact, rural local roads have the lowest PCI of all categories.

TABLE 1 Statewide Average 2016 PCI by Road Type

Type	Average 2016 PCI	
	Major	Local
Urban Streets	68	66
Rural Roads	65	55

An average pavement condition of 65 is not good news. While it seems just a few points shy of the "good" category, it has significant implications for the future. Figure 2 illustrates the rapid pavement deterioration at this point in the pavement life cycle; if repairs are delayed by just a few years, the costs of the proper treatment increase exponentially, as much as ten times. The financial advantages of maintaining pavement in good condition are many, including saving the taxpayers' dollars, improving quality of life with less disruption to the traveling public, as well as environmental benefits.

FIGURE 2 – Generalized Pavement Life Cycle Curve



Many factors contribute to rapid deterioration in the pavement condition (PC) of the local streets and roads system, including:

- More traffic and heavier vehicles.
- More transit vehicles and more frequent bus trips, including heavier buses.
- Heavier and more garbage collection trucks (recycling and green waste trucks are new weekly additions to the traditional weekly garbage truck).
- More street sweeping to comply with federal requirements.
- More freight and delivery trucks when the economy is thriving.

Considering these factors, the Local Streets and Roads Needs Assessment warns that a PCI of 65 should be viewed with caution. Fortunately, SB 1 addresses this critical need by providing additional funding in the amount of $15 billion over the next ten years for local street and road maintenance needs.

An important consideration in effectively maintaining local streets and roads is the significant demand for safe bicycle and pedestrian facilities. While a full statewide needs analysis for this type of infrastructure is not available, a fair representation of the demand for bike and pedestrian infrastructure is the oversubscription of the Commission's Active Transportation Program (ATP). Through three cycles, the Commission received over 1,800 applications requesting $3 billion but were only able to fund 588 projects with the roughly $990 million available for the program. Table 2 describes the continued demand for funding through the ATP. SB 1 contributes an additional $1 billion over the next ten years to the ATP for these important local projects.

TABLE 2 Active Transportation Program Through FY 2015-16

	Cycle 1	Cycle 2	Cycle 3
Number of Applications Submitted	771	617	456
Total ATP Funds Requested	$1,018,235,000	$1,060,308,000	$976,768,000
Number of Projects Programmed	265	207	116
Total Funds Programmed	$367,890,000	$359,043,000	$263,522,000

TRANSIT AND INTERCITY PASSENGER RAIL SYSTEMS

Public Transit Systems

According to the California Transit Association, there are 166 transit agencies operating in California, providing more than 1.44 billion unlinked passenger trips per year. Though urban bus transit is the bulk of services provided, these agencies also provide a myriad of other critical transportation services including:

- ferry boat operations.
- local, regional, and interregional commuter rail services.
- light rail services.
- paratransit services for persons with special mobility needs.
- transit services in non-urbanized and rural areas, and the often-isolated tribal communities.

Condition of Existing Transit Assets

Every two years, the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) jointly issue a report to the United States Congress on the condition and performance of the nation's surface transportation capital assets. The report (known as the "C&P report") provides a comprehensive assessment of the physical condition and reinvestment needs for all public transportation capital assets nationwide.

For transit assets, this assessment is developed based on output from FTA's Transit Economic Requirements Model (TERM), a federal-level needs assessment decision support tool. FTA's TERM uses a detailed asset inventory derived from the National Transit Database along with a set of empirically derived asset decay curves and a detailed listing of the nation's transit assets to estimate the current physical condition of the nation's bus and rail transit asset capital assets. Table 3 illustrates TERM's "condition" ratings.

TABLE 3 TERM Condition Ratings	
Condition	Description
Excellent	New or like new asset; no visible defects
Good	Asset showing minimal signs of wear; some moderately defective or deteriorated component(s)
Adequate	Asset has reached its mid-life; some moderately defective of deteriorated component(s)
Marginal	Asset reaching or just past its useful life; increasing number of deteriorated component(s)
Poor	Asset past its useful life; in need of replacement; may have critical damage to component(s)

A report, commissioned by the California Transit Association in 2016, disaggregated the findings of the 2015 C&P report ("2015 Status of the Nation's Highways, Bridges, and Transit: Conditions and Performance") to profile the condition of California's transit assets. A summary of the report findings are presented in Figures 3 and 4.

FIGURE 3 – Distribution of Transit Assets by Value

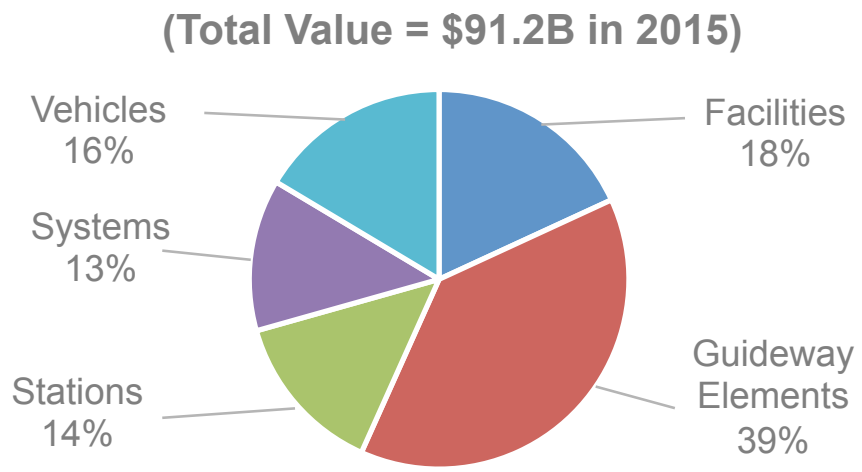
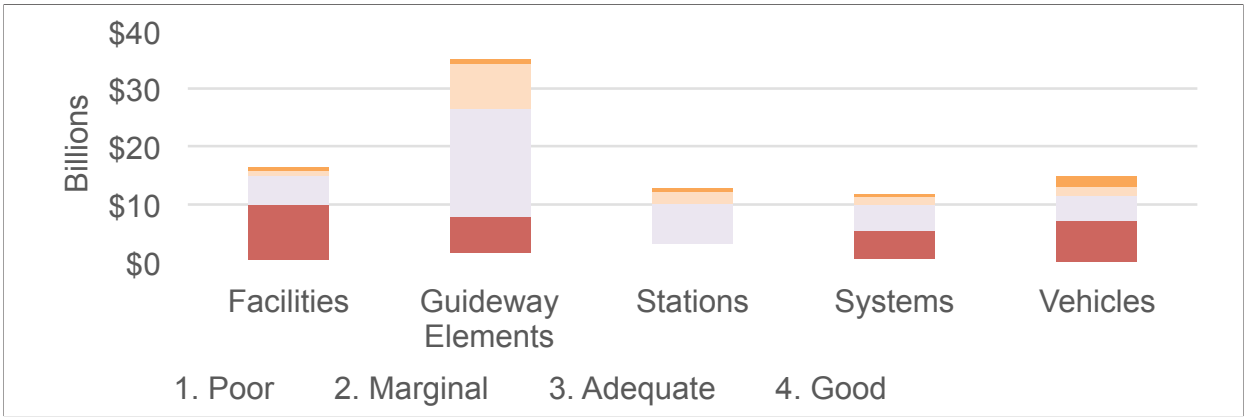


FIGURE 4 – Condition Distribution of Transit Assets (2015)



Overall, the study found that, of California's $91.2 billion in transit assets, 2.37 percent are in "Poor" condition, 40.19 percent are in "Marginal" condition, 39.09 percent are in "Adequate" condition, 12.46 percent are in "Good" condition and 5.89 percent are in "Excellent" condition.

A report commissioned by the California Transit Association in 2013 documented state, local, and federal funding sources while highlighting the following:

- The total level of investment in transit assets required to reach and maintain a state of good repair.
- The total level of investment in transit assets anticipated based on growth in California's capital funding.
- The total level of investment in transit assets required to maintain the current value of California's state of good repair backlog.

In all, based on this 2013 report, California faced a total funding shortfall for transit capital and operations of approximately $72 billion over ten years.

Without additional revenue from SB 1, the condition of California's transit assets would continue to worsen as transit agencies struggle to meet their replacement and modernization needs.

Qualitatively, a funding shortfall would also have impacted the condition of assets, increasing rehabilitation costs and posing safety and reliability issues. The rate of deterioration of existing assets would have accelerated with continued deferred maintenance, significantly increasing the cost to reduce the current asset backlog and bring the transit system into a state of good repair. Further, delayed maintenance of the transit system leads to even costlier rehabilitation or early replacement requirements. SB 1 addresses these challenges by contributing an estimated $7.5 billion over the next ten years to transit operations and capital needs.

The deterioration of transit assets is important because transit riders depend on well-maintained vehicles, stations, and trackways in order to ensure system reliability, safety, and performance. As the quantity of transit assets past their useful life increases, the probability of vehicle breakdowns and system wide delays also increases, impacting transit service reliability, safety, and impairing service levels. These phenomena also impede a transit agency's efforts to boost ridership, and the state's efforts to curb greenhouse gas emissions.

Intercity Passenger Rail Systems

In addition to the state's local and regional public transportation providers, California has three state-supported intercity passenger rail corridors as shown in Table 4 each operated by its own joint powers authority. These corridors span 887 miles, connecting the state's major urban regions and serving rural communities. Each of these routes serve regular commuter passengers, particularly the Capitol Corridor and the Pacific Surfliner, providing benefits for both regional and interregional mobility in congested corridors.

Caltrans intercity rail passenger service operates over a shared passenger and freight rail infrastructure that is mostly owned by Class I freight railroads, with some lines in urban areas that are owned by various commuter railroads and public agencies. All three rail corridors are supported by a network of connecting Amtrak Thruway Bus routes that expand access to the passenger rail system statewide and connect each corridor to each other where gaps between services exist.

TABLE 4 State-Supported Intercity Passenger Rail Systems

System Name	Location/Area Served
Capitol Corridor	Auburn, Sacramento, Oakland, and San Jose
Pacific Surfliner	San Diego, Los Angeles, and San Luis Obispo
San Joaquin	Bakersfield to Oakland (five trains), with some trains serving Sacramento (two trains)

Condition of Existing Intercity Passenger Rail Assets

Local speed restrictions on trains that come about as a result of poor track conditions, interference between freight and passenger trains on single track railroad systems, and conflicts with vehicular traffic at local grade crossings all have an impact on the operating efficiency of the system. Proper maintenance, carefully coordinated schedules, and coordination with public and private railroad partners to develop track infrastructure schedules that are developed

jointly between Caltrans and the private freight railroad companies. Once Caltrans has an approved schedule, or operating plan, the freight railroad will run a simulation to see that it will not be impacted by the revised passenger schedules or increased frequencies. Once it is determined that capital improvements are necessary, the state must fund this work to keep the railroad company whole.

Table 5 represents the state's current intercity rail fleet. Typically locomotives and rail cars have a useful life of 20 and 30 years, respectively, before a complete overhaul/ rebuild is necessary. As the delivery dates suggest, many of these vehicles are approaching the end of their useful life. SB 1 increases revenue for California's intercity passenger rail systems to address issues related to safety, scheduling, maintenance, and equipment.

TABLE 5 California's Intercity Rail Fleet

Equipment Type	Sub Type	Quantity	Delivery Dates	Location
Locomotive	N/A	9	1994	Oakland
Locomotive	N/A	6	2001	Oakland
Locomotive	N/A	2	1991	Oakland
Passenger Cars	Coach	32	1995-97	Oakland
Passenger Cars	Cab-Baggage	14	1995-97	Oakland
Passenger Cars	Food Service	14	1995-97	Oakland
Passenger Cars	Coach-Baggage	6	1995-97	Oakland
Passenger Cars	Coach	3	2001	Los Angeles
Passenger Cars	Coach	5	2001	Oakland
Passenger Cars	Cab-Baggage	3	2001	Los Angeles
Passenger Cars	Cab-Baggage	5	2001	Oakland
Passenger Cars	Food Service	2	2001	Los Angeles
Passenger Cars	Food Service	2	2001	Oakland
Passenger Cars	Pacific Business	2	2001	Los Angeles
Passenger Cars	Coach	14	2013-14	Oakland

GOODS MOVEMENT INFRASTRUCTURE AND PORTS OF ENTRY

California has the most extensive, complex, and interconnected freight system in the nation. This far-reaching system is multi-modal and includes highways, seaports, airports with air cargo operations, class I railroads, short line railroads, border ports of entry with Mexico, pipelines, warehousing and distribution centers, and local connector roads. California's freight transportation system not only links the state to the national and global economies, but also serves as the nation's primary gateway to the Pacific Rim. This system is the pillar of the state's economy, supporting over 1.3 million freight-specific jobs, boosting California's status to the 6th largest economy in the world in 2015. California businesses annually export approximately $162 billion worth of goods to over 225 countries.

California is home to some of the busiest seaports in the world. This system of seaports extends along the California coast from Humboldt in the north, to San Diego in the south, including two inland ports. These ports are the linchpin of international trade, acting as gateways to global markets for goods departing to and arriving from overseas locations, creating hundreds of thousands of jobs, and generating over $40 billion in annual economic activity.

Another critical component of the state's freight network is the movement of goods and people at California's seven international land ports of entry with Mexico. In 2015, more than 70 million individuals and over 30 million vehicles crossed the border northbound into California. Otay Mesa is the third busiest commercial (truck) crossing by trade value on the United States–Mexico border and San Ysidro is one of the busiest land ports of entry in the world for passengers.

In 2015, the Calexico East port of entry processed $6.5 billion in exports and $9.7 billion in imports, ranking 8th in United States truck crossings. The most recent port of entry, a terminal with a cross-border passenger connection to the Tijuana International Airport, was completed in 2015. An eighth port of entry is planned at Otay Mesa East. This new port of entry will help reduce freight and passenger traffic congestion at other border sites, as well as provide additional capacity for future growth in trade.

Condition of Existing Goods Movement Infrastructure

Caltrans released the 2014 California Freight Mobility Plan (CFMP) in response to Assembly Bill (AB) 14 (Lowenthal, Chapter 233, Statutes of 2013) and federal law encouraging each state to develop a comprehensive state freight plan outlining immediate and long-range plans for goods movement-related transportation investments. According to the CFMP, its foundational strategy is to obtain substantial, predictable, long-term freight funding. Without a reliable funding source there are few options to fund freight projects. Projects must compete for traditional passenger funding, compete for very limited federal freight funding, wait for another state bond program, or just not be built. This funding uncertainty potentially increases costs for freight shipments. Obtaining new, dedicated, permanent state and federal freight funding is the highest priority need identified by the CFMP. The CFMP calls for new funding to apply to all freight modes and to mitigate impacts from the freight industry, including meeting air quality and greenhouse gas goals..

The CFMP further states that the sheer magnitude of California's freight system necessitates an enormous investment in maintenance and preservation. While the Class 1 railroads, seaports, and airports do an admirable job of maintaining and preserving their facilities, highway and local road facilities that support both passenger and freight transportation, especially those handling the highest volumes of truck traffic, are in vital need of additional funding for maintenance and preservation.

The outlook for addressing the state's goods movement needs has improved with the passage of SB 1. The bill dedicates $3 billion over ten years in additional funding toward the state's high-priority freight corridors. This new dedicated revenue will provide the means to fund critical freight projects.

Chapter 3 - Benefits of Addressing Unfunded Investment Priorities Now

The statewide consequences of the growing transportation funding shortfall are dramatic and far-reaching. The state highway system is increasingly deteriorating as it ages and accommodates a growing population, affecting mobility, goods movement, the environment, and the economy. Local streets and roads are suffering the same fate, as are transit systems around the state. The passage of SB 1 will provide much-needed resources to address these issues.

Taking steps toward addressing the state's transportation funding crisis through SB 1 benefits the state's economy, environment, and the quality of life for residents today. But most importantly, taking immediate action helps mitigate costs that future generations will have to pay in order to address the inevitable further deterioration of the system.

The purpose of this chapter is to identify the benefits of addressing unfunded investment priorities in a timely manner – both at the statewide and regional level. Specific regional examples are provided to illustrate how targeted investments can yield vital near-term benefits in different parts of the state. More detailed and comprehensive regional summaries and information are available in Chapters 4-11.

STATE HIGHWAY SYSTEM

The state needs to adequately and strategically fund investments to improve the flow of traffic. A portion of the projects cut or delayed in the 2016 STIP were high-priority interregional highway projects administered by the state. According to Caltrans, with the cuts and additional high priority needs, over $4 billion in projects are necessary to improve interregional connectivity of the state highway system. However, targeted investment of smaller sums could have dramatic effects on safety and mobility. SB 1 addresses the shortfall and stabilizes funding in the STIP.

For example, for less than $500 million invested in the San Joaquin Valley, nearly all of the remaining four-lane segments of State Route (SR) 99 could be widened for a continuous six-lane interregional freeway. SR 99 is a critical goods movement corridor for the vast agricultural commodities produced in the state. Completing the effort that began with a $1 billion investment in the corridor from the 2006 Proposition 1B bond program would have dramatic impacts for both the state's economy and the quality of life of Valley residents.

Another example, highlighted in both the Central Coast's super-regional summary as well as on the state's high priority project list, is closing a critical gap by adding one High Occupancy Vehicle (HOV) lane in each direction of US 101 between the City of Carpinteria and the City of Santa Barbara. This is one of the most congested four-lane freeway segments in California. Failing level of service conditions in this segment currently occur for two to four hours daily. Without this project, congested, stop-and-go conditions are expected to occur 11 hours per day in this corridor by 2040. Other benefits expected from this project include:

- Reduction of over 13,500 passenger hours of delay daily.
- Reduced travel time and improved trip reliability for buses, interregional travelers, and high occupancy users.
- Improved goods movement and interregional travel between the Los Angeles basin and the San Francisco Bay Area.
- A coordinated rehabilitation strategy within the project limits to install long-life (40+ year) pavement on all lanes, reducing future maintenance and construction needs in the corridor.

Santa Barbara County has $140 million set aside from its local sales tax measure for this project. Another $28 million in state gas tax funds have been programmed to date. The cost of this 10-mile long HOV project is $356 million in current year dollars. It will be designed and constructed in several phases. An initial construction phase has been programmed from the southern 2.5 miles which is slated to begin by 2019. Local sales tax dollars will be used to leverage funds from the state to deliver this segment. Local sales tax dollars will also be used to apply for up to $188 million in unidentified non-local funding for the remaining segments of the corridor.

LOCAL STREETS AND ROADS

The 2016 Local Streets and Roads Needs Assessment notes that, in order to use taxpayer money wisely, it makes more sense to preserve and maintain roads in good condition than to let them crumble further and cost more to fix. The costs developed in that report are based on achieving a roadway pavement condition called Best Management Practices (BMP). At this condition level, preventive maintenance treatments (i.e., slurry seals, chip seals, thin overlays) are most cost-effective. Preventive maintenance interferes less with commerce and the public's mobility and is more environmentally friendly than rehabilitation and reconstruction.

The importance of this approach is significant. As roadway pavement conditions deteriorate, the cost of repair increases exponentially. For example, it costs as much as fourteen times more to reconstruct pavement than to preserve it when it is in good condition. Even a modest resurfacing is four times more expensive than maintenance in the BMP condition. Or to put it another way, employing maintenance practices consistent with BMP results in treating as much as fourteen times more road area for the same cost.

By bringing the local roadway system to BMP conditions, cities and counties will be able to maintain streets and roads at the most cost-effective level. It is a goal that is not only optimal, but also necessary. The 2016 Local Streets and Roads Need Assessment examined the following three funding scenarios (depicted in constant 2016 dollars) in order to determine their impacts on the condition of the roads over the next decade:

1. Existing funding levels ($1.98 billion/year) – this is the current funding level available to cities and counties from federal, state and local sources.
2. Funding to maintain existing conditions ($3.5 billion/year) – this is roughly $1.5 billion more than existing funding levels each year, and the funding level required to maintain the pavement conditions at its current PCI of 65.
3. Funding required to reach BMP ($7.0 billion/year) – the optimal scenario to bring all pavements into a state of good repair so that best management practices can prevail. To reach BMP levels, $70 billion is needed over the next ten years. This is an estimated funding shortfall of $50.2 billion. With this investment, it will only require $2.5 billion a year to maintain the pavements at that level.

Based on this assessment, while an annual $5 billion investment in the local system would be optimal, an additional $1.5 billion annual investment is critical to keep from allowing the system to erode further with higher future costs and increased system failure. SB 1 provides that crucial $1.5 billion to enable local governments to maintain their systems.

Allowing the continual decline in funding combined with increasing costs of maintenance and operation of the local street and road system was threatening the very substantial infrastructure investment made by past generations. As is the case everywhere in the state, limited funding in the Central Sierra region has caused unnecessary conflicts between modes of transportation as the need to minimally maintain the road system resulted in less funding for safety projects, safe routes to school, transit improvements, bike lanes, operational and congestion relief projects, as well as efforts to reduce carbon emissions consistent with AB 32 (Nuñez, Chapter 488, Statutes of 2006) and the Governor's Executive Orders. Further, current funding levels within the region have resulted in staff reductions in areas of field maintenance crews, project delivery staff, and administrative oversight. Because the Central Sierra region is so sparsely populated, state funds for local streets and roads are the primary source of funding for transportation services, leaving these areas with no alternatives to address the diminishing condition of their systems. SB 1 provides funding to address these problems

ACTIVE TRANSPORTATION FACILITIES

The regions are also prioritizing active transportation facilities. For example, the Sacramento region describes how it values complete streets, creating areas and corridors where all modes can safely and conveniently travel. Noting that there are 22,000 lane miles of existing collector and local streets in the Sacramento region, there are only 1,100 miles of bike lanes (Class II) on these facilities. Further, the region points out that it expects that investments in maintaining roads in a good state of repair will also result in much needed improvements for walking and bicycling. The Sacramento Area Council of Governments (SACOG) has identified 2,300 capital bike/pedestrian projects—such as

sidewalks, freeway overcrossings, bridges, multi-use paths, and separated bikeways—needed in the region to develop an interconnected system of streets, bikeways, and walkways. In addition, local agencies in the Sacramento region have identified 800 projects needed to further strengthen their active transportation networks, should funding become available to continue the development of those projects.

TRANSIT

Another report, commissioned by the California Transit Association in 2016, found that increased funding totaling $2 billion annually for ten years, all applied to preservation, would keep the current state of good repair backlog roughly the same size between FY 2015 and FY 2025. This need is addressed by SB 1. As stated in their regional summary, the San Francisco Bay Area region recognizes the need for strategic transit expansion to support the Bay Area's growth and ensure economic competitiveness. For example, the region supported $75 million in federal funds for AC Transit's Bus Rapid Transit on San Pablo Avenue, which extends high-quality bus service paralleling the busy I-80 corridor in the East Bay. This project will provide service similar in speed and convenience to light rail, but at a fraction of the cost, moving thousands of people a day. At the same time, this project will reduce demand on I-80 by redirecting those drivers to transit, resulting in lower greenhouse gas emissions and improved mobility.

Transit needs are not only limited to large urban areas of California. As the North State regional summary describes, the northern third of California is essentially cut off from the rest of the state with respect to public transportation connections. The region's proposed North State Express Connect project would implement a brand new intercity transit express route that will form the backbone of an integrated rural transit network between Redding and Sacramento with feeder routes linking much of the rural North State. With funding, this transformative project could create new economic opportunity and mobility for the region's residents, who do not currently have access to timely and convenient public transportation to Sacramento and points beyond.

