California Road Charge Pilot Program Technical Advisory Committee (TAC)
Minutes
March 27, 2015

Hotel Irvine, Trabuco Room
17900 Jamboree Road
Irvine, CA

http://www.catc.ca.gov

1. Roll Call

Jim Madaffer, Chair, convened the meeting of the Road Charge Technical Advisory Committee (TAC) at 9:00 AM. Anne Johnson, staff of the California Transportation Commission (CTC), conducted roll call.

Chair Jim Madaffer	Present	Richard Marcantonio	Present
Lisa Bartlett	Absent	Pam O'Connor	Present
Senator Jim Beall	Absent	Eshwar Pittampalli	Present
Assembly Member David Chiu	Absent	Robert Poythress	Present
David Finigan	Absent	Eric Sauer	Present
Stephen Finnegan	Present	Lee Tien	Present
Gautam Hans	Present	Martin Wachs	Present
Loren Kaye	Absent		

2. Approval of Minutes for February 26, 2015

Motion: Finnegan Second: O'Connor Action Taken: Approved

Vote Result: 10-0

Ayes: Finnegan, Hans, Marcantonio, Madaffer, O'Connor, Pittampalli, Poythress, Sauer, Tien, Wachs

Nays: None

Absent: Bartlett, Beall, Chiu, Finigan, Kaye

3. TAC Member Reports

Chair Madaffer announced that Scott Haggerty resigned from the TAC due to his time commitments. Lisa Bartlett, Orange County 5th District Supervisor and Vice Chair of the Orange County Board of Supervisors, was formally appointed to the TAC at the California Transportation Commission meeting March 26, 2015.

4. TAC Decision Schedule

Jeff Doyle, D'Artagnan Consulting, presented the TAC Decision Schedule (click here for a link to the presentation).
Mr. Marcantonio suggested that there should be at least two manual, non-technological options for the road charge pilot because it will make the TAC look at the option that will most likely affect low income drivers.

Chair Madaffer commented that we start off with manual as a basis.

Vice Chair Finnegan added that options and choice should be fundamental to what the TAC is doing.

Professor Wachs asked if the March decision schedule presumes that participation in the pilot program be voluntary.

Chair Madaffer responded that he assumes that it will be volunteers.

Mr. Tien commented that he supports Mr. Marcantonio's general idea to establish the most simplest and low technological option.

Susan Bransen, Chief Deputy Director of the CTC, suggested that agenda item 13 is where the TAC will need to take action for this type of policy decision. This is also when the TAC can decide if they want to make it voluntary to participate in the road charge pilot program.

Norma Ortega, Chief Financial Officer of Caltrans, informed the TAC that there was a request to expedite and complete the road charge pilot sooner and therefore the Administration needs decisions from the TAC to move forward to the second phase.

Brian Annis, Undersecretary of the California State Transportation Agency, added that the current baseline is June 2018, and Agency is looking to see if the program can be accelerated to completion June, July, or August 2017.

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Motion: O'Connor Second: Finnegan (with provision that the TAC will always have an opportunity to come back to revisit the decision schedule.)

Action Taken: Approved

Vote Result: 10-0

Ayes: Finnegan, Hans, Marcantonio, Madaffer, O'Connor, Pittampalli, Poythress, Sauer, Tien, Wachs

Nays: None

Absent: Bartlett, Beall, Chiu, Finigan, Kaye

5. TAC Resources

a. Workgroup

Anne Mayer, Riverside County Transportation Commission, gave an overview of the Road Charge Workgroup (click here for a link to the Proposed Workgroup Summary).

Mr. Sauer asked what the makeup and membership of the Workgroup is.
Ms. Mayer responded that it is a robust list which includes self help counties, rural county representatives, automobile manufacturers, and social equity groups.

Ms. Bransen added that there are still a number of seats to fill and staff is looking to the TAC to recommend individuals who they think may be a good resource to them and for including as a member on the Workgroup. In meeting the SB 1077 requirements, need to ensure the TAC has ample resources from the vehicle manufacturers, fuel distributors, highway users, tribal representative, and the public.

Mr. Marcantonio asked how those who are inviting members to this Workgroup will ensure it is a highly diverse group, racially, ethnically, and in terms of gender.

Ms. Mayer responded that because the Workgroup is only 20 individuals that represent all these specific areas, those representatives also have to agree to have an outreach plan of their own to ensure they can branch out to broader groups to seek input as well. This is a strategic effort to ensure the workgroup is not just made up of volunteers but made up of people who are willing to provide the TAC with as broad of expertise as possible.

Mr. Marcantonio asked if the Workgroup itself will be diverse.

