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January 23, 2018

**To:** MCOG Board of Directors
**From:** Janet Orth, Deputy Director/CFO
**Subject:** Information Packet of February 5, 2018 Meeting - No Action Required

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The following items are attached.

1. Willits Before and After Study – Caltrans District 1 System Planning's study of current conditions on the Willits Bypass and on Old Route 101 through the City of Willits, and to compare various current metrics with prior conditions.

2. CTC Annual Report Summary – Highlights of the California Transportation Commission's 2017 Annual Report to the Legislature.

3. Road Charge Pilot Report – 2017 Summary Report of the California Road Charge Pilot Program, which tested an alternative method of raising transportation revenues.

4. MCOG Technical Advisory Committee (TAC) – Meeting minutes of October 25, 2017.

5. Social Services Transportation Advisory Council (SSTAC) – Meeting minutes of November 13, 2017.

Information # 1
MCOG Meeting
2/5/2018

# WILLITS BEFORE AND AFTER STUDY

DECEMBER 2017

CALTRANS DISTRICT 1 SYSTEM PLANNING

## INTRODUCTION

The purpose of this study is to document current conditions on the Willits Bypass and on Old Route 101 through the City of Willits, and to compare various current metrics with prior conditions. The study employed a variety of methods and data sources to compare before and after conditions (described in detail in the body of the report). Focus areas of the study include: safety, travel time, and traffic volumes/congestion.

## PURPOSE

This study has been undertaken by District 1 to:

- Examine the safety benefits of the Willits Bypass.
- Develop estimates of reduction in travel time, vehicle hours of delay and Vehicle Miles Traveled for vehicles utilizing the Willits Bypass.
- Document traffic volumes, travel times, and travel distances for both the Old Route 101 in Willits and the Willits Bypass, for both Peak Summer Hour[1] and Average AADT Day[2] volumes.
- Identify reductions in Greenhouse Gas Emissions and fuel usage after completion of the Willits Bypass

## SUMMARY OF FINDINGS

- **Collision Reduction:** Average collision rates for through traffic on the Willits Bypass are projected to be reduced by approximately 75%, compared with average collision rates on Old Route 101 through Willits.

- **Reduction in Vehicle Miles Traveled :** The Willits Bypass has reduced total Vehicle Miles Traveled by an estimated 725 miles per day, or over 265,000 miles per year compared with driving on Old Route 101 through Willits.

- **Reduction in Travel Time:** The Willits Bypass has reduced average travel time for through traffic by approximately 5-6 minutes, with 10-15 minutes of travel time saved during Peak Summer Hour, and as much as 80 minutes of travel time saved during Special Event Periods.

- **Reduction in Delay:** The Bypass has reduced delay by approximately 750 vehicle hours of delay per day, or over 275,000 vehicle hours of delay reduced per year.

- **Reduced Traffic Volume on Old Route 101:** After completion of the Bypass, through volumes on Old Route 101 were reduced by approximately 35% during days that approximate AADT; and approximately 50% during Peak Summer Days.

- **Reduced Fuel Consumption/Less Greenhouse Gas Emissions:** The Willits Bypass reduces vehicle idling, speed variance, travel time, and Vehicle Miles Traveled, therefore reducing fuel consumption and $CO_2$ emissions, while boosting economic productivity.

## BACKGROUND

Routing interregional traffic through downtown Willits has been a historic concern, first for the Division of Highways, then for Caltrans. A freeway bypass route was adopted in 1962, and the first stage (which included the Haehl overhead bridge over the railroad) was constructed in 1968/69. Concurrently, the District designed and produced plans for subsequent stages, which would have used borrow material from Oil Well Hill to construct

[1]Peak Summer Hour represents an estimate of the largest hourly 2-way volume of traffic flow, which usually occurs on a Friday during July & August (ie. Peak Summer Day) from 4:00-6:00 P.M., and is expressed in units of Vehicles Per Hour. On Route 101 in the Willits area, due to large seasonal fluctuations in traffic, the Peak Summer Hour is the hour near the maximum for the year, excluding the highest 30-50 hours of the year with exceedingly high volumes that are not typical of the Peak Summer Hour defined above.

[2]Average Annual Daily Traffic (AADT) Day: AADT represents an estimated sum of the 2-way daily traffic volumes for a 1-year period, divided by 365, and is expressed in units of Vehicles. From Caltrans 2015 continuous daily traffic counts for Route 101, postmile (PM) 42.2 in Mendocino County, it was determined that: AADT volumes typically occur on a Tuesday or Wednesday, in the months of March-May, as well as the month of October; data collected from any of these time periods is considered an Average AADT Day.

was in limited supply in the 1970's, due to both increased construction costs and a greater portion of highway funding going to more populated areas in the State. While the Willits Freeway project was the District's highest priority for most of the 1980's through the early 2000's, environmental and financial constraints delayed its construction. Cost estimates increased dramatically as the Willits Bypass project was being developed, due to alignment revisions, extensive viaducts and mitigation measures that were planned to meet environmental requirements. As a result, the Willits Bypass project was constructed as a 2-lane freeway bypass, with plans to expand it to a 4-lane freeway in the future.

**Figure 1: Aerial Image of Old Route 101 & the Willits Bypass**

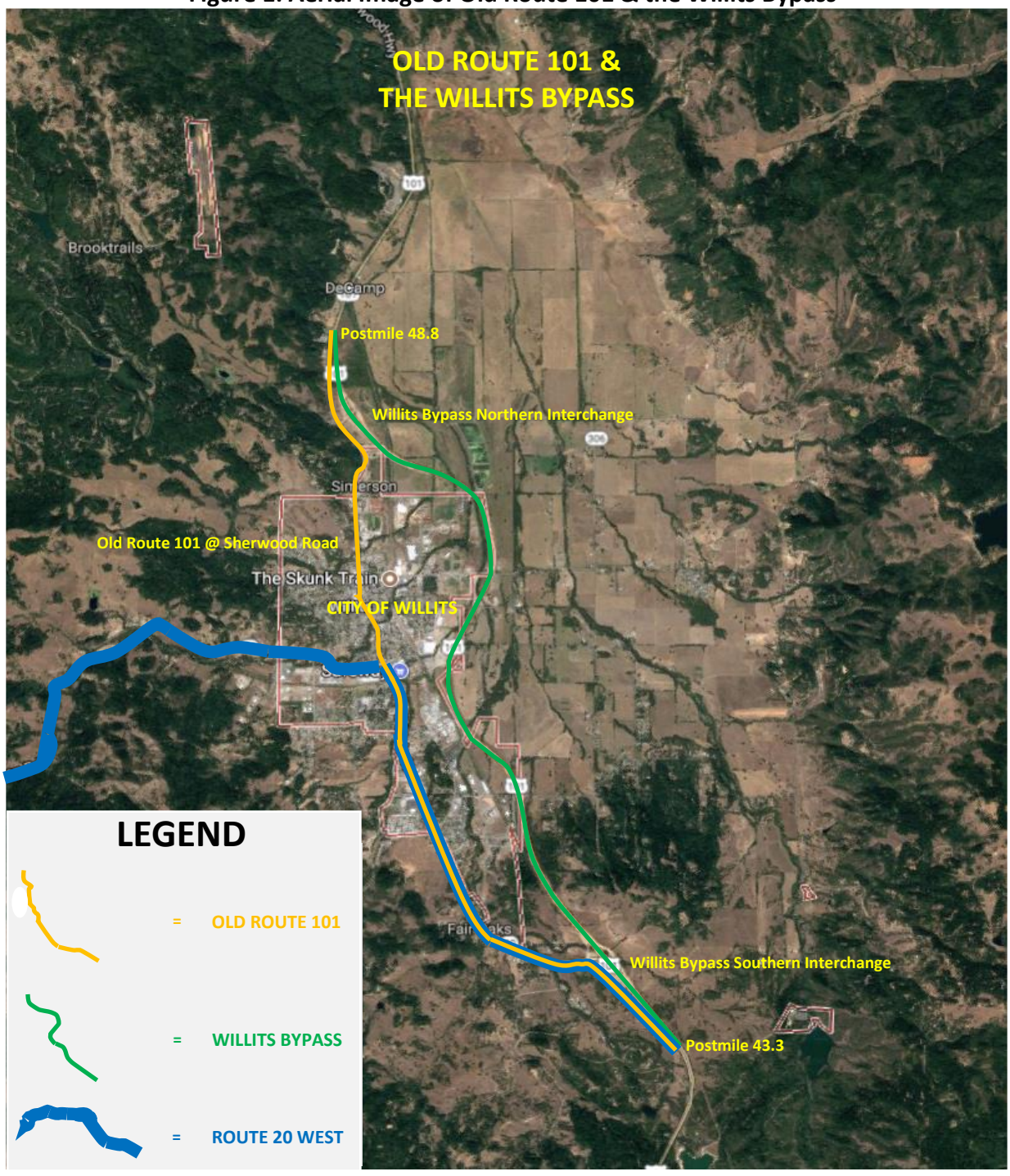


Figure 1 shows a bird's eye view of the Willits Bypass (ie. New Route 101) freeway alignment alongside the Old Route 101 conventional highway alignment in Willits. The 2-lane bypass was completed and opened for traffic on November 3, 2016. This segment is 5.53 miles long, traversing around the East side of Willits, from postmile 43.30/48.80 in Mendocino County. The Willits Bypass is 0.09 miles shorter than the Old Route 101 alignment, which is 5.62 miles long.

Old Route 101 is a 2-4 lane highway segment from PM 43.30/48.80, and traverses through Main St. in the City of Willits. It includes approximately 1.5 miles of a two-way left turn lane (TWLTL). Old Route 101 contains the following speed zones and lane configurations:

- PM 43.30/44.74: 2-lanes, 55 mph
- PM 44.74/45.14: 2-lanes, 45 mph
- PM 45.14/45.62: 4-lanes with TWLTL, 40 mph
- PM 45.62/46.15: 4-lanes with TWLTL, 35 mph
- PM 46.15/47.10: 2-lanes with TWLTL, 25 mph
- PM 47.07/47.43: 2-lanes with TWLTL, 25 mph when children are present
- PM 47.10/47.57: 2-lanes with TWLTL, 35 mph
- PM 47.57/48.80: 2-lanes, 55 mph

The Willits Bypass contains the following speed zones and lane configurations:

- PM 43.30/44.50: 4-lanes, 65 mph
- PM 44.50/48.80: 2-lanes, 55 mph

**LOCATIONS STUDIED**

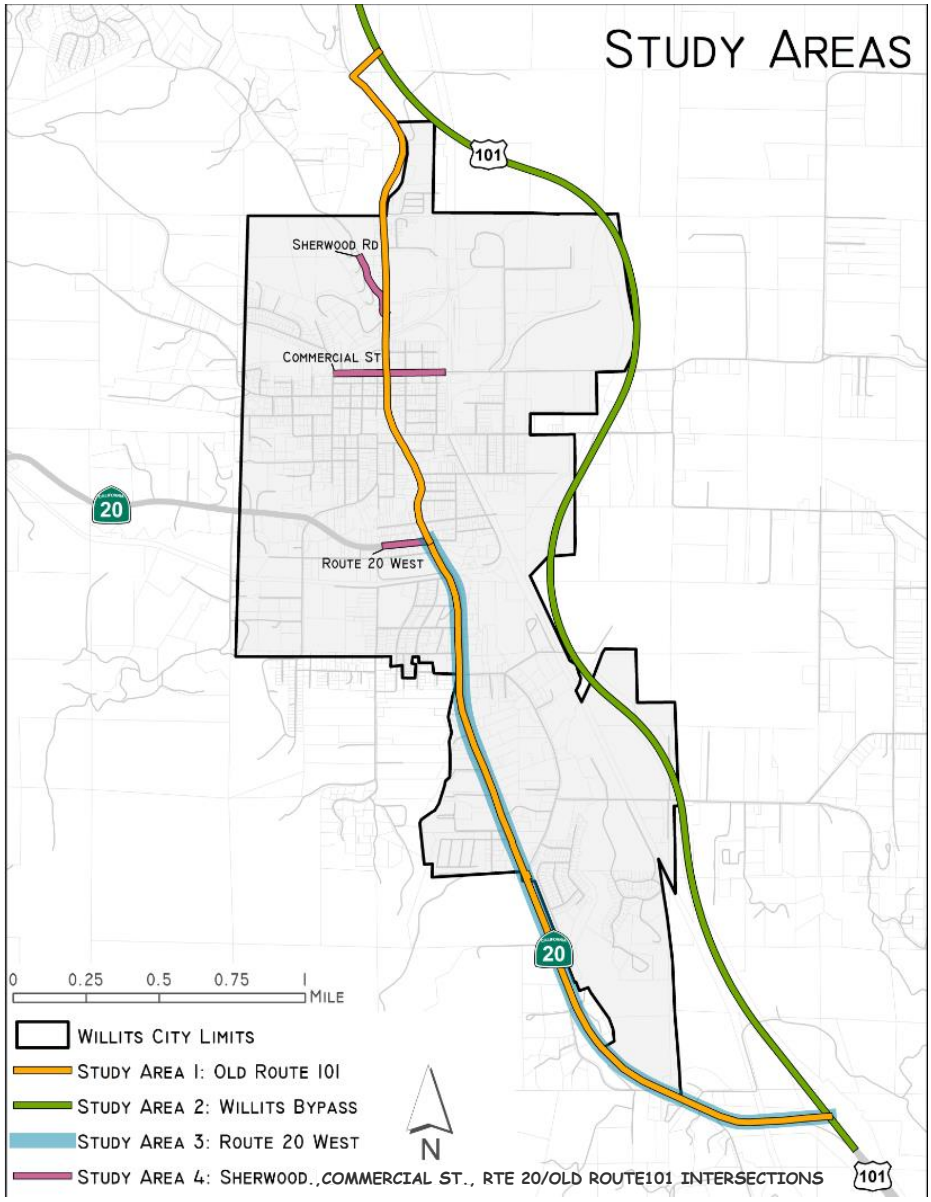
- Old Route 101 (Study Area 1): From 0.4 miles South of the Haehl Creek Undercrossing in southern Willits (PM 43.3) to 0.6 miles North of the Upp Creek Undercrossing in northern Willits (PM 48.8). PM 43.3 and 48.4 are the locations where the Bypass ties in with Old Route 101.