INTERCITY PASSENGER RAIL

Caltrans is developing the California State Rail Plan (CSRP), which must be completed by June 2018 and prepared every four years thereafter to respond to state and federal requirements, which include the creation of a short-term four year capital investment plan, an interim 10 year capital plan, and a long term capital plan described at a corridor level with at least a 20 year time horizon. State law (AB 528) also directs that the CSRP identify a statewide plan for integrating the passenger rail systems in the state, including High Speed Rail, conventional intercity passenger rail (service below 125 mph), and regional commuter rail systems.

The CSRP establishes a vision for prioritizing state investment in passenger and freight improvements that serve to integrate the passenger rail network and support goods movement to better serve California's ports and major industries. This vision can be achieved in phases with different levels of integration activated as improvements are delivered over time – the CSRP provides a framework for incremental service planning and capital investment decision-making with an ultimate network vision in mind.

The CSRP vision for a statewide network is designed to maximize the performance potential of intercity passenger rail as a mobility solution that provides the equivalent of additional lanes of highway capacity. The CSRP identifies a state interest in service and connectivity goals for different corridors, tailored to market demand, with coordinated schedules between services allowing timed transfers at hub stations on a network, which also allow for connections to transit and urban rail systems.

According to Caltrans, the state's high-priority capital projects in the ten-year planning horizon being established in the next CSRP require a roughly $5 billion investment. While this seems like a large sum when considered in isolation, the potential benefits of these projects are enormous. For example, the reliability and flexibility promised by operating 20 intercity trains per day between Sacramento and Roseville could provide significant congestion relief for the I-80 corridor during busy commute times as drivers choose rail

over sitting in traffic every day. SB 1 provides funding for Intercity Passenger Rail improvements, which will help address a number of the state's passenger rail needs and address congestion on parallel highway corridors.

GOODS MOVEMENT

While the state's and regions' goods movement needs are significant, strategic investment in projects across the state would yield significant benefits. For example, the Kramer Junction Gap Closure on SR 58 in San Bernardino County in the Southern California region is a bottleneck project along a key freight corridor that was recently eliminated because of the cuts to the STIP. The Kramer Junction Gap Project is a nationally significant project and is the final gap in an otherwise uninterrupted 4-lane expressway that begins at US 101 in San Luis Obispo County near the Pacific Coast, traveling east, connecting with Interstate 5 and SR 99 in the San Joaquin Valley, and ending at the junction of I-15 and I-40 in Barstow. The project would essentially provide a westerly extension of I-40, a major cross-country highway and an important goods movement route, to the San Joaquin Valley and Central Coast. Over 50 percent of the vehicle traffic on this route is comprised of truck traffic. This project is needed to reduce traffic congestion, improve safety, reduce the accident rate, improve operational efficiency by separating slow-moving vehicles, and improve reliability of goods movement.

In the San Diego region, investments in the ports of entry from Mexico could have a profound economic impact on the state. Recent studies have found that inadequate infrastructure capacity at the border crossings between San Diego County and Baja California currently creates travel delays for cross-border personal trips and freight movements that cost the U.S. and Mexican economies billions in foregone gross output each year.

Super-Region Summaries

The following sections of this report represent information provided by each of the state's super-regions. For purposes of this report, the eight super-regions are defined in Table 6 below:

TABLE 6 Super-Region Counties

Super-Regions	Counties
Central Coast	Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz
Central Sierra	Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, Tuolumne
North State	Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, Trinity
Sacramento Area	El Dorado, Placer, Sacramento, Sutter, Yolo, Yuba
San Diego	San Diego
San Francisco Bay Area	Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo , Santa Clara, Solano, Sonoma,
San Joaquin Valley	Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare
Southern California	Imperial, Los Angeles, Orange, Riverside, San Bernardino, Ventura

Regional transportation entity staff from each of the super-regions compiled the information presented in this section for purposes of presenting representative information for all super-regional areas. Regional transportation entity staff provided information for the following:

- The condition of the transportation system today.
- The real life consequences of the funding shortfall.
- The examples of projects that might be funded with additional revenues from SB 1.

Due to the political sensitivity of working as super-regional consortia, the Commission did not request that these summaries describe exactly what would be developed and constructed with additional funds. Instead, these super-regional summaries are intended to be illustrative of the critical transportation needs each region faces. As regional staff note, the passage of SB 1 will warrant additional policy discussions at the local and regional level to determine exactly which priorities to address with the new revenues.

Chapter 4 – Central Coast

Monterey, San Benito, San Luis Obispo, Santa Barbara, and Santa Cruz Counties

INTRODUCTION

Condition of Existing Infrastructure

Local roadways in the Central Coast region have crumbled faster than cities and counties can keep up without adequate sources of funding to support the backlog of maintenance needs. The local streets and roads in the Central Coast have deteriorated, with an extremely low PCI: San Benito County (46), Monterey County (50) and Santa Cruz County (50). San Luis Obispo and Santa Barbara Counties also have a low PCI rating of 63. Best management practices call for a PCI of at least in the 70s.

Level of Congestion

Currently the Central Coast region is experiencing congestion and delay in key commuter and freight corridors affecting not only passenger and freight vehicles but also transit vehicles. Severely congested corridors in the Central Coast region include US 101, SR 1, SR 17, SR 25, SR 46, SR 68 and SR 152, as well as many local roads. Additionally, key safety improvements are needed throughout the Central Coast Super-Region. The significant safety concerns and traffic congestion stifle the economy and make it more difficult for our vulnerable populations – the elderly, children and the disabled – to get around. SB 1 will help provide funding needed to implement investments to ease congestion, increase accessibility and mobility, as well as reduce greenhouse gas emissions.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

Prior to the passage of SB 1, insufficient funding for maintenance of transportation infrastructure was a statewide concern as well as a growing concern for the Central Coast region. Without continued investments by the federal and state government, the ability to meet the demand on our network would have only declined. It is critical for the Central Coast to have reliable resources available to deliver transportation priorities that will improve the economic vitality of the region.

Potential Effect on Maintenance and Operation of Transportation Systems, Including Transit

The consequences of not sufficiently funding maintenance and operations of transportation systems on the Central Coast would be dire. The backlog of necessary improvements continued to grow as revenues had not been keeping up with demand. Central Coast agencies had been experiencing a degrading system of roads, bridges and transportation facilities leading to a decline in system efficiency.

Effect of Neglected Infrastructure On the Economy

Neglecting the Central Coast's infrastructure has a negative impact on the regional, state, national and global economies. The Central Coast, like other regions, relies upon our infrastructure for the movement of people and goods in a timely manner. Neglected infrastructure has led to increased travel times for employees and delays with getting high value agricultural goods to markets outside the Central Coast.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

Even with three of the five counties in the region having local sales tax measures, additional state funding was needed to help deliver priorities identified by the super-region. To highlight this, the 2016 Statewide Local Streets & Roads Needs Assessment alone identified $3.7 billion in needs for local streets and roads maintenance in the Central Coast Super-Region.

While the Central Coast has developed a comprehensive transportation network, there remain areas needing travel lanes to increase capacity or improve safety and traffic flow, including critical improvements on US 101 as well as east-west connections. The priority projects in Appendix B reflect priority projects included in Regional Transportation Plans and voter approved sales tax measures that require

additional funds from state sources. These strategic capacity improvements will help improve safety, reduce congestion, improve air quality and ensure the efficient movement of goods and people.

Goods Movement

The Central Coast region is one of the most important agricultural production areas in the country and is known for its fresh produce and wine grape production. The region's industries include agriculture, manufacturing, food processing and other freight-related business clusters which are critical to the region's economy. Growth in Central Coast population centers related to the region's proximity to the Silicon Valley in the north and the Los Angeles Metro area in the south has resulted in increased demand for products shipped via freight modes concurrently with an increase in demand for Central Coast products from outside of the region. Many of the capacity improvements (listed in Appendix B) to US 101, SR 25, SR 46, SR 129 and SR 152 will also facilitate freight travel.

Specifically, the Central Coast relies on US 101 as the primary transportation artery for the region and the area's major truck route. A priority list of 25 projects on US 101 was developed containing:

- Eight Interchange/Intersection Improvement Projects.
- Seven Capacity Expansion/New Road Projects.
- Five Rail Projects including new sidings, track realignment, and track upgrades.
- Four Operational Improvement Projects including truck climbing lanes and Intelligent Transportation Systems improvements.
- One Transload Project.

Delivering these projects would have a profound impact on goods movement in the super-region and thus on the state's overall economy.

Active Transportation

Non-motorized transportation facilities are an integral part of the Central Coast's transportation network. The Central Coast Mediterranean climate and relative flat terrain in its urbanized areas make it ideal for bicycle and pedestrian commuting and recreational travel. The Central Coast is home to several bicycle and pedestrian facilities, including long stretches of the very popular California Coastal Trail.

While an extensive and robust network has been developed on the Central Coast, there remains a need to deliver additional facilities to expand the network. Future efforts to improve the network will focus on safety, infill of missing links, and responding to demographic shifts and changes in development patterns. Improvements to the active transportation environment yield benefits to the economy, environment, and public health, among other aspects of life. As many residents in the region's economically disadvantaged communities have limited or no access to vehicles or transit, a well-developed non-motorized transportation system is critical to meeting their basic needs. The Central Coast Regional Agencies and local jurisdictions have identified continued needs as vetted by adopted Active Transportation and Safe Routes to School plans.

A short list of project needs can be found in Appendix B.

Prepared By

- ~ *Association of Monterey Bay Area Governments*
- ~ *Transportation Agency for Monterey County*
- ~ *County of San Benito Council of Governments*
- ~ *Santa Cruz County Regional Transportation Commission*
- ~ *Santa Barbara County Association of Governments*
- ~ *San Luis Obispo Council of Governments*

Chapter 5 – Central Sierra

Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, and Tuolumne Counties

INTRODUCTION

Local governments in Central Sierra counties have historically been struggling with reduced gas tax revenues, the end of the local streets and roads funds from Proposition 1B, and the marked decline in funding for the STIP. County road departments have been operating at a deficit for several years. Manpower levels within county road crews have been greatly reduced. The average PCI ratings of the Central Sierra Counties is 54 and declining. Though the region does not have an adopted standard, a PCI of 70 is typically considered to be the minimally acceptable score for the "good" category. Tuolumne and Amador Counties' roads are among those in the worst conditions in the state with poor overall ratings. Many local roads have deteriorated to a condition that they are barely passable for emergency access. Some subdivisions lack adequate secondary emergency access posing a threat to public safety.

County road department fleets in the Central Sierra Super-Region are in fair condition and some agencies report decades old equipment with no planned replacement purchases given a lack of funding. There has been minimal funding for crack sealing, fixing potholes, striping and maintaining shoulders. The region has had little to no funding available for road paving overlays or chip sealing.

The small population and rural nature of the Central Sierra counties make it such that it is difficult to complete major improvement projects on the state highway system. Yet high volumes of regional and tourist traffic on the state highway system require safety upgrades and system expansion to accommodate the growing need. Most STIP- funded projects have been delayed or deleted due to funding shortfalls, while some regions are unable to start new STIP projects for several funding cycles. In the past, efforts to work collaboratively with neighboring regions to pool resources facilitated timely delivery of projects on the state highway system. However, some regions report reductions in funding that have led to the collapse of project delivery memorandums of understanding.

The only reliable transportation funding is from state base fuel excise taxes, revenues from Local Transportation Funds, and federal Regional Surface Transportation Program State Exchange funding. This funding has been barely enough to operate a minimum road crew resulting in minimal maintenance. Rural mountain counties used to receive Secure Rural Schools and Community Self-Determination Act federal funding, but that funding source is no longer available. The loss of this funding has reduced some county road funds by approximately 25 percent.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

The continual decline in funding, combined with increasing costs of maintenance and operation of the road system, threatens the very substantial infrastructure investment made by past generations. Inadequate funding to preventative maintenance programs causes roadways to slip into higher cost-per-mile rehabilitation and replacement categories.

Limited funding causes unnecessary conflicts between modes of transportation for scarce resources. The need to minimally maintain the road system results in less funding for safety projects, safe routes to school, transit improvements, bike lanes, operational and congestion relief projects as well as efforts to reduce carbon emissions consistent with state law and the Governor's recent Executive Orders. Often these types of projects are left to compete for statewide grants such as through the ATP, Highway Safety Improvement Program or for Cap and Trade funds. Very rarely are projects in the Central Sierra region successful in obtaining funds from these sources, leaving critical needs in our communities unaddressed.

Transit in rural communities can be difficult to efficiently provide due to the sparse populations spread over large areas. Low income groups often reside in lower cost, extremely rural areas. Lack of flexible transportation funding can leave vulnerable populations without access to critical services.

Major highways in the Central Sierra region continue to see growth in traffic volumes resulting from residents in distant urban areas seeking recreation in our rural communities. Reductions in the STIP have caused delays in highway improvements to accommodate tourist traffic. Additionally, efforts to stem the negative effects of population decline through growing the job-creating economy have been hampered by lack of funding to support infrastructure investments.

Current funding levels within each county have resulted in staff reductions in areas of field maintenance crews, project delivery staff and administrative oversight. Positions left by retirees are often not filled, jeopardizing the ability to deliver projects. Local match funds used to leverage large Federal grants have been greatly diminished. Private sector businesses and construction firms are impacted by a lack of government contracts for goods and services.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

SB 1 addresses the most immediate and long term need of counties within the Central Sierras by providing a major increase in funding of road maintenance programs. Hundreds of miles of pavement overlay projects combined with drainage and shoulder widening are clearly the highest priority. The need for sidewalk projects within established communities is additionally needed. Several counties in the region identified high priority goods movement and congestion relief projects. Safety and operational projects to reduce injuries and fatalities from traffic accidents, including pedestrians and cyclists, need to be funded. Finally, each county in the region noted the need to construct local and regional bike lanes.

A short list of project needs can be found in Appendix C.

Prepared By

- *Alpine County Local Transportation Commission*
- *Amador County Transportation Commission*
- *Calaveras Council of Governments*
- *Inyo County Local Transportation Commission*
- *Mono County Local Transportation Commission*
- *Tuolumne County Transportation Council*

Chapter 6 – North State

Butte, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Nevada, Plumas, Shasta, Sierra, Siskiyou, Tehama, and Trinity Counties

INTRODUCTION

Background

The North State Super-Region is an alliance of 16 Northern California regional transportation planning agencies working together to identify common transportation, growth, and land use issues and formulate unified strategies that can be advocated to implementing agencies and the public. The super-region includes 26% of the state's land area, 37% of California's state and federally owned roads, and has a population of over one million residents.

Condition of Existing Infrastructure

The condition of existing infrastructure in most of the region is poor. Decades of under-investment in roads and bridges has resulted in a substantial backlog of needs on the local highway system. Furthermore, this backlog has increased as available revenues have continued to decline. The passage of SB 1 will now provide a means to address this backlog.

Essential infrastructure components associated with the local roadway system are also generally in a state of disrepair due to extended deferred maintenance. These are items such as storm drains, sidewalks, curbs and gutters, traffic signals and signs, bicycle facilities and street lights

Public transit throughout the super-region is generally limited to the larger cities and surrounding areas. Those routes that extend into the more rural areas tend to be "lifeline" services which link remote areas to essential services found in the larger communities.

Local airports connect the super-region to urban California as well as other states. Although passenger service is very limited, the small airports provide vital service to remote areas and are especially important in times of emergency such as flooding and wildfires. Counties and cities that own and operate these facilities struggle to maintain them, contributing to a growing maintenance backlog.

Level of Congestion

Though important major projects have been completed, there are a number of unfunded projects that remain. This constrains not only the local area, but interregional goods movement and interstate travel. In general, capacity-increasing projects to mitigate congestion remain essential in some areas of the North State Super-Region because low population density limits transit options that would otherwise be considered in urban areas in California. Urban congestion, in various degrees, occurs in the major cities and towns throughout the region. Congestion-related improvements are needed on local streets and roads in and around the largest cities of Redding, Chico, and Eureka as well as several smaller communities where the State highway is "main street."

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

The prolonged consequences of deferred pavement maintenance is well documented. The most recent analysis, the 2016 California Statewide Local Streets and Roads Needs Assessment, indicates that nearly all of the North State Super-Region counties suffer overall pavement conditions in the "poor" and "at risk" categories. Only Plumas County falls into the "good" category.

Pavement should be consistently maintained in the "excellent" or "good" condition categories. This is much less costly than improving pavement condition from "poor" to "excellent," which can be twenty or more times the cost to maintain pavement in the "excellent" category. As more streets deteriorate, the cost to improve them increase dramatically. This has created a downward spiral in which many more streets and roads have reached a critical state of disrepair and each project costs much more. Some county agencies have chosen to let certain roads deteriorate to gravel, and without the needed influx of SB 1 funding, this choice may be the only option in the future.

Pavement degradation leads to increased costs for the traveling public. The frequency of vehicle and tire repair needs increases as potholes multiply. A lack of public investment in communities discourages private investment. Those communities with poor infrastructure, including essential components (sidewalks, curbs, drainage, sign, signals, lighting, etc.) are not likely to attract private investment to create jobs, increase the tax base and otherwise stimulate the local economy. Delaying, suspending and/or deleting new capacity, goods movement, and safety projects will have an additional negative effect on the local and regional economy.

As available locally-raised revenues (sales tax is the primary source) decline, local agencies must also make choices about transit service. Typical choices include increases in passenger fares, reduction of service hours, reduction of trip lengths, eliminating entire routes, and, in some cases where service is already marginal, elimination of all service.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

Local Streets and Roads

As in most other parts of California, addressing the decline in pavement condition is a top concern in the North State Super Region. Among the 16 agencies the pavement condition index ranges from 35 to 72, with an average of only 58 on a scale of 100. It is very likely that the additional funding provided by SB 1 and distributed to the cities and counties will be prioritized to addressing the backlog of pavement needs that is approximately $6.5 billion over ten years.

State Highway System

With over one quarter of the state's land area, the state highway system binds the Super Region together, as well as with the rest of California and neighboring Oregon and Nevada. By far, most of these highways are two-lane facilities and many of these traverse rugged terrain. Many also function as a "main street" when the go through towns and cities. The 50% of funding from the Road Maintenance and Rehabilitation Account that will be directed to the SHOPP will improve safety and operations on the interregional highway network that is vital to the region.

Within the North State Super-Region, there remain congestion concerns that cannot be addressed by conversion to other transportation modes. Many locations become congested where through traffic on the state highway mixes with local traffic on "Main Street." This occurs in locations such as Eureka (US 101), Weaverville (SR 299), and Nevada City/Grass Valley (SR 49) and can be significant during peak periods.

Operational improvements such as curve corrections, shoulder widening, and realignments can result in significant safety, mobility, and goods movement benefits. Such is the case on US 199 in Del Norte County, a highway that is constrained by the Smith River Canyon. Operational improvements to US 199 have long been sought by the Del Norte Local Transportation Commission. This route is the most direct link to the I-5 corridor (at Grants Pass, Oregon) and functions as the preferable freight corridor for the county. US 199 also serves as an important evacuation route and economic link should the historic landslide at Last Chance Grade on US 101 worsen, isolating Crescent City (and other points north of the slide area) from the rest of California.

The highway system remains incomplete in other areas of this extensive region. Often this is a result of a gradual increase in volume on an interregional corridor that is constrained by topography. As the volumes increased through the years, the mix of trucks and automobiles has led to capacity and safety issues. However, since the highway system is remote and lies in a rural area and costs are high, addressing the issue is problematic. Although operational improvements can sometimes address these problems, more often sub-standard highways need to be widened.

Stabilization of funding sources thorough the Price Based Excise Tax Reset will ensure a certain level of stability in the STIP. Increased Regional Improvement Program (RIP) shares may provide the opportunity for several agencies to program smaller but high priority local projects. The programming of major state highway projects needed in the North State are identified on the "Statewide High Priority Interregional Highway Needs" list identified in Appendix A.

Principal Arterial Corridor through Lake County

In 1989 the Lake County/City Area Planning Council and Caltrans agreed that widening of SR 20 along the north shore of Clear Lake was infeasible due to topographical and development constraints. The principal arterial route through Lake County was adjusted to a southerly route utilizing a 32-mile segment of SR 29 from Upper Lake to Lower Lake. Although longer, this southerly route around Clear Lake avoids the constraints of the north shore and takes advantage of an existing freeway segment near Lakeport.

The final environmental document for the entire project was completed in November 2016, and the project was planned for construction in three segments. The first segment is funded at $68 million and is scheduled to begin in 2019. It will have been 30 years since the decision was made to focus capacity improvements along SR 29 on the priority segment. Segments 2 and 3 of this project are as of yet unfunded. Future construction funding to complete the remaining two segments could $175 million. Local shares available even in a "good" STIP cycle will provide only a small percentage of the funding needed.

The Lake 29 Expressway Project remains an illustration of the difficulty of developing large state highway improvement projects in rural areas. This was previously demonstrated over the decades by efforts to improve SR 299 in the Buckhorn Summit area of Shasta and Trinity counties and the Willits Bypass on US 101. Caltrans recognized the need to construct them and there was demonstrated local commitment, but costs were high in comparison to the availability of local STIP shares, and of course, the overwhelming needs of California's urban areas. These two projects were completed in 2016, but the Lake 29 Expressway Project fits the same profile and segments 2 and 3 remain unfunded.

Freight, Trade Corridors, and Goods Movement

The North State has traditionally relied upon extractive industries for a large sector of its economy and freight movement has long been important to the North State Super-Region. Even though timber harvesting and wood processing has sharply declined over the decades, agricultural production remains important and approximately 10% of the economy is now based on manufacturing. The rail route through the Sacramento Valley and the Sacramento River Canyon to Oregon is a vital component of the national network. The North State Super-Region's only seaport at Humboldt Bay occupies an advantageous location to capture a share of the Trans-Pacific shipping market, but lacks a rail connection to the national system.

The current Union Pacific Railroad (UPRR) is an important freight partner, but its overcrossing in Anderson does not meet vertical and horizontal clearance standards needed for safe operations and expansion of the UPRR I-5 Corridor Line. The lack of a new overcrossing is also delaying other transportation improvements within the project vicinity. A proposed project has innovatively brought together non-traditional partners in both support and funding for the project to ensure its success and maintain the continued integrity of the I-5 corridor. The project will also increase the interstate highway from four to six lanes, eliminating an 8.9 mile bottleneck that becomes routinely congested by heavy trucks during heavy snowfall events, often shutting down the Interstate and access to Oregon and Washington. The project will significantly improve the efficiency and reliability of both truck and rail access on I-5 and the UPRR line. These are primary highway freight corridors that support agriculture and manufacturing throughout California and the Pacific Northwest. The increased funding from SB 1 provides an opportunity to improve goods movement along I-5 in the Redding area as well as on important two-lane freight routes such as SR 299/44/36 and SR 20.

Active Transportation

In recent years there has been increased emphasis in improving and expanding pedestrian and bicycle facilities throughout the state. There are needs for many such facilities throughout the North State Super-Region. In rural areas, local communities often prioritize projects along school routes and those which close long-existing pedestrian gaps. It is difficult for rural communities to compete for funding in the statewide ATP. This is because the program has historically had insufficient funds and projects in rural communities generally have a higher cost to benefit ratio than in urban areas. Though the needs are pervasive, the ability to respond to these needs also remain dependent on local and regional agency staffing size and capability. For smaller agencies with few resources to devote to competitive programs,

more funding available to the ATP through SB 1 may be of marginal benefit to the North State Super Region. Other funding, such as that through Local Transportation Planning Grants, may help prepare smaller rural agencies to be in a more competitive position.

