Attachment 6

Recommendations to the Secretary of Transportation

California Transportation Infrastructure Priorities Workgroup Whitepaper:

Exploring a Road Usage Charge as an Alternative to the Gasoline Tax

January 2015

Exploring a Road Usage Charge

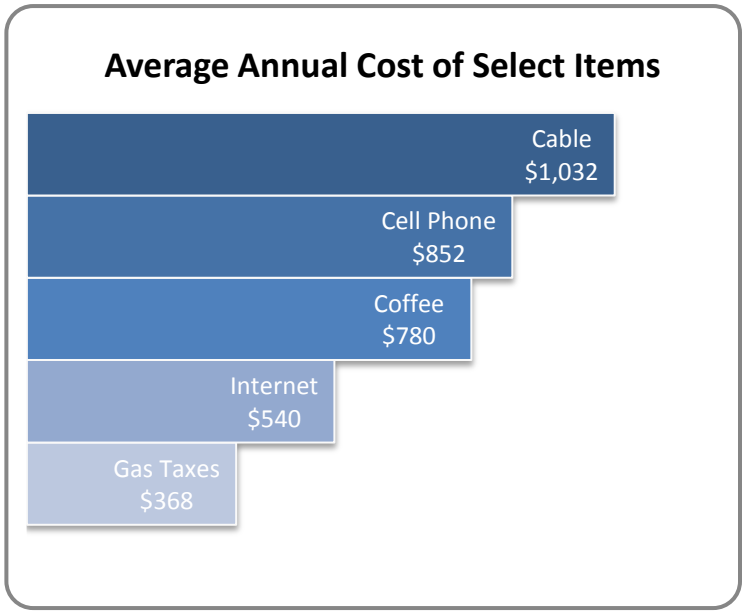
The California State Transportation Agency (CalSTA) established the California Transportation Infrastructure Priorities (CTIP) Workgroup in April 2013, to examine the current status of the state's transportation system, discuss the challenges that lie ahead, and make recommendations to the Secretary. The CTIP Workgroup includes representatives from various state entities, but is primarily composed of non-state entities, including but not limited to federal, regional and local government representatives, labor and industry groups, environmental and social equity groups. An Interim Recommendation Report was issued in February 2014 and posted on the CalSTA website. The CTIP Workgroup continued to meet on specific topics in 2014 – one of these being the feasibility of a road usage charge for addressing the state's long-term funding challenge to preserve state and local transportation infrastructure. A CTIP subgroup on the road usage charge met three times during the spring and summer. A draft whitepaper was presented to the entire CTIP Workgroup on September 16, 2014. This whitepaper provides background and recommendations from the CTIP Workgroup on the establishment of a demonstration program to explore the feasibility of a road usage charge. Participants at the September meeting were asked to vote in an anonymous text poll about support for the recommendation of this whitepaper – of the participants voting, 42 people (or 93 percent) indicated they "strongly agree" or "agree" with the recommendations, while 3 people (or 7 percent) indicated they "disagree" with the recommendations. A list of attendees at the September meeting is attachment I of this whitepaper.

Gas taxes pay for highways, local roads, bridges, busses, trains, and even active transportation. However, the current per-gallon tax structure is untenable in the long-term as fuel efficiency increases. Although total Vehicle Miles Traveled (VMT) are expected to increase over time, the projected sale of gasoline is expected to decrease dramatically due to increasing fuel efficiency of the vehicle fleet. One alternative funding approach to this problem is a Road Usage Charge, which is charged on the number of vehicle miles traveled. This may be a more logical and fairer method of paying for state highway needs in light of high fuel economy and electric drive vehicles. It is also a direct charge for usage of the transportation system with a clearer nexus between payment and use. As a new and widely untested alternative funding approach, many questions must be answered prior to any wide-scale changes. This whitepaper describes the need for a stable revenue source that will address the twin funding problems of inflation and increasing vehicle fuel economy, and some of the challenges therein.

1 Transportation Infrastructure Charges Relative to Other Services

With perhaps the notable exception of Warren Buffett, nobody publicly admits to wanting to pay more taxes. Nonetheless, the state's transportation infrastructure represents an essential component of modern life, and its existence and function relies on some sort of user payment. The transport of people, food, and consumer goods - not to mention vital emergency services - would not be possible without the state's integrated transportation system. Though no official number exists, it is roughly estimated that the transportation system in the state is valued in the neighborhood of several trillion dollars; yet users of the system generally pay far less for use of the system than for many daily luxuries.