- Willits Bypass (Study Area 2): From southern Willits (43.3) to northern Willits (PM 48.8).

- Route 20 West (Study Area 3): From southern connection with the Willits Bypass (PM 43.3), north through the City of Willits, to the Old Route 101/Route 20 intersection (46.363).

- Willits Intersections (Study Area 4): Route 101 traffic volumes were studied for both the "Before Bypass" and "After Bypass" conditions on Route 101 @ Sherwood Rd. (PM 47.24). Similar volume reductions on Route 101 @ Sherwood Road are assumed to have occurred on Route 101 throughout Willits, including Route 101 @ Commercial St., and Route 101 @ Route 20 West.

**Figure 2: Study Areas on Old Route 101 and the Willits Bypass**




**SAFETY INFORMATION**

Actual collision data on Old Route 101 during the three-year time period before the start of construction of the Willits Bypass (2/25/2010 through 2/24/2013) shows the following:

Old Route 101 Collision information:

- 154 total collisions were reported (4 fatal, 27 injury, 123 property damage only (PDO)).
- This segment has an actual "Fatal" collision rate which is 3.7 times greater than the statewide average for similar highway facilities.
- Four fatal collisions occurred within this segment during this time period. Two of four collisions resulted in a vehicle fatally striking a pedestrian.

Since there is currently a lag of one year or more between when collisions occur, and when Traffic Collision Reports are entered into TASAS (the State's Traffic Collision Report database), actual collision information is not yet available for the Willits Bypass. Therefore, projected collision reductions were based on average collision rates for a similar highway facility, rather than actual historic collision data. Average collision rates for both Old Route 101 and the Willits Bypass are shown in Table 1.

**Table 1: Average Collision Rates on Old Route 101 and the Willits Bypass**

| **Average Rates on Old Route 101 (Collisions Per Million Vehicle Miles Traveled)** | | | **Average Rates on Willits Bypass* (Collisions Per Million Vehicle Miles Traveled)** | | |
|---|---|---|---|---|---|
| Fatality | Fatality + Injury | Total | Fatality | Fatality + Injury | Total |
| 0.015 | 0.65 | 1.60 | 0.014 | 0.17 | 0.36 |

***** Willits Bypass Average Collision Rates were based on average collision rates for a similar highway facility

From Table 1, it was determined that vehicles traveling on the Bypass instead of Old Route 101 are expected to experience the following average collision rate reductions:

- A 74% reduction in "F+I" collision rate
- A 77% reduction in "Total" collision rate
- A 7% reduction in "Fatal" collision rate
- Old Route 101 in Willits is expected to experience lower collision rates due to reduced traffic volumes.
- Auto-pedestrian collisions are projected to be substantially reduced on the Bypass.

**Vehicle Miles Traveled**

The length of the Willits Bypass is 5.53 miles and the length of Old Route 101 is 5.62 miles[3] (ie. the Bypass is 0.09 miles shorter than Old Route 101). With an AADT of approximately 8,100 vehicles per day, the Willits Bypass has reduced total VMT by an estimated 725 miles per day, or over 265,000 miles per year compared with driving on Old Route 101 in Willits.

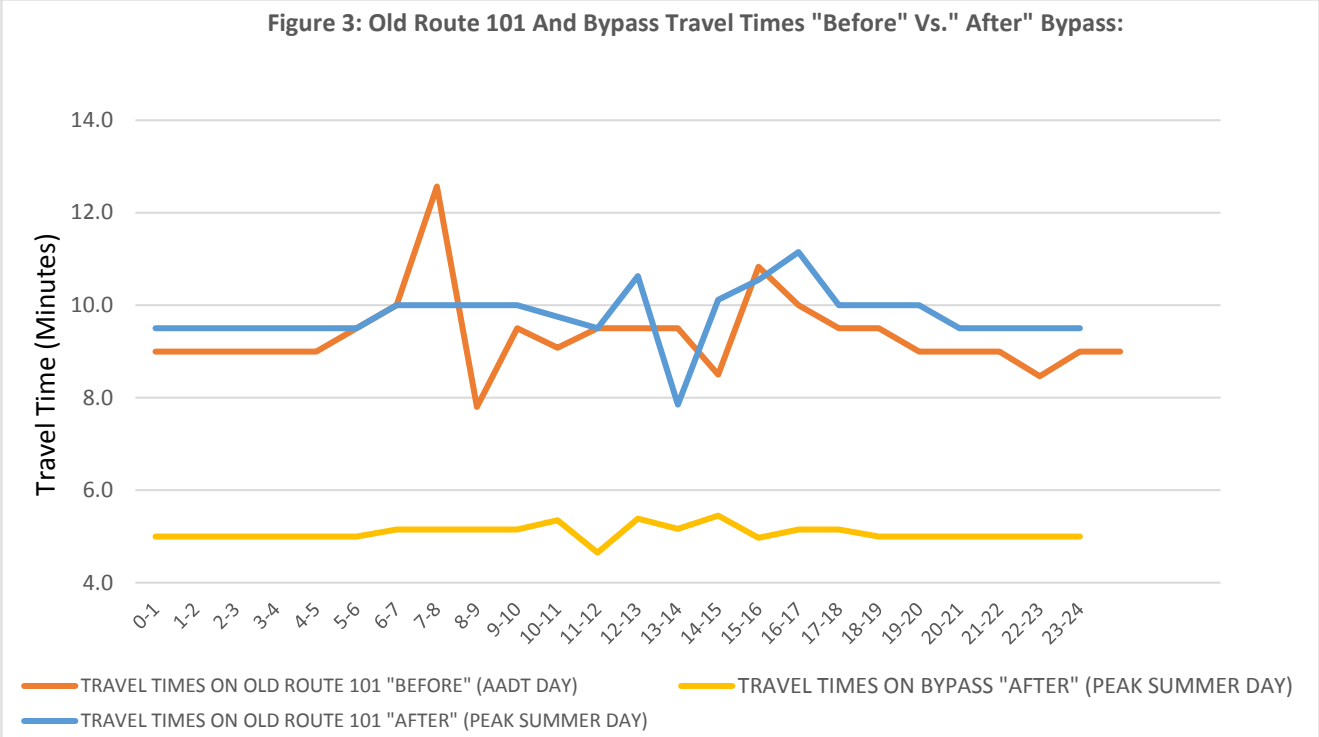
**Travel Time (i.e. Floating Car Runs)**

Floating car runs utilize a driver and a recorder, traveling over a set route, and recording times at the beginning, mid-points (if applicable), and end of a segment. The driver should pass as many cars as pass him or her (although this is not always practical, depending on traffic volumes and speed).

Seven floating car run data points were collected from March 3rd, 2015 through March 22, 2015; these data points represent "Travel Times on Old Route 101 "Before" (AADT Day)". Additionally, 14 floating car run data points were collected on Friday, August 11th, 2017, from 11:00 A.M. through 5:30 P.M., these data points represent "Travel Times on Old Route 101 "After" (Peak Summer Day)". These floating car runs were made on both Old Route 101 and the Willits Bypass on dates and times that approximated Peak Hour Day conditions, on dates and times that approximated AADT, to show a variety of operating conditions. The results of these floating car runs is displayed in Figure 3.

Old Route 101: Average travel times on Old Route 101 range from 7-12 minutes and fluctuate by 4-5 minutes during peak hours. From Figure 3, Peak Summer Day travel times on Old Route 101 through Willits in the "After" condition are similar to AADT Day travel times on Old Route 101 in the "Before" condition. Travel times "Before" completion of the Bypass ranged from 7-12 minutes during Average AADT Day conditions, and 10-25 minutes during peak Summer conditions when signalized intersections would exceed capacity. During special events, travel times varied substantially, from 10 minutes to as much as 90 minutes during peak hours.

[3]The "Speedometer" app was utilized to drive to determine travel distances on Old Route 101 and the Willits Bypass.




*0-1=12:00 AM-1:00 AM; 1-2 = 1:00 A.M.-2:00 AM; 11-12 = 11:00 A.M.-12:00 P.M. etc.

Willits Bypass**:** The average travel time on the Willits Bypass is 5.0 minutes (times range from 4.5-5.5 minutes) during Peak Summer Day volumes, with insignificant change in travel time during peak flows, as seen in Figure 3. The Bypass has reduced average travel time by 5-6 minutes compared with driving on Old Route 101 in Willits; travel time has been reduced by 10-15 minutes during Peak Summer Hour, with as much as 80 minutes of travel time saved during Special Event periods.

**Traffic Volumes:** Figures 4 and 5 show 12 to 24-hour traffic volume counts that were collected by Caltrans at the Route 101/Sherwood Road intersection in Willits, both "Before" and "After" the Bypass was constructed, for both Peak Summer Hour and Average AADT Day periods[4].

In Summer months prior to the completion of the Bypass, traffic volumes would often peak mid-day and plateau until the early evening hours (Figure 4). From an August 11th, 2017 field review, it was observed that Old Route 101 (Main Street) traffic volumes have significantly decreased since the opening of the Willits Bypass. Compared to the "Before" condition, green time at signalized intersections has increased, and delay has been significantly reduced for both Old Route 101 through traffic and local cross street traffic. The historical Signalized Unstable Flow[5] that occurred on Old Route 101 during peak hours at the intersections of Route 20 West, Commercial St., and Sherwood Road has been significantly improved to Signalized Stable Flow[6] conditions.

[4] "Before" AADT volume data was collected from October 4th-November 2nd, 2016 and averaged to determine average October 2016 AADT daily volume. The "After" data was collected from November 4th-December 2nd, 2016 and averaged to determine an average November 2016 daily volume. To normalize November 2016 data to October 2016 (an Average AADT month), November 2016 volumes were multiplied using L,R,I adjustment factors. "Before" Peak Hour volume data was collected on July 17th, 2015 and projected to a Friday in August 2016 (Peak Summer Day and Month) daily volume using L,R,I adjustment factors.

[5] From the 2010 Highway Capacity Manual: For signalized intersections, *Signalized Unstable Flow* is defined as average control delay greater than 55 seconds. *Approaching Signalized Unstable Flow* is defined as: Average Control Delay is greater than 35 seconds and less than or equal to 55 seconds. *Average Control Delay* is defined as: the total elapsed time from when a vehicle stops at the end of a queue until the Page 4 vehicle departs from the stop line.

[6] From the 2010 Highway Capacity Manual: For signalized intersections, *Signalized Stable Flow* is defined as: average control delay is less than 35 seconds.

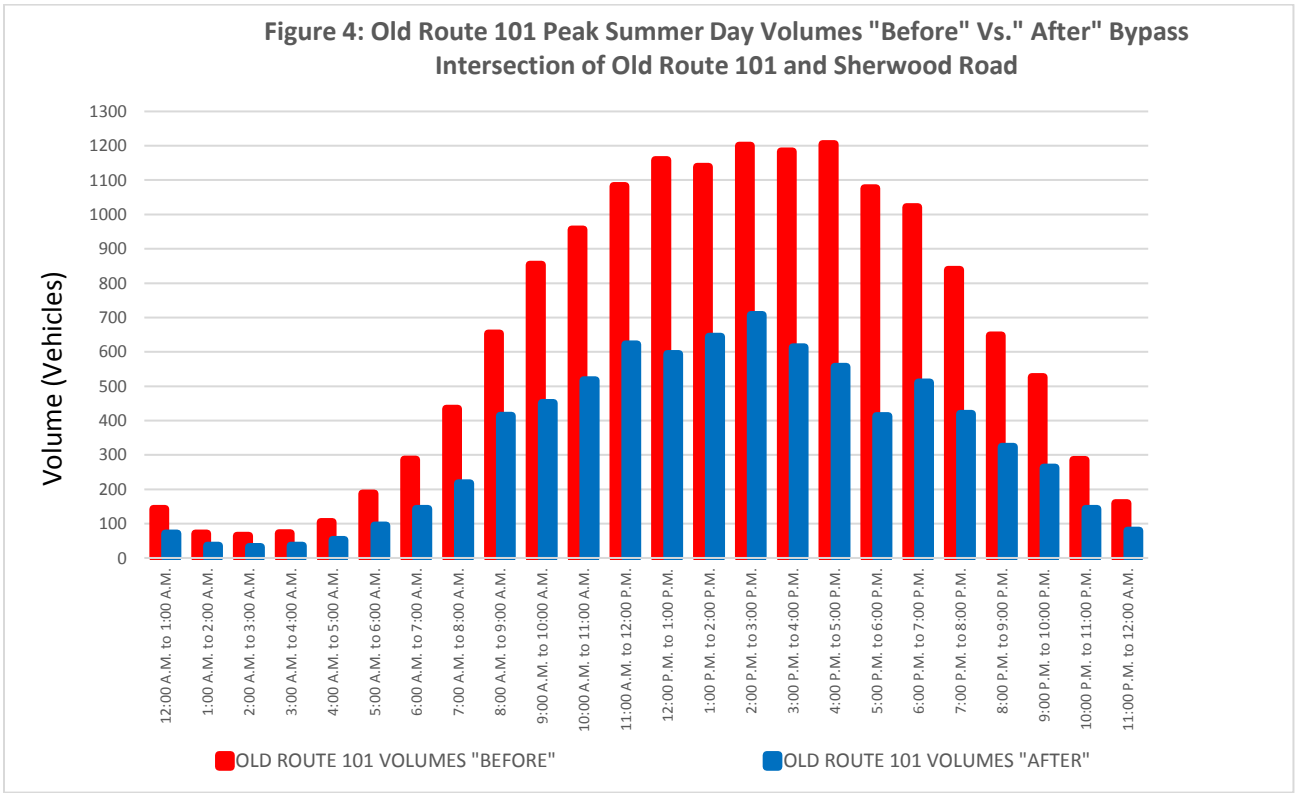



Figure 4 shows an overall average 50% reduction of Route 101 through volumes on a Peak Summer Day in the "After" condition, from 15,300 vehicles per day to 8,000 vehicles per day. Figure 5 shows an overall average 35% reduction of Route 101 through volumes on an Average AADT Day in the "After" condition, from 11,900 vehicles per day to 8,000 vehicles per day.