Ms. Mayer responded that that is the goal.

Chair Madaffer asked if there are any public comments.

No comments from the public.

b. Research

Gary Gutierrez, Caltrans, informed the TAC that Caltrans, Division of Research, Innovation, and Systems Information has partnered with a number of California's top academic institutions that are available to provide research on behalf of the TAC. The turnaround time will be three to five months and the type of deliverable will be in the form of a white paper. If the TAC should desire research to inform the final design recommendations of the pilot program, the topic research item should be identified no later than June 2015. This research resource is available to the TAC at any time.

Vice Chair Finnegan commented that it would be helpful while looking ahead at the decision points in the schedule for Caltrans and CTC to give advice on whether additional information and/or research is needed in a timely matter.

Professor Wachs asked if the TAC will have an agenda item to discuss the potential research topics or should TAC members inform CTC staff by email.

Chair Madaffer responded that CTC staff will be available to help.

Chair Madaffer asked if there are any public comments.

No comments from the public.

6. TAC Communications

Julie Marengo, Senior Vice-President of Lucas Public Affairs, gave an overview of the Public Input and Stakeholder Engagement Strategic Approach (click here for a link to the presentation).

Chair Madaffer informed the TAC that their homework assignment and continuing assignment will be to make a list of individuals/constituents/stakeholders and to give the list to CTC staff or to Ms. Marengo so the TAC can do its best in its outreach efforts.

Ms. O'Connor asked if there is a robust program in regards to social media.

Ms. Marengo responded that Lucas Public Affairs just came on board and there are ideas that still need to be fleshed out.

Chair Madaffer commented that if there are any TAC members that would like to host a meeting or is asked to speak about the Road Charge Pilot Program, there is going to be a standardized PowerPoint for their presentations.

Vice Chair Finnegan asked when the TAC would receive results of public input.

Mr. Doyle responded that it would be about mid-summer.

Mr. Sauer asked if the new TAC website will run parallel to the current website.

Ms. Bransen responded that it will be a standalone website for the TAC.

Mr. Marcantonio commented that to keep the meaningful engagement piece and the educational piece very separate. Where do the community meetings fit into the public input and stakeholder engagement plan?

Ms. Bransen responded that this is where staff will look to the TAC to reach out to their stakeholders for invitations to speak to community groups.

Chair Madaffer added that it is incumbent upon each TAC member to take advantage of hosting an opportunity for their stakeholders. CTC staff and consultants will participate in these meetings.

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Motion: Sauer Second: O'Connor Action Taken: Approved

Vote Result: 10-0

Ayes: Finnegan, Hans, Marcantonio, Madaffer, O'Connor, Pittampalli, Poythress, Sauer, Tien, Wachs

Nays: None

Absent: Bartlett, Beall, Chiu, Finigan, Kaye

7. Transportation Funding Discussion

Brady Tacdol, Caltrans, and Stephen Finnegan, Manager of Government and Community Affairs of the Automobile Club of Southern California, gave an overview of State Transportation Funding (click here for a link to the presentation).

Chair Madaffer commented that one thing he has heard from people throughout the state, is their frustration. Many people think that vehicle registration fees go to fix the roads, but the fees do not.

Professor Wachs commented that one important thing that has not been discussed yet is that if we use the mile based user fees which monitors travel, the state can actually do a better job at allocating the money where the road use is most concentrated. The system the TAC chooses can give data to the Legislature so they can make better choices in how the transportation funds are allocated.

Mr. Sauer commented that he believes the TAC's recommendation should directly tie back to the road use.

Mr. Tien asked if there is any other money from the state, like the general fund, for road maintenance.

Ms. Ortega responded that we do not have general funds that go towards roads. The Self Help Counties generate significant funds and they invest a lot of that into the state highway system as well as local roads. California does receive federal funds for roads, but from a state perspective we do not receive general fund dollars.

Chair Madaffer asked Ms. Ortega to bring Chart C, a flow chart of funding for Transportation, to the next TAC meeting.

Ms. Ortega responded that Chart C is being updated and will be available April 1, 2015. She will bring copies for the TAC at the next meeting.

Vice Chair Finnegan commented that toll revenue, although limited in the state right now; it is a growing source of revenue.

Mr. Tien asked if there is some legal reason why toll roads are more prevalent in Southern California than in the Bay Area/Northern California.