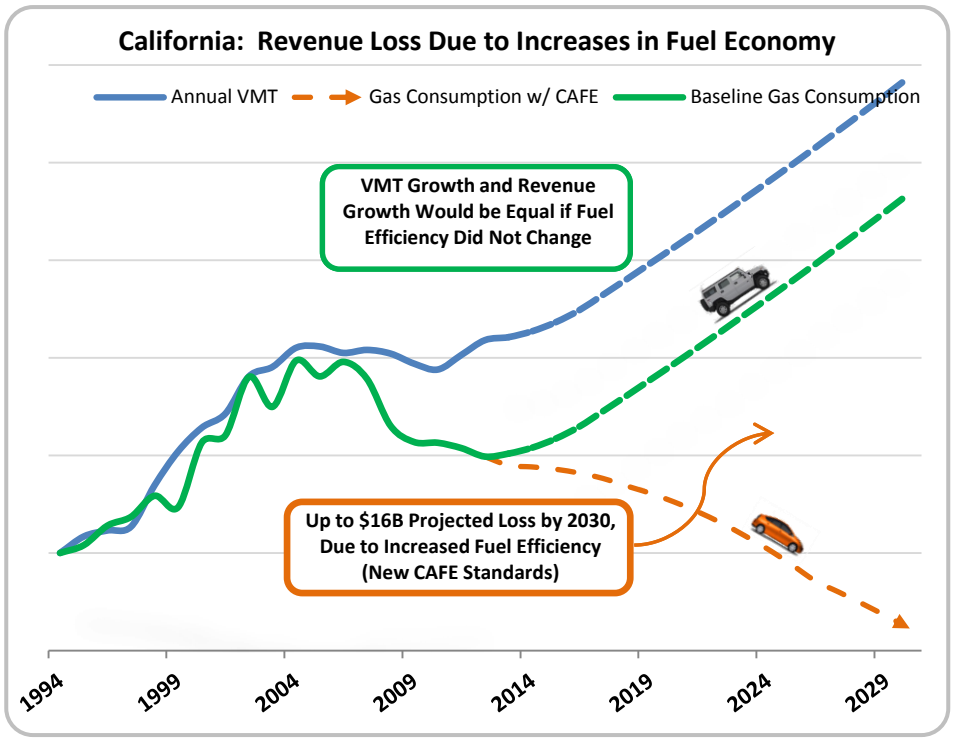
The average driver pays just $368 annually in gasoline taxes, including all state, local and federal taxes. Yet, consumers would likely be surprised to find that their annualized payments for use of highways and roads are only about one-third of the cost of their cable bill. This lack of perspective makes it very difficult to engage in any conversation about paying for infrastructure.



The current tax system is a consumption tax. It is constructed in such a way that leads consumers to think of the taxes on gasoline as a tax for the *purchase of gasoline, not on the usage of the roadway network.* This somewhat circular logic is perpetuated by the fact that the taxes on gasoline are just a proxy for a tax on the *use of the transportation system*. The direct link between use of the system and paying for that system does not exist. A useful means of guiding this discussion is to shift the focus from a tax, to a charge for use of a crucial utility, just as people think about their use of electricity, water and internet access.

2 Effects of Vehicle Fuel Economy

New Corporate Average Fuel Economy (CAFE) standards, alternative fuels, and the rise in the popularity of electric vehicles, combine to create a rapidly deteriorating funding situation. These are positive results from other statewide policy initiatives, but the primary state transportation revenue source for maintenance and operations has been the flat-rate excise tax of 18 cents placed on each gallon of gasoline sold. While sales tax (later replaced



with a “price-based” excise tax) was shifted to transportation beginning in 2000, only the base 18 cents provides funding for “fix-it-first” activities including maintenance and rehabilitation of the state’s transportation system. The excise tax has long been used as a proxy for a user fee, but as vehicles become more efficient, this proxy is becoming less effective.

The emphasis on increased fuel economy is undeniably desirable. From an environmental and energy policy standpoint, decreased fuel consumption reduces greenhouse gasses and our dependence on a finite energy source. However, as we strive to reduce fuel consumption, we undercut the primary funding source for repair of the roads that *all* cars, trucks, and busses rely on - regardless of the energy source that they use, or how efficient the vehicle they drive is. There is no equitable means to mitigate these effects so long as we continue to rely on the antiquated per-gallon excise tax.