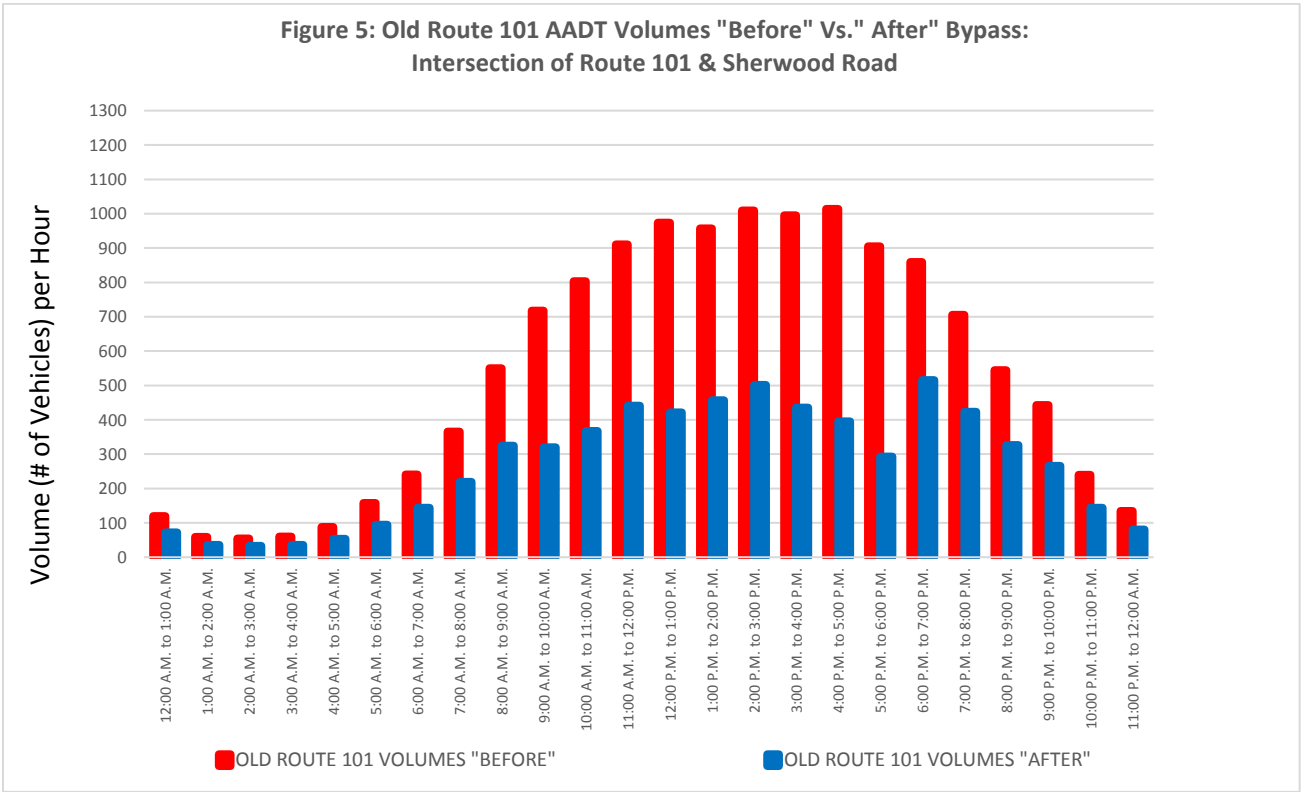
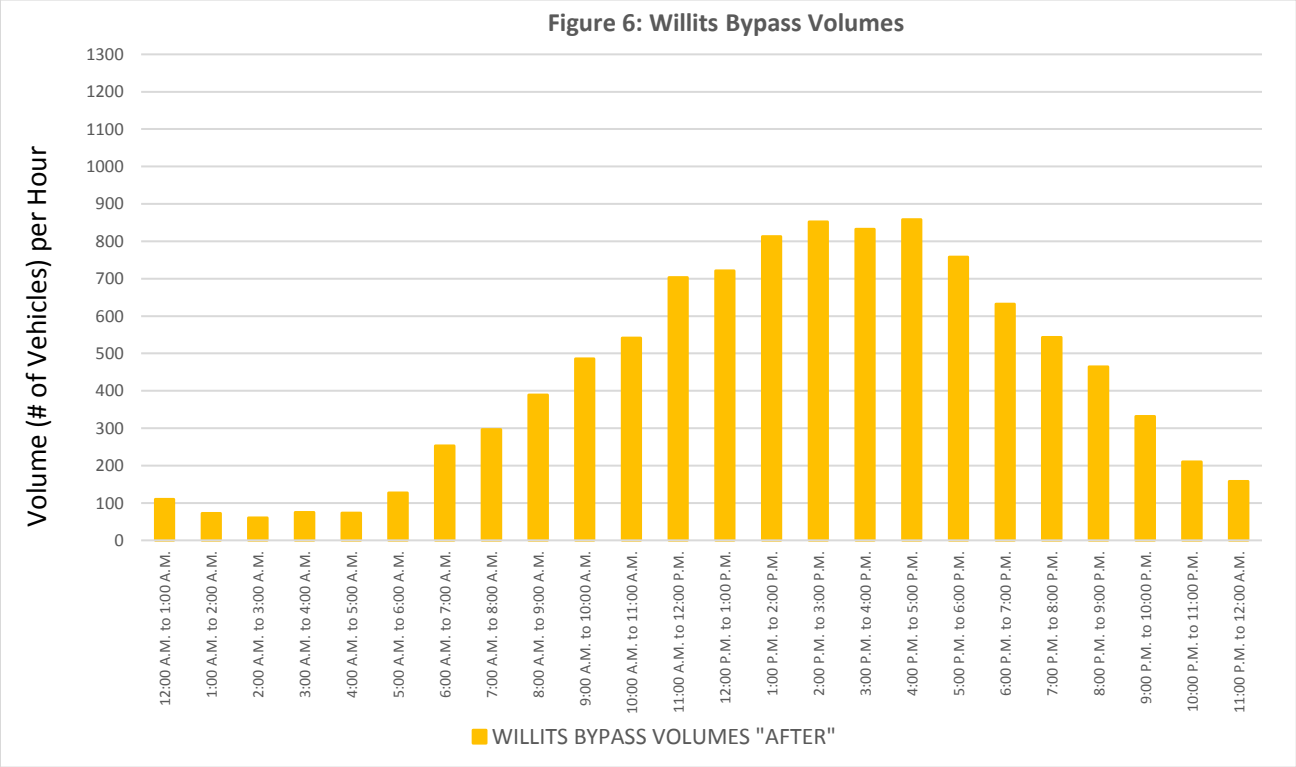


Figure 6 shows hourly volumes on the Willits Bypass. This 24-hour hose count data was collected on Friday, August 11th, 2017 (Peak Summer Day), and totals approximately 10,400 vehicles.




The hose count data in Figure 6 was collected in conjunction with Miovision video, to compare and evaluate the results of volume counts between these two systems. The results from this comparison will be evaluated in a subsequent study.

Continuous count stations are located on existing Route 101 at both ends of the Bypass (PM 43.78 and PM 48.22); these stations are being utilized to compile an AADT for the Willits Bypass.

## GREENHOUSE GAS EMISSIONS & FUEL REDUCTION

Vehicle idling and speed variance not only reduce economic productivity, they also reduce fuel consumption[7]. Since the Willits Bypass reduces vehicle idling time, travel time, and speed variance, it provides the positive environmental benefits of reducing fuel consumption and $CO_2$ emissions, while boosting economic productivity. The reduction in both travel time and Vehicle Miles Traveled on the Bypass further contribute to reductions in fuel consumption and $CO_2$ emissions.

## NEXT STEPS

Caltrans will continue to monitor traffic safety (including collision information that is not yet available at the time of this report), traffic volumes at the two new permanent count stations, and roadway conditions on the Willits Bypass, making roadway improvements as warranted. We anticipate that, as other projects in the area are completed, such as improvements to the Sherwood Rd. intersection and the Old Route 101 streetscape improvements, travel patterns will settle as people become accustomed to the bypass and the new configuration of Route 20 and Old Route 101. We plan to revisit travel patterns in the area, with a similar study to this one, in approximately three years—after most of the major construction associated with bypass mitigation and other improvement projects in the area have been completed.

[7] Excessive Idling and Gas Mileage http://www.mpgenhance.com/idling.html

**CONTACT INFORMATION**

This document was created by the Caltrans District 1 System Planning Office. For questions or comments regarding this document, please contact:

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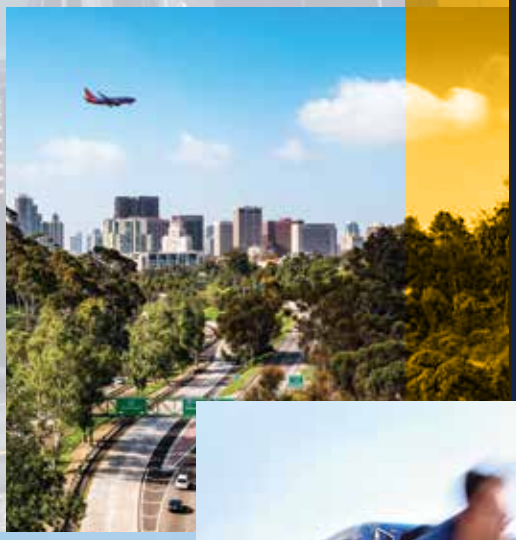
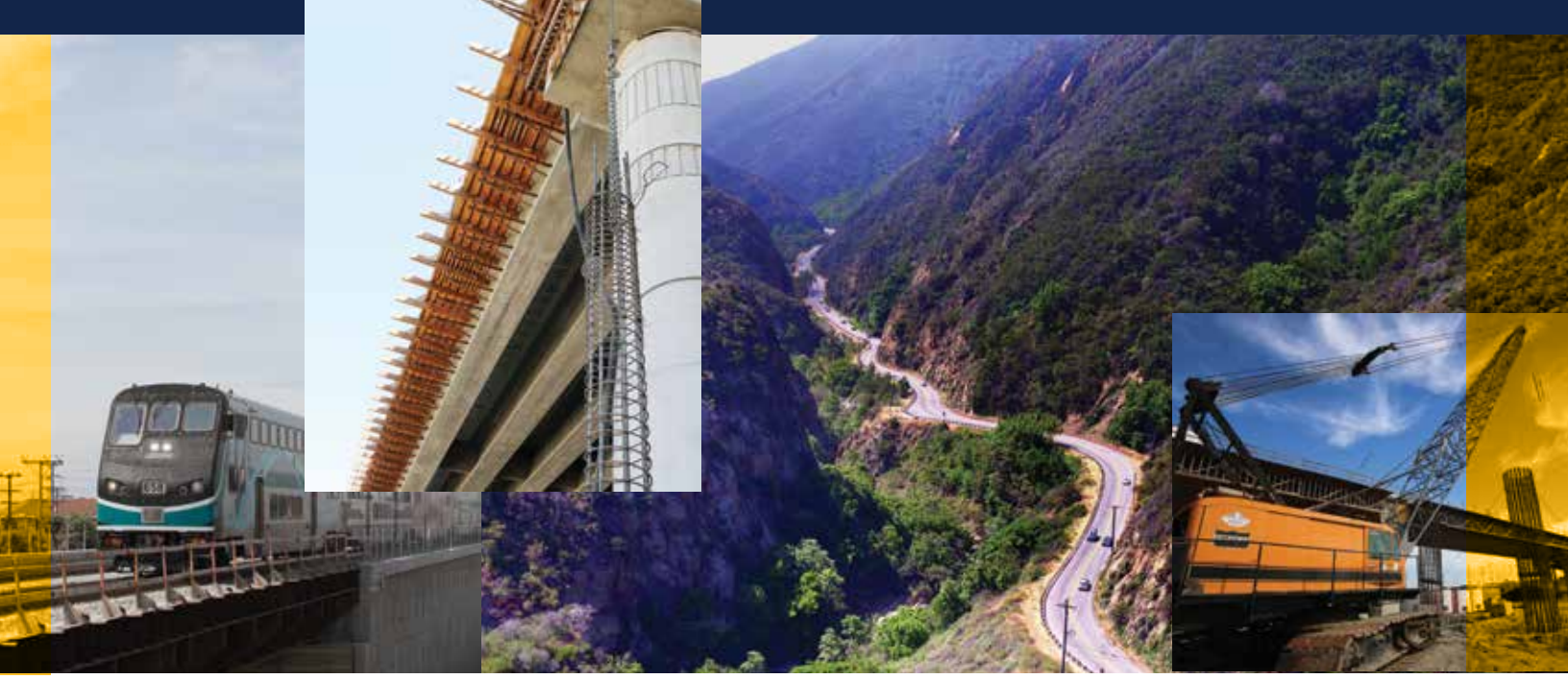
Information # 2
MCOG Meeting
2/5/2018

# 2017

## HIGHLIGHTS OF THE 2017 ANNUAL REPORT TO THE CALIFORNIA LEGISLATURE



CALIFORNIA
TRANSPORTATION
COMMISSION



# INTRODUCTION

For the past decade, the lack of sufficient funding available to address the state's transportation needs for a growing population and economy has been of great concern to the Commission. Recognizing the urgent need for action, the Legislature passed and the Governor signed Senate Bill (SB) 1 (Beall, Chapter 5, Statutes of 2017), also known as the Road Repair and Accountability Act of 2017, increasing transportation funding and instituting much-needed reforms to improve accountability, transparency and efficiency.

