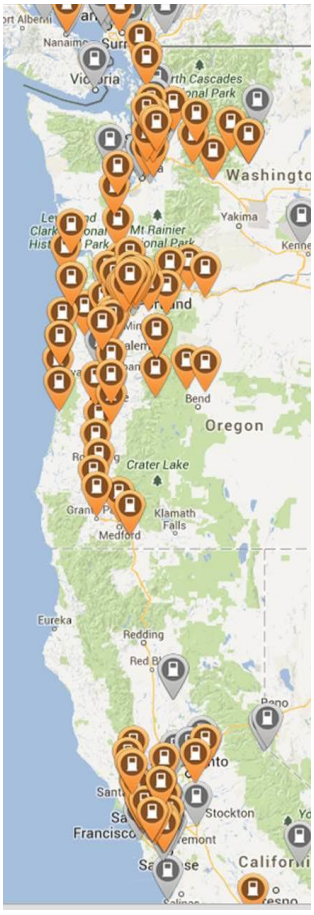
I'm submitting these comments as an individual with a particular interest and emphasis on the issues surrounding the significant role electric vehicles can play in climate change planning. As background, I purchased a Nissan LEAF five months ago. While it has become my primary vehicle, I also have a 2005 Prius for longer travel. As discussed later this unfortunately occurs more frequent than I would like.

My comments center on two themes. First, the Scoping Plan does not provide necessary support for electric vehicle (EV) charging infrastructure which threatens the viability of the long-term EV program. Second, the Scoping Plan fails to consider the significant cross-benefits of EV use on water quality which again threatens its long-term viability.

California has established aggressive goals for electrical vehicle use recognizing the significant impact conventional transportation has on air pollution and GHG emissions. Governor Brown's Executive Order (EO) 3-23-2012 calls for 1.5 million electric vehicles on California's roadways by 2025. This EO also sought to create a statewide network of EV charging stations including at least 200 public Level 3 fast-charging stations and another 10,000 plug-in units at 1,000 locations across the state. It is almost one and one-half years later. Many EV's have been sold representing a significant public investment ($10,000 incentives per vehicle) yet this charging network has yet to materialize. The proposed Scoping Plan has no discussion, support, or recognition that this charging network is needed.

Consider two incidents from my short experience owning my LEAF. Once I sought to drive my LEAF to Berkeley. Thankfully the City of Vacaville has on its own installed a Level 3 station that is well known in EV circles. It single-handedly makes feasible driving the critical corridor from the SF Bay area to Sacramento. There is essentially no public charging support in Berkeley so I had to charge at a private home and ended up getting a parking ticket! A second incident occurred when I went to Vacaville and found the Level 3 charging station broken. I was able to use a Level 2 charger and fortunately that worked as I was not going further. But there was a poor Airman from Travis Air Force Base stuck in is LEAF for several hours on his way to the base.



Why should the ability for the most basic EV trip, SF Bay area to the state capitol, be dependent on one city's decision to construct and maintain this charging station? Further, from Sacramento I cannot go to Lake Tahoe, Reno, Oregon, etc. given the lack of charging network (unless I bring my 110v charger and find plugs!) Thankfully I still have my Prius.

My fear: there will be a backlash as word gets out that people can't really use them for anything but a "hobbyist" car, and all this public money used for incentives is down the drain. Imagine the discussion on talk radio.

Speaking of Oregon, look at any charging station map such as the left and you'll be amazed at the support for EV. This is a map of Level 3 chargers. This effort is well documented http://www.plugincars.com/plug-charging-infrastructure-cover-entire-i-5-corridor-oregon-aims-mexico-canada-82435.html. If I could just get my LEAF to the border I could do so many wonderful trips. But I haven't found a way to do it yet. California doesn't need to invent this. Pick up the phone and see how Oregon and Washington did it!