Mr. Annis commented that the Bay Area has toll bridges and they are looking at adding more High Occupancy Toll (HOT) Lanes. There's a growing acceptance to the HOT Lane concept. Los Angeles recently converted two highways under a pilot program (the I-10 and the I-110) to HOT Lanes. Initial input on the HOT Lane conversion was positive. The users of the highways generally were positive in surveys. Those who chose to use the toll lanes appreciated the better time travel reliability. The Administration proposed as part of the January budget, a budget trailer bill that would expand the ability to implement more pricing, such as the HOT Lanes and set up a more uniform and streamlined process.

Mr. Tacdol commented that while tolls do build and finance and maintain new and existing toll roads/route specific, tolls do not generate enough revenue to pay for the rest of the transportation system.

8. Autonomous Vehicles

Randy Iwasaki, Executive Director of the Contra Costa Transportation Authority, Andrew Conway, Chief of Registration Policy and Automation of the California Department of Motor Vehicles, Paul Godsmark, Chief Technology Officer and Co-Founder of the Canadian Automated Vehicles Centre of Excellence, and Robert Bertini, Associate Professor of Civil and Environmental Engineering at the California Polytechnic State University, San Luis Obispo gave their presentations on Autonomous Vehicles.

Click here for a link to Randy Iwasaki's presentation.
Click here for a link to Andrew Conway's presentation.
Click here for a link to Paul Godsmark's presentation.
Click here for a link to Robert Bertini's presentation.

Vice Chair Finnegan asked Mr. Conway about the self certification as the dominant model for safety testing, and how there are some calls for a different model for self-driving cars, with software testing and third party testing. Do you know where that will end up?

Mr. Conway responded no because that is part of the rule making that DMV is set out to do.

Vice Chair Finnegan asked Mr. Godsmark about the tipping point in 2026, and given the life span of the vehicles and the transition of the fleet, when do you see self driving cars making a noticeable amount of the fleet?

Mr. Godsmark responded that to try not to think of the number of vehicles in the fleet, but rather the work being done. The 2026 tipping point is when at least 10% of the work on the road is being done by autonomous vehicles, and that may be only 2% of the vehicle fleet.

Mr. Tien asked if you (Autonomous Vehicle panel) feel that, at least in the national effort, has really paid enough attention to the issue of privacy and security.

Mr. Bertini responded no. There are a lot of gaps and opportunities to bring people to the table to resolve.

Mr. Tien commented that there is an issue of how precautions and safeguards can actually impact the ability of the owner/driver to actually know what information is being collected about them or what information is being transmitted somewhere about their driving habits. Mr. Tien raised concerns that vehicle owners should know what is being said about them, what data is collected and how data is used.

Vice Chair Finnegan commented that Mr. Tien brought up some important points. It brings full circle the presentation on Autonomous Vehicles and the connections to all of what we need to be doing in the future. There are a lot of opportunities with technology to move forward on the road charge issues, privacy issues, security issues, and data accessing controls are vitally important.

9. Telematics

Eshwar Pittampalli, Director of Market Development of Open Mobile Alliance, provided an overview of Automotive Telematics (click here for a link to the presentation).

Chair Madaffer asked if there are any public comments.

No comments from the public.

Lucy Dunn, CTC Chair, thanked the TAC for their hard work.

10. Policy Overview

Shannon Crum, D'Artagnan Consulting, provided an overview of the three high-level policy decisions to be made for this meeting (click here for a link to the presentation).

Mr. Tien asked if the road charge pilot program will have multiple automated options.

Ms. Crum responded that whatever the TAC decides. Just keep in mind that there is a schedule and a budget. Four or five options are not unheard of.

Chair Madaffer added that it is up to the TAC to decide how many manual and automated options to include.

Mr. Marcantonio commented that he is still unclear at what is being decided today.

Chair Madaffer responded that manual options will be decided today at agenda item 13.

Mr. Marcantonio would like the TAC to come back next month in getting to the point where it would be clear from the users' perspective what the options would look like and how the options would work in their lives so that the TAC can get actual feedback on the different alternatives.

Chair Madaffer asked if there are any public comments.

No comments from the public.

11. Operational Concepts and Enabling Technology

Matthew Dorfman, D'Artagnan Consulting, provided an overview of Operational Concepts and Enabling Technology (click here for a link to the presentation).

Mr. Tien asked if there will be a weight variable.

Vice Chair Finnegan responded that the weight issue has been brought up a number of times before. The reality is that vehicles less than 10,000 lbs. do not cause damage to the road essentially. Weight variables are really a commercial truck issue only. From a Prius to a Hummer, there is no difference of the impacts they cause to the roadway between the two.

Professor Wachs asked about fraud and evasion. How much can you tell us from the literature, the research, or experiences in the other countries to explain how serious the issue is in us making a choice?