The Commission commends the Legislature and Governor for enactment of SB 1 as it provides California with significant opportunities to reduce congestion, improve air quality, achieve environmental goals, foster job growth, and support the state's economy. The Commission recognizes the importance of the reforms contained in the measure, as well as the responsibility for increased oversight assigned to the Commission. We pledge to honor the trust placed in this body, and we will continue to pursue transportation policies that provide the greatest statewide benefit for California.

In its 2017 Annual Report to the Legislature, the Commission divides its recommendations into three sections. First, the Commission focuses on the potential impact of disruptive technologies to the state's transportation system. Second, the Commission provides recommendations to improve the efficiency of the relationship between the state and its partners. Finally, included in the report are important legacy recommendations from previous Annual Reports that have yet to be enacted but are still relevant to address the state's transportation needs.

This document summarizes the specific recommendations that the Commission believes should be considered during the 2018 Legislative Session. A comprehensive discussion of these recommendations is contained in the Commission's 2017 Annual Report.

# 2018 Legislative Recommendations

## Addressing the Impacts of Disruptive Transportation Technologies

- Create a technical advisory committee to develop specific policies encouraging the development and deployment of advanced technologies in California.
- Dedicate specific revenues to infrastructure investments that encourage the development and deployment of advanced transportation technologies in California.
- Enable the state to partner with private entities to develop and implement technological solutions to the state's transportation problems.
- Accelerate the testing and adoption of advanced technologies in California cities and counties through a pilot program in which municipalities compete for grant funding.
- Make the Commission's Road Charge Technical Advisory Committee permanent in order to continue providing oversight of and direction for exploration of road charging as a replacement of state fuel taxes.

## Promoting Effective Partnerships

- Authorize regions to apply to the Commission for the ability to more easily combine various state transportation revenues to fund the best projects for improving corridor mobility.
- Enable regional entities to create partnerships with Caltrans district offices, ultimately reassigning responsibilities to the parties most able to accomplish them.
- Create a committee of stakeholders involved in the development and operation of the North Coast Railroad Authority (NCRA) to explore various scenarios for the Authority's future.
- Require Caltrans to approve project initiation documents (PIDs) in a streamlined manner, and create a system by which regions can efficiently provide to Caltrans the proper studies necessary to initiate projects on the state highway system.

## Legacy Reform Recommendations

- Permanently authorize Caltrans and its regional partners to use alternative project delivery tools such as public-private partnerships, design-build, and construction manager/general contractor methods.
- Expand Caltrans' ability to hire consultant teams as needed, including for any engineering, right-of-way, architectural, and other professional services utilized by Caltrans and its regional partners.
- Apply the provisions of SB 743 (Steinberg, 2013) which prohibit a court from staying or enjoining a project solely because of the project's potential contribution to greenhouse gas emissions to transportation projects included in an RTP that is compliant with SB 375 (Steinberg, 2008) requirements.
- Require entities to identify and evaluate the cost and benefit of future regulations on the state transportation program prior to regulatory adoption.
- Expand statutory authority for regions statewide to adopt and implement a regional commuter benefits ordinance similar to the successful program in the Bay Area.
- Assign to the Commission the responsibility to allocate all Caltrans' project development costs by project component including those projects in the State Transportation Improvement Program (STIP).
- Extend statutory authority related to environmental review exemptions for specific repairs within existing public rights of way.

## 2018 Administrative Recommendations

- Require Caltrans to estimate and communicate the cost of new regulatory proposals and the impact such proposals will have in the delivery of California's transportation program to help ensure that fiscal impacts are considered prior to legislative or regulatory enactment.
- Require Caltrans to prioritize those elements of its roadway state-of-good-repair projects that empower vehicle automation.

## FY 2016-17 Commission Accomplishments

- Allocated over $5.2 billion in state and federal transportation funding during the 2016-17 fiscal year for both project development support and construction capital, helping to generate almost 94,000 private and public sector jobs, contributing to a construction program in excess of $9.2 billion in state-administered construction contracts.
- Adopted the 2018 STIP Guidelines and approved the STIP Fund Estimate with $2.2 billion in new funding available for high priority highway, rail, transit, bicycle, and pedestrian projects over the next five years.
- Adopted revised Regional Transportation Plan Guidelines and the first-ever Guidelines for the California Transportation Plan through an intensive stakeholder-driven, transparent, and public process.
- Released the California Mobility Investment Opportunities Report identifying specific priority projects in each region of the state that could become reality with the availability of new revenues from SB 1.
- Hosted a successful Transportation Technology Policy Forum, bringing outside experts to the State Capitol to spur new and innovative thinking in the Legislature related to the impacts of changing transportation technologies.
- Adopted guidelines for the State's Asset Management Plan and the SHOPP, implementing processes for greater openness, transparency, and accountability for the delivery of state transportation projects.
- Convened meetings with environmental justice groups across the state to discuss ways for improving transparency and opportunities for feedback in the transportation planning process.
- Adopted the 2017 Active Transportation Program, programming $264 million to 122 projects encouraging increased use of active modes of transportation, such as biking and walking.

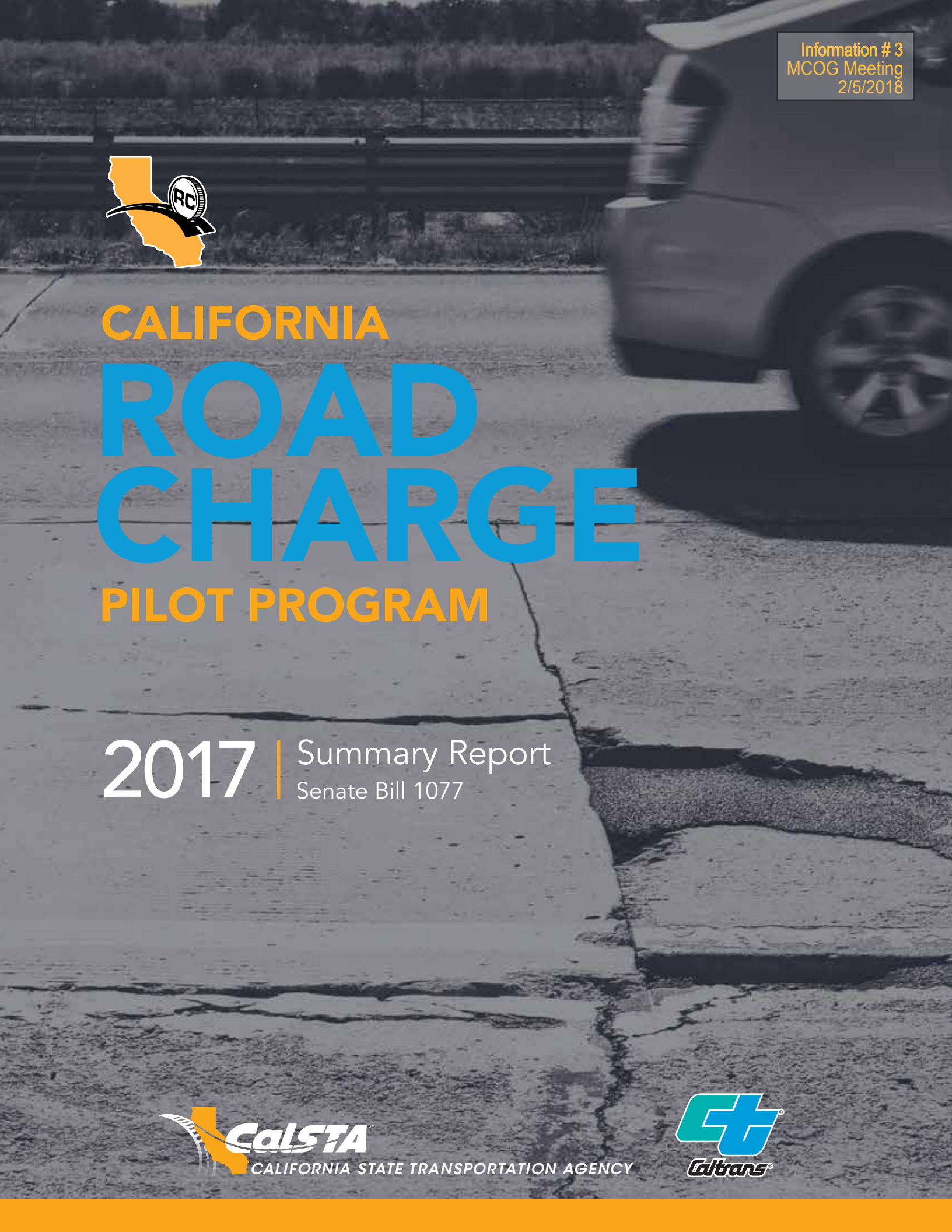
## SB 1 Implementation Update Through December 2017

- Implemented provisions for the distribution of funds to projects for each program authorized by SB 1 within the Commission's purview.
- Approved the list of eligible cities and counties to receive this fiscal year's $446 million in funding from the Local Streets and Roads Program.
- Adopted Guidelines to increase accountability and transparency of Caltrans' resource needs and performance.
- Adopted guidelines and issued a call for projects to be funded in the competitive grant programs including the Solutions for Congested Corridors Program, the Trade Corridor Enhancement Account, and the Local Partnership Program.
- Adopted a program of Active Transportation bicycle and pedestrian projects across the state with approximately $100 million made possible by SB 1.

The California Transportation Commission was established in 1978 as an independent state entity. The functions of the Commission are assigned in State statutes, with primary responsibilities that include:

- Program and allocate state and federal funds for the construction of highway, passenger rail, transit, and active transportation improvements throughout California.
- Advise and assist the Secretary of Transportation and the Legislature in formulating and evaluating state policies and plans for state transportation programs.
- Participate in the development of State and Federal legislation and adopt policies to implement enacted laws.

Information # 3
MCOG Meeting
2/5/2018



# CALIFORNIA ROAD CHARGE PILOT PROGRAM

## 2017 | Summary Report

Senate Bill 1077

CalSTA
CALIFORNIA STATE TRANSPORTATION AGENCY

Caltrans

## ACKNOWLEDGEMENT

The California State Transportation Agency would like to thank the following partners for their commitment and continued collaboration on the California Road Charge Pilot Program:

**The California Department of Transportation**
**The California Transportation Commission**
**The Road Charge Technical Advisory Committee**

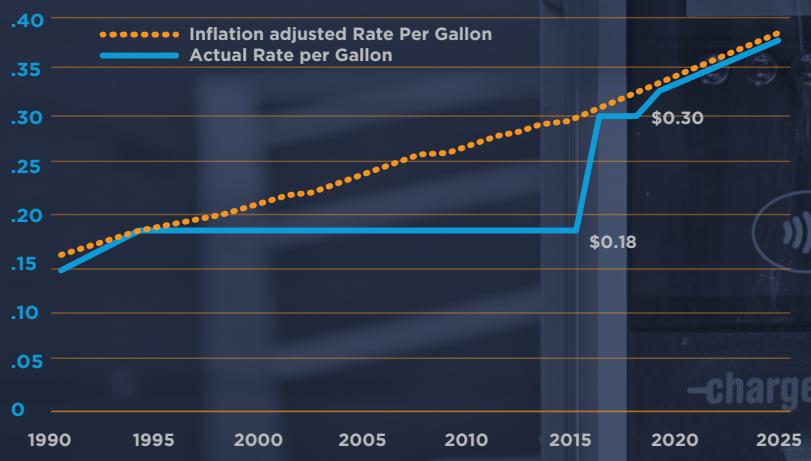
# Table of Contents

# Introduction

**Nearly all of the 350 billion miles driven each year on California's highways and roads are powered by gasoline or diesel fueled vehicles. Historically, the taxes on those fuels provided the majority of the revenue required to maintain and operate our transportation network. As future consumption of gasoline and diesel fuel declines, due to increased fleet efficiency, California will be challenged to sustain its $2.5 trillion economy. Continuing to depend on a consumption based transportation model, while at the same time adopting policies to increase vehicle fuel efficiency and promote the reduction of vehicle miles traveled, puts into question the long-term viability of the gas tax as a sustainable revenue model.**

Historically, transportation funding has been impacted by two main factors: inflation and vehicle fuel efficiency. Until this year, with the passage of the Road Repair and Accountability Act of 2017 (Senate Bill 1), the state gas tax had not been adjusted for inflation since 1994, which significantly reduced its purchasing power. Senate Bill 1 adjusted fuel rates for past inflation and includes future inflation adjustments, solving the inflation issue and delaying the expected transportation funding shortage by a decade or more. However, the impact of improving vehicle fuel efficiency remains an issue, especially as new vehicles sold in the coming decades are expected to be much more fuel efficient.

**Figure 1 – Senate Bill 1 Gas Tax Stabilization**




*Source: Department of Finance*

Without Senate Bill 1's inflation adjustments, the transportation funding shortfall would be quickly approaching. The new Senate Bill 1 revenues, as illustrated in Figure 1, stabilize the state's short-term transportation infrastructure funding needs and provides time to explore alternatives to continued reliance on fuel taxes.