By 2030, as much as half of the revenue that could have been collected will be lost to fuel efficiency. If that sounds farfetched, consider that 20 years ago in 1994, the average fuel economy of cars on the road in the United States was just around 20 miles per gallon (MPG); today the average efficiency of new cars sold exceeds 35 MPG. By comparison, 35 MPG was the average fuel economy of all passenger cars sold in the European Union (EU) in 2001, and by 2011 it had increased to 42 MPG, with average highway ratings exceeding 50 MPG. As new, more efficient, cars replace the older models, the effect on consumption and average fuel economy of the fleet will increase rapidly. On the other hand, revenue from the gas tax will decline dramatically. Estimates suggest that the decrease in revenue due to fuel efficiency will soon outpace even the negative impact of inflation.

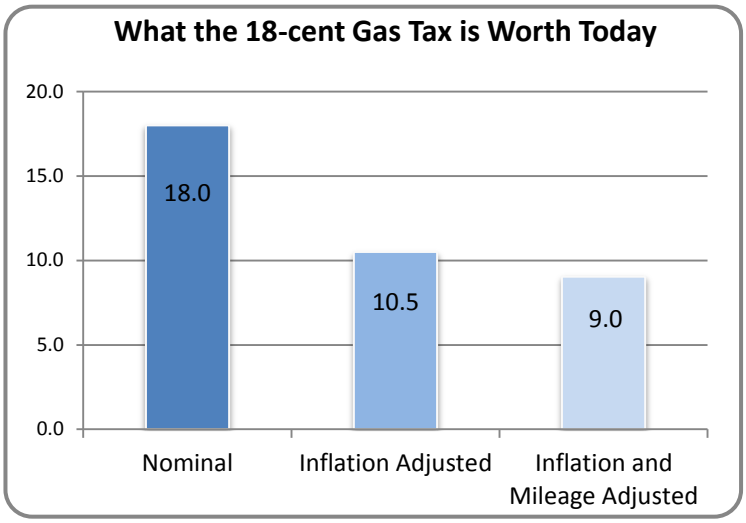
Complicating the issue somewhat is the interaction of increased fuel economy with the use of diesel fuel that is taxed at a lower rate than gasoline. The market share of diesel passenger vehicles in the United States is currently around 1 percent. Based on experiences in the 1980s drivers in the United States have been soured on diesel cars, viewing them as noisy, dirty, and unreliable. But modern diesel systems are touted as clean, powerful, and fuel-efficient. In the EU, 55 percent of passenger cars sold in 2011 were diesel-powered. Because modern diesel cars are more fuel efficient than gasoline-powered equivalents, this move to diesel power has helped the EU to achieve outstanding average fuel efficiency and commensurate greenhouse gas reductions.

Recent years have seen the marginally successful re-entry of diesel passenger cars into the United States market, and estimates by some expert sources indicate that the market share of new diesel passenger cars sold could increase to 10 percent by 2020. But, because diesel excise tax was reduced to 10 cents per gallon (from 18), a shift in fuel source would negatively impact transportation revenues available under the existing tax structure.

3 Effects of Inflation

Even absent changes in tax revenue due to fuel efficiency, the state faces another losing proposition in the excise tax: inflation. The base excise tax, which provides the funding for the maintenance of our highways and local roads, has remained unchanged since 1994. This rate has been in place for 20 years, despite significant increases in project construction costs. Since that time, despite the economic crisis of 2008, the buying power of the tax has decreased about 42 percent in terms of construction costs. To

flip that around, if the base 18 cents-per-gallon tax had been indexed to inflation back in 1994, it would be about 31 cents-per-gallon today.



The chart above illustrates how inflation has reduced the purchasing power of 1994's 18 cent gas excise tax to the equivalent of a 10.5 cent tax. A further adjustment for increased VMT would reduce the purchasing power to the equivalent of 9.0 cents per gallon (half the value).

The effects of inflation must be addressed if California is to be successful in both improving the condition of transportation infrastructure and maintaining the improved condition. The means of doing so is tie the tax to an index that changes with the cost of goods and services. The Consumer Price Index may be the most well known, but the Producer Price Index, or even the California Highway Construction Cost Index are more consistent with construction price changes.

The gasoline excise tax was raised multiple times between its initiation in 1923 and the last increase in 1994 to account for the effects of inflation. Indexing annually for inflation can alternatively be authorized and reduces the purchasing power erosion between longer-term adjustments. Regardless of the type of long-term solution implemented to provide appropriate funding for transportation, the effects of inflation must be surmounted and annual indexing considered.