Local Bridges and Culverts

Highway bridges represent an important part of the local agency infrastructure in the region. The high cost of rehabilitation and replacement of county and city bridges has been somewhat relieved due to the federal Highway Bridge Program (HBP). This program, coupled with the ability to use toll credits for the federal match, has softened the blow of high cost bridge projects on local agency budgets. However, few agencies have staffing to handle the management and construction of several bridge projects at once. In addition, since rural bridge projects are constructed in environmentally-sensitive areas, the time frame for work can be restricted. New roadway alignments further complicate replacement of obsolete bridges. With thousands of bridges and culverts on state highways and local roads, additional funding provided by SB 1 is welcomed for these components that are essential in keeping roadways operational in a region where much of the state's rainfall typically occurs.

In Mendocino County, the unfunded Garcia River Bridge project is for a new permanent bridge where none had existed before to provide an everyday local connection for tribal members residing on both sides of the river and serve as an emergency bypass when periodic flooding closes a nearby section of SR 1. The bridge would be located on Mendocino County's South Coast between the communities of Point Arena and Manchester. The project would provide improved local circulation for residents of the Manchester Rancheria as well as residents in nearby Manchester and Point Arena. The project is consistent with the District 1 Climate Change Vulnerability Assessment and Pilot Studies report.

Local Transit

State Transit Assistance (STA) funding available to entities in the North State Super Region has been unreliable in recent years. The infusion of funding from SB 1 will stabilize this funding source and permit transit agencies to replace aging transit vehicles as well as supplement local funding for continued operations. Since most operational funding is provided by local sales taxes provided through the Transportation Development Act, the prolonged recovery from "The Great Recession" has had a major effect on small rural transit operations.

North State Express Connect

The North State Super-Region has cooperated to develop a public transit system option to link Redding with Sacramento International Airport and downtown Sacramento. The North State Express Connect will benefit the counties of Shasta, Modoc, Siskiyou, Lassen, Butte, Trinity, Tehama, Glenn, Lake, Colusa, and Sacramento by meaningfully connecting them to California's intercity public transportation system. The northern third of California is essentially cut off from the rest of the state in regards to public transportation connections.

The service would enhance bus transit as a mode choice for rural North State citizens to access Sacramento International Airport, downtown Sacramento, and the Amtrak Sacramento Valley Station for connections to the Capital Corridor, Coast Starlight, San Joaquin and eventual California High Speed Rail lines. The program would improve air quality by reducing the overall number of automobile trips and provide an environmentally friendly intercity transportation option to commuters and recreational travelers. This important project remains unfunded due to the aforementioned shortfall in available transit funding

A short list of important projects can be found in Appendix D.

Prepared By

- *Del Norte Local Transportation Commission*
- *Humboldt County Association of Governments*
- *Lake County/City Area Planning Council*
- *Mendocino Council of Governments*
- *Modoc County Transportation Commission*
- *Nevada County Transportation Commission*
- *Shasta Regional Transportation Agency*
- *Tehama County Transportation Commission*

Chapter 7 – Sacramento Area

El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba Counties

INTRODUCTION

The Sacramento Area Council of Governments (SACOG) is the Metropolitan Planning Organization responsible for regional transportation planning in coordination with Sacramento, Yolo, Yuba, Sutter, El Dorado and Placer counties and the 22 cities within those counties (excluding the Tahoe Basin).

Condition of Existing Infrastructure

Overall, the Sacramento region's roads are in poor condition. On a scale of zero (failed) to 100 (excellent), the region's roads average 63 PCI, which is considered within the "At Risk" range. The 2016 PCI by county is illustrated in Table 7. The 10-year need to bring the region's roads into a good state of repair is $5.6 billion. Without the passage of SB 1, the SACOG region could have been facing a $3 to $4 billion shortfall to bring all of its roads up to a PCI of 80 or better over the next ten years.

TABLE 7 Sacramento Area 2016 PCI by County

County	2016 PCI
El Dorado	62 - At Risk
Placer	68 - At Risk
Sacramento	62 - At Risk
Sutter	70 - At Risk
Yolo	55 - At Risk
Yuba	60 - At Risk
Region	63 - At Risk*

* Weighted Average

Bridges are an integral part of the transportation system. The Sacramento region contains 953 local agency bridges. Although the average sufficiency rating of the 953 local agency bridges in the region is healthy, at 80 percent, more than one third of the bridges (386) are in need of rehabilitation, repair, or replacement. Twenty percent of those bridges (88) have a sufficiency rating equal to or below 50, requiring replacement. Bridge sufficiency ratings by county are displayed in Table 8.

TABLE 8 Sacramento Area Bridge Sufficiency Ratings by County

County	# of Bridges	Avg Sufficiency Rating, SR	Bridges with SR ≤80	Bridges with SR ≤50
El Dorado	86	68%	47	14
Placer	177	79%	51	23
Sacramento	403	85%	87	21
Sutter	90	79%	35	8
Yolo	123	77%	49	12
Yuba	74	74%	29	10
Region	953	80%*	298	88

* Weighted Average

Public transit system operations require a significant financial commitment. In 2012, the 14 transit services in the region spent about $187 million to operate fixed route and dial-a-ride services. These operating costs include drivers, mechanics, dispatching, fuel, parts, supplies, services, and administration. The Great Recession resulted in significant cuts to transit services to account for the lost revenues. The drop in operating revenues corresponds to a 14 percent reduction in annual vehicle service hours.

Level of Congestion

SACOG defines congested vehicle miles traveled (CVMT) as VMT occurring on roadways at or near generalized hourly capacity. The region had 2.25 million miles total CVMT in 2012 (0.99 CVMT per capita). The total cost of congestion in 2012 was estimated at $834 million in the region. Even with anticipated transportation investments, SACOG forecasts an increase of 33 percent to 3.26 million miles of CVMT by 2020 (1.32 CVMT per capita).

New funding is also needed to improve other performance outcomes in the SACOG region. For example, according to the Transportation for America report, "Dangerous by Design", the Sacramento Metropolitan Statistical Area experienced an uptick in pedestrian fatalities between the 2014 report and the 2016 report—an increase of 1.66 pedestrian fatalities per 100,000 people to 1.77 pedestrian fatalities per 100,000. The area also was determined to be more dangerous for pedestrians in the 2016 analysis.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

The Sacramento region faced several key financial stewardship challenges including how to fund the growing need for road maintenance and rehabilitation, how to pay for transit operations and replacement of worn-out transit equipment, and how to make strategic operational improvements to gain more system efficiency and reduce the need for high-cost new capacity. If these problems were not addressed by SB 1, road and transit conditions would have continued to deteriorate and maintenance backlogs would have continued to grow, exacerbating the problem.

Potential Effect on Maintenance and Operation of Transportation Systems, including Transit

Prior to SB 1, the need for increased road maintenance faced a backlog of $3-4 billion over 10 years. Lack of sufficient funding for maintenance leads to much more expensive reconstruction needs as pavements fail. The difference in cost between routine maintenance, at $20-$40K per mile, and full reconstruction, at $400-$700K+ per mile, exacerbates the problem of falling behind. In addition, 90 percent of the region's bus fleet will be past useful life in the next 10 years. Half of the light rail fleet was built in the 1980s and 1990s and is in need of replacement. Needs for bus and light rail vehicles over the next 10 years exceeds $400 million. Without sufficient funding, vehicles can become unsafe or unusable. At a minimum, neglected light rail vehicles make transit less of a viable transportation option for choice riders.

Effect of Neglected Infrastructure on the Economy

Negative economic impacts from poor infrastructure are being felt across the Sacramento region. Roadway maintenance costs are a heavy burden in rural areas which account for 48 percent of the road miles in the region, but only 13 percent of the population. Lack of maintenance and improvement dollars to keep rural roadways safe and operating efficiently reduces the ability to maintain the economic viability of our rural economies and the region's $2 billion agricultural economy.

A 2013 study undertaken by SACOG and the San Joaquin Council of Governments found pervasive use of larger STAA[1] trucks but that "Local STAA routes in the study region are incomplete… and inadequate to support the region's transportation needs." Neglecting facility upgrades to meet STAA design standards inhibits STAA truck activity, which is critical to shipping, receiving and business vitality, and further damages roadways not meant for their use.

In the Sacramento region, more than 25,000 employees use transit to commute to work. This is significant because most of the over 90 light rail vehicles belonging to the Sacramento Regional Transit District are reaching 30 years of age. Funding is needed for replacement or upgrades to safer and more accessible low floor vehicles, the region is in a tough position. Aging and deteriorating transit vehicles contribute to a downward spiral of lower ridership, higher operating costs, reduced fair box recovery, and reduced service shifting riders into driving alone.

Fifty percent of the region's mature suburbs were built between 1950 and 1979, and are home to 45 percent of the region's households. The lower economic resources of these mature suburbs, combined with rising costs and lack of funds for maintaining and upgrading their older infrastructure, results in significant challenges to business attraction, infill, revitalization, and economic growth.

[1] The Surface Transportation Assistance Act of 1982 allows large trucks, referred to as STAA trucks, to operate on routes that are part of the National Network. FHWA provides standards for STAA trucks based on the Code of Federal Regulations Title 23 Part 658.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

Maintenance and Operations

Roughly $5.6 billion is needed over 10 years for local road and highway maintenance to avoid or reduce expanding backlogs. Prior to the passage of SB 1, this left a significant funding shortfall without new revenue of $3 to $4 billion. In addition, SACOG could spend $400 to $500 million for new transit vehicles over 10 years to replace vehicles that have exceeded their useful lives.

Goods Movement

Trucking: In the SACOG region, I-80 is part of a national freight corridor, carrying $4.7 million an hour in goods movement; US 50 is a nationwide corridor, traversing the nation from West Sacramento to Ocean City, Maryland; and I-5 functions as a key north-south goods movement corridor. According to a recent Goods Movement study conducted by Caltrans District 3, corridors with elevated freight volumes, such as I-5 and I-80, have high truck pavement damage impacts requiring more repair/maintenance.

Freight Rail Route/Operations/Logistics: The Union Pacific Railroad is the primary Class 1 railroad in the area. The largest rail facility on the West Coast, J. R. Davis Rail Yard, is located in Roseville and moves over 1,100 cars per day. A modification project identified in the 2007 State Rail Plan is double-tracking of the section between Sacramento and Roseville. As with other areas nationwide, more mainline track miles are needed to keep up with anticipated demand, but rail infrastructure is expensive to build and maintain.

Ports: The Port of West Sacramento specializes in bulk, break-bulk, agriculture, and construction cargo. In 2010, exports totaled $145.2 million by value and imports totaled $3.7 million. Rice handling brings in about $2 million annually. Major infrastructure improvements are needed to make the Port more competitive, including increasing the channel depth from 30 to 35 feet, and initiating a barge service between the Ports of West Sacramento, Oakland, and Stockton.

Non-Motorized Transportation

Jurisdictions across the SACOG region value complete streets that support corridors where all modes can safely and conveniently travel. Although there are 22,000 lane miles of existing collector and local streets in the region, there are only 1,100 miles of bike lanes (Class II) on these facilities. The region also has 300 miles of sharrows (Class III) and 480 miles of multi-use paths (Class I). SACOG acknowledges that preserving the existing road and highway system is a top priority for local agencies, and pursues opportunities to leverage road rehabilitation to achieve complete streets objectives, such as the expansion and improvement of bicycle and pedestrian facilities. Therefore, investments in maintaining roads in a good state of repair also result in much needed improvements for walking and bicycling.

SACOG has also identified 2,300 capital bike/pedestrian projects—such as sidewalks, freeway overcrossings, bridges, multi-use paths, and separated bikeways—needed in the region to develop an interconnected system of streets, bikeways, and walkways. This program of projects has a total sum cost equal to $2 billion. In addition, local agencies have identified 800 more projects needed to further strengthen their active transportation networks, should funding become available to continue the development of those projects.

Technology - Smart Cities & Implementation of ITS Master Plan

SACOG plays a coordinating role in the Sacramento region for intelligent transportation systems (ITS) and related transportation technology efforts. Increasing the amount of investment in ITS-related strategies would provide significant benefits to increasing the productivity and efficiency of the existing transportation system. Investment needs include the following:

- Upgrading and coordinating traffic signals to promote a smoother flow of traffic.
- Roadway cameras.
- Automated highway message signs.
- Crosswalk signals with pedestrian countdown timers.
- Real-time train or bus arrival time message signs (such as those seen at RT light rail stations).

- Prepaid transit fare machines.
- Traffic signal preemption for emergency and limited-stop transit vehicles to improve emergency response times and the on-time performance of public transit.

In support of ITS, Caltrans District 3 has established a transportation management center (TMC), as have several larger cities and counties. Additionally, Caltrans and local agencies have deployed field monitoring (loops, closed circuit TV) and controls (meters & signals under TMC control). New funding to the SACOG region would support significant expansion of the field monitoring and control equipment, as well as expansion of STARNET, a communications network connecting traffic operation centers. Through its Integrated Corridor Management approach, Caltrans, SACOG and local agency partners across the region have begun planning for corridor management on major freeway corridors.

Funding needs also include improvements to smart fare media, a form of ITS, for the SACOG region. The Connect Card currently being deployed improves fare collection and ease of payment for people who use public transit. The Connect Card will allow transit users to transfer seamlessly across multiple transit operators and routes.

A short list of important projects can be found in Appendix E.

Prepared By

- *El Dorado County Transportation Commission*
- *Placer County Transportation Planning Agency*
- *Sacramento Area Council of Governments*
- *California Department of Transportation District 3*

Chapter 8 – San Diego

San Diego County

INTRODUCTION

The San Diego Region contains 18 cities plus unincorporated areas under the jurisdiction of the County of San Diego, and has a population of over 3 million. Additionally, the region is situated on the international US-Mexico border, hosts one of the most travelled border-crossings in the world, is home to the largest concentration of military forces in the country, encompasses 18 Native American reservations represented by 17 tribal governments (the most in any county in the United States), boasts a multi-cultural and multi-lingual workforce, houses 3 major public universities and a growing number of high-tech research and software engineering companies, is a seaport destination, and supports an extraordinary range of species and habitats in areas designated for permanent open space preservation.

Level Of Travel Delay

San Diego Association of Governments (SANDAG) tracks the performance of its planned transportation networks in a variety of ways, including various performance measures included in its Regional Plan. These measures help to chart the value of future transportation projects while responding to changes in land use patterns and future growth. The performance measures specifically assess how the various transportation projects work together to help people in the region access jobs, schools and services, ensure an equitable distribution of investments, improve air quality, reduce greenhouse gas emissions, and improve safety. SANDAG also publishes the "State of the Commute Report" which focuses on regional travel trends, key system performance indicators, and corridor-level performance indicators.

Based on the most recent analysis, total weekday freeway travel increased from 9.3 billion vehicle miles in 2013 to 9.5 billion vehicle miles in 2014, an increase of more than 2 percent. Overall, per capita weekday freeway travel grew slightly to approximately 11.9 vehicle miles traveled per person. This growth in freeway travel reflects the steady economic recovery that has taken place in the region since 2009. At the same time, the region's population has grown to 3.19 million, or more than 4 percent. In 2014, employment in San Diego County was approximately 8 percent higher than the lowest employment level observed in 2009. In terms of the transit analysis, the State of the Commute shows that transit has seen gains in ridership throughout the years, similar to the increases in freeway travel. Transit passenger miles traveled in 2014 increased by approximately 4.5 percent compared to the previous year, increasing faster than both population (1.3%) and employment (2.4%). Transit revenue miles are an indication of the amount of transit service available to the public in the region. Between 2010 and 2014, transit revenue miles increased by 5 percent, reflecting investment made as part of Regional Plan implementation.

Additionally, after the recession, peak hour travel began to steadily increase on the region's roadways. In 2014, commuters in the San Diego region experienced their fourth consecutive year of growth in freeway delay during peak commute periods. In 2014, annual delay on the region's most congested freeway segments reached up to 15,000 vehicle hours per lane mile. I-805 and I-5 were home to the most persistent congestion points in 2014. Most of the increases in delay observed occurred in a few specific freeway corridors and the top contributors included I-5, I-805, and SR 78.

From an overall perspective, drivers on the region's freeway system experienced nearly 6.4 million vehicle hours of delay during peak commute periods in 2014. That is an overall increase of approximately 23 percent compared to 2013. Percentage of total delay by freeway corridor is shown on the following page in Figure 5 (a.m.) and Figure 6. (p.m.)

FIGURE 5 – Delay on San Diego Freeways During A.M. Commute Periods (2014)

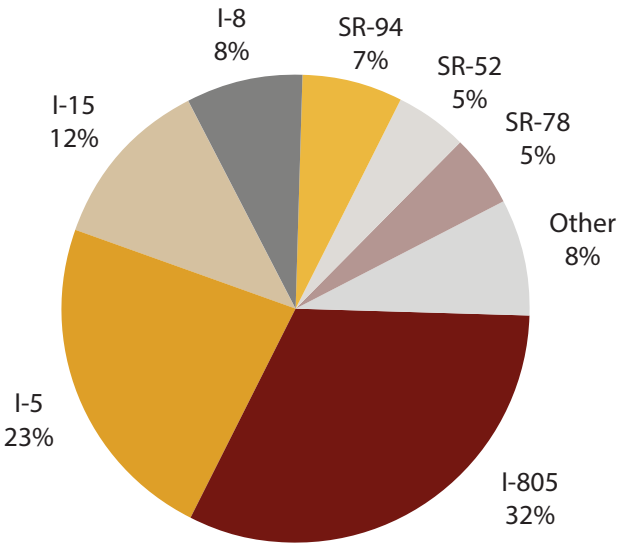
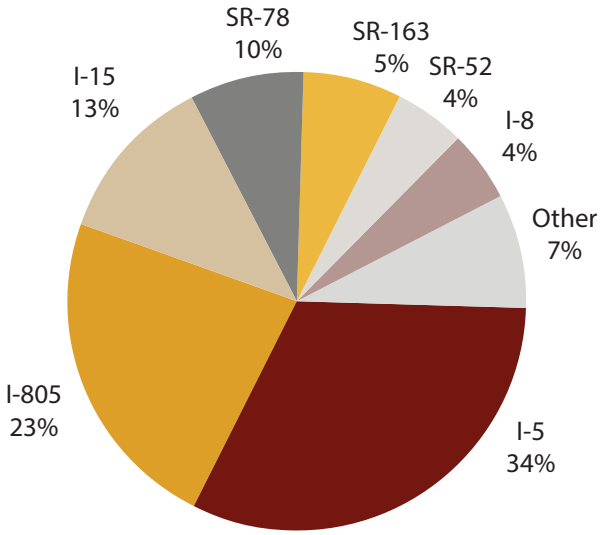


FIGURE 6 – Delay on San Diego Freeways During P.M. Commute Periods (2014)



The San Diego-Baja California region has three land ports of entry:

- San Ysidro-Puerta Mexico-El Chaparral.
- Otay Mesa-Mesa de Otay.
- Tecate-Tecate.

An additional port of entry, Otay Mesa East—Mesa de Otay II, is a new land border crossing under development. The Otay Mesa point of entry is the busiest gateway for trade between California and Mexico and ranks third in value of trade along the entire US-Mexico border. In 2015, it handled more than $42 billion in two-way trade by truck. From Tijuana to San Diego, the San Diego points of entry processed more than 23 million total vehicles, and nearly 51 million individual crossings in 2015. As the 2007 SANDAG report, "Economic Impacts of Border Wait Times," states, inadequate infrastructure capacity at the border crossings between San Diego County and Baja California currently creates travel delays for cross-border personal trips and freight movements that cost the US and Mexican economies an estimated $7.2 billion in foregone gross output and more than 62,000 jobs in 2007. The 2007 report estimated that with a delay of about two hours per truck, San Diego County loses $455 million in annual revenue from reduced freight activity. This translates into more than 2,400 jobs or $131 million in lost labor income per year.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

Funding shortfalls create both uncertainty and curtail the agency's ability to be well positioned for various competitive funding sources. In addition, shortfalls in operations and maintenance funding increase the probability of costlier capital replacement in the future and, in some cases, may increase potential safety risks, not to mention the impacts to the traveling public due to travel delay and service reliability. As a result, an underfunding of transportation infrastructure also could lead to a more rapid degradation of the existing system's infrastructure that is both over-used and under-maintained. The passage of SB 1 alleviates this underfunding and uncertainty.

Effect on Maintenance and Operation of Transportation Systems, including Transit

Streets and highways carry huge amounts of traffic, and they absorb continual wear from heavy trucks and other vehicles. The proposed 2016 SHOPP recognizes that there are more needs than available dollars. SANDAG supports getting projects "shovel-ready" in order to attract funding when opportunities arise.

In years past, especially reeling from the 2008 economic crisis, transit agencies in San Diego were forced to scale back on bus service by either reducing frequency of service and/or eliminating weekend service altogether. In doing so, this directly impacted employment for transit agency service operators/workers (drivers, maintenance workers, etc.), in addition to, as stated earlier, reducing access to job centers and schools for transit riders.

Fueling Our Economy

Implementing the Regional Plan will result in big economic benefits for the region. Many thousands of construction jobs, and thousands more in supporting industries, will be generated as projects are built. As those projects are completed, economic benefits will continue as increased connectivity saves time and money, leading to increased productivity. Access to jobs, housing, and education will strengthen the labor pool, and the increased flow of commerce will benefit the operations of our business community. The Plan's economic analysis shows that its benefits will outweigh the costs of putting it into action by a factor of almost two to one. For every dollar invested, San Diegans will receive nearly two dollars of benefit.

The tangible economic benefits of the Regional Plan will include a more efficient transportation network that will support more than 95,000 jobs throughout the economy in perpetuity, starting with an increase of 10,000 construction-related jobs in 2015. On average over the next 35 years, the Plan will support 53,000 jobs in the region annually. In the first few years of the Plan, the investment in the transportation network will spur about $1 billion in additional economic activity, increasing to $34 billion by the end of the Plan. On average, the Plan will augment the region's economy by $13 billion per year, and will increase personal income, raising overall earnings by about half a billion dollars in the early years, with that number growing to more than $13 billion by 2050. The average annual gain will be nearly $6 billion region-wide.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

SANDAG has identified several corridors where funds from SB 1 could be prioritized. These corridors have been organized by sub-region in order to illustrate the various needs around the County of San Diego. Additionally, a set of region-wide programs have been identified and are tallied separately. In total, the San Diego region has identified $10.6 billion in corridor needs and $1.7 billion in program needs for a total of $12.3 billion. It should be noted that approximately $9 billion in corridor needs and all $1.7 billion of the region-wide programs represent major improvements that could be scaled down as part of the initial phase of implementation to reflect available funding.

A list of those projects and programs can be found in Appendix F.

Prepared By

~ *San Diego Association of Governments*

Chapter 9 – San Francisco Bay Area

Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, and Sonoma Counties

INTRODUCTION

The San Francisco Bay Area is the fourth largest metropolitan region in the United States, with over 7.6 million people residing in the nine-county, 7,000 square-mile region. In recent years, the Bay Area economy has experienced record employment levels amidst a booming technology sector rivaling the "dot-com" era. The latest economic growth cycle extended not only to the South Bay and Peninsula – the traditional hubs of Silicon Valley – but also to neighborhoods in San Francisco and the East Bay. The rapidly growing and changing economy has created significant challenges for the region's transportation system, with record levels of freeway congestion and historic crowding on transit systems. In many cases, the infrastructure serving key employment centers was designed and built for the travel patterns of another era.