Senate Bill 1 took important steps to address the fuel efficiency issue with the inclusion of a new transportation revenue stream from vehicle registration, including electric vehicles, which diversifies the funding for transportation, and at the margin, makes transportation investments less dependent on fuel taxes. However, the majority of revenue will still be derived from the consumption of fossil fuels.

In response to the 1973-74 Arab Oil Embargo, the United States Congress enacted the Corporate Average Fuel Economy (CAFE) Standards in 1975, with the goal of reducing oil consumption by increasing the fuel economy of cars and light trucks, as seen in Figure 2. Throughout the 1980s and 90s, the pressure to reduce fuel consumption lessened due to increased production and inventory of fuel, driving down the cost to the consumer. However, with gas prices reaching in excess of $4.00 per gallon in 2008, renewed interest in the CAFE standards, and the desire to reduce greenhouse gas emissions prompted President Obama to propose a new national fuel economy program which adopted uniform federal standards to regulate both fuel economy and greenhouse gas emissions.

Additional anecdotal data supporting this phenomenon, based on national data collected by the U.S. Department of Energy, illustrates that the relationship between fuel economy and consumption is not linear. Figure 3 further illustrates fuel economy improvements in vehicles with lower miles per gallon ratings (suburban/truck) have a greater impact on reducing fuel consumption than improvements to vehicles with higher miles

**Figure 2 – As Fuel Economy Increases, Fuel Consumption Declines**

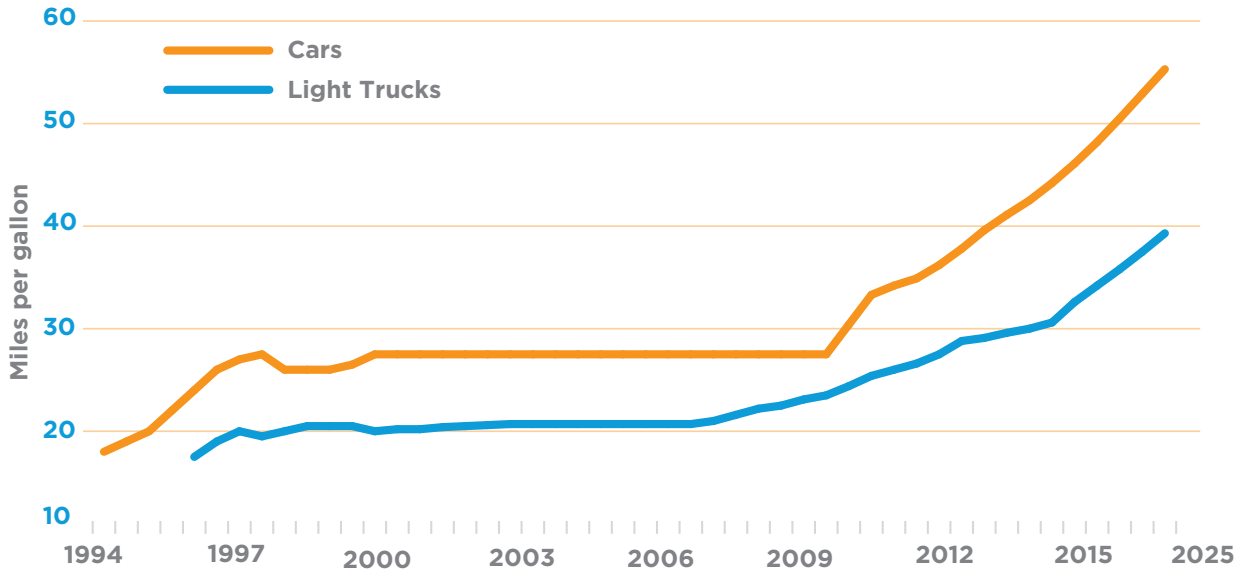
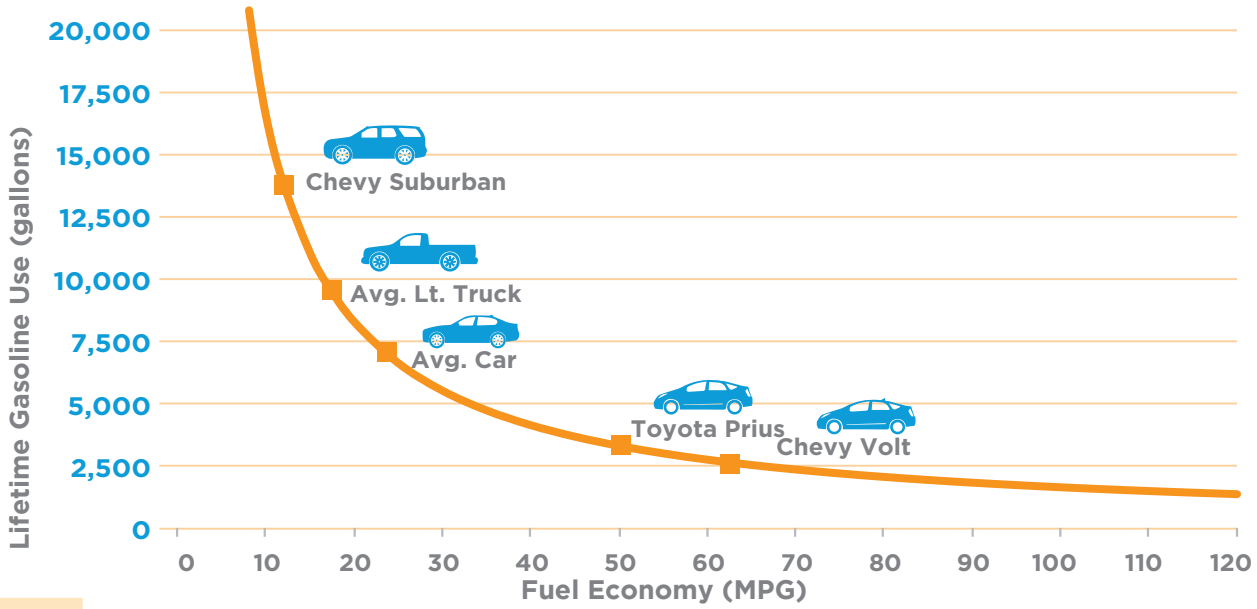


**Figure 3 – Increasing Vehicle Fuel Efficiency**




per gallon ratings (hybrids). This is because increasing fuel economy by percentage has a greater impact than the numerical increase of fuel economy (miles per gallon). For instance, an increase in the miles per gallon from 10 to 12 mpg represents a 20 percent improvement in fuel economy, while increasing the same 2 miles per gallon from 20 to 22 is only a 10 percent improvement. In other words, if a driver trades in their average light duty truck for an average passenger car, they save over four times (4X) as much fuel as a driver that switches from a plug-in electric vehicle to a fully electric vehicle.

To advance the integration of fuel efficient vehicles into the fleet, California has adopted measures that enhance the vehicle fleet efficiency in an effort to reduce greenhouse gas (GHG) emissions. In 2012, Governor Brown issued Executive Order (B-16-2012) establishing the goal of the California fleet consisting of a minimum of 1.5 million zero-emission vehicles (ZEVs) by 2025.

Similarly, in 2016, Governor Brown issued Executive Order (B-30-15), and signed Senate Bill 32 mandating a 40 percent reduction in California's GHG emissions by 2030. The California Air Resources Board (ARB), in response to Senate Bill 32, drafted "The 2017 Climate Change Scoping Plan Update - The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target" to further define the efforts needed to reach the 2030 GHG target. Included in ARB's Scoping Plan is a call for 4.2 million ZEVs on California roads by 2030. To add to the adoption of alternative fuel vehicles, in 2015 Governor Brown recognized the necessity for cars and

trucks to reduce gas consumption by 50 percent by 2030.

Policies promoting fuel efficiency are clearly beneficial for California's environment and for its efforts to combat climate change. However, measures to achieve these goals will adversely impact the revenues collected for transportation infrastructure based on the current gas tax model. In the long-term, California cannot rely primarily on the gas tax to fund the maintenance and operations of our vital transportation system, which directly impacts the overall quality of life for Californians.

Acknowledging the long term viability of the gas tax, the California Legislature and Governor Brown demonstrated the foresight to investigate a sustainable transportation funding mechanism, known as a road charge, with the passage of Senate Bill 1077 (Statutes of 2014, DeSaulnier). The legislation directed the Chair of the California Transportation Commission (CTC), in collaboration with the Secretary of the California State Transportation Agency (CalSTA), to create a Road Charge Technical Advisory Committee (TAC) to study road charge as an alternative to the gas tax.

Senate Bill 1077 provided general policy direction and design parameters to guide the TAC's investigation, deliberation and recommendations in the design of a pilot to test the road charge concept in California. In December 2015, the TAC delivered their Road Charge Pilot Design Recommendations Report to CalSTA for implementation.

Building off of the TAC's recommendations, CalSTA, with the assistance of the Department of Transportation (Caltrans), used the following four overarching principles in the preparation, implementation, and assessment of the Road Charge Pilot Program:

- **Feasibility –** the viability of recording and reporting of vehicle miles traveled for a statewide road charge system
- **Complexity –** the degree of difficulty of implementing a statewide road charge system
- **Security –** ensuring the safeguarding of personally identifiable information and data in a statewide road charge system
- **Acceptability –** surveying the acceptability of a road charge as an alternative to the gas tax

Working under the direction of CalSTA, Caltrans was tasked with the development, deployment, and evaluation of the Road Charge Pilot Program.

The remaining sections of this document focuses on the California Road Charge Pilot Program development, implementation, findings and next steps.

# 1. California Road Charge Pilot Program

**With policy direction established by the Legislature, and pilot design parameters prescribed by the TAC, Caltrans, working under the direction of CalSTA, advanced and implemented the Road Charge Pilot Program.**

In preparation for the road charge pilot launch in July 2016, Caltrans began preliminary pilot program development in late 2015, as the TAC was completing its recommendations. Pursuant to the TAC recommendations, the Road Charge Pilot Program sought to recruit and retain 5,000 volunteer vehicles, report miles traveled, pay mock road charges, and provide valuable feedback on the overall pilot program.

Vehicles enlisted in the pilot came from every segment of California's driving population, including a wide range of passenger vehicles, agency and business fleets, and for the first time, commercial trucking. In order to collect a large and valid set of perspectives, the pilot sought comprehensive representation of California's diverse demographic, geographic and socioeconomic population, including, participants from various communities (rural/agricultural and urban/suburban), income levels, races and ethnicities, gender, and age groups throughout the state.

In order to reach the 5,000 vehicle target in the pilot, Caltrans invited volunteers from a volunteer pool representing over 10,000 vehicles to enroll into the pilot. The statewide recruitment effort included in-person presentations at civic, community, and stakeholder meetings around the state, flyers placed in the Department of Motor Vehicle (DMV) registration renewal sticker distribution, ongoing monthly newsletters, public service announcements (in English and Spanish), and social media advertisements. A dedicated website (www.CaliforniaRoadChargePilot.com) was one of the most effective tools for encouraging volunteer sign-ups, disseminating pilot information to participants, communicating to the general public, and providing a central place to accept any public questions or feedback.

### TAC Participant Targets

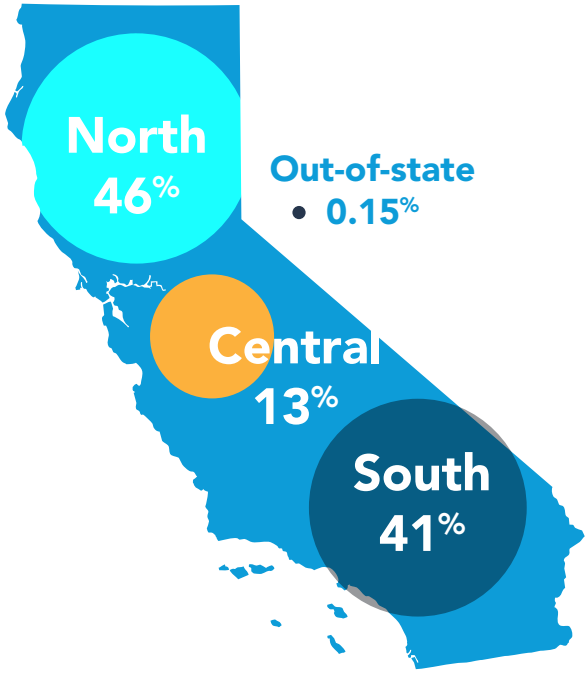
| Commercial Vehicles (Businesses) | | North | Central | South | Trucks |
|---|---|---|---|---|---|
| | | 100 | 50 | 175 | 50 |
| Private Vehicles (Individuals & Households) | | | | | Other |
| Urban & Suburban | $ | 475 | 175 | 1050 | |
| | $$ | 475 | 175 | 1050 | |
| Rural & Agriculture | $ | 200 | 200 | 150 | 125 |
| | $$ | 200 | 200 | 150 | |

To ensure the pilot represented the diverse demographic, geographic and socio-economic aspects to the state, the participant recruitment process was designed to:

- Encourage maximum enrollment of targeted groups; and
- Prioritize volunteers who provided demographic information

In June 2016, volunteers were invited to become pilot participants, providing ample time to complete the conversion process from volunteer to participant. The conversion process included selecting an account manager, choosing a mileage reporting method, and setting up an online account. An interactive decision tree on www.CaliforniaRoadChargePilot.com provided side-by-side comparisons of the options available and provided a direct link to account manager web portals, where participants established their online accounts.

### Pilot Participant Breakdown by Region




## 1.1 ACCOUNT MANAGEMENT

Fulfilling the recommendation of the TAC to offer drivers a choice in account managers in the deployment of the Road Charge Pilot Program, Commercial Account Managers (CAM)s were employed to manage pilot participant accounts, collect mileage traveled data, generate and issue simulated invoices,

and manage receipt of mock payments. Additionally, a state account manager (CalSAM) was utilized to simulate a state run road charge function.