4 The Benefit of Exploring the Road Usage Charge

The word "sustainability" generally evokes thoughts related environmental quality. But sustainability is a much broader concept that includes, at its heart, a consideration for the long-term feasibility of any undertaking, including its financial feasibility. As currently structured and with advances in vehicle technologies, the current per-gallon tax on fuel is not sustainable as a long-term revenue source for transportation infrastructure funding. Therefore, California should consider the feasibility of other revenue sources.

The road usage charge is untested on a large scale in the United States, but may offer benefits as an alternative to the gasoline tax in terms of greater revenue sustainability to maintain bridges, roads and other transportation infrastructure; and in terms of a closer nexus between the payer and the service being consumed. A closer nexus between a road usage charge and miles traveled on roads and highways may additionally improve traveler information about the relative costs of car travel compared to other modes. Better consumer information on the cost of car trips may increase car pools, transit, and active transportation modes; resulting in co-benefits to the environment and public health.

When the possible benefits of a road usage charge detailed in the prior paragraph are coupled with the need to consider various options for privacy protection, technology, and other detail of a road usage charge system, the merit of a demonstration program comes into focus. This whitepaper does not recommend implementation of a road usage charge – rather it recommends exploration, through a demonstration program, to better understand the possible benefits and costs. Through future efforts, the CTIP Workgroup will additionally be looking at other pay-as-you-go revenue options to maintain transportation infrastructure.

4.1 Other States are Exploring the Road Usage Charge

The state of Oregon has been a national leader in the drive towards a road usage charge. It is currently the only state in the nation that has a permanent, albeit limited, road usage charge. Oregon started on this path in 2001, when the Oregon Legislature created Oregon's Road User Fee Task Force (Task Force). The Task Force was created to *develop a revenue collection design funded through user pay methods, acceptable and visible to the public, that ensures a flow of revenue sufficient to annually maintain, preserve and improve Oregon's state, county and city highway and road system*.

The Task Force researched and investigated more than two-dozen revenue options. After the Task Force determined that a road user fee based on miles driven had the most promise, it spearheaded a successful pilot in the Portland area that concluded in 2007. That 2007 pilot proved the concept of a per-mile fee was feasible and pinpointed areas that needed more research and testing.

In 2012, the Oregon Department of Transportation (ODOT) began a second road user fee pilot. The second pilot included new technologies that could report VMT without the use of a global positioning system (GPS), assuaging many privacy concerns. Notably, the second pilot gave volunteers several options, including the type of device used, and a choice of service provider. The pilot concluded in February 2013, and was the final proof of concept necessary to move forward into formal implementation.

A 2013 bill (Senate Bill 810) authorized the ODOT to set up a permanent road usage charge system for 5,000 volunteer motorists beginning July 1, 2015. ODOT may assess a charge of 1.5 cents per mile for up to 5,000 volunteer cars and light commercial vehicles and issue a gas tax refund to those participants.

Washington and other western states are exploring a road usage charge and have formed the Western Road Usage Charge Consortium to collaborate and pool valuable research and development dollars.

4.2 Explore a Tax Structure to Reflect Use of the System, Not Fuel Purchased

Implementation of a road usage charge to replace the antiquated per-gallon excise tax would help to preserve transportation revenues for state and local governments. However, as highlighted by the experience in Oregon, the process to implement a road usage charge is long and challenging. A demonstration program will provide data to inform the conversation regarding a road usage charge as a viable user fee option for California and test participant reactions to the concept. The state should pursue a demonstration program to understand the challenges and best practices associated with a road usage charge program.

A conversion from a gasoline excise tax to a road usage charge would be an extensive process that would take considerable time. Exploration of the issues discussed above would enable the state to explore an important option for transportation funding without necessitating a change to the current tax structure, or to current statute.

The list of areas that should be investigated is wide-ranging, but some of the most prominent include:

- Privacy
- Public Education
- Rural and Urban perceptions
- Environmental justice
- Technological hurdles
- Practicality
- Equity
- Interoperability

5 CTIP Workgroup Recommendations

Over the past several months, CalSTA and the CTIP Workgroup have convened to discuss policies and issues related to guiding the early stages of a road usage charge demonstration program in California. The discussions encompassed a wide-range of topics such as road usage charge history nationally and worldwide, policy issues, demonstration program characteristics, and others. Through these efforts, the CTIP Workgroup recommends moving forward on a road usage charge demonstration program, including the following overall goal for the demonstration:

To advance the understanding and evaluate the viability of a road usage charge model in California, and to provide a sustainable and equitable source of revenue to maintain, operate, and improve California's state and local transportation infrastructure.