Mr. Dorfman responded that in other places where fraud and evasion has been discussed, the idea of auditing specific individuals if there is anything that is questionable, like you would do in auditing someone's taxes has been considered. To my understanding in technology, the manipulation of the odometer does not necessarily leave any sort of electronic trace. The vehicle electronics does not necessarily record a transaction record of manipulation.

Mr. Hans commented that it sounds like with any technical solution there is an incentive for people to figure out a way to defraud it.

CTC Chair Dunn asked if there are any good things about the engine run time measurement and why is it included as an option if it was never implemented anywhere.

Mr. Dorfman responded that it was included in this framework of concepts as varied by charge basis (time and distance) and reporting type (manual and automated).

Mr. Sauer asked who the governing agency will be for audits.

Ms. Bransen responded that Caltrans is bringing in a group of state agency departments to talk about administration and enforcement. Staff will bring forward at future meetings, as how state agencies can assist in these areas.

Mr. Sauer asked about out of state vehicles coming in, like fleets of trucks. What option or system seems to look the most feasible?

Mr. Dorfman responded that if the individual makes frequent trips into California then may want to register their vehicle the same way as residents do with road charge with the same devices. If it is a one-time visit, then a time permit or mileage permit would be the better option.

Chair Madaffer asked if there are any public comments.

No comments from the public.

12. <u>Road Charge Pilot System Architecture</u>

Matthew Dorfman, D'Artagnan Consulting, provided an overview of Road Charge Pilot System Architecture (click here for a link to the presentation).

Mr. Marcantonio asked why this is a threshold question for the TAC in designing a pilot program. What's the difference between the closed system and open system in a pilot?

Mr. Dorfman responded that the TAC may want the road charge pilot to simulate either more like a closed system or more like an open system. In a closed system, the pilot will have one single vendor that would provide all of the methods that are chosen by the TAC, whereas the open system would define a standard by which all the potential participants would create their services and then the pilot would include at least two, but potentially more vendors. Selecting an open system will set a precedent that the state may choose to follow in any future or potential road charging legislation.

Mr. Marcantonio asked Ms. Ortega in regards to the acceleration of the rollout, is there time to develop the whole set of standards that are needed for an open system in the pilot?

Ms. Ortega responded that the plan is to do that. It's going to be challenging, but her preference, and not speaking for the Administration or for the Department, an open system makes more sense. She would like to give the Legislature and the policy makers the broadest recommendations by testing an open system process.

Vice Chair Finnegan asked, with a variety of options then how does the state know that every car has picked an option, and how to deal with unregistered cars?

Mr. Dorfman responded that the Account Management Oversight body will be a state entity, whether it is one of the existing agencies or a newly formed agency, which will be tasked using

the road charge database to verify that every vehicle that is in the state and registered for one device or another. For the unregistered cars, the current method of handling those vehicles will be continued.

Mr. Marcantonio asked if someone participating in the pilot is buying gas and paying a gas sales tax, how would the participant not be overcharged?

Mr. Dorfman responded that if a user of the road charge pilot program is also buying gas, and therefore paying gas taxes, they will end up getting a refund or a credit based on the fuel tax paid.

Chair Madaffer asked if there are any public comments.

No comments from the public.

13. <u>Policy Decisions</u>

a) Operational Concepts & Enabling Technology
b) Road Charge Pilot System Architecture

Shannon Crum, D'Artagnan Consulting, presented the three high-level policy decisions to be made by the TAC:

1. Should automated distance recording and reporting be offered in addition to manual methods?
2. Should a GPS-based option for recording mileage be offered in the pilot?
3. Should the road charging pilot test simulate an open system option?

Mr. Tien asked whether it is feasible to pilot the automated methods that were presented today.

Ms. Crum responded that there are companies who have implemented the automated methods, both GPS and non-GPS in pilot programs.

Mr. Tien asked if the method(s) selected would each create a reliable cost and price comparison and whether we know how much each method would cost to scale up for the method to be worth testing.

Ms. Crum responded that the economic models and business case is being worked on right now by D'Artagnan Consulting. At the pilot level, the cost will not be reflective of the real world situation. Drawing from other industries, the more highly automated a process becomes, the less expensive it becomes to operate.

Chair Madaffer commented that the TAC should keep the discussion on the high level policy decisions under consideration for the meeting today. The TAC can discuss in more detail each method in future meetings.

Mr. Poythress commented that he supports that both manual and automated methods should be offered as options. This includes a GPS-based option in the pilot program. He also likes the idea of the open system concept.