With streets and roads managed by nine counties and 101 cities, transit service provided by more than 20 different agencies, a state-owned highway system, a landmark bridge owned and operated by a special district, and more — finding sufficient resources to address the region's many transportation needs is no easy task.

Condition of Existing Infrastructure

The Bay Area's local street and road network includes over 42,000 lane miles of roadway used by cars, buses, trucks, bicycles, and pedestrians. Pavement on Bay Area streets and roads is currently in "fair" condition with an overall PCI of 66. PCI has been relatively stable for the past decade and is reflective of stagnation in performance gains over the past few years. The passage of SB 1 will give a significant boost to local governments working to improve their pavement condition and aging infrastructure.

The percentage of Bay Area highway lane-miles with pavement in distressed condition fell from about 29 percent in 2011 to 21 percent in 2013, the lowest level registered in at least 15 years. Much of the improvement is due to a series of repaving projects along Interstate 80, US Highway 101 and other major routes made possible by state funds delivered through the 2006 Proposition 1B bond measure and the 2009 federal stimulus package. These funds have largely been expended and the programs largely completed. SB 1 will allow the region to preserve these improvements and make additional, much needed gains.

The Bay Area's most recent transit asset data show that approximately 29 percent of the region's transit assets have exceeded their useful life, including 37 percent of transit vehicle assets. Bay Area Rapid Transit (BART) stands as a primary example of the region's aging transit infrastructure with 49 percent of all BART infrastructure past its useful life, including tracks, control systems, vehicles, and guideways.

According to the most recently available data, 15 percent of Bay Area bridges and overpasses are considered structurally deficient. Although this is the best performance since 1998, the Bay Area continues to have the greatest share of structurally deficient bridges of any major metro area in the country. In recent years there was a major Caltrans effort around seismic retrofits (such as along Doyle Drive in San Francisco), but there is still much more to do.

Level of Congestion

Overall commute time is at the highest level on record, as is time spent in congestion on a per-commuter basis. Across the region, "congested delay," which MTC defines as time spent in traffic moving at speeds of 35 miles per hour or less, surged 22 percent in 2015 to an average of 3.2 minutes per commuter each weekday from 2.7 minutes in 2014. This marks a nearly 70 percent increase over the 1.9-minutes-per-commuter-per-day figure registered in 2010.

These delays are felt most acutely along critical freeway routes. Table 9 shows MTC's annual ranking of the Bay Area's most congested freeway segments by daily weekday vehicle hours of delay in 2015. The afternoon drive on northbound US 101 and eastbound I-80 in San Francisco are currently the region's most notorious traffic bottlenecks.

TABLE 9 Bay Area's Most Congested Freeway Segments by Weekday Vehicle Hours of Delay			
2015 Rank	Location	2015 Daily (Weekday) Vehicle Hours of Delay	2014 Rank
1	US 101, northbound/Interstate 80, eastbound p.m. – San Francisco County I-280 to east of Treasure Island Tunnel	13,710	4
2	Interstate 80, westbound, all day – Alameda, Contra Costa, & San Francisco Counties CA-4 to US-101	13,010	1
3	Interstate 680, southbound & Interstate 280 northbound, a.m. – Santa Clara County South Jackson Avenue to Foothill Expressway	7,610	20
4	US 101, southbound, p.m. – Santa Clara County Fair Oaks Avenue to Oakland Road	6,970	3
5	Interstate 80, eastbound, p.m. – Alameda County West Grand Avenue to Gilman Street	6,140	7
6	Interstate 880, southbound, a.m. – Alameda County I-238 to SR-237	6,040	2
7	Interstate 680, northbound, p.m. – Alameda County SR-262/Mission Boulevard to Calaveras Road	5,260	6
8	US-101, northbound, a.m. – Santa Clara County Silver Creek Valley Road to North Fair Oaks Avenue	5,070	10
9	Interstate 880, northbound, p.m. – Alameda County Mowry Avenue to A Street	4,400	16
10	US-101, northbound, p.m. – San Mateo County SR-84/Woodside Road to East Hillsdale Boulevard	4,400	12

The region is currently experiencing historic crowding on its largest, most critical transit systems.

BART: Average weekday BART ridership is at the highest level on record, having grown 34 percent from approximately 323,000 passengers to 433,400 from 2006 to 2016. Two out of three BART trips now begin or end at the four downtown San Francisco stations, with Montgomery and Embarcadero stations approaching 90 to 100 percent station capacity during peak periods. Peak direction, rush-hour trains exceed BART's standard maximum of 107 passengers per car, sometimes reaching as high as 140 passengers per car, or 131 percent of capacity. BART projects that daily ridership will increase by 25 percent to nearly 500,000 by 2025 and by 50 percent to 600,000 by 2040.

Caltrain: Caltrain's daily ridership more than doubled in the last ten years, from approximately 30,000 in 2006 to a record 62,400 in 2016. The ten highest-demand trains operated by Caltrain now have ridership exceeding 100 percent of seated capacity, with the busiest trains exceeding 120 percent of seated capacity. Caltrain projects average weekday ridership will grow by approximately a third by 2021, to 83,000.

Muni: Muni is the region's most-used transit system and ridership has grown by six percent in the last decade. Morning peak-hour ridership in the Market Street tunnel has grown by one-third in the last five years and several Muni Metro lines are at capacity during peak travel times.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

Effect on Vehicle Infrastructure

As shown in Table 10, to reach a state of good repair for streets and roads, highways and bridges, the region will need to spend an estimated $11.7 billion. Anticipated reliable funding is estimated at only $2.9 billion, leaving a state of good repair shortfall of approximately $8.8 billion. This estimate of existing funding already includes new revenue from tax measures passed in 2016 in Santa Clara County and Oakland.

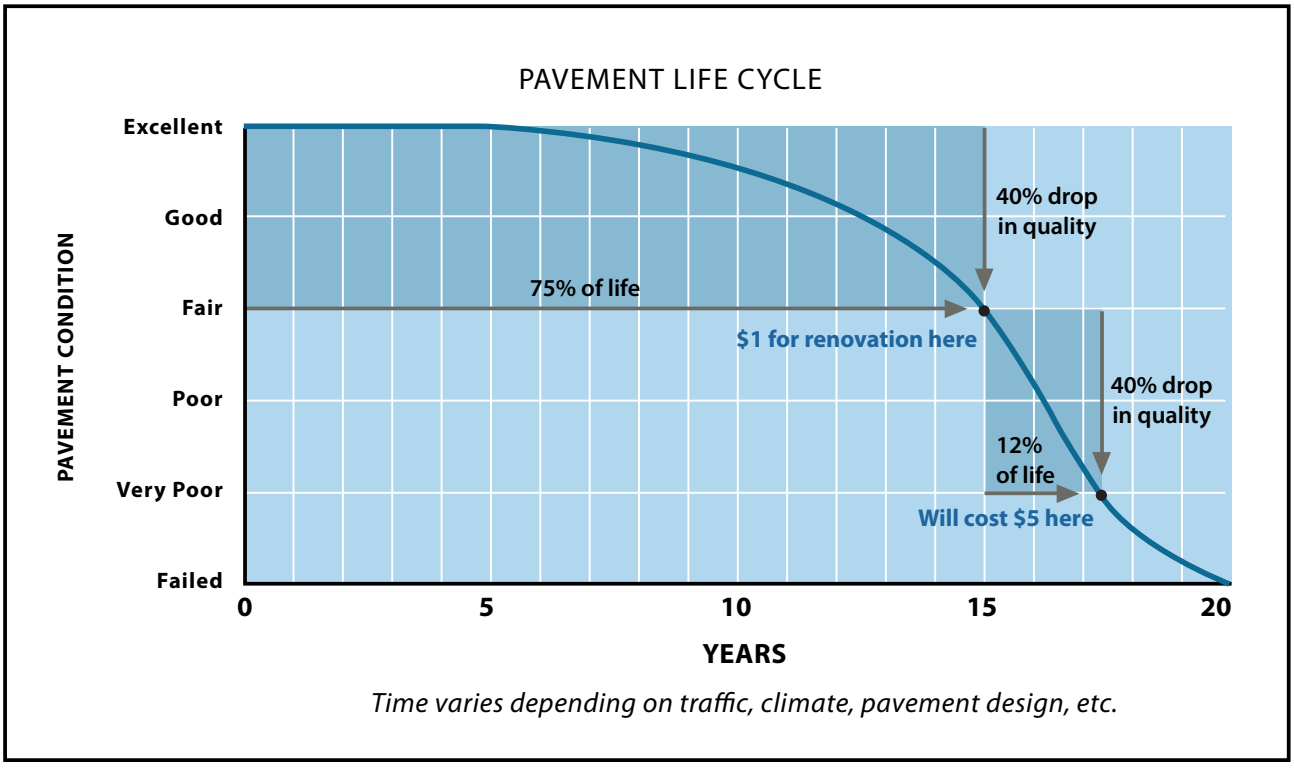
TABLE 10 Bay Area Local Streets and Roads Ten Year Funding Scenarios and Performance Outcomes			
	Local Streets and Roads State of Good Repair	Existing Funding*	State of Good Repair Shortfall
2017 Dollars	$11.7 billion	$2.9 billion	$8.8 billion
PCI	85	56	N/A

*Includes revenue from 2016 measures in Santa Clara County and Oakland

MTC's modelling predicts the region will need an additional $2 billion over the next ten years just to maintain current conditions. Without additional funding, PCI on local streets and roads will fall from its current "fair" rating of 66 to an expected "at-risk" rating of 56. With SB 1 the region's local streets and roads will receive much needed attention. SB 1 funding will help the region maintain our streets and roads at their current PCI of 66. Deferring maintenance for roads, bridges and highways saves money in the short term, but this practice forces more costly future repairs, ultimately increasing costs in the long term.

It is also important to note that while the region's average pavement condition is considered fair, as shown in Figure 7, the deterioration curve of a typical pavement is exponential, and not linear. Pavements that are still in good condition (a PCI of 70 or above) can be preventively maintained at a low cost, whereas pavements that need significant rehabilitation or reconstruction require five to 15 times the amount of funding, as illustrated in the figure below. Once pavements fall below a PCI of 60, users of the roadways begin to experience increasing vehicle operating costs associated with wear and tear on, or damage to their vehicles and additional fuel costs. Maintaining pavement at a state of good repair not only saves on increased rehabilitation costs in the future, but also saves drivers car repair costs and reduces greenhouse gas emissions.

Figure 7 -Pavement Life Cycle Chart



Effect on Transit

As shown in Table 11, to reach a state of good repair for the region's transit capital assets, the region will need to spend an estimated $23 billion. Prior to SB 1, anticipated reliable funding was estimated at only $7.9 billion, leaving a state of good repair shortfall of approximately $15.1 billion. The influx of additional reliable funding will help the region further reduce the percent of assets exceeding their useful lives.

TABLE 11 Bay Area Transit Capital Ten Year Funding Scenarios and Performance Outcomes

	Transit State of Good Repair	Existing Funding	State of Good Repair Shortfall
Nominal dollars	$23.0 billion	$7.9 billion	$15.1 billion
Percent of Assets Exceeding Useful Life	0%	22%	N/A

Well-maintained transit vehicles, stations, trackways and other key infrastructure are needed to deliver the reliable performance that Bay Area transit riders are seeking, and to ensure passenger safety and comfort. Aging infrastructure causes increased maintenance issues, exacerbating crowding on days when vehicles must be taken out of service or infrastructure like tracks and wiring need emergency repairs. These older assets result in lower reliability and higher repair costs.

Effect on the Economy

As previously noted, congestion delays and capacity constraints are already at record levels. These congestion and capacity challenges are already imposing significant costs on the Bay Area in terms of environmental impacts and lost productivity.

There are many planned improvements to help alleviate transit crowding and improve overall transportation system efficiency — including vehicle replacement and expansion, new technologies and control systems, new facilities and infrastructure, new transit routes and services, and new pricing and metering technologies. SB 1 will fund these improvements, accommodating anticipated population and employment growth that would be difficult to address without additional transportation funds.

According to the Bay Area Economic Council Institute, more efficient transportation networks can:

- Improve access to jobs.
- Increase attractiveness to new and expanding businesses.
- Extend the regional labor pool available to employees.
- Improve travel time reliability.
- Reduce carbon emissions.
- Provide opportunities for economic development around new transportation hubs.

Conversely, the region would have experienced moves in the opposite direction along all of these measures. Thanks to the additional resources from SB 1, the Bay Area's existing transportation system can be better maintained in a state of good repair and important regional efficiency and expansion projects are expected to move ahead.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

Even with the passage of SB 1, the Bay Area's transportation funding needs will continue to exceed available resources. The sections below describe the Metropolitan Transportation Commission's priorities for new funding and are reflective of MTC's long-range plan adopted in 2013 (Plan Bay Area) and other investment policy deliberations and represent potential program areas that could put funding to work in the near- term should additional funding be available. The influx of significant funding from SB 1, as with any new funding, warrants additional policy discussions, though most of the funds are targeted at maintaining our local and state roadways in a state of good repair, affording relatively limited discretionary priority setting. The sections below illustrate the region's great transportation needs across modes and highlight priority projects and programs.

Maintenance and Operations

Plan Bay Area, the Bay Area's Regional Transportation Plan/ Sustainable Communities Strategy, identifies maintaining our existing infrastructure to be among the highest priorities for new revenue. In fact, approximately three-quarters of the region's projected 24-year revenues are to be directed to maintaining our streets, highways, and bridges, and ensuring a state of good repair of our transit capital assets, such as buses, railcars, ferries, and related infrastructure. A significant portion of the new available revenues would likely be directed towards bridging these funding gaps, in keeping with MTC's "Fix It First" policy.

New Capacity – State Transportation Improvement Program

The traditional state funding source for new capacity is the STIP. Due to the volatility of gasoline prices in recent years and its effect on the variable price-based excise tax, STIP revenues have drastically been reduced. The latest 2016 STIP cut $754 million in existing funding from projects. In the Bay Area, over $115 million in state funds previously committed to important expansion projects vanished, leaving cities, counties, and transit operators scrambling for alternative funding or deferring needed projects. SB 1 stabilized the STIP by eliminating the variable price-based excise tax and, effective July 1, 2019, replaced it with an excise tax indexed to inflation stabilizing transportation revenues and allowing for more efficient planning and budgeting for project and program delivery.

Many counties have policies outlining their priorities for future STIP funds. For instance, earlier this decade, the San Francisco County Transportation Authority identified large capital projects such as the Central Subway, Presidio Parkway, Caltrain Electrification, and Transbay Terminal projects as priorities for future STIP funds. While some of these projects are completed or under construction, future phases remain unfunded and will depend on STIP funds to move forward.

Transit

MTC recognizes the need for strategic transit expansion to support the Bay Area's growth and ensure economic competitiveness. MTC has prioritized a number of near-term investments for future FTA funding. These projects already have substantial local funding, but require additional funds in order to move to construction. For example, the region prioritized the Transbay Transit Center, Phase 2 – Downtown San Francisco Extension for roughly $1 billion in federal funds. The Downtown Extension project would extend Caltrain and California High-Speed Rail to the new Transbay Terminal from its current terminus at 4th and King. Another example is the BART Core Capacity project, prioritized for $900 million in federal funds. The Core Capacity project would construct improvements to support future ridership growth. MTC also supports $75 million in federal funds for AC Transit's Bus Rapid Transit on San Pablo Avenue, which extends high-quality bus service paralleling the busy I-80 corridor in the East Bay. In total, the region endorsed over $4 billion worth of projects for federal or other types of new transit capital funding.

In 2016, MTC endorsed a number of ready-to-go projects for various competitive funding programs, such as the federal Transportation Investment Generating Economic Recovery (TIGER) grant program, and the state Cap and Trade Transit and Intercity Rail Capital Program (TIRCP). For the TIGER program, MTC endorsed a list of seven projects for this highly-competitive program in April 2016. Since then, two

projects have secured other funding. For the Cap and Trade TIRCP, MTC endorsed a list of 11 projects totaling $450.8 million in April 2016. These projects fit into MTC's Regional Cap and Trade Framework for TICRP funds, also adopted in 2016. These projects are listed in Appendix G.

Goods Movement

With the third-busiest container port in California located in the Bay Area, MTC recognizes the importance of improvements to the region's goods movement network. To that end, MTC adopted the Bay Area Regional Goods Movement Plan in 2016, which provides a framework for future investment in the region's freight infrastructure. The latest federal transportation authorization, the Fixing America's Surface Transportation (FAST) Act, includes two programs that specifically support freight: the Fostering Advancements in Shipping and Transportation for the Long-term Achievement of National Efficiencies (FASTLANE) competitive grant program, and the National Highway Freight Program (NHFP) formula program. However, the funding levels in these two federal programs are small: only about $850 million in FASTLANE grants are available each year, and only about $580 million is available statewide in NFHP funds over the five-year FAST Act period. Still, MTC supported several ready-to-go projects for the first cycle of the FASTLANE competitive program in 2016. Projects are listed in Appendix G; note that some segments may have since received other funding, resulting in a range of estimated remaining need. SB 1's Trade Corridor programs will be an important source of funding for these improvements.

Non-Motorized Transportation

In 2013, California created the ATP, which combines various fund sources into one cohesive program for active transportation projects. So far, MTC adopted three cycles of ATP, and in each cycle, MTC received far greater requests than money available. For instance, in the latest cycle, adopted by MTC in early 2017, the region had $22 million available over two years. However, MTC received over $165 million in project requests for ATP funds – or 7.5 times the amount of available funding.

As part of each ATP cycle, MTC adopts a list of contingency projects, which are listed in descending score order. If there are project savings, failures, or additional funds, MTC would fund the projects on the list. SB 1's $100 million annual boost to the ATP program, along with making bicycle and pedestrian improvements an eligible source of the augmented local road funding, will address the demand for active transportation improvements throughout the Bay Area.

Technology

The Bay Area is the home of Silicon Valley and its innovation and technology centers, and the region's transportation system should be no different. MTC has prioritized lower-cost efficiency improvements to deliver effective congestion-relieving improvements, rather than the high capital costs of brand new infrastructure. These efficiency improvements include intelligent transportation systems, ramp metering, express Lanes, and other innovative measures.

In preparation for the region's 2017 regional transportation plan update, MTC is proposing nearly $7 billion worth of efficiency projects using technology. Any increase in flexible transportation dollars could go towards these projects.

A sampling of the types of projects submitted for Plan Bay Area 2040 is included in Appendix G.

Prepared By:

~ *Metropolitan Transportation Commission*

Chapter 10 – San Joaquin Valley

Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

INTRODUCTION

The San Joaquin Valley (SJV) is the state's largest and one of the world's most important agricultural regions, home to seven of the top ten agricultural producing counties in the nation. The eight-county SJV Super-Region is roughly 40 to 60 miles wide and 250 miles long. It is bordered on the west by the coastal mountain ranges, in the east by the Sierra Nevada Mountains, in the north by Sacramento County, and in the south by the Tehachapi Mountains. The region includes eight urbanized areas, and each county has a Regional Transportation Planning Agency/Metropolitan Planning Organization. The SJV Super-Region consists of 62 incorporated cities, 27,000 square miles, 17.6 million acres, and 31,000 miles of roadways. The population is approximately 4 million, and is expected to grow to more than 7 million residents by 2050. The region has wide-ranging transportation needs that require innovative solutions.

Existing Conditions

The SJV Region has a large amount of interregional travel that passes through or originates in the Valley and goes to the Bay Area, Sacramento, Southern California, and points east. The SJV area has a multi-modal and diversified transportation system, including Interstate and state highways, Class 1 and short line railroad facilities, intermodal terminals and connections, regional and local transit systems, inland ports and waterways, air cargo facilities, and other infrastructure. The major transportation facilities run generally north to south, and include Interstate 5 and State Route 99 (recently rated as one of the most dangerous highways in the nation), and the Union Pacific Railroad and Burlington Northern & Santa Fe Railroads. Other main highways include I-205, I-580, and State Routes 4, 14, 33, 41, 43, 46, 58, 65, 120, 132, 140, 178, 180, and 198. The SJV contains the primary road and rail routes between the San Francisco Bay and Sacramento Areas and Southern California, including the Ports of Los Angeles and Long Beach. The San Joaquin Intercity Rail Corridor includes passenger rail service between Oakland and Bakersfield, and Sacramento and Bakersfield. The San Joaquin Corridor boasts the fifth highest ridership of an Amtrak service in the country. The San Joaquin Regional Rail Commission operates the Altamont Corridor Express service, which provides four commuter passenger trains daily between Stockton and San Jose. In addition, the SJV contains the Port of Stockton and air travel corridors. There are fixed route transit systems throughout the region, with some inter-regional service provided by private and public bus service providers.

CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

The entire SJV Super-Region experiences congestion issues that create delays in critical freight goods movement and overall mobility. The high levels of traffic congestion on the region's highway system and local roadway networks lead to increased delays and poor mobility, accessibility, and safety issues for the public. Increasing congestion and less efficient freight traffic movement throughout the SJV has a negative impact on the economy and environment. As an indication of congestion, a number of intersections and highways throughout the SJV Super-Region are operating at Level of Service (LOS) E or F during the AM or PM peak hours. There is also a critical need to separate at-grade rail crossings to improve freight efficiency and to reduce related congestion and safety issues.

Motor vehicle crashes have been on the rise, with increasing numbers of serious injuries and deaths. Roadways throughout the region and in cities are in critical need of safety improvements, including providing safer access for pedestrians and bicyclists. Anticipated climate change effects may have negative impacts on SR 4, SR 12, the BNSF Railway, as well as numerous state and local roads within or near the primary and secondary flood zones throughout the Valley as exemplified by recent storm damage.

There is a critical need to improve east-west connectivity throughout the SJV Region. The counties within the SJV Region serve as a vital hub for the movement of agricultural (farm to market) and other goods, both locally grown/produced or those that pass through the region. The lack of efficient and direct east/west travel routes between SR 99, I-5, SR 33 and other facilities in the SJV is a pressing concern for the region. The percentage of trucks along major corridors within the SJV Super-Region is high. Many state routes in the SJV Super-Region contain truck traffic percentages greater than 25 percent of the overall average annual daily traffic, with some of the highest truck counts occurring on SR 33, SR 198, SR 46, and SR 58. High truck percentages can contribute to slower traffic flow, decreased efficiency, decreased safety, and deterioration of infrastructure, including on local roads.

Goods movement is critically important throughout the SJV Super-Region. The San Joaquin Valley Goods Movement Study has identified urgent corridor and first- and last-mile connection issues. It is critical that improvements be implemented on local street networks, in addition to major goods movement routes. Local first- and last-mile street networks connect freight generators and receivers, such as manufacturing facilities and retail clusters, with major transportation routes. Congestion relief, signal coordination, signage, and pavement quality projects are critically needed to improve goods movement.

Regional and local transit systems throughout the SJV struggle to maintain current service levels. Transit funding shortfalls will result in reduced transit service, fewer routes, and less frequency, which all negatively affect people dependent on public transit to meet their daily critical needs. Transit systems are vital to reducing congestion and providing transportation options for disadvantaged populations. Anticipated federal and state transit funding revenues over the next 10 years fall short of the amounts needed to keep up with demand Throughout the SJV Super-Region, inter-county and general rural transit options are limited. There are vast rural areas throughout the region, which create challenges in providing appropriate transit services.

Bicycle and pedestrian access to the transportation system is inadequate, with many areas in dire need of sidewalks, safer street crossings, and improved bicycle facilities.

The SJV region has historically had a severe shortfall of funding to adequately maintain the transportation networks. Major pavement rehabilitation and reconstruction have been deferred due to their high costs and the region's limited maintenance funding.