5.1 Guiding Policy Principles Framework

In order to achieve the overall goal, the CTIP Workgroup developed 13 policy principles that will help guide future road usage charge research and development in California. At a minimum, the process to develop a California road usage charge should:

1. Fully Engage the Public – A road usage charge demonstration program needs to be transparent and engage the traveling public.
2. Honor Personal Privacy –The right to privacy must be honored. The system should protect specific driver and other personally identifiable information.
3. Be Fair and Equitable – All Californians should pay their fair share for using the transportation system – just like they pay their fair share of use for water or electricity. A fair system may account for vehicle type and size (e.g., fuel efficiency and weight) and consider incentives for lower income and disadvantaged Californians.
4. Keep Pace with Change – The system should be open, adaptable, and expandable towards current and future technologies, and allow private sector participation.

5. Avoid Double Charging – The individual paying a road usage charge should not have to pay both the gas tax and the road usage charge.
6. Be Simple – The system should be uncomplicated, streamlined, and transparent.
7. Clearly Identify Responsibilities – Roles, responsibilities, administration, and oversight functions should be clearly identified.
8. Be Enforceable – The system should meet all security and compliance measures to detect and deter evasion and fraud.
9. Integrate with Other Charges – As a full or partial replacement to the gas tax, the charge should also be compatible with current and future transportation revenue streams in California, and with other state, national and international transportation systems.
10. Reinvest in Transportation – The use of road usage charge revenue must be used for transportation purposes.
11. Allow User Choice – Californians should have the ability to select a reporting option of choice based on multiple technology and non-technology options.
12. Incorporate Cost Efficiencies – The system should incorporate low capital and operating costs to ensure highest return on system investment.
13. Integrate with Other State Policies – The system should also align with California's economic, energy, environmental, and congestion management goals.

The guiding policy framework is intended to be broad in nature and the principles reflect California's unique perspectives toward a road usage charge. However, as California continues to explore a road usage charge through research and a possible demonstration, it will be prudent to further refine these guiding policy principles and develop operational concepts that reflect a clear nexus to them.

5.2 Large Road Usage Charge Demonstration Characteristics

The purpose of a road usage charge demonstration is to gain insights and discover information relevant to the viability of a road usage charge as a user fee option in California. In order to achieve the overall recommended goal, the CTIP Workgroup was provided with small, medium and large demonstration options, each having unique key parameters, including: sample size, geographic diversity, duration, and reporting options. Each option was discussed at length between CTIP Workgroup participants and the general consensus was to recommend a "Large" demonstration. The characteristics of a large road usage charge demonstration include:

- Geographic Diversity – A road usage charge demonstration in California should reflect the profile of drivers on the roads. This includes north/south, urban/rural, socioeconomic classes, ethnic groups, and others. A large demonstration consisting of statewide distribution is recommended, including multiple urban and rural areas throughout the state. Any reduction in geographic coverage may not provide a statistically valid representation of California's geographic diversity.
- Duration – A road usage charge demonstration in California will take time and may take 12 months of live demonstration. Any reduction to this timeframe might reduce the confidence level and confidence interval of the demonstration results.

- Reporting Options – A road usage charge demonstration in California will need to explore both technology and non-technology options. A large demonstration will allow participants to choose from approximately six (6) different types of reporting options. Any reduction to the amount of options available to participants might limit California's ability to address issues such as privacy, interoperability, user choice, and flexible technology.
- Sample Size – A road usage charge demonstration in California should reflect the overall population. Based on the characteristics identified above, a large demonstration consisting of approximately 6,000 participants is recommended. Any reduction in sample size may not provide a statistically valid representation of California's population when spread across the state's geographic segments and multiple reporting options.

5.3 Call for Action

As recognized by the CTIP Workgroup, the need for a stable alternate funding source that will address the various transportation funding problems in California is real and tangible. The current transportation funding structure is broken, but a road usage charge is a promising funding alternative that merits further exploration. Furthermore, there is an urgency to act because even the most ambitious road usage charge demonstration schedule will take time to implement and complete. In order for California to remain a leader in modern transportation practice and policy, California should take action, demonstrate the viability of a road usage charge, and take the necessary steps towards addressing long-term transportation funding challenges.