Professor Wachs commented that, first he is presuming that the people who are going to participate in the pilot program will be volunteers. Then that leads him to want more options to allow people to have more choice to learn from the choices and to determine what worked and

what did not work. And second, he envisioned the pilot will be a test of technology. That suggests that we must have some automated options because he can't imagine 20 to 30 years from now, to rely upon a manual system only. So, if the people participating in this pilot program are voluntary and that the TAC is trying to test a system in which to grow into one that can be applied more universally, then he would answer yes to all three of the questions.

Vice Chair Finnegan commented that he likes options, and within reason, he supports allowing people more options and choices since this will lead into a more successful system. Since this is a pilot, then we do need to test different options to determine which methods work. He is supportive of the manual and automated methods. GPS gets into the privacy issues and it is a challenge, but that does not mean we should not include it in the pilot. As for the open system, seems like most of the people at this meeting like this option.

Mr. Tien commented that he has always assumed that the automated options would be considered and didn't know it would be a decision the TAC would have to make. What he does not like about the open system is it creates this public-private profit partnership.

Mr. Hans commented that for a closed system, the incentives are less. Is there a way to limit the downstream use or for the state to limit the private industry's ability to access more data? He spoke with Jim Whitty (Oregon Department of Transportation) before, who says there is an oversight body in Oregon to make sure that unauthorized access to data was not happening at a broad scale.

Mr. Sauer asked if it is appropriate for him to vote on these high-level policy decisions since the trucking industry is not technically involved with the pilot program.

Chair Madaffer responded that he doesn't see why he wouldn't vote on this since he is a member of the TAC.

Professor Wachs commented that he would not include in further considerations options that require the development of new technology.

Mr. Marcantonio commented that he agrees with the concern that there can be an open architecture that is properly regulated or an open architecture that is like the Wild West. He would like to either put this consideration in the parking lot for the appropriate discussion later or if there is a sense from the TAC that they want to make sure that this will be rolled out with the right protections in place, it can be agreed upon at the meeting today.

Chair Madaffer commented that it could be a part of the policy motion we have in front of us.

Public comment:

Phil Dow, Mendocino Council of Governments, requested that an array of data collections be retained from low tech to high tech. Rural areas have extensive areas without broadband yet alone cellular coverage.

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Motion made with incorporating comments made by Mr. Marcantonio:

1. Open system developed with the safeguards in place.
2. All four manual options will come back to the TAC with more detail.

3. Not all the automated options, like the time sensor mentioned by Professor Wachs, or any automated options that are too technologically speculative that we wouldn't want to pilot.

Motion: Hans Second: Poythress Action Taken: Approved

Vote Result: 9-0

Ayes: Finnegan, Hans, Marcantonio, Madaffer, O'Connor, Poythress, Sauer, Tien, Wachs

Nays: None

Absent: Bartlett, Beall, Chiu, Finigan, Kaye, Pittampalli

14. <u>Review of Action Items, Parking Lot, Next Steps, and Other Matters</u>

Jeff Doyle, D'Artagnan Consulting, went through the list of action items to include before or at the April TAC meeting, the Parking Lot, and potential decisions for the April TAC meeting.

Action Items/Parking Lot:

1. Identify how accelerating the entire pilot program may impact the TAC and its work.
2. Accept Caltrans' offer to obtain research through the University of California Transportation Center (UCTC) system. TAC to discuss research items at the next TAC meeting.
3. Staff to reach out to Asha Agrawal for the progress/final report of NCHRP study.
4. Obtain more information on fraud and evasion for each of the various reporting methods, particularly the manual methods. This issue will be addressed in more depth in August when looking at compliance and enforcement mechanisms.

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Motion: Sauer Second: Wachs Action Taken: Approved

Vote Result: 9-0

Ayes: Finnegan, Hans, Marcantonio, Madaffer, O'Connor, Poythress, Sauer, Tien, Wachs

Nays: None

Absent: Bartlett, Beall, Chiu, Finigan, Kaye, Pittampalli

Professor Wachs commented that when Caltrans stated earlier that research by UCTC can be done in the form of a white paper within three to five months, this estimate is rather optimistic given the time it takes to negotiate contracts. It would behoove the TAC members to be efficient in identifying topics early so that results can be achieved within the TAC timeframe. One topic is to explore the impact to low income and minority populations of mileage based user fees. Another topic is how data generated from the mileage based user fees program affect the distribution of funds among urban areas versus rural areas and counties versus cities.

Ms. Ortega commented that Caltrans has had conversations with their research group and procurement office and are ready to move rather quickly. The first topic mentioned by Professor Wachs seems to tie in with the decisions the TAC needs to make. The second topic mentioned may not be as urgent, but Caltrans will entertain it.

15. Public Comment

None

16. Adjourn

Meeting adjourned at 3.14pm.