All communities have had difficulties funding pavement preservation activities necessary to keep area roads from further deterioration. According to the 2016 California Statewide Local Streets and Roads Needs Assessment, and as shown in Table 12, the PCI of roads throughout the region are "Poor" and/or "At Risk." There is a dire need to address pavement maintenance and bridge rehabilitation efforts. The passage of SB 1 will bring critically needed funding to preserve roads and bridges, and to catch up on deferred major maintenance and reconstruction projects.

TABLE 12 San Joaquin Valley 2016 Average PCI by County

County	2016 PCI
Fresno	64
Kern	63
Kings	59
Madera	46
Merced	66
San Joaquin	70
Stanislaus	55
Tulare	60
SJV Region	62-at risk*

*Weighted average using lane miles

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT

Prior to SB 1, the SJV Super-Region faced serious funding shortfalls. Counties and cities were unable to keep up with maintaining streets, roads, bridges, sidewalks, and other critical components of the region's transportation infrastructure. As state and federal funding continued to decline and the regional and local transportation systems continued to deteriorate, additional revenue was needed to not only maintain the current system, but also to meet the urgent needs of a growing population.

Without the additional funding investments provided by SB 1, area roadways would have continued to deteriorate, congestion would have continued to increase, local road and street maintenance would continue to suffer, and the SJV Super-Region would continue to experience air quality issues. Local, statewide, and national mobility would have continued to be negatively impacted without additional revenue to protect, maintain, and improve critical transportation networks. The region's economy and quality of life depends upon these additional investments.

The SJV Super-Region has identified infrastructure investments throughout the region that are needed to maintain and improve the existing system, and to help alleviate serious safety, congestion, accessibility, connectivity, mobility, and air quality issues. The region has identified critical multi-modal infrastructure improvements required to address regional mobility, connectivity, safety, and maintenance/preservation needs of the existing transportation system. Major projects in the SJV not only benefit the largest concentration of disadvantaged communities in the state, but neighboring regions as well.

Please see the project list in Appendix H, which includes a summary list of some (but not nearly all) of the region's most urgent needs, as found in existing planning documents including Regional Transportation Plans.

Prepared By

- *Fresno Council of Governments*
- *Kern Council of Governments*
- *Kings County Association of Governments*
- *Merced County Association of Governments*
- *Madera County Transportation Commission*
- *San Joaquin Council of Governments*
- *Stanislaus Council of Governments*
- *Tulare County Association of Governments*

Chapter 11 – Southern California

Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura Counties

INTRODUCTION

The Southern California Super-Region encompasses six counties and 191 cities in an area covering more than 38,000 square miles. Being the largest super-region in the state in terms of population, the region is currently home to 18.9 million people, (about 5.9 percent of the U.S. population and 48.3 percent of California's population) and features 5.9 million households and 7.4 million jobs. Southern California is also the second-largest metropolitan area in the country after the New York metropolitan area. If it were a state, this region would rank fifth in the U.S. in terms of the size of its population, just behind New York and ahead of Illinois.

Over the past few decades, Southern California has been experiencing significant demographic changes and this trend is expected to continue well into the future. By 2040, the region's population is expected to grow by more than 20 percent to 22 million people—an increase of 3.8 million people. The median age of the region's overall population is projected to rise as it approaches the middle of the century. As the Baby Boomer generation continues to age, the region will experience a significant increase in its senior population—a trend expected nationwide. A key challenge for the region will be to help seniors maintain their independence in their homes and communities.

In the coming years, Millennials, born between 1980 and 2000, will have an increasingly greater impact on how and where we live and how we travel. Millennials represent 22.4 percent of the region's total population and rely less on automobiles than previous generations; they are less apt to acquire drivers' licenses, drive fewer miles, and conduct fewer overall trips. Research also shows that Millennials often prefer to live in denser, mixed-use urban areas well served by transit, rather than decentralized suburban areas. Millennials also are more likely than other groups to embrace a range of mobility options, including shared cars, biking, transit, and walking. These evolving preferences for transportation and housing are significant because Millennials will account for a large part of Southern California's overall population in 2040. In the near term, their housing and transportation preferences, when combined with the need of Baby Boomers to maintain their independence, could significantly change how the region develops.

Maintaining and enhancing a transportation system that can tackle these, and all of the region's challenges, will require adequate funding secured through SB 1. The overall transportation system is aging rapidly and deteriorating. Deferring maintenance because of a lack of funding would have continued to strain the system. As the region's economy grows, freight traffic will increase on the roadways, along rail lines, and at the airports and seaports. This will place new demands on general transportation infrastructure such as highways and surface streets, as well as infrastructure specific to international trade and domestic commerce. This growth in goods movement also will contribute to air pollution, making it harder for the region to attain federal standards for air quality and comply with new state rules for lowering greenhouse gas emissions. Therefore, in light of demographic shifts and changes in travel preferences, it is essential that the region maintain and develop a sustainable multi-modal transportation system for the years to come. The passage of SB 1 will enable the region to address these critical needs.

Existing Conditions

Highways, Local Roads, and Bridges

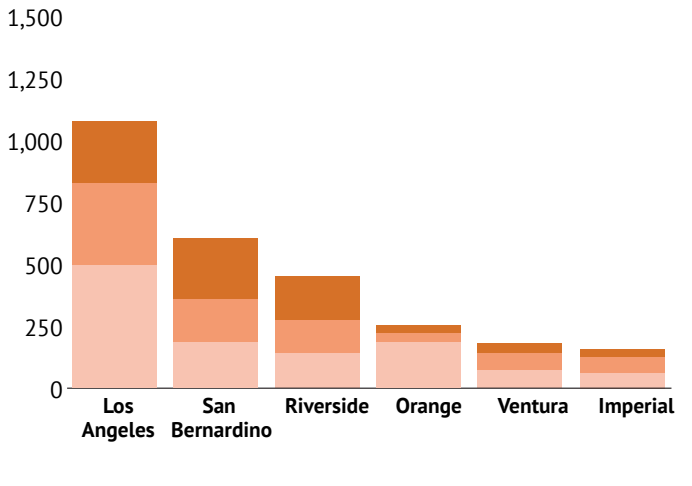
The Southern California region's highways and arterial roadways continue to be the backbone of its overall transportation network, and they are vital to moving people and goods throughout the region. Across the Southern California Super-Region, the highway and arterial system covers about 70,000 roadway lane miles and accommodates 66 million trips per day. Its roadways are not only used by automobiles and freight trucks, they are also used for transit and by those who choose to walk, bike and use other forms of active transportation. According to the Southern California

Association of Government's (SCAG) Regional Travel Demand Model, more than nine out of ten trips rely either entirely or in part on the highway and arterial system.

Unfortunately, the region's transportation system is in a state of disrepair due to decades of underinvestment. Quite simply, investments to preserve the system have not kept pace with the demands placed on it. The inevitable consequence of the region's deferred maintenance is poor road pavement, which is particularly evident on the highways and local arterials.

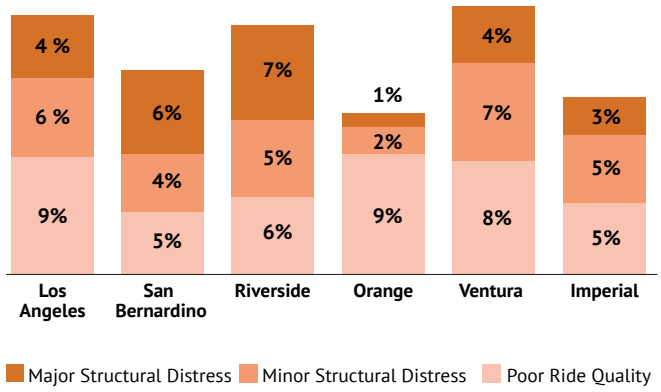
Figures 8 and 9 below represent the condition of the region's highways by county. The region has more than 2,750 distressed lane miles on the state highway system. In total, approximately 16 percent of state highway system lane miles in the region had pavement conditions that were classified as distressed. In addition, according to the most recent data collected by SCAG from local jurisdictions (2013), the average PCI rating for local roads in the region ranges from a low of 57 in Imperial County, to a high of 77 in Orange County, and a regional average of 69. These conditions may be considered average to below average. In addition to the region's highways and arterials, more than 2,200 of the bridges (out of almost 8,100) have fallen into an unacceptable state of disrepair as shown in Figure 10 (following page). SCAG estimates that the cost to maintain its transportation system at current conditions, which is far from ideal, will be in the tens of billions of dollars.

FIGURE 8 – Southern California Total State Highway System Distressed Lanes Miles by County (2013)



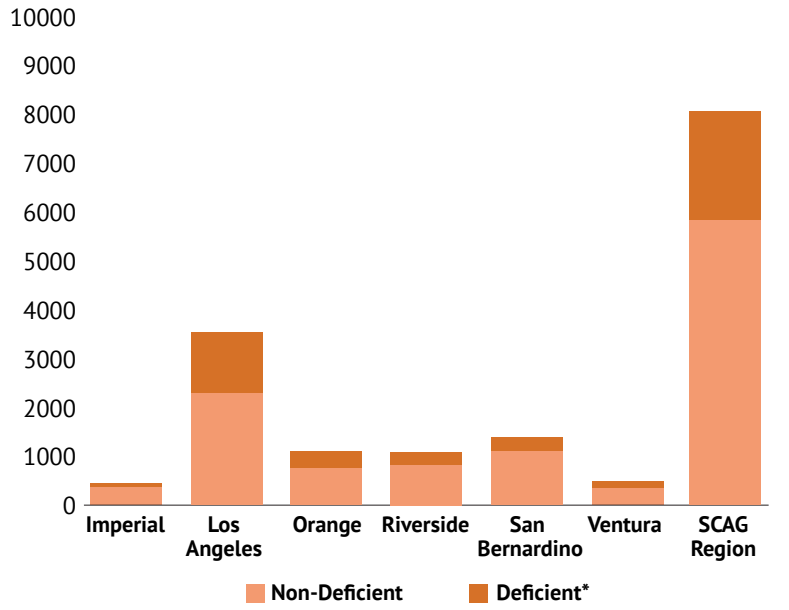
Source: State of the Pavement Report

FIGURE 9 – Southern California Percent State Highway System Distressed Lanes Miles by County



Source: State of the Pavement Report

FIGURE 10 – Southern California Bridge Conditions by County



**Non-Deficient - to be considered structurally non-deficient a bridge must meet a sufficiency rating of 80 or more.*
**Deficient - to be considered structurally non-deficient a bridge must meet a sufficiency rating of 80 or less.*
Source: Federal Highway Administration

Transit

Along with the region's highways, local arterials, and bridges, public transportation in the United States has also faced long-term maintenance funding challenges. The US DOT's 2010 "Status of the Nation's Highways, Bridges and Transit: Conditions and Performance Report to Congress" forecasted a national transit maintenance shortfall of $116.5 billion by 2028, with the share of assets in a maintenance backlog increasing from 11.7 percent to 17.5 percent by 2028. Within the next 40 years the strains of global climate change including the potential ramifications of changes in storm activity, sea levels, temperature and precipitation patterns will create additional stresses on transit assets and services. Providers of public transportation will need to develop strategies to protect key assets and services from added wear induced by climate.

A special area of focus within the region is demand response transportation, which consists of the Americans with Disabilities Act (ADA) mandated paratransit and local dial-a-ride programs. One of the key findings of the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was that demand response average trip length has roughly doubled since the passage of the ADA. As the Baby Boomer generation ages, new funds and innovative ways for providing mobility to those who cannot drive will be required to meet the increasing need for demand response transport to a growing variety of destinations.

Active Transportation

Across the Southern California region today, many people live and work in areas where trips are short enough to be completed by walking or biking. Walking and biking as a share of all trips is more than 18 percent in the most urban areas where there are abundant nearby destinations/land uses, yet still reaches 11 percent in rural areas where land uses are less diverse. However, less than three percent of transportation funding goes to active transportation. There is a strong relationship between land use and travel behavior. Land use characteristics play a key role in determining the conditions for and feasibility of walking and biking in a community, due to the sensitivity of these modes to trip length.

The regional bike network within the Southern California Super-Region is expanding, but remains fragmented. Nearly 500 additional miles of bikeways were built since SCAG's 2012 RTP/SCS, but only 3,919 miles of bikeways exist region-wide, of which 2,888 miles are bike paths/lanes. The lack of connectivity acts as a barrier to increased bicycling for longer trips, such as commuting.

Walking represents nearly 17 percent of all trips in the region, with the largest share in Los Angeles County. It is how most transit riders reach their station. Most walk trips (83 percent) are less than one half mile; walkers are less likely to travel further due to a lack of pedestrian friendly infrastructure. Routes to stops and stations are often circuitous, obstructed, or dilapidated, increasing the time it takes to complete a trip by transit and therefore making the choice to use transit less attractive. A study in Los Angeles County found that the most common barriers to station access on foot or bicycle include:

- Long blocks.
- Highway over/underpasses.
- Concerns about safety and security, sidewalk maintenance.
- Legibility/lack of signage.
- Right-of-way constraints leading to limited space for safe walking and biking.

Currently, all six counties in the Southern California Super-Region are pursuing first/last mile solutions to make transit or border crossing stations more accommodating to active transportation. Their efforts are aided by the Federal Transit Administration (FTA), which has extended the "walk-shed" (the area encircling a destination point) from transit stations from a quarter mile to a half mile, enabling transit funding to be used for larger areas around transit stations. The "bike-shed," as defined through FTA guidance, extends three miles in all directions from a station.

Our Priority: System Preservation

Moving forward, the region needs to continue to "Fix-it-First" as a top priority— that is, focusing the necessary funds on preserving the existing transportation network while strategic investments are made in system expansions. Failure to adequately invest in the preservation of its roads, highways, bridges, railways, bicycle and pedestrian facilities, and transit infrastructure would have only lead to further deterioration, which has the potential to worsen the region's congestion challenges. In addition, potholes and other imperfections in the roadway come with real costs to motorists, estimated by one study at more than $700 per driver each year. The region's transportation system represents billions of dollars of investments that must be protected in order to serve current and future generations. The loss of even a small fraction of these assets could significantly compromise the region's overall mobility.

Preservation of the region's transit system, for example, is more important than ever as Baby Boomers, one of the fastest growing groups requiring transportation services, age. The region needs to plan for this projected increase in seniors with increased funding for transit and paratransit operations and maintenance. Preserving infrastructure in a manner that encourages walking and biking is also important for maintaining mobility for those unable to or uninterested in driving. It is also a cost-effective way to increase the number of roadway users without increasing roadway congestion.

Levels of Congestion

Maintaining the operational efficiency of the region's roadways is crucial if Southern California is to maintain the mobility of it's region. Unfortunately, traffic congestion continues to adversely affect the highway and arterial system every day. Based on SCAG's Regional Travel Demand Model, total-hours of delay within the region amounted to 3.6 million hours. Daily delay per capita amounted to 11.8 minutes and is expected to grow considerably, particularly in the Inland Empire counties of Riverside and San Bernardino. Estimates of the cost of congestion exceed $1,700 per driver per year and result in the loss of over two work weeks a year stuck in traffic. Traffic delays also inhibit job growth. Analysis of Los Angeles metropolitan area employment growth between 1990 and 2003 indicates that if additional mobility improvement had been made to reduce congestion by 50 percent, job growth would have increased over 120 percent of actual levels.

The efficient movement of goods in and out of the region, which is essential to the region's economy, has also experienced setbacks. Daily heavy duty truck delay on highways and local arterials amounted to 193,000 hours of

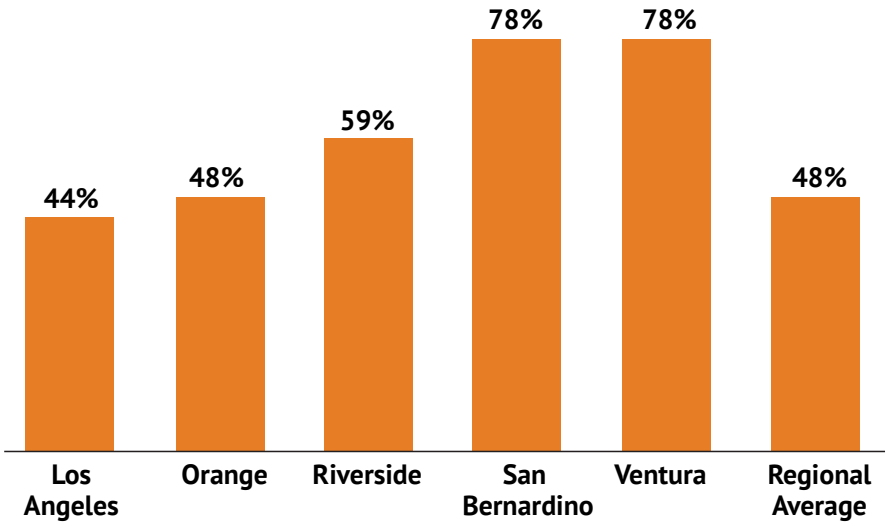
delay. The region is home to three of the top 50 worst truck bottlenecks in the nation, which collectively cost the trucking industry nearly $50 billion a year.

Recurring and non-recurring congestion continues to plague the region's roadways. Figure 11 shows the percentage of highway congestion during a typical day (5:00 AM through 8:00 PM) during that year. The data is reported for each county and for the region as a whole. In 2011, the estimated average percentage of congestion that was due to collisions or other incidents was about 48 percent. San Bernardino County had less recurrent delay and is therefore more susceptible to incident-causing congestion. The Performance Measurement System indicates that up to 78 percent of all congestion may be non-recurrent in the county. With that said, the actual percentage may be exaggerated due to the manner in which this system handles some data. In the more urbanized Los Angeles County, the data reported that 44 percent of county-wide congestion was non-recurrent.

Although Southern California has made improvements in recent years, the increasing travel demands that will come with a growing population in coming years will lead to increased congestion. This traffic congestion will not only make life difficult for commuters, it will also degrade the region's air quality and our overall quality of life. In addition, an imbalance or mismatch between employment and housing in a community is considered to be a key contributor to local traffic congestion.

Providing jobs in areas where people live means less time people spend driving resulting in less congestion. To address congestion and to improve the transportation network's efficiency, the region has been investing in Transportation Systems Management and Transportation Demand Management projects. Still, more work is needed.

FIGURE 11 – Southern California Percent Non-Recurrent Congestion by County (2011)



Funding

Prior to the passage of SB 1, the region's most critical challenge was securing funds for a transportation system that promotes a more sustainable future. The cost of a multi-modal transportation system that will serve the region's projected growth in population, employment, and demand for travel surpasses the projected revenues expected from the gas tax—our historic source of transportation funding. The purchasing power of the state's gas tax revenues was decreasing, continuing on a downward trajectory as tax rates (both state and federal) had not been adjusted in more than two decades while transportation costs escalate, fuel efficiency improves and the number of alternative-fuel vehicles continues to grow. SB 1 addresses a critical need to these shortcomings by incorporating an adjustment for inflation in the state's excise fuel tax.

Over the next ten years, a total of $68.9 billion (Figure 12) is needed for system preservation and maintenance to bring the Southern California region's transit, passenger rail, regionally significant local streets and roads, and the state highway system to a state of good repair. The gap between needs and existing funding for the state highway system through 2026 is estimated at $10.2 billion. The cost to bring regionally significant local streets and roads to a state of good repair is estimated at $11.9 billion with a funding gap of $8.9 billion. Public transportation in the region faces similar shortfalls with an investment need of $46.8 billion over the next ten years to achieve a state of good repair.

Looking beyond the region's system preservation and maintenance needs, capital improvements on the state highways, local arterials, and transit system are also critical in order to maximize the transportation network's operational efficiencies, and improve its overall connectivity and accessibility. These capital improvements include everything from highway lane additions, railroad grade separations, and replacement bridges to bicycle lanes and new transit hubs. Based on SCAG's 2016 RTP/SCS over the next ten years, the total unmet need for the implementation of capital improvements throughout the region amounts to approximately $22.4 billion (year of expenditure). As shown in Figure 13 (following page), total transit capital amounts to approximately $6.8 billion (year of expenditure). The unmet need for highway and arterial capital improvements is similar, amounting to $6.7 billion. The unmet need for goods movement improvements (e.g., grade separations) amounts to approximately $8.1 billion (year of expenditure). Finally, the unmet need for active transportation improvements totals nearly a billion, $0.8 billion (year of expenditure). SB 1 will provide reliable, dedicated funding to the region that will address many of these previously unfunded needs.

The total unmet need for the Southern California region, including operations and maintenance and capital improvements, amounts to approximately $91.3 billion over the next 10 years. By failing to adequately invest in its transportation assets in the near term, the current state of the region's transportation system would have been further compromised.

FIGURE 12 – Southern California Multi-Modal System Preservation and Maintenance Needs (2016 -2026) in Billions

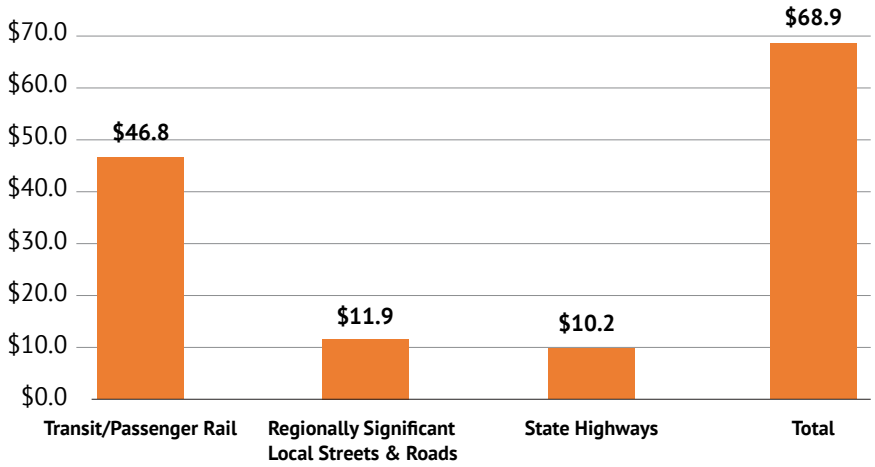
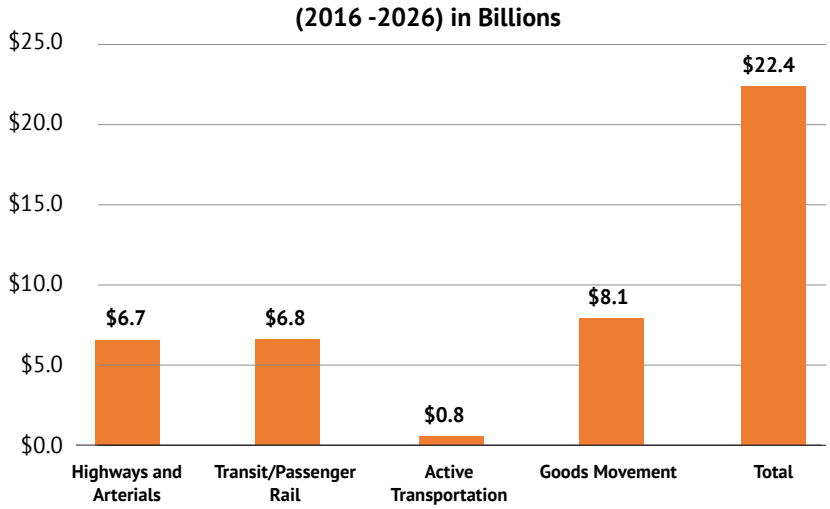


FIGURE 13 – Southern California Capital Improvement Unmet Needs



To backfill limited state and federal gas tax funding, the region had continued to rely on local revenues to meet transportation needs. Prior to the passage of SB 1, 71 percent of the region's existing transportation revenue sources were local. Eight sales tax measures have been adopted throughout the region since the 1980s, so the burden of raising tax dollars had shifted significantly to local agencies. The region needed a stronger state and federal commitment to raising tax dollars for the Southern California transportation system—its prominence and importance to the state and national economy, particularly when it comes to the movement of goods. The region's transportation system should be able to rely on more consistent tax revenues raised at all levels of government. SB 1 enables the state meet this commitment.