The use of third-party vendors is not an entirely foreign concept for California. For example, the California Department of Motor Vehicles (DMV) established a Business Partner Automation Program[2] that allows qualified industry businesses to process over 20 different vehicle related transactions on their behalf.

Rather than become constrained by proprietary technology, that would limit options for future implementation, the pilot program tested an *open system,* which fosters technological innovation and efficiencies in operations, and encourages competitive pricing, making road charge an effective revenue collection process.

From the perspective of the state and the participants, road charge account management proved no different from any other online retail or utility account services. The CAMs and the CalSAM featured a secure web portal to display information, such as road charges and payments. The CAMs also provided value-added services to some participants, such as smartphone apps, trip logs, vehicle health and battery monitoring, driver safety scores, and carbon emissions.

## 1.2 MILEAGE REPORTING METHODS AND DATA COLLECTION

Fundamental to establishing a road charge, each driver reported the amount of road usage (or miles traveled) over a designated period. The pilot program offered a range of reporting options, from no technology (did not require reporting any personal information) to high-technology (with or without location-based services). These reporting options were classified into two main categories: manual and automated, with additional technology choices for automated methods.

**Manual reporting methods:**

- ***Time Permit.*** A reporting method in which the participant pre-pays for an unlimited amount of driving for a fixed time period.

- ***Mileage Permit.*** A reporting method in which the vehicle owner pre-pays for a fixed number of miles.


- ***Odometer Charge.*** A reporting method in which a driver reports miles driven periodically and post-pays for the number of miles traveled since the last odometer reporting.

**Automated reporting methods:**

- ***Automated Reporting with No Location.*** Allowed participants, to utilize a technology options without the location-determination technology, such as GPS.
- ***Automated Reporting with General Location.*** Allowed participants to avoid paying the road charge for non-chargeable travel, such as driving out-of-state, or on private roads. These methods contain location-determination technology, but only report general location through a process known as map matching, which deletes precise location information once the system can accurately categorize travel as chargeable or non-chargeable.

## 1.3 REPORTING TECHNOLOGIES

As mentioned earlier, the automated methods of reporting offered a ***variety of reporting***

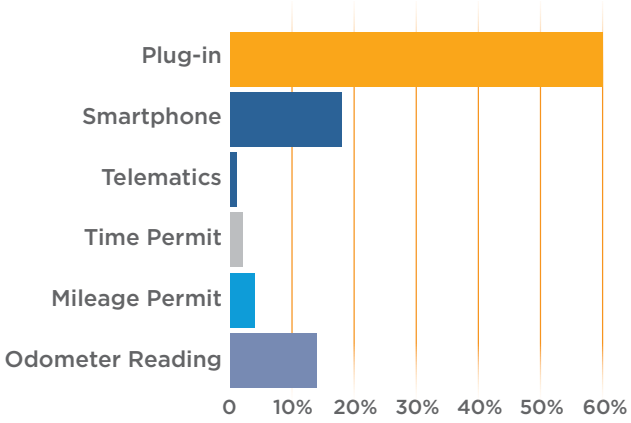
[2]*https://www.dmv.ca.gov/portal/dmv/?1dmy&urile=wcm:path:/dmv_content_en/dmv/otherser/bpa/bpa*

***technologies.*** Options recommended by the TAC for testing included: on-board diagnostic (OBD-II) plug-in devices with and without location services, smartphone apps with and without location awareness, in-vehicle telematics (with measurement and reporting technology built into the vehicle), and electronic logging devices specially designed for heavy commercial trucks.

**Plug-in Device.** Is an electronic device that plugs into a vehicle's data port, more formally known as the on-board diagnostics (OBD-II) port. It then uses wireless technology to transmit mileage information to the Account Manager. Such plug-in devices often offer a range of additional functions to the driver called value-added services, such as keeping a log of trips taken.

**Smartphone with No Location.** The pilot deployed a smartphone application which measures mileage through vehicle odometer images drivers submit once a month, which included a range of security features that make fraud attempts easily detected.

**Pilot Breakdown of Reporting Methods**




**Smartphone with General Location.** Is an application that measures mileage through a proprietary algorithm that determines when a driver is driving in his/her vehicle using available data (GPS location data, Wi-Fi signals, and other data), using the location data to measure miles driven. As a backup to this algorithm, the pilot required participants to submit odometer images once a month within the smartphone application.

**In-vehicle Telematics.** Consists of technology integrated into vehicles.This option allows the transmission of a range of vehicle data to an internet-based system operated by the carmaker, such as Ford's Sync or GM's OnStar.

**Commercial Vehicle Mileage Meter.** Is a device that is professionally mounted into commercial trucks to measure distance traveled for the purposes of paying a road charge. Such devices offer a range of services to the operators of commercial vehicle fleets, such as fleet monitoring.

## 1.4 PRIVACY PROTECTION

Building on SB 1077 privacy requirements, the TAC developed additional privacy provisions when developing their design recommendations. Specifically, the TAC

***80% of vehicles used automated mileage reporting methods at the conclusion of the pilot.***

identified three different approaches for protecting privacy: governance, accountability, and model protection provisions.

- The **Governance Approach** is a holistic approach that relies on the application of high-level Privacy Protection Principles to govern all decisions throughout the entire road charge program lifecycle: design, implementation, operations, independent evaluation, close-out and reporting of pilot program activities.
- The **Accountability Approach** called for an Independent Evaluator to evaluate the road charge pilot program's performance against a set of specific privacy protection criteria, similar to a performance audit.
- The **Privacy Protection Provisions Approach** calls for the design, implementation and operation of the road charge pilot program to be developed primarily through model privacy protection provisions.

For deployment of the pilot program, all of the privacy recommendations provided by the TAC were incorporated into a Road Charge Privacy Policy document, which was shared with all of the volunteers in advance of enrollment. The Road Charge Privacy Policy makes it clear that participant demographic information would only be used for pilot purposes, helping policymakers better understand how a road charge might affect groups in distinct ways, depending on where they live, their general income level, the number of people in their household, and other factors.

## 1.5 DATA SECURITY

In this digital age, Californians expect their data will be secure, especially in a government program. Yet maintaining the security of personally identifiable information and data continues to be a challenge. Maintaining security of systems to protect personal data and information requires the design and management of data security according to international best practices. The pilot adopted specific data security measures based on industry standards for online financial-grade transactions, including authentication and authorization for data access, notification of data modification, data masking, encryption and storage, data transmittal, ISO requirements for network security, and data destruction.

To provide an added level of assurance to participants, the TAC recommended a third party expert complete a security verification of all entities involved in data collection for the pilot. This independent security verification ensured that account managers and mileage reporting vendors had secure systems, reducing the likelihood of any data compromises.

## 1.6 ENFORCEMENT AND COMPLIANCE

As a strictly voluntary program, with no money changing hands, there was minimal benefit to engage in rigorous enforcement and compliance activities for the pilot program. However, any system that includes actual collection of revenue and millions of users will undoubtedly need to define and develop

enforcement and compliance measures prior to implementation.

While the TAC identified stages of enforcement in their report, they recommended not testing it in the pilot, rather focusing on anomalies in mileage data. Compliance activities therefore consisted of direct communications from account managers to non-compliant participants to encourage both initial and ongoing compliance.

## 1.7 PARTICIPANT EXPERIENCE

Once enrolled in the pilot, having selected an account manager, mileage reporting method and technology, the participants began driving. Account managers collected mileage and fuel consumption via secure wireless communications for the automated methods, and periodic readings for manual options. Monthly simulated invoices were generated based on the reported miles driven providing a comparison of the estimated gas tax paid and what would have been paid in a road charge system (Figure 4). Thereafter, each participant submitted a mock road charge payment via an on-line wallet.

## 1.8 INDEPENDENT EVALUATION

Pursuant to the TAC recommendations, a third-party Independent Evaluator was hired to assess the pilot performance based on criteria developed by the TAC. The Independent Evaluator was tasked with measuring the data collected during the pilot, and more importantly, collecting attitudinal and experiential information from the pilot participants.

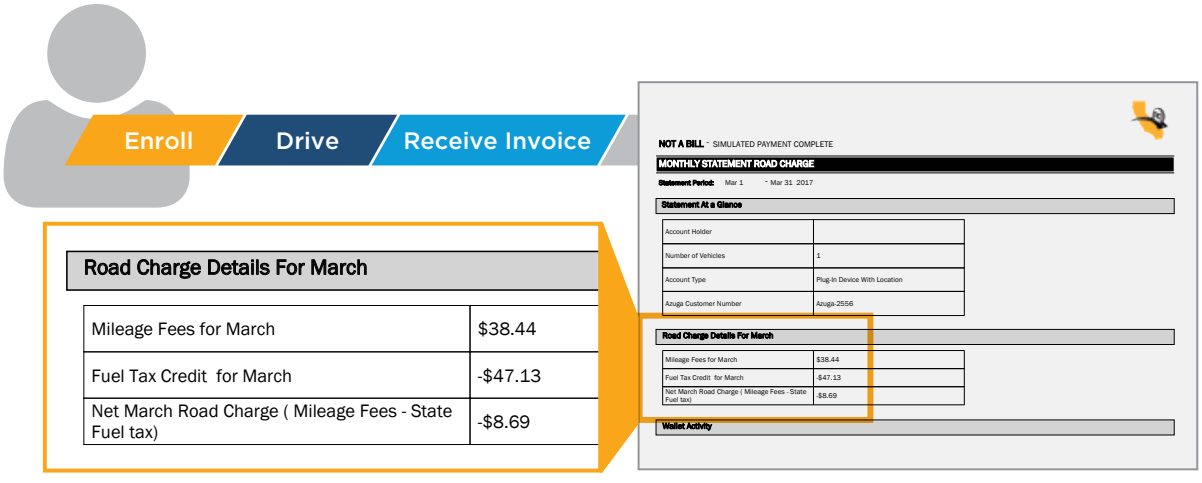
To measure the pilot participants experience, the Independent Evaluator invited all participants to complete at least three surveys: at the beginning, mid-point, and

**86% satisfied with mileage reporting method**

**74% satisfied with account manager chosen for the pilot**

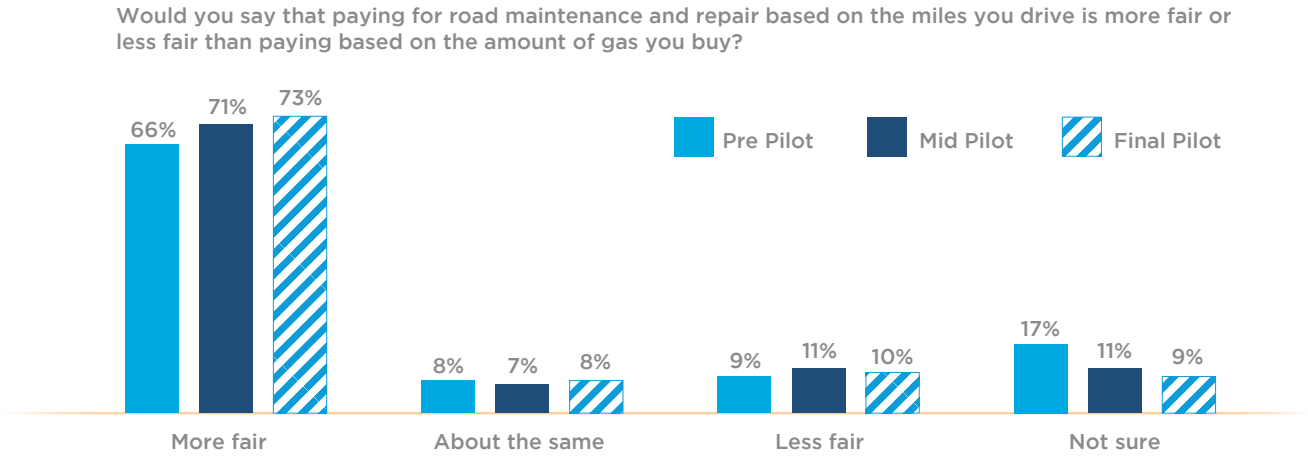
**62% using technology chose a location-based mileage reporting method**

**Figure 4 – Participant Experience**



end of the pilot. Overall, surveys revealed high levels of participant satisfaction, and an increased understanding of road charge from the beginning to the end of the pilot. At the conclusion of the pilot, five focus groups were conducted throughout the state. These focus group conversations were employed to investigate the complexity and depth of opinions around the pilot program and elicit responses that would not have otherwise been available as part of the data research and surveys.

## Participant Views of Road Charge Fairness




**73%** felt a road charge was a more equitable transportation funding solution than the gas tax

**87%** found participating in the pilot easy

**85%** overall pilot satisfaction, which is further supported by the low rate of 4% attrition

**61%** are more aware of the amount they pay for road maintenance

# 2. California Road Charge Pilot Observations

**The Road Charge Pilot participants drove in excess of 37 million miles during the nine month pilot period, demonstrating the desire for mobility. It also is a testament to California's commitment to being a leader in innovation, having achieved many firsts during the pilot:**

- Maintaining over 5,000 participating vehicles over a nine-month pilot
- Demonstrating six reporting and recording methods
- Offering various technology options, including no technology and high-technology options; and
- Including, for the first time, heavy commercial vehicles

In keeping with the four overarching pilot principles: feasibility, complexity, security and acceptability, the following are observations made during the development, implementation, and evaluation of the Road Charge Pilot Program:

## 2.1 PILOT PARTICIPATION

The Road Charge Pilot Program represented vehicles from every segment of California's driving population, including a wide range of passenger vehicles, agency and business fleets, household vehicles, and commercial trucking. In order to collect a large and valid set of perspectives, the pilot sought comprehensive representation of California's diverse demographic, geographic and socioeconomic population, including participants from various communities (rural/agricultural and urban/suburban), income levels, races and ethnicities, genders, and age groups throughout the state.