There's this great concept called the West Coast Green Highway http://westcoastgreenhighway.com/ Interesting to note that there isn't an entry for California information on this website. The West Coast Green Highway stops at the Oregon border!

To conclude my first point, the AB 32 Scoping Plan should immediately identify California's deficiency in public charging stations, especially Level 3 chargers to address "range anxiety," and establish an immediate goal to implement Governor Browns Executive Order. If no other agency will do it, then ARB should use its AB 32 powers to do so itself. This should be an early action goal completed by 2014. The "West Coast Green Highway" must not stop at the Oregon border!

My second point concerns the significant cross-benefits from EV's on water quality that are not addressed in the Scoping Plan. Consider the following from, "Impacts of Motor Vehicle Operation on Water Quality in the United States-Clean-up Costs and Policies"[i]:

> Most studies of the environmental impacts of transportation focus on air pollution, the main environmental externality associated with road transportation, or noise (Delucchi 2000). Currently, there is no good estimate of the aggregate impact of motor vehicle transportation on water pollution (Litman 2002), and a review of the relevant literature suggests that many estimates of water externalities resulting from motor vehicle transportation are based on educated guesses… we estimate that annualized costs of controlling runoff from principal arterials only could cost between 1.6% and 8.3% of annualized highway transportation expenditures.. In general, preventing water pollution from motor vehicles would be much cheaper than cleaning it up. (Emphasis added)

The paper goes on:

> According to the US Environmental Protection Agency (1996), road runoff carries hundreds of thousands of tons of oil. Additionally, improperly disposed used oil filters may account for 5% of used oil discarded into the environment…refined products such as motor oil and gasoline are more toxic than crude oils. First, they disperse more readily into water. Second, soft tissues absorb them more easily. Third, used motor oil often contains contaminants, such as chemicals added to boost engine performance, compounds produced during engine operation, or wastes mixed-in during disposal.
>
> Millions of gallons of coolant/antifreeze are sold each year in the US yet only 12% is recycled (Department of Toxic Substances Control 2001). Used coolant/antifreeze is especially a problem for Do-It-Yourselfers (DIY) because current engine design makes it almost impossible to avoid spilling some product when it is changed.

It is obvious that one of the keys to successful and more efficient compliance with federal storm water standards is clean transportation. I'm proud to say my LEAF has no oil that needs to be changed, no oil filter to properly dispose of, no transmission or coolant/antifreeze, etc. Nothing to drip. Nothing to create expensive externalities. Oh…and no tailpipe!

ARB should be working hand in hand with the State Water Board to coordinate the EV program, as well as other electrified transportation and land use programs (SB 375) to maximize the cross-benefits to water quality. Sadly the State Water Board is not even a Participating State Agency on the Transportation Sector of the Scoping Plan even though that covers vehicles and land use, the largest single source of storm water pollution. Therefore, the Scoping Plan should include the State Water Board in this process, and should clearly identify and recognize the significant cross-benefits to storm water quality. The Scoping Plan should then consider accelerating policies and programs which would generate both GHG reductions AND reductions in storm water pollution. These include more aggressive EV and clean transportation and land use considerations. I believe that the more the public is aware of these cross-benefits; the public may be more "forgiving" of the perceived issues of using an EV. Therefore, failure to incorporate these cross-benefits is hurting the program at this critical time when the public is considering the acceptance of EV's beyond a hobbyist's "niche" car.

In closing, I would invite ARB management to take a ride with me, or some other EV owner, to the Bay area to experience first-hand the current difficulties of this transportation with the current level of support. I would also ask ARB to recognize the significant benefits to both GHG reduction and water quality and take appropriate actions as outlined to immediately remedy this. I would offer my assistance in both of these endeavors.

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[i] Hilary Nixon, Department of Urban and Regional Planning, San Jose State University, Jean-Daniel Saphores, Civil and Environmental Engineering Department, The Henri Samueli School of Engineering, UC Irvine http://www.uctc.net/papers/809.pdf