The federal government enacted the FAST Act in 2015, providing the first quasi long-term federal transportation authorization in a decade. Unfortunately, the Act did not increase funding significantly over current levels. Prior to SB 1, the state continued to struggle with stabilizing its transportation revenue, which led to a $754 million reduction in the STIP by the California Transportation Commission in early 2016, attributed to the dramatic decline in anticipated fuel excise tax revenue. Such a reduction significantly impacted the region's ability to deliver projects over the next several years.

To illustrate the impact at a specific project level, the funding package for the I-10 Express Lane project in San Bernardino County relies on a combination of local, state, and federal funds, including a federal Transportation Infrastructure Finance and Innovation Act (TIFIA) loan. The unfunded project costs at present includes the TIFIA loan, which the San Bernardino County Transportation Authority (SBCTA) expects to receive, but has not been fully committed. Prior to SB 1, the remaining funding gap was approximately $90 million, a portion of which came about from the STIP reduction. Filling the other portion would have required a long term loan of Measure I (local sales tax measure dedicated for transportation funding) that is committed to other parts of the freeway program. The I-10 funding strategy has changed several times in recent years to adjust for the uncertainties at the state and federal level. Reliable funding at the state level from SB 1 will stabilize the funding picture for this and other important projects.

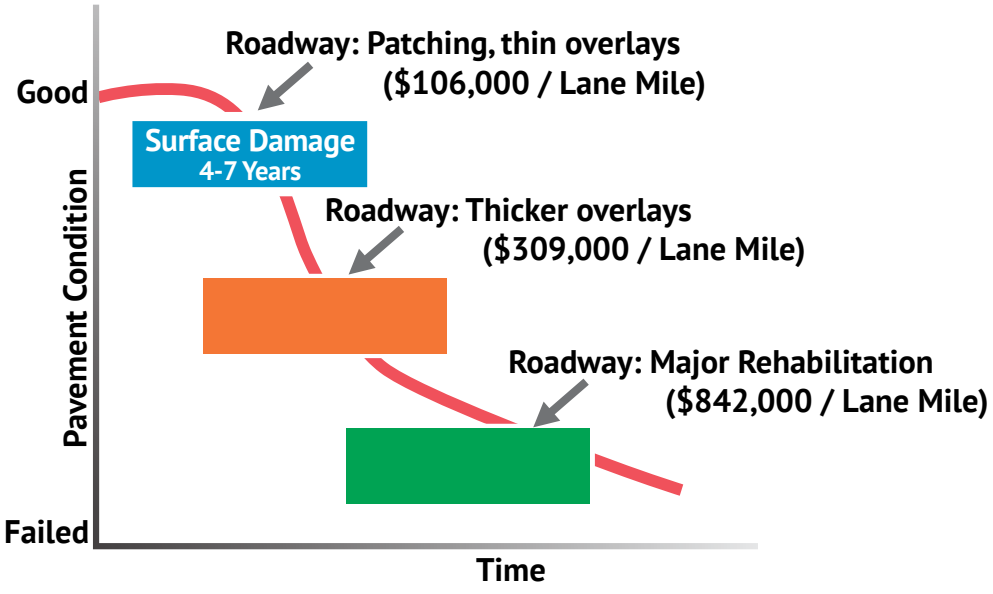
CONSEQUENCES OF THE PRIOR FUNDING SHORTFALL

Effect on Maintenance and Operation of Transportation Systems, Including Transit

As previously mentioned, system preservation continues to be a challenge for the region's highways and local arterials. Part of the challenge is ensuring that life cycle costs (i.e., maintenance and preservation expenses) are considered and planned for when infrastructure projects are being developed. Because roadway infrastructure represents hundreds of billions in investments, it is important that these assets are preserved and maintained. Making sure previous investments will continue to serve future residents is a priority for SCAG and its partner agencies. Without the additional investments from SB 1 for preservation, pavement conditions on the local roads would have significantly deteriorated by 2026 to a regional average PCI rating of below 58, which would have required substantial expenditures for widespread major roadway rehabilitation and reconstruction projects. In addition, roadways with poor pavement are unsafe for bicyclists and motorists as they must swerve to avoid potholes. Lack of safe infrastructure also acts as a barrier against bicycling and walking.

The rate of deterioration of the region's roadways and other assets was expected to accelerate significantly if maintenance continued to be deferred. As shown in Figure 14, with respect to roadways, deferred maintenance leads to much costlier repairs in the future. Minor repairs to keep our roadways in a state of good repair cost on average $106,000 per highway lane mile, while major rehabilitation of a lane mile can cost an average of $842,000. As maintenance is deferred, the cost of bringing these assets back to a state of good repair grows exponentially.

FIGURE 14 – Cost Effectiveness of Pavement Treatment



Effect of Neglected Infrastructure on the Economy

The health of Southern California's economy depends on the well-being of businesses and households, and a strong and efficient regional transportation system can go a long way in helping businesses and households succeed. An efficient transportation system can lead to an increase in productivity, personal, income and ultimately public tax revenues.

Businesses depend on a reliable transportation network to distribute products and services that reach their customers at a reasonable cost. Households depend on an integrated, accessible, and dependable transportation network to provide reliable access to education, jobs, shopping, and recreational activities. A sustainable, time-efficient, and cost-effective transportation system can help neighborhood businesses compete more effectively with those in neighboring jurisdictions. Relieving congestion contributes greatly to future employment growth. For the region to remain a competitor in the global economy, it must continue to invest strategically in transportation infrastructure, while ensuring that it obtains the maximum return on those investments.

When investments are made in the transportation system, the economic benefits go far beyond the jobs created building, operating and maintaining it. Unlike spending to satisfy current needs, infrastructure delivers benefits for decades. The infrastructure, once built, can enhance the economic competitiveness of a region. Projects that reduce congestion may help firms produce at lower cost, or allow those firms to reach larger markets or reach larger pools of qualified employees to draw from. An economy with a well-functioning transportation system is a more attractive place for firms to do business, enhancing the economic competitiveness of the region.

In addition, traffic congestion has been increasing in nearly all U.S. metropolitan areas. Research shows that traffic delays inhibit job growth. In the Los Angeles metropolitan area, actual employment growth from 1990 to 2003 was 567,983 new jobs, but researchers have estimated that with a 50 percent reduction in congestion in the region's metropolitan areas, employment growth from 1990 to 2003 would have been 700,235 new jobs. Research suggests that the employment enhancing effect of reducing congestion in more congested urban areas is larger. The "distance shrinking" effect of managing congestion is more important in more congested urban areas. This is also a non-linear effect because congestion relief grows more important for the economy as congestion levels rise.

WHERE ADDITIONAL FUNDING FROM SB 1 COULD BE SPENT AND KEY BENEFITS

The passage of SB 1 is critical to address the Southern California region's long- term needs, as it makes transportation funding more sustainable. Such funds will be leveraged against local funds going towards the backlog of projects to preserve the existing transportation system. Several counties in the SCAG region have transportation sales tax measures, such as the recently adopted Measure M in Los Angeles, which have or will help them deliver important multi-modal projects. Without funding provided by SB 1, these measures are not sufficient to meet the needs of the region.

SCAG, in close coordination with the six county transportation commissions, has identified near term projects that can be implemented within the next 10 years that can now be funded with the passage of SB 1. The projects referenced in Appendix I were mainly derived from the adopted SCAG 2016 RTP/SCS with additional input from the county transportation commissions and is by no means an exhaustive list, nor presented as the highest regional priorities, but merely a sample of major improvements that can be implemented should additional funding become available. Projects include state highway improvements, local arterial improvements, railroad grade separations, bikeways, new transit hubs, and replacement bridges.

Maintenance and Operations

Managing the operation and maintenance of the region's multi-modal transportation network is crucial considering that projected population growth will only lead to increased network demand. System preservation investments implemented in the near term are the region's first priority to ensure its assets maintain a state of good repair. In collaboration with the region's six county transportation commissions, the improvements listed in Appendix I are illustrative of critical operations and maintenance improvements that could be implemented.

Completing Our System

Closing critical gaps within the region's existing network not only improves access, but is essential to creating an integrated and seamless network. The reconstruction and/or reconfiguration of existing roadways is also needed to increase efficiency and address travel demand. In collaboration with the region's six county transportation commissions, the improvements listed in Appendix I are illustrative of critical state highway, local arterial, and transit and passenger rail projects that could be implemented in the near term (10 years).

Goods Movement

Southern California's freight transportation system is integral to regional and national economic growth. As the unparalleled gateway to the nation, the Ports of Los Angeles and Long Beach are the dominant port of entry for Pacific Rim trade with the U.S., and demand at these ports is expected to more than double by 2035. Growth in cargo volumes will exacerbate existing challenges at marine terminals, intermodal rail facilities, and further constrain local highways, particularly along the southern part of the I-710 corridor.

As demand for warehousing and distribution facilities move farther inland, traffic on regional east-west corridors is also expected to increase considerably, serving a mix of international and domestic trade markets. Additionally rail volumes will increase, tripling along certain segments of the mainline rail network, impacting passenger rail service and increasing grade crossing delays. Although Southern California continues to be the nation's epicenter for distribution and logistics activities, severely congested highways and rail corridors are a barrier to keeping goods moving and the economy growing. Additionally, public health is at risk as regional freight activities are a major source of air pollution. While Southern California has made great strides in building infrastructure, deploying clean technologies and planning for the future through self-help tax measures, numerous critical projects in the region are urgently needed, as identified in Appendix I.

Active Transportation

Active transportation (walking and bicycling) is an essential part of the regional transportation system. Nearly everyone is a pedestrian at some point during the day. Bicycling can dramatically increase the mobility for those opting not to drive or those entirely without motor vehicles. Active transportation is low cost, does not emit greenhouse gases, can help reduce roadway congestion, and can expand transit ridership. Based on input from the region's county transportation commissions, the active transportation improvements in Appendix I could be implemented in the near term (10 years).

Technology

Technological advancements in the form of communications can lead to a more efficient transportation system and can improve the deployment of various intelligent transportation system (ITS) strategies. An example of an ITS strategy is real time traveler information. By leveraging technology system strategies, users can make more efficient transportation choices, which help public agencies manage the multi-modal transportation system more efficiently. Based on input from the region's county transportation commissions, the technological improvements in Appendix I could be implemented in the near term (10 years) and would allow for a more efficient transportation network.

Key Benefits

The implementation of the near term projects as identified under Appendix I, in addition to other committed projects currently underway, will result in a regional transportation network that not only improves travel conditions and air quality, but also promotes an equitable distribution of benefits. Trips to work, schools and other key destinations would also be quicker and more efficient. In addition, the integration of multiple transportation modes would result in increases in carpooling, demand for transit and use of active transportation modes for trips during peak travel hours and at other times. Key benefits that would be achieved include:

- An increase in the combined percentage of work trips made by walking and biking and public transit, with commensurate reduction in the share of commuters traveling by single occupant vehicle.
- An increase in the number of short trips taken by biking and walking, rather than by motor vehicle.
- A reduction in Vehicle Miles Traveled per capita and Vehicle Hours Traveled per capita (for automobiles and light/medium duty trucks) as a result of more location efficient land use patterns and improved transit service.
- An increase in daily transit travel, as a result of improved transit service and more transit-oriented development patterns.
- A reduction in delay per capita.
- A reduction in total heavy duty truck and freight delay.
- The creation of additional new jobs annually, due to the region's increased competitiveness and improved economic performance that will result from congestion reduction and improvements in regional amenities.
- Safety improvements as a result of improved operations and maintenance.
- Improved state of good repair in addition to long term cost savings as a result of early system preservation investments on our highways, local roads, bridges, and transit network

A list of project needs can be found in Appendix I.

Prepared By

- *Imperial County Transportation Commission*
- *Los Angeles County Metropolitan Transportation Authority*
- *Orange County Transportation Authority*
- *Riverside County Transportation Commission*
- *San Bernardino County Transportation Authority*
- *Southern California Association of Governments*
- *Ventura County Transportation Commission*

APPENDIX OVERVIEW

The projects referenced in Appendices A – I were prepared by each super-region and the state (Caltrans) and are for illustrative purposes only.

Projects were mainly identified from project lists found in previously adopted documents such as Regional Transportation Plans (RTP), maintenance plans, transportation bond measures, and other documents. Additional input was provided from county transportation commissions, advocacy groups, and others.

Projects included in the RTPs must meet a variety of federal, state, and regional goals. Pursuant to SB 375 (Steinberg, Chapter 728, Statutes of 2008), RTPs in metropolitan regions must also include a Sustainable Communities Strategy (SCS) to demonstrate how the region will integrate land use and transportation to achieve greenhouse gas emissions reduction targets established by the California Air Resources Board (ARB). Therefore many transportation projects identified in this report by metropolitan regions are part of regional strategies to meet greenhouse gas emission reduction goals.

The projects identified in the following appendices do not represent an exhaustive list of needs, are not necessarily intended as the highest regional priorities, nor as projects that will be funded through the recently enacted transportation funding solution. The project listings are merely illustrative of needed major improvements that were unfunded before the passage of SB 1, as identified by each super-region. Identified needs fall into such categories as preservation, maintenance, capacity and operational projects and range from highway/roadway, transit/passenger rail, active transportation, and more.

APPENDIX A – STATEWIDE PRIORITY PROJECTS

Statewide High Priority Interregional Highway Needs		
County	Route	High Priority Highway Project Title
Shasta	I-5	Little Easy Northern - Anderson and Redding. Widen to 6 lanes. PM 6.2-11.7
Shasta	I-5	Big Easy Middle - Anderson and Redding. PM 5.0-7.0
Shasta	I-5	Big Easy Southern - Anderson and Redding. PM3.8-5.5
Kern	SR 14	Freeman Gulch Widening - Segment 2
Lake	SR 29	Lake 29 Expressway Segment 2a
Lake	SR 29	Lake 29 Expressway Segment 2b
Lake	SR 29	Lake 29 Expressway Segment 2c
Fresno	SR 41	Excelsior Expressway, Widen to 4 Lanes
San Luis Obispo (SLO)	SR 46	Wye, Convert to 4 Lane Expressway
SLO/Kern	SR 46	Route 46 Corridor US 101 to I-5 (Segment IV-b, Cholame, Antelope Grade)
Nevada	SR 49	SR 49 Widening: La Bar Meadows Road to McKnight Way
San Bernardino	SR 58	Kramer Junction - Phase 1
Butte	SR 70	Passing Lanes, Cox-Palermo, Segment 2
Butte	SR 70	Passing Lanes, Segment 1
Madera	SR 99	Madera, Avenue 12-Avenue 17, Widen to 6 Lanes
Merced	SR 99	Livingston 6 Lane Widening, Northbound
Merced	SR 99	Livingston 6 Lane Widening, Southbound
Tulare	SR 99	Tulare, 6 Lane Freeway, Prosperity Avenue Interchange-Avenue 200
Tulare	SR 99	Tagus 6 lane Southbound Widening
Var. (6 & 10)	SR 99	SR 99 widening to 6 Lane
Madera	SR 99	South Madera 6 Lane (Ave 7 to Ave 12)
Marin/Sonoma	US 101	MSN A4 - Extend SB HOV Lanes-Widen from 4 to 6 lanes
Humboldt	US 101	Eureka / Arcata corridor
Santa Barbara	101	Carpenteria Creek-Sycamore Creek, Add HOV - Widen from 4 to 6 lanes
Merced	SR 152	Los Banos Bypass, Segment 1
Monterey	SR 156	4 Lane Expressway, Castroville-Prunedale
Inyo/Mono	US 395	Olancha-Cartago 4 lane Expressway
San Bernardino	US 395	US 395 Widening

Intercity High Priority Passenger Rail Capital Projects			
Corridor	Link Miles	Service Goals	High Priority Passenger Rail Capital Projects
Sacramento to Roseville	19	20 trains a day, intercity service.	Roseville Service Expansion
San Jose to Oakland	43	Up to hourly frequency.	Shift passenger service to "Coast" route to reduce travel time; shift freight traffic to "Niles" route to allow conversion of Coast route to passenger focus; address capacity bottlenecks at Jack London Square / Port of Oakland and between Newark and San Jose
Richmond/Martinez to Stockton	90	6-8 Trains per day.	• New single track or Conversion to double track: 2 Route-Miles At-Grade • Right-of-Way Acquisition: 2 Route-Miles of Rural-Conversion of Single to Double Track • Stations: Construction of two new stations
Salinas to Gilroy	38	Extend conventional rail service with bi-hourly frequencies.	• Conversion to double track for siding, 4 miles total • Stations: Upgrades to 3 stations • Additional layover facility
Goleta to Salinas	230	1 round trip: Salinas & Goleta, SLO to Salinas/San Jose and SLO-Goleta.	Implement four-hour service potentially by extending either Bay Area or LOSSAN North service as a through train and extending additional runs beyond Goleta.
Merced to Sacramento	119	Regional rail service at 60 minute intervals.	
Chatsworth to Burbank	18.8	Implement bi-hourly intercity express service (Goleta to Los Angeles); (Chatsworth to Los Angeles).	• Guideway Improvements: Construction of 2 HSR tracks and additional platforms at ARTIC • Right-of-Way Acquisition: Refer to HSR document • Stations: Refer to HSR document • Other Improvements: Thru tracks, and additional platforms at ARTIC
LA to Anaheim via Fullerton (Amtrak & Metrolink)	27	Increase frequencies of services to half hourly/hourly (peak/off-peak); Implement blended HST Phase 1 service. Capacity enough for 36 trains a day.	• Guideway Improvements: Construction of 2 HSR tracks and additional platforms at ARTIC • Right-of-Way Acquisition: Refer to HSR document • Stations: Refer to HSR document • Other Improvements: Thru tracks, and additional platforms at ARTIC
Anaheim to Santa Ana	5	Regional rail service LA-LNL at 30 minute intervals.	• 5 miles of siding • 5 miles of signals
Santa Ana to Laguna Niguel	22.4	Increase frequencies of ICE and REG services to half hourly/hourly.	22 miles of systems and communication
Oceanside to Escondido	22	Half hourly local service.	Pedestrian connectivity improvements at Oceanside terminal
Oceanside to Sorrento Valley	24	Increase frequencies to hourly.	Conversion to double track or New single track: 8 Route-Miles At-Grade, 1.8 Route-Miles Aerial, 3 Route-Miles Retained Cut or Fill • Stations: Carlsbad Station expansion from one to two tracks, plus two sided platform development
Sorrento Valley to San Diego	17	Increase frequencies to hourly.	Conversion to double track or New single track: 8 Route-Miles At-Grade, 1.8 Route-Miles Aerial, 3 Route-Miles Retained Cut or Fill • Stations: Carlsbad Station expansion from one to two tracks, plus two sided platform development • Other Improvements: New maintenance facility one-mile south from Santa Fe Depot

Statewide High Priority Freight Corridor Projects Outside Of Larger Urban Areas*		
County	Route	High Priority Freight Corridor Projects
Del Norte	US 199	Del Norte STAA
Sacramento	SR 99	In Sacramento County from Dillard to Elk Grove; Improve freight movements and address vertical clearance
Butte	SR 70	SR 70 Passing Lane - Segment 3 From the south end of SR 70 Passing Lanes Project to the Butte/Yuba county line. Includes bridge structures at the south end of the project
Yuba	SR 70	Underpass Improvements: widen the Marysville UPRR Underpass. Phase I and Phase II
Sacramento	I-5	Widen 4 to 6 Lanes I-5 from Laguna (Sac Co.) to SR 12 (San Joaquin Co.)
Placer	I-80	I-80 Colfax Narrows Segment 1: Add inside and outside shoulders (WB & EB) Add WB truck climbing lane
Placer	I-80	I-80 Colfax Narrows Segment 3: Widen WB travel lanes and shoulders and construct a truck descend lane I-80 from Long Ravine Road to Magra Overcrossing
San Diego	SR 11	Enrico Fermin to New Otay Mesa East POE New 4 lane Highway
Solano	I-80/I-680	Interchanged improvements on I-680, 0.5 mile north of Gold Hill Road to I-80/680 Interchange and on I-80 from Suisun Valley Road to the I-80/680 Interchange

**State freight corridor projects do not overlap with those identified by the regions*

Prepared By: *California Department of Transportation*

APPENDIX B – CENTRAL COAST SUPER-REGION PROJECTS

Central Coast Super-Region Transit/Passenger Rail Projects	
County	Project
Monterey	Salinas Rail Extension and Transit Capital Expansion. Provide a safe, healthy alternative to driving on US 101 by establishing new daily passenger rail service between Salinas and Sacramento. Service will extend Capitol Corridor trains, with new stations planned in Pajaro/Watsonville, Castroville and Salinas. Major stops in Gilroy, San Jose and Oakland will allow convenient transfers to Caltrain and BART service to San Francisco and nearby destinations.
San Benito	San Benito County Transit Operations. Provide regional transit connections (service to Gilroy, Monterey and Santa Cruz counties), in addition to existing fixed route and paratransit services.
Santa Cruz	Santa Cruz County Transit Operations. Provide additional funding for fixed route bus and paratransit service for Santa Cruz METRO.
San Luis Obispo	San Luis Obispo County Transit Improvements. Construct central area transit transfer center and regional transit maintenance garage and dispatch center, increase express runs on US 101, procure higher-capacity buses, construct bus rapid transit stops, expand service along US 101 and SR 1 corridors, increase frequency and service coverage, expand paratransit and specialized services.
Santa Barbara	Santa Barbara Cabrillo Underpass at Union Pacific Railroad Project. Improve operations and safety for pedestrians, bicycles and vehicles at the underpass of Cabrillo Blvd at the Union Pacific Railroad.
Santa Barbara	Santa Barbara/Ventura Sea Cliff Siding. Lengthen the existing Seacliff siding to the current Class I railroad standard of 10,000 feet, which will expand capacity in the corridor and potentially allow for future expanded passenger service in the constrained Coast Route.
Santa Barbara	Santa Barbara Commuter Rail from Ventura County. Provide new peak hour passenger rail service connecting west Ventura County to south Santa Barbara County. The new service will help reduce congestion on US 101 and provide commuters with an alternative to driving.