***Observation:*** Certain demographic targets and sub-targets set by the TAC were unattainable. This was due in large part to the truncated pilot delivery schedule, as well as limited resources for pilot recruitment. The most difficult targets to convert from volunteer to participant were rural, low-income, and certain ethnicities/races. In an operational system, where all vehicles are participating, this issue will be mute.

## 2.2 THIRD PARTY VENDORS

The Road Charge Pilot Program was successful in studying the viability of utilizing third-party vendors (account managers), to provide the necessary services and technologies used to record and report miles driven.

***Observation:*** Account managers provided the flexibility of services to pilot participants, and demonstrated the ability to offer other value-added features, thus enhancing the user experience. However, the state did not contract directly with the vendors during the pilot, reducing the risk to the state, but at the same time reducing the state's ability to ensure performance goals were met.

## 2.3 MILEAGE REPORTING METHODS

Pilot participants had a variety of manual and automated mileage reporting and recording methods to select from based on their unique needs and interests.

***Observation:*** Offering a multitude of choices caused a level of concern from the participants. In particular, the clarity of communications and instructions regarding the mileage reporting methods and technology options available during enrollment. Nevertheless, at the conclusion of the pilot the majority of the participants were happy with the method they chose.

## 2.4 PRIVACY AND DATA SECURITY

As stated earlier, privacy and data security were paramount to the Legislature, CalSTA, the TAC, and Caltrans. Incorporation of the TAC recommended privacy and data security provisions assured pilot participants that the information and data they provided for the pilot was secure.

***Observation:*** There were no data breaches or data security concerns throughout the duration of the pilot.However, the importance of data security should not be discounted and any future systems should strive to exceed standard security practices.

Based on participant feedback there was an overall 78 percent satisfaction rating in regards to the pilot privacy and data security. At face value, survey satisfaction rating could indicate that privacy and data security were not as critical as first assumed. However, due to the small sample size, compared to the overall state driving population, and the fact that the pilot participants are more likely early adopters, it is difficult to rely on these results to reflect perceptions of all California motorists.

## 2.5 PARTICIPANT PERCEPTIONS

Overall participant satisfaction was favorable with an overall approval rating of 85 percent, which is further supported by the low dropout rate of 4 percent.

***Observation:*** Some of the high-level survey results indicate that participants felt a road charge is a more equitable transportation funding solution than the current gas tax, but additional research is needed before implementation. Additionally, over 90 percent of the participants expressed willingness to participate in future road charge demonstrations.

## 2.6 PER-MILE RATE

For purposes of evaluating the effectiveness of a road charge, the TAC recommended establishing a revenue neutral rate to simulate a road charge. Given that direction, a rate was established prior to the deployment of

the pilot, taking the five-year average of the gas tax (base and price-based excise) and dividing by the average miles per gallon of the entire California fleet. As a result, the rate used for the pilot was set at 1.8 cents per mile.

***Observation:*** While this rate reflects a revenue-neutral rate based on the California fleet average. When compared to the sample of vehicles participating in the pilot, the simulated road charge rate was not revenue neutral. This was due to the pilot sample fleet having an average miles per gallon higher than the statewide average. At the time of the rate setting exercise, there was no way to predict what composition of vehicles would actually participate in the pilot.

## 2.7 ENFORCEMENT AND COMPLIANCE

From an operational perspective, the elements tested were successful. The pilot was able to test and audit the operational systems and requirements of the program.

***Observation:*** The inability to adequately test the compliance and enforcement aspect of a road charge provides a level of uncertainty on the methodologies to employ, and the overall cost to enforce. Due to this program being volunteer based, and the fact that no revenue was collected, there is no measure of compliance to be extrapolated for a statewide program. The testing of enforcement and compliance is critical to reasonably estimate the administrative costs of a road charge program.

## 2.8 TECHNOLOGY

All the mileage reporting options tested worked to some degree.

***Observation:*** The manual options provided the highest degree of privacy and data security, but will in all likelihood be the most difficult to enforce, and in some cases, such as the odometer reading, could be costly to administer. Of the automated methods, the plug-in (OBD II) devices are the most reliable options. However, as new technology emerges, this methodology could be obsolete by the time a road charge program is adopted. The more technologically advanced methods of the smartphone application with location services and in-vehicle telematics show great promise, but they both need further refinement.

With in-vehicle telematics becoming standard equipment, this method of recording and reporting a road charge has the potential of being a cost effective option. However there are a number of issues needing resolution.

- Within the existing fleet, with telematics, there are a limited number of manufacturer's allowing access to the mileage data collected. Of those manufacturers represented in the Road Charge Pilot Program, participants were required to subscribe to telematics services (i.e. OnStar, AccuraLink), and in some instances at a cost to the vehicle owner.
- The pilot participants were required to provide login credentials to their Account Manager to access the mileage data. This is due in large part to the vehicle software not residing in the vehicle, therefore requiring the Account Managers, through a third-party vendor, to extract the mileage data directly from the manufacturer via cloud, or internet-based, computing.
- The current configuration tested does not allow for the continuous transmission of location data due to the high frequency rate required to ping, or query the vehicle to establish connection and determine location, to verify out-of-state or private road mileage for automatic mileage exemptions. Currently, the cost of this query methodology employed during the pilot is too exorbitant to be feasible for a statewide system.

The resolution of these issues will require close coordination and cooperation with vehicle manufacturers and regulators to ensure the data and services needed to support a road charge program are standardized and readily available for use.

# 3. Next Steps

**The Road Charge Pilot Program successfully tested the functionality, complexity, and feasibility of the critical elements of this potential revenue system - road charge - for transportation funding. However, some questions remain unanswered, necessitating additional investigation into the mechanics and policy issues of implementing a road charge in California.**

## 3.1 PAY-AT-THE-PUMP

In the future, Caltrans in collaboration with the Federal Highway Administration, will be investigating the feasibility of a pay-at-the-pump option for a road charge system. While the mileage reporting methods tested in the Road Charge Pilot Program are all feasible, they cannot compete with the simplicity, cost effectiveness, and public acceptance of the current gas tax collection process. Acknowledging the need to investigate a road charging mechanism that replicates the current user experience, Caltrans is embarking on a study of a pay-at-the pump model that could produce reduced administrative costs over the other methods tested. This method could garner greater public acceptance, as the road charge would be assessed on a pay-as-you-go approach.

If this study results in one or more potential pay-at-the-pump options, the next step will be to continue the partnership with the Federal Highway Administration to conduct a limited demonstration of this mileage reporting option.

***As innovators, Californians will continue to stay at the forefront of the ever-evolving technology used to communicate from our vehicles through our transportation infrastructure. The Road Charge Pilot Program was a first step in researching ways for a long-term stable transportation financing model."***

***- Malcolm Dougherty***
***Director of the California Department of Transportation***

## 3.2 REVENUE COLLECTION

The collection of revenue was simulated in the Road Charge Pilot Program, through mock invoices and payments. The actual flow of revenue through the state system was not tested, but was reviewed through an institutional analysis. Depending on how the road charge program is designed, there could be a number of state agencies/departments involved in the revenue collection process. Conducting a tandem test of collecting a road charge with the pay-at-the-pump demonstration will provide a controlled environment to evaluate the revenue flows through the state system, allowing identification of challenges, efficiencies, and synergies for future implementation.

## 3.3 IN-VEHICLE TELEMATICS

The pay-at-the-pump study will address the internal combustion engine mileage collection, but the proliferation of alternative fuel vehicles requires a method for collecting mileage data, such as in-vehicle telematics. More and more auto manufacturers are offering in-vehicle telematics on their new vehicles, and industry analysts are projecting the majority of new vehicles will include in-vehicle telematics by 2020. Developing a road charge program that allows for the collection of mileage data via in-vehicle telematics will provide for the immediate solution for alternative fuel vehicles and a long-term solution for the complete transition off of the gas tax.

The adoption of in-vehicle telematics, as a means for collecting mileage data, could dramatically reduce the impact of the adoption, administration, and enforcement costs of a road charge program. However,


standardization of the mileage information collection and data transference needs to be investigated to allow for open-market application of a road charge. As seen with the telecommunications and tolling industries, proprietary systems reduce or delay entry into the market, thus limiting competition and driving up costs. Early discussions, planning, and development of technical specifications and standards will allow for the greatest level of innovation and competition.

## 3.4 TECHNOLOGY COLLABORATIVE

With the continuous evolution in technology, the engagement of various state agency/departments, federal and regional/local entities, academia, as well as the private sector interests, would assist in the alignment of emerging technology and road charge. The formation of a technology collaborative, with representatives from the public and private sector will ensure the latest technology will be considered in the formation and development of a road charge program, providing the framework for future evolution of the program.

## 3.5 ORGANIZATIONAL CONSIDERATIONS

The implementation of a road charge program will not happen overnight. Thoughtful consideration of a multitude of variables is needed to proceed with a statewide road charge program.

One of the initial issues to be studied is the organizational design of the road charge program. There are a number of agencies/departments impacted by the potential transition from the gas tax to a road charge. The early identification of the implementing agency/department will be crucial to the coordination, development, and transition to a statewide road charge program.

Based on the information gathered during the Road Charge Pilot Program, and the acknowledgement of the complexities of developing and adopting a new transportation revenue mechanism, implementing a road charge program prior to 2025 could be problematic. Reviewing the feasibility of a target date for implementation of 2025, or later, will allow time for the designated responsible agency/department to establish the required specifications and regulations, coordinate with other impacted departments, procure vendors, thoroughly design and test systems, and to educate and gather input from the public on the transition.

California currently has over 34 million registered vehicles. Determining the phasing and timing of a potential future transition from the gas tax to a road charge will require careful consideration of the costs and the risks. There are a number of transition scenarios that range from conservative to very aggressive.


# 4. Conclusion

**California is known for its pioneering spirit and environmental leadership. Over the next several decades, California's fleet will become more fuel efficient and less dependent on fossil fuels. These advancements will require an innovative and sustainable approach to how the state funds transportation infrastructure.**

When initially instituted, the gas tax methodology was an equitable revenue system, generally due to vehicles having comparable fuel consumption rates. However, as more fuel efficient vehicles are entering the California fleet, the gas tax limitations have become more apparent. As fuel efficiency continues to rise, and more affordable alternative fuel vehicles enter the market, California will experience an overall increase in the average fuel efficiency of the fleet. Continuing to base transportation funding on fuel consumption is not a long-term, sustainable option. Establishing a transportation funding mechanism, based on actual use of the road, instead of the fuel consumption of the vehicle, could provide a fair, equitable, and sustainable transportation funding mechanism for decades to come.

Compounding the effect of improved fuel efficiency was the stagnant gas tax rate. However, after over two decades without an adjustment for inflation, the passage of Senate Bill 1 restored the purchasing power of the gas tax, helping the state address the immediate backlog of transportation maintenance and repair needs.

While much of the concern regarding an immediate funding crisis has been addressed by Senate Bill 1's updates to the existing transportation infrastructure funding mechanism, a road charge program is worthy of further research to prepare the state for a future where most of the cars on the road are powered by alternative energy sources.

The Road Charge Pilot Program confirmed the viability of many aspects of a user-based transportation revenue mechanism. Yet, many obstacles must still be evaluated before transitioning from a gas tax to a road charge is considered. Purposeful research, deliberative planning, and careful application, in a fully transparent process, will help to minimize the risks associated with adopting any new transportation funding mechanism.

***Learn more at:***
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CalSTA
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*Approved 1/17/18*

Information 4
MCOG Meeting
2/5/2018

# MINUTES

# MENDOCINO COUNCIL OF GOVERNMENTS
# TECHNICAL ADVISORY COMMITTEE

October 25, 2017
MCOG Conference Room

**Members Present**
Jason Wise, County DOT
Rick Seanor, City of Ukiah
Dusty Duley, City of Willits
Tom Varga, City of Fort Bragg
Jacob King (*for Carla Meyer),* MTA

***Present via Teleconference***
Richard Shoemaker, City of Point Arena
Tasha Ahlstrand, Caltrans

**Staff & Others Present**
Phil Dow, MCOG Administration
Loretta Ellard, MCOG Planning
Nephele Barrett, MCOG Planning
Lisa Davey-Bates, MCOG Planning

**Members Absent**
Mitch Stogner, NCRA *(Non-Voting)*
Barbara Moed, AQMD
Jesse Davis, County DPBS

**1. Call to Order/Introductions** – Phil called the meeting to order at 10:06 a.m. Self-introductions were made.

**2. Public Expression** – None.

**3. Input from Native American Tribal Governments' Representatives** – This is a standing agenda item to allow input from tribal representatives. There were no tribal representatives present.

**4. Approval of 9/20/17 Minutes – Motion by Rick Seanor, seconded by Jason Wise, and carried unanimously on roll call vote *(7 ayes – Wise, Seanor, Duley, Varga, King, Shoemaker, Ahlstrand; 0 noes; 2 absent – Moed, Davis)* to approve the minutes of 9/20/17 as submitted.**

**5. FY 2017/18 Overall Work Program – Second Amendment** – Loretta reviewed her staff report and explained the purpose of the second amendment --- to program FY 2016/17 Rural Planning Assistance (RPA) carryover funds, as well as "reserved" FY 2017/18 RPA funds.

As proposed, this amendment:

- Adds $40,207 in RPA carryover funds to W.E. 10 – Regional Transportation Plan 2017 Update, Ph. 2, increasing the total from $32,500 to $72,707
- Programs $76,528 in RPA funds ($14,254 carryover, plus $62,275 "reserve") into a new work element (W.E. 19 - Pedestrian Facilities Needs Inventory & Engineered Feasibility Study – South Coast), as recommended by TAC members at the September 19 TAC meeting
- Deletes the RPA "Reserved for Future Projects" of $62, 275 - reprogramming those funds into new W.E. 19

A brief discussion ensued regarding the proposed new Work Element 19 - Pedestrian Facilities Needs Inventory/EFS project for the Point Arena/south coast areas. Loretta advised that the task and deliverables were patterned after a Caltrans Sustainable Communities planning grant application that MCOG recently submitted to Caltrans for the same type of project covering north coast and inland areas of the County.

