National Center for Sustainable Transportation

**Project Information Form**

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| Project Title: | Steering the Electric Vehicle Transition to Sustainability |
| University: | University of California, Davis |
| Principal Investigator: | Tom Turrentine |
| PI Contact Information: | Email: tturrentine@ucdavis.edu |
| Funding Source(s) and Amounts Provided (by each agency or organization): | U.S. Department of Transportation (US DOT) - $37,918.59 |
| Total Project Cost: | $37,918.59 |
| Agency ID or Contract Number: | UCD-DOT-WP3.1a<br>DOT DTRT13-G-UTC29 |
| Start and End Dates: | July 2014 – July 2018 |
| Brief Description of Research Project: | The zero-emission vehicle (ZEV) endeavor has come a long way since the early 1990s and increasing numbers of transport energy experts are hopeful that electrification of vehicles, together with greening of the grid, provide a two-punch solution to reduce urban air pollution and meet radical carbon reduction goals. Technical progress of plug-in electric vehicles (PEVs) has been impressive; in particular, lithium ion batteries are more reliable, their energy density has improved, and their prices have fallen, faster than many experts expected. Engineers have three or four generations of vehicle designs under their belts, and electric vehicle profitability might be coming into view.<br><br>The challenge now is to completely displace a world industry and consumer demand for combustion engines in a time frame dictated by climate issues. This is a challenge that will have to be met with decades of effort from industry and governments. Fortunately, like the technology, maybe the conditions for securing a global transformational process are ripening. In light of initial technical and political progress, it will be tempting for policy makers in beachhead markets to pull in their oars thinking their job is done and leave it to the carmakers and power companies to row the rest of the way. But precisely at this moment of profitability, carmakers will have to convince increasing numbers of less adventurous buyers to make a big switch to electric. These buyers thus far have been less interested in and informed about the new technology. They may have less resources and less willing to take a risk. They may have desires for larger vehicles or attachments to tradition. Just when one aspect of the market, profit, is possible, all the stakeholders will need to pull harder on the oars to get to the destination in time. |

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| Describe Implementation of Research Outcomes (or why not implemented):<br><br>Place any photos here | |
| Impacts/Benefits of Implementation (actual, not anticipated): | |
| Web Links<br>• Reports<br>• Project website | https://ncst.ucdavis.edu/white-paper/steering-electric-vehicle-sustainability/ |