Central Coast Super-Region Non-Motorized Transportation	
County	Project
Various	Bicycle/Pedestrian projects
Various	Safe Routes to School projects
Various	Juan Bautista de Anza National Historic Trail
Various	California Coastal Trail
Monterey	Monterey County Fort Ord Recreation Trail and Greenway (FORTAG)
Santa Cruz	Santa Cruz County Monterey Bay Sanctuary Scenic Trail Network (MBSST)
San Luis Obispo	SR 227 and SR 41 West - Complete Street Improvements

Central Coast Super-Region Highway/Roadway Projects		
County	Route	Project
Monterey	SR 156 US 101	Construct a 4 lane divided expressway including the SR 156/US 101 interchange improvement near Prunedale and Castroville. This project will greatly improve public safety in a high collision corridor and provide congestion relief for commuters and freight, facilitate movement of valuable goods to market, and support the $3.8 billion per year agricultural industry and the $2 billion per year visitor economy.
Monterey	SR 68	This project will add capacity on State Route 68 to serve commuters by widening the roadway to 4 lanes between the existing 4 lane highway at Toro Park and Corral de Tierra Road.
Monterey	SR 68	Road, bike and pedestrian safety improvements between SR 1 and Asilomar. This project will reduce highway congestion, improve emergency access to the regional hospital and make it safer for biking and walking in business districts, school zones and residential neighborhoods.
Monterey	US 101	Eliminate highway crossings to improve safety and enhance highway capacity and construct frontage roads between Salinas and Soledad for access to farms and cities.
San Benito	SR 25	Enhance safety, improve traffic operations and provide additional capacity to reduce congestion for all transportation modes between San Felipe Road and the San Benito/ Santa Clara County line.
Santa Cruz	SR 1	Construct auxiliary lanes and a bicycle/pedestrian overcrossing between Soquel Drive and Park Ave. The project will reduce commute travel time and delay as well as improve safety in the County's most heavily traveled corridor.
Santa Cruz	SR 1 SR 9 SR 17	Intersection improvements at SR 1/SR 9, SR 1/Mission St. at Bay, Chestnut/King/Union Streets, SR 17 at Mt. Hermon, and SR 1 at the San Lorenzo River Bridge.
Santa Cruz	SR 129 SR 152 Casserly Rd.	Freight and operational improvements.
San Luis Obispo	SR 46	Northbound off ramp and SR 46/US 101 west interchange. Investments will improve operations at critical junctions in this east-west corridor for moving people, freight, goods, and services between the Central Valley and the Central Coast.
San Luis Obispo	US 101	Operational improvements near the City of Pismo Beach. The US 101 mainline southbound lanes are operating at or near capacity during peak hours. The project, including the reconfiguration of on-off ramps and the construction of a managed shoulder lane, will improve southbound operations.
San Luis Obispo	SR 227	Construct 4 roundabouts on the SR 227 corridor (South San Luis Obispo) to provide additional capacity at the most constrained locations, including improved access to the regional airport (McChesney Field).
San Luis Obispo	US 101	Phased implementation of access improvements to support housing and employment growth consistent with SCS strategies; including capacity expansion of the US 101/ Main St. Templeton I/C, US 101/Del Rio Rd. Atascadero I/C, construction of the US 101/ Prado Rd. San Luis Obispo overcrossing, construction of US 101/Union Rd. Paso Robles overcrossing, US/101 Avila Beach Dr. I/C, and operational improvements of the US 101/ Tefft St. I/C in Nipomo.
Santa Barbara	US 101	Complete the addition of one part time High Occupancy Vehicle (HOV) lane in each direction on US 101 from Mussel Shoals in Ventura County to the City of Santa Barbara in Santa Barbara County. This will result in a continuous 6-lane freeway extending 100 miles north of Los Angeles and will lead to a sustainable, long lasting reduction in delay and congestion, improve safety and encourage a mode shift to transit and carpooling.

Central Coast Super-Region Highway/Roadway Projects *(continued)*		
County	Route	Project
Santa Barbara	US 101	Santa Barbara US 101 San Ysidro Interchange. Improve operations at the intersection of San Ysidro Road, North Jameson Lane and the US 101 ramps.
Santa Barbara	US 101	Santa Barbara US 101 Goleta Overpass Project. Improve traffic circulation in Goleta by constructing a new overpass of US 101.
Santa Barbara	US 101 SR 135	Santa Barbara US 101 Goleta Overpass Project. Improve traffic circulation in Goleta by constructing a new overpass of US 101.
Santa Barbara	US 101	Santa Maria US 101/McCoy Road Interchange. Connect McCoy Lane to US 101 through a new interchange to provide Santa Maria residents and businesses with improved access to the highway.
Santa Barbara	US 101	State Route 246 Santa Ynez River Bridge. Improve access to Lompoc across the Santa Ynez River by providing a bridge raised above flood level with wider shoulders that safely accommodate vehicles, bicycles and pedestrians.
Santa Barbara	SR 166	SR 166 Safety and Operational Improvements. Improve safety and operations on SR 166.

Central Coast Super-Region Other Projects	
County	Project
Various	Miscellaneous TDM/TSM Programs
Santa Cruz	Santa Cruz County SR 17 Wildlife Habitat Connectivity

Prepared By:

The following organizations contributed to and are responsible for the contents of the Central Coast Super-Region chapter and appendix:

- *Association of Monterey Bay Area Governments*
- *Transportation Agency for Monterey County*
- *County of San Benito Council of Governments*
- *Santa Cruz County Regional Transportation Commission*
- *Santa Barbara County Association of Governments*
- *San Luis Obispo Council of Governments*

APPENDIX C – CENTRAL SIERRA SUPER-REGION PROJECTS

Central Sierra Super-Region High Priority Projects		
County	Route	Project
Alpine	Various	No new capacity projects are identified; however there are several needed safety projects such as left turn pockets on SR 88.
Amador	SR 88	Safety, operational and complete street improvements in the community of Pine Grove.
Calaveras	SR 4	Wagon Trail Realignment Project which will implement operational and safety improvement between Copperopolis and Angels Camp.
Calaveras	SR 49	Angels Creek and SR 49 bicycle and pedestrian projects.
Calaveras	SR 4, SR 49	Gateway Corridor Improvements.
Inyo	SR 14	Freeman Gulch, Segments 2 and 3 to support interregional goods movement.
Inyo	US 395	Olancha-Cartago 4 lane to support interregional goods movement.
Inyo/Mono	US 395	Various improvements to support interregional goods movement.
Mono	Various	Sidewalk projects in established communities, as well as high-priority goods movement and congestion relief projects. Safety and operational projects to reduce injuries and fatalities from traffic accidents, including pedestrians and cyclists.
Tuolumne	SR 49/108	Construct a 5 lane widening project with complete street improvements through the community of Jamestown. This section of highway experiences LOS E during peak commute hours and LOS F on weekends and holidays due to tourist traffic impacts.

Prepared By:

The following organizations contributed to and are responsible for the contents of the Central Sierra Super-Region chapter and appendix:

- *Alpine County Local Transportation Commission*
- *Amador County Transportation Commission*
- *Calaveras Council of Governments*
- *Inyo County Local Transportation Commission*
- *Mono County Local Transportation Commission*
- *Tuolumne County Transportation Council*

APPENDIX D – NORTH STATE SUPER-REGION PROJECTS

North State Super-Region High Priority Projects		
County	Route	Project
Lake	SR 29	Lake 29 Expressway Project: Complete five more miles of expressway in two remaining segments to address critical congestion and safety concerns.
Shasta	I-5	Replace the substandard UPRR/I-5 railroad grade separation that does not meet minimum vertical and horizontal safety clearances. Increase I-5 from 4 to 6 lanes, eliminating a bottleneck frequently congested by large trucks. The project will significantly improve the efficiency and reliability of both truck and rail access on I-5 and the Union Pacific Rail line.
Mendocino	Windy Hollow Road	Construct a new bridge over the Garcia River, a location in which there has never been a permanent bridge.
Various	North State Express Connect	Develop a brand new intercity transit express route that will form the backbone of an integrated rural transit network between Redding and Sacramento with feeder routes linking the counties of Shasta, Modoc, Siskiyou, Humboldt, Lassen, Butte, Trinity, Tehama, Glenn, Lake and Colusa. This transformative project will create new avenues of economic opportunity and mobility for the residents of the North State, who do not currently have access to timely and convenient public transportation to Sacramento. Riders will have access to Sacramento International Airport, Sacramento Regional Transit (Sac RT light rail) and the Sacramento Amtrak Station for connections to the Capital Corridor, Coast Starlight, San Joaquins and eventual California High Speed Rail lines.

Prepared By:

The following organizations contributed to and are responsible for the contents of the North State Super-Region chapter and appendix:

- *Del Norte Local Transportation Commission*
- *Humboldt County Association of Governments*
- *Lake County/City Area Planning Council*
- *Mendocino Council of Governments*
- *Modoc County Transportation Commission*
- *Nevada County Transportation Commission*
- *Shasta Regional Transportation Agency*
- *Tehama County Transportation Commission*

APPENDIX E – SACRAMENTO AREA SUPER-REGION PROJECTS

Sacramento Area Super-Region Highway/Roadway Projects		
County	Route	Project
El Dorado	US 50	4 lane Green Valley Road, Folsom to El Dorado Hills
El Dorado	US 50	Replacement, widening, and improved operations at the Forni Road/Placerville Drive/ US 50 overcrossing, a westbound US 50 offramp and offramps at the existing Ray Lawyer Drive overcrossing, and an eastbound auxiliary lane between the Forni Road/Placerville Drive/US 50 interchanged and the Ray Lawyer Drive interchange
El Dorado	Diamond Springs Pkwy	Construct new 2-lane divided arterial roadway from Missouri Flat Road east of Golden Center Drive to a new T-intersection with SR 49 south of Bradley Drive
Sacramento	Capital Southeast Connector	New 4 lane connector along White Rock Road and Grant Line Road from US 50 in El Dorado County to Douglas Road in Sacramento County, continuing with 4 lanes on Grant Line Road from Bradshaw Road to Kammerer Road (phased completion)
Sacramento	US 50	New carpool lanes, Watt Avenue to downtown Sacramento
Sacramento	US 50	Modified interchange operational improvements at US 50 & SR 99 , US 50 & I-5 (phased completion)
Sacramento	US 50	New auxiliary lanes , various locations in Sacramento, Rancho Cordova, and Folsom (phased completion)
Sacramento	BUS 80	Business 80/Capital City Freeway capacity and operational improvements
Sacramento	I-5	New carpool lanes, Downtown Sacramento to Morrison Creek
Sacramento	I-5	New auxiliary lanes from Del Paso Road to SR-99
Sacramento	I-5 SR 99	I-5/SR 99 interchange improvements
Sacramento	Roseville Rd	Widen to 4 lanes, from Watt Avenue to Walerga Road
Sacramento	Downtown/ Natomas Bridge	New River Crossing: New all-modal river crossing between Downtown and Natomas
Sacramento/ Placer	Placer Parkway	New 4-lane divided facility from SR 65 to Watt Avenue; Interchange at SR 65 Whitney Ranch; at-grade crossings at Fiddyment, Foothills, and Watt
Sacramento/ Yolo	I Street Bridge	New River Crossing: I Street Bridge replacement between Sacramento and West Sacramento
Sacramento/ Yolo	Broadway Bridge	New River Crossing: New Broadway Bridge connecting Sacramento and West Sacramento
Sacramento/ Sutter/Yuba	SR 99 SR 70	Operational improvements between I-5 and Placer Parkway (phased completion)
Placer	I-80	I-80/SR 65 interchange improvements
Placer	I-80	Truck climbing lane from Colfax to Magra Road
Placer	I-80	Westbound 5th lane in Roseville and Eastbound auxiliary lane in Rocklin
Placer	SR 65	Capacity and operational improvements from Galleria Boulevard to Lincoln Boulevard
Yuba	SR 65	Operational improvements in Marysville through area where SR 20, SR 65, and SR 70 come together
Sutter/Yuba	5th Street Bridge	5th Street Feather River Bridge rebuilt/widened to 4 lanes
Sutter/Yuba	10th Street Bridge	10th Street Feather River Bridge widened to 6 lanes

Sacramento Area Super-Region New Rail Projects	
County	Project
Sacramento	Green Line Light Rail to the Sacramento International Airport
Sacramento	High-Speed Rail – Altamont connection from points south, terminating at Sacramento Valley Station
Placer/ Sacramento/ Yolo	Capitol Corridor connecting Placer County, Sacramento, and Yolo Counties to the Bay Area
Sacramento/ Yolo	Downtown Sacramento to West Sacramento streetcar

Sacramento Area Super-Region New Transit Projects	
County	Project
Various	Local & Express Buses, Neighborhood Shuttles: Increase bus service with 15 minute or better service from roughly one quarter of all service in 2012 to about half of all services
Various	Bus Rapid Transit: Nine BRT lines with 15-30 minute service connecting Roseville, eastern Sacramento County, Citrus Heights, northern Sacramento County, Natomas, Rancho Cordova, South Sacramento, Elk Grove, Downtown (phases completion)
Various	Bus Rapid Transit: Various street and operational improvements coordinated with complete streets corridor enhancements to enhance bus transit (phased completion)

Sacramento Area Super-Region New Bicycle and Pedestrian Projects	
County	Project
Various	Bike Lanes, Complete Streets, and Recreational Trails: Bike Lanes, Complete Streets and Recreational Trails – Emphasis on complete streets connections within and between cities, areas of high pedestrian-scale development, and to transit and school facilities (phased completion)
Yolo	New bike bridge across the Yolo Causeway

Prepared By:

The following organizations contributed to and are responsible for the contents of the Sacramento Area Super-Region chapter and appendix:

- *El Dorado County Transportation Commission*
- *Placer County Transportation Planning Agency*
- *Sacramento Area Council of Governments*
- *California Department of Transportation District 3*

APPENDIX F – SAN DIEGO SUPER-REGION PROJECTS

San Diego Super-Region North Corridor Projects		
County	Route	Project
San Diego	SR 78	HOV lanes from I-5 to I-15
San Diego	I-5 SR 78	Direct HOV connectors: South to east, west to north, north to east, and west to south
San Diego	I-5 SR 78	Direct HOV connectors: East to south and north to west
San Diego	I-5 SR 78 SR 56	From eight free flow and two managed lanes to eight free flow and four managed lanes
San Diego	LOSSAN	Double Tracking in various locations
San Diego	COASTER	Stations at Camp Pendleton, Fairgrounds and San Dieguito River Bridge Double Track
San Diego	COASTER	State of good repair improvements

San Diego Super-Region Central Corridor Projects		
County	Route	Project
San Diego	I-805 SR 52	Direct HOV connectors: west to north and south to east
San Diego	I-5 SR 78	Relocation and grade separation at the Sorrento Valley Station
San Diego	Purple Line Phase 1	San Ysidro to Kearney Mesa
San Diego	Trolley	Vehicle replacement to support the trolley

San Diego Super -Region South Corridor Projects		
County	Route	Project
San Diego	Rapid 640 A/B	South I-5 Corridor Rapid Express Services: San Ysidro to Old Town via Downtown San Diego/Iris to Kearney Mesa via Downtown San Diego
San Diego	Rapid 905	Iris Trolley to Otay Mesa
San Diego	I-5	SR 54 to SR 905 from eight free flow to eight free flow and two managed lanes
San Diego	I-5	SR 54 to SR 15 from eight free flow to ten free flow and two managed lanes

San Diego Super-Region East Corridor Projects		
County	Route	Project
San Diego	SR 67	2 lane conventional to a 4 lane conventional highway
San Diego	I-8	4 lane freeway to 6 lane freeway 2nd Street to Los Coches Road
San Diego	SR 94 SR 125	Improve connectors south to east and west to north

San Diego Super-Region Border Corridor Projects		
County	Route	Project
San Diego	SR 11	Phase 2 – Enrico Fermi Road to Siempre Viva Road
San Diego	SR 125 SR 905 SR 11	Southbound SR 125 to SR 905

San Diego Super-Region Regionwide Programs Transportation	
County	Project
San Diego	Active Transportation
San Diego	Arterial Traffic Signal Synchronization Program
San Diego	Rail/Local Road Grade Separation Grant Program
San Diego	Expanded Regional Transit Station Parking

Prepared By:

The following organization contributed to and is responsible for the contents of the San Diego Super-Region chapter and appendix:

- *San Diego Association of Governments*

APPENDIX G – SAN FRANCISCO BAY AREA SUPER-REGION PROJECTS

San Francisco Bay Area Super-Region TIGER Projects		
County	Location	Project
Alameda	BART	19th Street/Oakland Station Modernization and Multi-modal Transit Improvements
Alameda	I-680	I-680 Sunol Express Lanes – Northbound Project
Alameda	City of Alameda	Naval Air Station Alameda Multi-Modal Regional Connections
Contra Costa	City of Oakley	Oakley Civic Center Train Platform and Park and Ride
San Joaquin	Stockton	Stockton Track Extension (outside of Bay Area, but supports Altamont Commuter Express (ACE) between San Jose and Central Valley)

San Francisco Bay Area Super-Region TIRCP Projects		
County	Location/System	Project
San Francisco	SFMTA	Light Rail Modernization and Expansion Program
Santa Clara	VTA	BART Silicon Valley Phase II Extension
Alameda	BART	Expanding BART Peak Period Trains via construction of a Vehicle Overhaul Heavy Repair Shop (Hayward Maintenance Complex)
Alameda /Contra Costa/	City of Oakley	Oakley Civic Center Train Platform and Park and Ride
San Francisco	AC Transit	Purchase 42 buses to support AC Transit's new service expansion plan and Transbay service
Solano	City of Fairfield	Fairfield/Vacaville Intermodal Station
Alameda	LAVTA	LAVTA Zero Emission Bus Commuter Bus Lines Project
Alameda /Contra Costa/ San Francisco	WestCAT	Addition of 3 double-decker buses to LYNX Route
Various	CCTA	Bay Area Fair Value Commuting Pilot Project

San Francisco Bay Area Super-Region Goods Movement Projects		
County	Location/System	Project
Alameda	Port of Oakland	Global Opportunities for the Port of Oakland (GoPort) Project, including 7th Street Grade Separation, Middle Harbor and Maritime Street Improvements, and ITS enhancements
Solano	I-80/ I-680	Interchange Improvements
Marin/ Sonoma	US 101	Marin-Sonoma Narrows, Segments C2 and B2, Phase 2

San Francisco Bay Area Super-Region Non-Motorized Transportation Projects		
County	Location/System	Project
Solano	Suisun City	McCoy Creek Trail (remaining segments)
Sonoma	SFMTA	Vision Zero SF Safer Intersections
Contra Costa	Concord	Downtown Corridors Bike/Ped Improvement
San Mateo	San Carlos	US 101 Holly Street Bike/Ped Overcrossing
Alameda	Oakland	Oakland Safe Routes to School: Crossing to Safety
Napa	Napa County	Napa County Safe Routes to School
Alameda	Alameda County	Royal Avenue Safe Routes to School
Alameda	Berkeley	Safe Routes to School Improvements for Oxford & Jefferson Elementary Schools
Contra Costa	Pittsburg	Pittsburg Active Transportation & Safe Routes Plan (WalkBikePittsburg2035)
Alameda	Alameda County	Proctor Elementary School Safe Routes to School

San Francisco Bay Area Super-Region Projects Deleted from the 2016 STIP		
County	Route/System	Project
Alameda, Contra Costa	BART	Station modernization program
Contra Costa	I-680, SR 4	Reconstruct interchange and widen SR 4
Napa	Airport Blvd	Rehabilitate roadway
Napa	Eucalyptus Drive	In American Canyon, extend Eucalyptus Drive
San Francisco	Lombard Street	Lombard Street Vision Zero project
San Mateo	US 101, SR 92	Interchange Improvements at US 101/SR 92 junction
San Mateo	US 101	HOV/express lanes from Santa Clara County line to I-380
Santa Clara	US 101	In Palo Alto, US 101/Adobe Creek bicycle/pedestrian bridge
Solano	Jepson Parkway	New 4 lane roadway from SR 12 in Suisun City/Fairfield to I-80 in Vacaville
Sonoma	US 101	Marin-Sonoma Narrows Segment B2, Phase 2
Alameda, San Francisco	Various	Improved bicycle/pedestrian connectivity to East Span San Francisco-Oakland Bay Bridge

San Francisco Bay Area Super-Region Technology Projects
Project
Transportation Management Systems: Intelligent Transportation Systems including ramp meters, loop detectors, and cameras
Clipper: Development and deployment of next-generation transit fare card system ("C2")
511 Traveler Information Program: Development and deployment of 511 Traveler Information Program
Bay Area Forward: Active Traffic Management, Arterial Operations, Connected Vehicles, Shared Mobility, Transbay Operations, Managed Lanes Implementation Plan Operations, Transit and Commuter Parking
Bay Area Express Program: Construction of HOV and Express Lane Network region-wide
Regional Carpool/Rideshare Program: Encourage ridesharing
Regional Transportation Emergency Program: Implementation of emergency coordination plan/program

Prepared By:

The following organization contributed to and is responsible for the contents of the San Francisco Bay Area Super-Region chapter and appendix:

~ *Metropolitan Transportation Commission*

APPENDIX H – SAN JOAQUIN VALLEY SUPER-REGION PROJECTS

San Joaquin Valley Super-Region Active Transportation Projects
Project
Active Transportation Projects and Non-Motorized Transportation Facilities throughout the SJV Super-Region: These projects would create sidewalks, bike facilities, and improved crossings for pedestrians and bicyclists throughout the SJV Super-Region.

San Joaquin Valley Super-Region Transit/Passenger Rail Projects		
County	Location/System	Project
Various	Various	Transit Improvements throughout the SJV Super-Region: These projects would expand transit services where warranted, replace buses, and improve transit stops. They would also help convert existing buses to electric buses.
San Joaquin	Stockton	Regional Transit District Bus Rapid Transit (BRT) Expansion project: Implement BRT service along two major corridors within the City of Stockton, including traffic signal upgrades, bus stop amenities, and transit access enhancements.
Stanislaus	Modesto	Modesto Passenger Rail Station: Construct a passenger rail station in downtown Modesto.
San Joaquin/ Stanislaus/ Merced	Various	Altamont Corridor Express (ACE) Service Expansion and Extension to Merced in San Joaquin, Stanislaus and Merced counties: This project modernizes the existing Corridor Express and extends ACE service to Merced (including new rail stations). The project also expands ACE service from 4 trains a day to 10.

San Joaquin Valley Super-Region State Highway/Roadway Projects		
County	Location/System	Project
Various	SR 99	Widen SR 99 to 6+ lanes throughout the San Joaquin Valley.
Various	Various	Next-in-Line Critical Freight Projects throughout the San Joaquin Valley. These projects would create truck climbing lanes, freight hub connectors, and other critically important infrastructure improvements.
Various	Various	Construct new and improve interchanges on I-5, SR 58, SR 99 and US 395 throughout the San Joaquin Valley Super-Region.
Various	Various	Local Street/Road Improvements and Maintenance Projects throughout the San Joaquin Valley Super-Region.
Various	Various	Widen and improve highways (including bypasses) throughout the SJV Super-Region including SR 41, SR 43, SR 46, SR 58, SR 119, SR 145, SR 152, and SR 233, etc.
Fresno	Old SR 99	Golden State Corridor Economic Development & Infrastructure Improvements: This project would include rehabilitation, intersection improvements, turning lanes, bike lanes, a bike path, railroad safety features, and landscaping and lighting in the cities of Fowler, Selma, and Kingsburg.
Fresno	SR 269	Replace a bridge structure.
Fresno	SR 99	Construct a 6 lane new interchange at Veterans Boulevard.
Kern	SR 58	SR 58 Centennial Corridor freeway projects: Extend the SR 58 freeway to the Westside Parkway freeway for an additional 7-miles through metropolitan Bakersfield and create a new freeway connection from the Westside Parkway to I-5.