**Motion by Richard Shoemaker, seconded by Tom Varga, and carried unanimously on roll call vote *(7 ayes – Wise, Seanor, Duley, Varga, King, Shoemaker, Ahlstrand; 0 noes; 2 absent – Moed, Davis)* to recommend to MCOG approval of the Second Amendment to the FY 2017/18 Overall Work Program.**

Lisa Davey-Bates suggested that, if the Caltrans grant is awarded, the projects may be able to be combined with one RFP process – depending on timelines. Tasha advised that Caltrans District One received five grant applications, and MCOG's was rank high by District One staff. She stated a quick turnaround is expected for grant award announcements.

**6. Regional Transportation Plan – 2017 Update –** Nephele explained that she has extended the comment deadline for the tribes (due to recent fire), and has been busy working on other priorities, so there is no revised draft RTP to distribute today as planned. She said comments will still be accepted if received by tomorrow, for inclusion into the final draft.

Phil advised that the RTP is expected to be ready for MCOG adoption in December, but may be delayed until February. Staff is awaiting input from HCD (Housing and Community Development) on how a delay until February would affect the (Regional Housing Needs Assessment) timeline.

Nephele commented on the EIR phase, noting that a Negative Declaration may be the most appropriate environmental document (rather than an EIR addendum or supplement), since the RTP no longer includes Hopland or Willits Bypass projects. A Negative Declaration would take time to send through the clearinghouse, but Nephele thought the process could still possibly be done for adoption by MCOG in December.

**7. 2018 Regional Transportation Improvement Program (RTIP)** – Nephele distributed and reviewed the draft RTIP, which was prepared based on input at the September TAC meeting. As previously reported, MCOG's Fund Estimate for the 2018 STIP is $3,000,000.

She explained the proposed draft includes the County's and Fort Bragg's projects that were deleted in 2016, and adds PS&E for the Gualala Downtown Streetscape project, as well as programs Planning, Programming and Monitoring (PPM) funds. It also includes adding a commitment to reserve/commit future funds for the County's North State Street Intersection/Interchange project, and the City of Ukiah's Low Gap/N. Bush Intersection project. She advised that staff recently learned that two of the child projects for the Willits Bypass (Willits Bypass Relinquishment and Sherwood Road Geometric Upgrade) had cost increases, so the proposed RTIP also programs MCOG's share of those costs.

Nephele explained the draft RTIP proposes to advance funds from the 2020 STIP to use for the Gualala project, as allowed under the Advance Project Development Element (APDE).

Proposed projects are as follows:

| Project Title | Amount | Component |
|---|---|---|
| North State Street Intersection/Interchange Improvements | $132,000<br>$336,000<br>$468,000 | E&P<br>PS&E |
| Fort Bragg S. Main St. Pedestrian Improvements | $45,000<br>$110,000<br>$1,330,000<br>$1,485,000 | E&P<br>PS&E<br>CON |
| Gualala Downtown Streetscape | $575,000 | PS&E |
| Sherwood Road Geometric Upgrade | $100,000 | CON |
| Willits Bypass Relinquishment | $15,000<br>$83,000<br>$98,000 | ROW<br>CON |
| Planning, Programming & Monitoring | $298,000 | |
| **Total** | **$3,024,000** | |

Discussion ensued with Nephele reviewing details and responding to questions. The proposed schedule for PPM funds was briefly discussed, and there was a *consensus* to move 90k from FY 18/19 to FY 19/20. Nephele advised that appendices and maps will be added for MCOG adoption, and she will be working on the Project Programming Request (PPR) forms. She asked members to let her know if any schedule changes are needed.

**Motion by Rick Seanor, seconded by Dusty Duley, and carried unanimously on roll call vote *(7 ayes – Wise, Seanor, Duley, Varga, King, Shoemaker, Ahlstrand; 0 noes; 2 absent – Moed, Davis)* to recommend to MCOG approval of the 2018 RTIP, with changes as discussed, and with flexibility for staff to make minor schedule changes.**

Nephele added that Caltrans has not yet come in for allocation for the $43k approved in the 2016 STIP for ROW, so that previously approved amount is included in MCOG's programming target and reduces the amount available.

**8. SB 1 – Road Repair & Accountability Act of 2017 - *Includes Active Transportation Program; Local Partnership Program; Local Streets & Roads; State Highway Operation & Protection Program; State Transportation Improvement Program; Planning Grants*** – Phil reviewed his staff report and provided brief updates on the various SB 1 programs. Local Streets & Roads – he's been talking with local agencies about getting required paperwork submitted; Congested Corridors – no expected competitive projects; Trade Corridor Enhancement – possible projects in Humboldt County (Richardson Grove) and Lake County (Highway 29), but none in Mendocino County; Traffic Congestion Relief Program (TCRP) – old carryover projects only; Active Transportation Program – no Mendocino County projects were funded in 2017 Supplemental cycle, but Fort Bragg received an advance *before* the cycle; many projects were funded on state's

list which should be good news for future cycles; work is starting on Cycle 4 guidelines with a meeting tomorrow, and call for projects is starting at end of March and due at end of May. Some potential ATP projects were briefly mentioned. Phil stated the Pedestrian Facility Needs Inventory project will develop a list of potential grant candidate projects, and Nephele added that MCOG's Active Transportation Plan also includes candidate projects; Local Partnership Program – guidelines were adopted by CTC in October, with cities receiving a $100,000 flat rate. The required match is 1/1, with only 50% match required for Point Arena because it doesn't generate $100,000. The program is scheduled to be adopted in January. Funds are subject to Article XIX requirements. Lisa commented on value of keeping the Pavement Management Program (PMP) updated, as a needed tool for local agencies; SHOPP – maintains state highways, benefits all; STIP – stabilizes funding, provides RTIP capacity.

Phil advised that the CTC considers efforts to repeal SB 1 to be a real threat, and there is an emphasis on getting the word out to demonstrate completed projects (with SB 1 signs, logos, etc.) to let the public know projects were made possible due to SB 1 funds. Repeal will likely not be on the ballot until next November. Lisa encouraged members to help get the word out on completed projects, local benefits, etc., and noted the project website (rebuildingca.ca.gov) which includes information and interactive maps on where project are being completed.

**9. Staff Reports**

9a. Caltrans' Sustainable Communities Grant Application – Pedestrian Needs Inventory & Engineered Feasibility Study – Loretta reported on this grant application that was submitted to Caltrans on October 20, 2017 (also discussed under item #5, above). Richard Shoemaker inquired about the timeline for formation of the Consultant Selection Committee, and staff advised that would likely be in December, after grant awards are announced. Tasha offered to follow up on the expected date of grant announcements.

9b. FY 2017/18 LTF 2% Bike & Pedestrian Program – Applications Due to MCOG 11/13/17 Loretta reported that she recently emailed application materials to the TAC regarding this program. Lisa suggested that future application cycles be coordinated with Caltrans' ATP grant cycles.

9c. FY 2018/19 Overall Work Program – Applications Due to MCOG 12/1/17 – Loretta reported that she recently emailed next year's OWP application materials to the TAC.

**10. Miscellaneous**

10a. Next Meeting – November 15, 2017.

**11. Adjournment** – 11:32 a.m.

Respectfully Submitted,

Loretta Ellard
Deputy Planner
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# SOCIAL SERVICES TRANSPORTATION ADVISORY COUNCIL

## Minutes

**Monday, November 13, 2017, 10:00 a.m.**
**UC Farm Advisor's Large Conference Room**
**890 North Bush Street, Ukiah**

**MEMBERS PRESENT**
Doris Sloan, Consolidated Tribal Health
Diana Clark, Ukiah Senior Center (alternate)
Richard Baker, Willits Senior Center
*(Note: Three positions are currently vacant.)*

**MEMBERS ABSENT**
Micki Dolby/Teresa Newton, Area Agency on Aging
Charles Bush, Redwood Coast Seniors
Arlene Peterson, Action Network
Sheila Keys, Regional Center
Carla Meyer, MTA

**STAFF & OTHERS PRESENT**
Nephele Barrett, MCOG
Janet Orth, MCOG
Marta Ford, MCOG

### 1. Call to Order & Introductions

The meeting was called to order at 10:07 a.m., and introductions were made.

### 2. Public Expression

There was no discussion under this item.

### 3. Minutes

The minutes from the May meeting were included in the packet for information and reference. Due to the length of time between meetings, members had already provided comments and corrections, and the minutes had been finalized.

### 4. Review of SSTAC Membership

Nephele Barrett reviewed the current roster and identified the positions that are currently vacant as well as those that will be expiring. Diana Clark and Richard Baker will check with drivers to see if there are any users that might be interested. Richard indicated that he is willing to continue serving in the position previously held by his predecessor at the Willits Senior Center.

Motion by Richard, seconded by Doris, and carried to recommend that the MCOG Board officially appoint Richard Baker, Teresa Newton, and Jacob King, and reappoint Charles Bush, pending confirmation with the nominees that were not present at the meeting.

## 5. 2017 Regional Transportation Plan – Review and Comment

Nephele provided background on the Regional Transportation Plan and reviewed the highlights of the Public Transit Element.

Diana explained that the Ukiah Senior Center is working on development of out of town medical transportation and a volunteer driver program to expand the service they are able to offer clients. They are hoping to obtain a mini-van to assist with these efforts. These service expansions, as well as efforts planned by other senior centers and non-profits, could be included in the Public Transit Element of the RTP.

## 6. FY 2018/19 Unmet Transit Needs Workshop

Janet Orth provided background of the Unmet Transit Needs Process, MCOG's involvement in administering the Transportation Development Act and associated funding, and the role of the Transit Productivity Committee. She explained that all of the money available for transportation is currently being used for transit, so additional needs are typically met through grants and route changes.

Many of the needs from last year were potentially to be met by grants that MTA had applied for, to include funding of a Mobility Manager. Unfortunately, no MTA representatives were present to clarify which needs had been met to date.

Diana identified the need for transportation for out of area and out of county for medical appointments on days that the senior centers do not operate their transportation service.

Richard explained that the Willits Senior Center regularly receives requests for service after hours and on weekends. The group determined that senior center transportation service on Saturdays and after hours is a need expressed by clients (this need was later amended). Richard mentioned that Willits Senior Center has volunteer drivers that will transport clients for occasional evening events using senior center vehicles.

Diana explained that service for seniors in isolated areas where buses cannot travel is still a need (#9 in 2017/18).

Janet shared an article, Three Ways To Build A Transportation System That Serves The Most Vulnerable, and handed out copies. The group discussed a variety of strategies that can be used to serve vulnerable populations. Richard and Doris described ways they have tried to accommodate more clients.

The group discussed the areas served by different centers and potential overlap between services of the senior centers and the Consolidated Tribal Health Program (CTHP). The new mobility management and Route Match software that MTA will be implementing may help identify some overlaps and open up new opportunities for coordination.

Diana mentioned that wheelchair accessible door-through-door assisted service for seniors on Wednesdays in the Ukiah area is still a need. The Ukiah Senior Center does not provide service on Wednesday due to budget limitations. She also explained that after hours service of some kind is a need for unexpected medical needs. For instance, a scheduled medical appointment could result in a trip to the hospital which ends after senior center service hours.

Doris mentioned that CTHP has several patients in Laytonville, some that have to travel to the Ukiah area multiple times per week. They only have two drivers which limits the number of trips they can make to more remote communities.

The group discussed the Pay Your Pal program currently operating in Lake County and the FTA Section 5310 Expanded Program.

Diana mentioned that in their last client survey, service on weekends was a big need, particularly for church on Sunday. The group determined that the need previously identified for service on Saturday should be expanded to include senior center transportation service on weekends and after hours. This could provide access to events, shopping, church, and for medical needs.

Doris explained that many clients in remote areas need transportation just to reach existing transit stops. Consolidated Tribal Health will be able to meet more needs of the tribal community once their wheelchair accessible vehicle is obtained through the FTA 5310 program. They also provide reimbursement for clients who obtain their own transportation.

The group determined that although MTA was not present to provide input, they would still have opportunity to add items to the prior to or during the public hearing.

Motion by Richard, seconded by Doris, and carried unanimously to include the five items identified by the SSTAC in the FY 18/19 list of Unmet Transit Needs (attached).

**7. Miscellaneous**

The group discussed the next steps for successful applicants in the FTA 5310 Program. Nephele explained that CTHP should focus on completing their Title 6 Plan. Caltrans will be hosting successful applicant workshops.

**8. Information/Announcements**

Willits and Ukiah Senior Centers will be hosting Thanksgiving dinners.

**9. Adjournment**

The meeting was adjourned at 11:48 a.m.

Respectfully Submitted,

Nephele Barrett, Program Manager

# MENDOCINO COUNCIL OF GOVERNMENTS

## FY 2018/19 Unmet Transit Needs
## Recommended by
## MCOG's Social Services Transportation Advisory Council

### Identified at Annual SSTAC Workshop
(not in any order of priority)

November 13, 2017

1. Non-emergency medical transportation for out of the service areas/hours for seniors and disabled adults
2. Weekend and after-hours rides for seniors and disabled adults
3. Service for isolated seniors and disabled adults
4. Wheelchair accessible door-through-door assisted services for seniors and disabled adults on Wednesdays in the Ukiah area
5. Transportation from remote rural areas to existing transit stops (e.g. rides, cost stipends, etc.)

TOTAL of 5 Recommended Unmet Transit Needs