5.4 Senate Bill 1077

Subsequent to the September 16, 2014 CTIP Workgroup meeting, Governor Edmund G. Brown Jr. signed Senate Bill 1077 – Vehicles: Road Usage Charge Pilot Program. This bill is the first major step towards exploring the viability of a road usage charge model in California and coincides with the CTIP Workgroup recommendations to the Secretary of CalSTA on September 16, 2014. Senate Bill 1077 requires the following:

- Creation of a 15 member road usage charge Technical Advisory Committee (TAC) to guide the development and implementation of a pilot program to study the potential for a road usage charge as an alternative to the gas tax.
- The Chair of the California Transportation Commission (CTC) to create the TAC in consultation with the Secretary of CalSTA.
- The TAC to consult with specified entities and consider certain factors in carrying it duties, as specified.
- The CalSTA to implement a pilot program to identify and evaluate issues related to the potential implementation of a road usage charge program in California by January 1, 2017.
- The CalSTA to prepare and submit a report of its findings to the TAC, the CTC, and the appropriate fiscal and policy committees of the Legislature by no later than June 30, 2018.
- The CTC to include its recommendations regarding the pilot program in its annual report to the Legislature.
- Repeal of these provisions on January 1, 2019.

Currently, the CalSTA and CTC are organizing the work plans necessary for creation and guidance of the TAC, with full intention to meet the timeframes identified in Senate Bill 1077 and implement a successful road usage charge demonstration program in California.

Attachment I

Participants in September CTIP Meeting

First Name	Last Name	Representing
Dave	Snyder	California Bicycle Coalition
Kurt	Karperos	California Air Resources Board
Mark	Monroe	California Department of Finance
Steve	Wells	California Department of Finance
Steven	Cliff	California Department of Transportation
Ted	Toppin	Professional Engineers in California Government
Jaci	Thomson	California Department of Finance
Erin	Whealton	California Department of Finance
Mark	Neuburger	California Department of Finance
Arwen	Chenery	Senate President Pro Tempore Office
Zach	Olmstead	Office of Assembly Speaker Toni Atkins
Gary	Gallegos	San Diego Association of Governments
Steve	Heminger	Metropolitan Transportation Commission
David	Yale	Metropolitan Transportation Authority
Michael	Turner	Metropolitan Transportation Authority
Matt	Carpenter	Sacramento Area Council of Governments
Melanie	Perron	California Department of Transportation
Giles	Giovinazzi	California Department of Transportation
Brady	Tacdol	California Department of Transportation
Rachel	Falsetti	California Department of Transportation
Steven	Keck	California Department of Transportation
Anne	Mayer	Riverside County Transportation Commission
Suzanne	Smith	Sonoma County Transportation Authority
Bruce	Blanning	Professional Engineers in California Government
Jennifer	Whiting	League of California Cities
Darin	Chidsey	Southern California Association of Governments
Carol	Farris	California State Transportation Agency
Craig	Scott	Auto Club of Southern California
Darrell	Johnson	Orange County Transportation Authority
Mark	Watts	Transportation California
Sharon	Scherzinger	El Dorado County Transportation Commission
Janet	Dawson	Assembly Transportation Committee
Josh	Stark	TransForm
Joe	Rouse	California Department of Transportation

Chris	Shimoda	California Trucking Association
Andre	Boutros	California Transportation Commission
Andrew	Fremier	Metropolitan Transportation Commission
Kiana	Buss	California State Association of Counties
Tony	Boren	Fresno Council of Governments
Ella	Wise	Natural Resources Defense Council
Alix	Brockelman	Metropolitan Transportation Commission
Tony	Dang	Cal Walks
Gary	Hambly	California Construction and Industrial Materials Association
Ted	Link-Oberstar	Consultant at California State Senate
Joshua	Shaw	California Transit Association
Malcolm	Dougherty	California Department of Transportation
Mike	Duman	Federal Highway Administration
Vince	Mammano	Federal Highway Administration
Mike	Cunningham	Bay Area Council
Jim	Earp	California Alliance for Jobs
Peter	Osborn	Federal Rail Association
Stacey	Mark	San Joaquin Regional Rail Commission
Kate	White	California State Transportation Agency
Ronda	Paschal	California State Transportation Agency
Alison	Dinmore	California State Transportation Agency
Bill	Higgins	California Association of Councils of Government
Mike	McKeever	Sacramento Area Council of Governments
Brian	Kelly	California State Transportation Agency
Brian	Annis	California State Transportation Agency
Billie	Greer	Southern California Leadership Council