San Joaquin Valley Super-Region State Highway/Roadway Projects *(continued)*		
County	Location/System	Project
Kern	SR 46	SR 46 Expressway gap closure project: Create a 3 mile long 4 lane expressway extending the existing SR 46 expressway all the way to I 5 and service freight traffic between the Salinas Valley and Southern California and I-40.
Fresno/Kings	SR 198	Widen a 17 mile segment of the 2 lane conventional highway to a 4 lane expressway between the Lemoore Naval Air Station (LNAS) and I-5.
Fresno/Kings	SR 41	Widen a 6-mile segment of 2-lane conventional highway to a 4 lane expressway from Excelsior Avenue at the Kings/Fresno County Line to Elkhorn Avenue in Fresno County.
Kings	SR 41 SR 198	Construction of interchanges and overcrossings in Hanford and Lemoore, and a 4-lane freeway within a 17-mile section between Hanford and the Lemoore Naval Air Station.
Kings	SR 43	Widen SR 43 from 2 to 4 lanes between SR 198 in Hanford to the Fresno County Line.
Kings	SR 41	Widen a 22 mile section of 2 lane conventional highway SR 41 between I-5 and SR 198.
Merced	Atwater-Merced Expressway	Atwater-Merced Expressway Phase 1B: Provide a direct expressway connection from SR 99 to Castle Airport Aviation & Development Center.
Merced	Campus Parkway	Campus Parkway Segment 2: Connect SR 99 and SR 140.
Merced	SR 152	Los Banos Bypass Segment 1: The project would reroute goods movement around the congested, intercity corridor and is intended to be a major east-west corridor connecting SR 99 to I-5 and the Bay Area.
San Joaquin	SR 99 SR 120	State Route 99 / 120 Interchange Improvements: Improve various interchanges.
Stanislaus	SR 132	State Route 132 West Freeway/Expressway: Construct a new alignment for SR 132, and create a 4 lane expressway/freeway in Modesto from SR 99 to Dakota Road.
Stanislaus	North County Corridor	Construct 18 miles of freeway/expressway to improve east west mobility on a new alignment from SR 219 to SR 120.

Prepared By

The following organizations contributed to and are responsible for the contents of the San Joaquin Valley Super-Region chapter and appendix:

- *Fresno Council of Governments*
- *Kern Council of Governments*
- *Kings County Association of Governments*
- *Merced County Association of Governments*
- *Madera County Transportation Commission*
- *San Joaquin Council of Governments*
- *Stanislaus Council of Governments*
- *Tulare County Association of Governments*

APPENDIX I – SOUTHERN CALIFORNIA SUPER-REGION PROJECTS

Southern California Super-Region State Highway/Roadway Projects		
County	Route	Project
Imperial	I-8	I-8/Imperial Avenue Interchange: Reconstruct interchange at Imperial Avenue from a 2 to 4 lane diamond type overcrossing, realign and reconstruct on and off-ramps, and provide access to Imperial Avenue south of I-8.
Imperial	SR 86	SR 86 and Pitzer Road Improvements: Intersection widening and improvements at SR 86 and Pitzer Road.
Imperial	SR 98	SR 98 Widening: Widen from 4 to 6 lanes from All American Canal to Rockwood Avenue.
Los Angeles	I-5	I-5 North Capacity Enhancements (SR 14 to Lake Hughes Rd): Widen N/B and S/B I-5 to accommodate High Occupancy Vehicle (HOV) Lanes, auxiliary lanes, and truck lanes from the SR 14 interchange to Lake Hughes Rd.
Los Angeles	SR 71	SR-71 Freeway Conversion: Convert SR 71 roadway to a fully access-controlled freeway with additional mixed flow lanes, high occupancy vehicle (HOV) lanes to provide a uniform eight lane facility between I-10 and SR 60. This conversion will also eliminate at-grade signalized intersections.
Los Angeles	SR 138	SR 138 Widening (Segments 6 and 13): Widen from one to two lanes in each direction from Avenue T to SR 18. The project has been divided into 13 segments, seven are under construction or complete, with the remaining six waiting for funding resources to become available.
Los Angeles	I-710	I-710 South Corridor Project (Phase 1) – Early Action Projects: Widens and replaces the first phase of critical interchanges along the I-710 corridor, improving the safety and throughput of cars and trucks.
Orange	I-5	I-5 El Toro Road Interchange: Construct interchange improvements from Los Alisos Boulevard Overcrossing to Ridge Route Drive.
Orange	I-5	I-5 Widening (Segments 1, 2, and 3): Addition of one mixed flow lane in each direction from SR 73 to El Toro Road including reconstruction of interchanges, added auxiliary lanes where needed and extension of the second High Occupancy Vehicle Lane from El Toro Road to Alicia Parkway. The overall project length is approximately 6.5 miles.
Orange	I-5	I-5 Widening (I-405 to SR 55): Addition of one N/B mixed-flow lane from truck bypass on ramp to SR 55, one S/B mixed-flow lane from SR 55 to Alton, and one axillary lane Alton to truck bypass.
Orange	SR 55	SR-55 Widening (I-405 to I-5): Addition of one mixed-flow lane and one HOV lane in each direction and fix chokepoints from I-405 to I-5 including the addition of one auxiliary lane in each direction at select on and off ramps and non-capacity operational improvements.
Orange	SR 55	SR-55 Widening (I-5 to SR 91): Addition of one mixed-flow lane each direction and fix chokepoints from I-5 to SR 22; and other operational improvements throughout project limits.
Orange	SR 57	SR 57 Widening (Orangewood to Katella): Addition of one N/B mixed-flow lane between Orangewood and Katella.
Orange	SR 91	SR 91 Widening (SR-55 to SR-57): Addition of one EB mixed-flow lane from SR 55 to SR 57, one W/B mixed-flow lane from Glassell to State College; improve interchanges and merging from Lakeview to Raymond.
Orange	I-405	I-405 Widening Project (I-5 to SR 55): Addition of one mixed-flow lane in each direction from I-5 to SR 55 and improve merging.

Southern California Super-Region State Highway/Roadway Projects *(continued)*		
County	Route	Project
Orange	I-405	I-405 Widening Project (SR 73 to I-605): Add 1 mixed-flow lane in each direction and additional capital improvements from SR-73 to I-605, convert existing High Occupancy Vehicle (HOV) to High Occupancy Toll (HOT) lane. Add 1 additional HOT lane each direction.
Orange	I-605	I-605 Katella Ave Interchange: Improve the local interchange to improve freeway access, traffic operations, enhance safety, and improve pedestrian and bicycle facilities within project limits.
Riverside	I-10	I-10/Portola Avenue Interchange: Construct new 6 lane Portola Avenue interchange from Dinah Shore Drive to Varner Road, including on and off ramps, bridge widening over UPRR, relocation/widening of Varner Road from two to four lanes, additional auxiliary lanes, and extension of fourth W/B lane to from Cook to Portola.
Riverside	I-15	I-15 Express Lanes: Addition of two express lanes in each direction from Cantu-Galleano Rancho Rd. to Hidden Valley Parkway and from SR 91 to El Cerrito Road.
Riverside	I-15	I-15/French Valley Parkway Interchange/Arterial (Phases II & III): Phase II: A new collector/distributor system along I-15 between Winchester Road and the I-15/I-215 Junction. Phase III: Construct a six lane overcrossing from Jefferson to Ynez including ramps, N/B and S/B lanes, collector/distributor lanes and modifications to Winchester Road interchange.
Riverside	I-15	I-15/Limonite Ave Interchange: Reconstruct and widen Limonite Avenue from four to six through lanes between East Vale Gateway and 475' east of Pats Ranch Road, including on an off ramp improvements, acceleration/deceleration lanes, and extended right turn lanes.
Riverside	I-15	I-15/Railroad Canyon Road Interchange (Phases I and II): Phase I: Widen Railroad Canyon Road undercrossing from seven to eight lanes from Summerhill Drive to Mission Terrace, including on and off ramp improvements, and acceleration/deceleration lanes. Phase II: Construct new I-15/Franklin St interchange, including auxiliary lanes from Franklin Street interchange to Main Street interchange and from Franklin Street interchange to Railroad Canyon interchange, including on ramp improvements, and extensions of Auto Center Drive and Canyon Estate Drive.
Riverside	SR 79	SR 79 Realignment/Widening: Realign and widen SR 79 from 2 to 4 lanes between two kilometers south of Domenigoni Parkway to Gilman Springs Road.
Riverside	SR 86	SR 86/Ave 50 Interchange Widening: Widen and construct a 6 through lane interchange from east of Coachella stormwater channel bridge to east of Tyler Street, including, relocate/realign Avenue 50 and Tyler Street, extend ramp acceleration/deceleration lanes, bike lanes, sidewalks, and reconstruct traffic signals.
Riverside	SR 86	SR 86/Ave 52 Interchange Widening: Widen and construct a 6 through lane interchange from east of Coachella stormwater channel bridge to east of Tyler Street, including, realign Polk St and relocate Avenue 52 and Polk St intersection, extended ramp acceleration/deceleration lanes, bike lanes, sidewalks, and reconstruct traffic signals.
Riverside	I-15 SR 91	SR 91/71 Junction Corridor: At SR 91/71 Junction replace E/B SR 91 to N/B SR 71 connector with a direct flyover connector, and reconstruct the Green River Road EB on-ramp.
Riverside	I-15 SR 91	SR 86/Ave 50 Interchange Widening: Widen and construct a 6 through lane interchange from east of Coachella stormwater channel bridge to east of Tyler Street, including, relocate/realign Avenue 50 and Tyler Street, extend ramp acceleration/deceleration lanes, bike lanes, sidewalks, and reconstruct traffic signals.

Southern California Super-Region State Highway/Roadway Projects *(continued)*		
County	Route	Project
San Bernardino	I-10	I-10 Corridor Express Lane Widening (Contract 1): Implement 2 Express Lanes in each direction from San Antonio Ave to the I-10/I-15 interchange including auxiliary lane, transition lane, ramp, undercrossing, and overcrossing improvements as needed.
San Bernardino	SR 210	SR 210 Lane Addition: Addition of one mixed flow lane in each direction from Highland Avenue to San Bernardino Ave including auxiliary lane and deceleration lane improvements.
San Bernardino	SR 210	SR 210 Baseline Interchange: Widen Baseline Street between Church Avenue and Boulder Avenue from 4 to 6 lanes and extend left turn lanes, widen on and off ramps.
San Bernardino	I-215	I-215 Barton Road Interchange: Reconstruct I-215 Barton Road interchange in Grand Terrace including the addition of N/B auxiliary lanes, widening of Barton Road, and construction of a new local road.
San Bernardino	US 395	US 395 Interim Widening: Addition of one mixed flow lane in each direction between SR 18 to Chamberlaine Way including the addition of a left turn channelization at intersection.
Ventura	US 101	US 101 HOV Lanes & Auxiliary Lanes: Addition of one HOV lane in each direction and add auxiliary lanes at various locations.
Ventura	SR 118	SR 118 Widening: Widen from 3 to 4 lanes in each direction from Tapo Canyon to Madera; from two to four lanes each direction Madera to Collins; and from two to three lanes each direction Collins to Los Angeles Avenue.

Southern California Super-Region Local Arterial Projects		
County	Route	Project
Imperial	Anza Road	Anza Road Bridge Improvements: Anza Road bridge reconstruction over the All American Canal.
Imperial	Imperial Avenue	Imperial Avenue Extension South: Construct 6 new lanes on Imperial Avenue from I-8 to Wake Avenue; and two new lanes on Wake Avenue from Imperial Avenue to Cypress Drive.
Orange	17th Street	17th Street Grade Separation: Construct new rail grade separation on 17th Street along the LOSSAN corridor in the City of Santa Ana.
Orange	State College Blvd.	State College Grade Separation (LOSSAN): Construct grade separation at State College Boulevard along the LOSSAN corridor consisting of a 6 lane roadway underpass beneath the existing LOSSAN corridor.
Riverside	Midway County Parkway	Midway County Parkway (CETAP Corridor): Construct 6 through lanes approximately 16 miles between I-215 in Perris East to SR 79 in San Jacinto, in addition to one mixed flow lane on I-215 between Nuevo Road and Van Buren Boulevard. Improvements also include the construction of 13 interchanges, addition of auxiliary lanes from Redlands to Evans and Evans and Antelope, and one auxiliary lane in each direction from Nuevo Road to Van Buren Boulevard, one auxiliary lane in each direction from Mid County Parkway to Cajalco/Ramona Expressway, and one auxiliary lane from Mid County Parkway to Nuevo Road.
San Bernardino	Green Tree Blvd	Green Tree Corridor Improvement: Construct a 4 lane bridge at Green Tree Boulevard/AT&SF Railroad to Hesperia Road/Ridgecrest Road.
San Bernardino	Ranchero Road	Ranchero Corridor Improvement: Widen Ranchero Road from two to four lanes from Mariposa Road to UPRR.
Ventura	Rice Avenue	Rice Avenue / Union Pacific Railroad (Main Coast Line) Grade Separation: Construct grade separation of Rice Avenue over Union Pacific Railroad and Fifth Street (SR 34), includes widening to six lanes from Sturgis to 1,350' south of Fifth Street.

Southern California Super-Region Maintenance and Operations Needs	
County	Project
Imperial	Calexico Intermodal Transportation Center: New Intermodal Transportation Center in the City of Calexico.
Los Angeles	Airport Metro Connect 96th St. Station/Green Line Ext LAX: Connects two Metro rail lines and Metro municipal bus service with Los Angeles International Airport via LAX's Automated People Mover.
Los Angeles	East San Fernando Valley North-South Corridor: The project is an element of a package of projects providing enhanced BRT and new transit corridors to serve the San Fernando Valley. This particular element includes a new transit corridor in the western San Fernando Valley to help relieve surface street congestion and improve mobility for residents.
Los Angeles/ San Bernardino	Gold Line Foothill Phase 2B: Extends Gold Line 11 miles and adds five stations from Citrus College Station to the Montclair Transcenter. Project will provide light rail transit access to five Cities within the San Gabriel Valley of Los Angeles County and connect with the existing Gold Line segment from Los Angeles to Azusa.
Los Angeles	Orange Line BRT Improvements – Grade Separation: Grade separations along the Orange Line's Right of Way, improving bus speeds and travel times.
Los Angeles	P3010 Light Rail Vehicles: To address continuing ridership growth, system expansion, and fleet replacement needs, Metro has awarded a base order contract for 78 light rail vehicles with options for up to 157 additional vehicles.
Los Angeles	Sepulveda Pass Transit Corridor: Provides Express Lanes on I-405 from US 101 to I-10 and 18.8 miles of high-capacity transit from Metro Orange Line Van Nuys Station to Airport Metro Connector 96th Street Station.
Los Angeles	Vermont Transit Corridor: Adds a 12.5-mile high-capacity Bus Rapid Transit corridor from Hollywood Blvd to 120th St. The project would be converted to light rail service at a later date if ridership demand outgrows the bus rapid service capacity.
Los Angeles	West Santa Ana Transit Corridor: Provides 20 mile light rail transit from the City of Artesia to Union Station.
Los Angeles	Westside Purple Line Extension Section 3: Extends the Purple Line Subway along the Wilshire Corridor, connecting Century City, the VA and UCLA.
Los Angeles	Rail Fleet Expansion and Modernization: New rail cars will replace existing cars and expand fleet to accommodate increased service following rail line extensions.
Los Angeles	Red/Purple Line Core Capacity Enhancement: Red and Purple Line Subway Portal widening and Turnback Facility. Project will accommodate increased service levels on the Metro Red/Purple Lines by reducing turn back time for both subway lines at Union Station.
Orange	Orange County Streetcar: OC Streetcar between Santa Ana Regional Transportation Center (SARTC) and a new transit center in Garden Grove, near the intersection of Harbor Boulevard and Westminster Avenue.
Orange	Bravo Route 529 Operating and Capital Cost: Operating and capital cost for limited stop bus service on Beach Blvd from Fullerton Park and Ride to Goldenwest Transportation Center.
San Bernardino	Metrolink Gold Line Phase 2B: Light rail extension from Montclair to the San Bernardino/Los Angeles County line.
San Bernardino	Metrolink Double Track: Double tracking of Metrolink San Bernardino Line between Control Point (CP) Lilac and CP Rancho in San Bernardino County.
San Bernardino	Redlands Passenger Rail Program: Extend Metrolink rail service from Rialto/E Street in San Bernardino to Redlands.

Southern California Super-Region Port Operation Projects	
County	Project
Imperial	Calexico East Port of Entry Improvements: Widen bridge over the All American Canal to six lanes at the Calexico East Port of Entry.
Los Angeles	Gerald Desmond Bridge Replacement: Replace existing structurally deficient and functionally obsolete bridge high enough to accommodate the newest generation of the most efficient cargo ships.
Ventura	Port Hueneme Efficiency & Optimization Project: Includes installation of solar panels to support electricity needed for the refer plugs on dock; installation of additional on-dock refer plugs and racks; traffic flow enhancements at the gate; and the building demolition to provide capacity.

Southern California Super-Region Trucking Routes/Operations/Logistics Projects		
County	Route	Project
Imperial	Forrester Road	Forrester Road Corridor: Construct Forrester Road Bridge over the New River reconstruction, including roadway realignment and operational improvements.
Imperial	Menvielle Road	Menvielle Road Widening: Widen Menvielle Road from 2 to 4 lanes between Carr Road to SR 98.
Los Angeles	SR 57 SR 60	SR 57/SR 60 Confluence Freight Bottleneck Project: Construction of critical bypass improvements to unlock a bottleneck on SR 60 where SR 57 converge to share the same alignment with SR 60 in Los Angeles County near the Orange County border. The project would construct a new E/B SR 60 bypass off-ramp to Grand Avenue, a new E/B bypass connector to SR 60, reconstructing the Grand Avenue Overcrossing, and reconfiguring the E/B ramps at Grand Avenue, including adding a SB Grand Avenue to the E/B SR 60 loop on-ramp.
Orange	SR 57	SR 57 Lambert Interchange: Reconfigure existing diamond interchange at SR 57/ Lambert Road to loop ramp, including addition of S/B lane on and off-ramps.
Orange	SR 57	SR-57 Truck Climbing Aux Lane: Addition of auxiliary truck climbing lane from Lambert Ave to the Los Angeles/Orange County Line.
Riverside	SR 60	SR 60 Truck Lanes: Construct new E/B climbing and W/B descending truck lanes from Gilman Springs Road to approximately 1.37 miles west of Jack Rabbit Trail and upgrade existing inside and outside shoulders to standard widths.

Southern California Super-Region Freight Rail/Operations/Logistics Projects	
County	Project
Los Angeles	On-Dock Rail Support Facility at Pier B: Expand railyard to establish a rail hub between the Harbor and Alameda Corridor, provides longer departure tracks and large storage capacity to support the Port's on-dock rail terminals, and provides surge capacity for the railroads and terminals.
Los Angeles	Terminal Island Wye (TI Wye) Rail Improvements: Reconfigure existing TI Wye rail to create a new 4,800-ft lead track for the Pier T on-dock rail terminal and two new storage tracks on Pier S totaling 3,500-ft to alleviate bottlenecks and add storage capacity near one of the busiest terminals at the Port.
Los Angeles	Double Track Access from Pier G to Pier J: Create a new 9,000-foot departure track for trains serving 4 major marine container terminals at the Port and removal of one 1800-foot track and adding 7 new tracks totaling 5,700 feet for added storage capacity.
Los Angeles	Terminal Island Railyard Enhancement: Adds two tracks to the existing Pier 400 storage/staging railyard, located on Terminal Island to increase on-dock railyard capacity.
Los Angeles	Alameda Corridor Southern Terminus Gap Closure: Construct 5,000 feet of mainline track and crossovers in the POLA, which eliminates a short gap of single track serving the TraPac and West Basin Container Terminal (WBCT) on-dock railyards; the second track provides simultaneous and unimpeded movements to/from both of these on-dock railyards and the Alameda Corridor, thus eliminating the potential for train collisions.
Los Angeles	Zero Emission (ZE)/Truck Trip Reduction/Freight Efficiency Program: APMT Railyard: Expand Pier 400/ APMT on-dock capacity including storage yard tracks and second lead track.
Los Angeles	Zero Emission (ZE)/Truck Trip Reduction/Freight Efficiency Program: West Basin Railyard: Electrify on-dock railyards located in APM Terminal (APMT) and West Basin Container Terminal (WBCT): 1) Conversion of existing APMT on-dock railyard and conversion/expansion of existing WBCT on-dock railyard (with additional tracks to increase capacity); 2) Electrified rail-mounted gantry (RMG) crane operations, replacing diesel-powered top-pick operations; and 3) Procurement/Installation of four RMG cranes for each railyard (8 total).
Los Angeles	POLA Rail Efficiency Program: West Basin - Alameda Corridor Gap Closure: Eliminate two short gaps in trackage between the West Basin area of the Port of Los Angeles and the Alameda Corridor (increasing the number of tracks from one to two in this area) to reduce train delays and idling.
Los Angeles	POLA Rail Efficiency Program: Alameda Corridor Terminus – Cerritos Channel Rail Bridge: Build new bridge to reduce railroad delay and allow concurrent movements across the Cerritos Channel.
Los Angeles	Durfee Avenue Grade Separation: Grade separation of the Union Pacific mainline railroad crossing on Durfee Avenue in the City of Pico Rivera.
Los Angeles	Montebello Corridor Grade Separation: Grade separation of the Union Pacific mainline railroad crossing on Montebello Boulevard with enhanced safety measures, including quad gates, at the remaining three crossings to remain at grade and a pedestrian overcrossing at Maple Avenue in the City of Montebello.
Riverside	ACE Corridor Grade Separations: Construct railroad grade separations along BNSF and UP lines within Riverside County.
Riverside	McKinley Grade Separation: Construct grade separation at BNSF railroad crossing.
Riverside	Third Street Grade Separation: Replace existing 4 lane railroad crossing with a four lane undercrossing grade separation on Third Street between Vine Street and Park Avenue.
Riverside	Jurupa Grade Separation: Construct grade separation on Jurupa Road as an overpass of the Union Pacific Los Angeles Subdivision and adjacent industrial lead track.

Southern California Super-Region Active Transportation Projects	
County	Project
Imperial	Calexico Intermodal Transportation Center: A new border crossing focusing on pedestrian and bicyclist access.
Los Angeles	Los Angeles County Active Transportation Needs: First/Last Mile Connectivity, Transit Hub connectivity, Bike Share and Secure Bike Parking. Regional Bikeway and mixed use paths that connect cities, communities, major destinations, and local projects that feed into the regional network.
Orange	OC Loop: 66 miles of seamless connections provides an opportunity for people to bike, walk and connect to some of California's most scenic beaches and inland reaches. Currently, 70 percent of the loop is complete.
Riverside	Coachella Valley CV Link: 55-mile mixed use/electric vehicle path linking areas across the Coachella Valley.

Southern California Super-Region Technology Projects	
County	Project
Imperial	Imperial ITS Implementation at Calexico West and East POE: Install border wait-time monitoring systems, radio frequency identification (RFID)/Bluetooth technology, and advanced traveler information systems.

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- *Los Angeles County Metropolitan Transportation Authority*
- *Orange County Transportation Authority*
- *Riverside County Transportation Commission*
- *San Bernardino County Transportation Authority*
- *Southern California Association of Governments*
- *Ventura County Transportation Commission*

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Commission extends a special "thank you" to Eric Thronson and David Van Dyken for their efforts in the preparation and development of the report.

Special thanks to Stephen Brooks, Caltrans' Reprographics Division, for designing the report.

The California Transportation Commission is an independent state commission responsible for programming and allocating funds for the construction of highway, passenger rail, transit and active transportation improvements throughout California. The Commission also advises and assists the California State Transportation Agency Secretary and the Legislature in formulating and evaluating state policies and plans for California's transportation programs. The Commission is an active participant in the initiation and development of State and Federal legislation to secure financial stability for the State's transportation needs.

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