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February 13, 2020

The Honorable Lee Beyer  
The Honorable Caddy McKeown  
Joint Committee on Transportation  
900 Court Street NE Salem, OR 97301

RE: House Bill 4036 -11 Amendment – Letter of Support

Dear Co-Chairs Beyer, McKeown, and Members of the Committee,

Thank you for the opportunity to submit comments in support of the -11 amendment to HB 4036. Toyota is committed to reducing GHG emissions from our fleet by improving the environmental performance of our conventional and hybrid fleet as well as investing, developing and deploying Zero Emission Vehicles such as our Prius Prime Plug-in Electric Vehicle (PHEV) and Mirai Fuel Cell Electric Vehicle (FCEV).

It is never too early to start investing in infrastructure in preparation for the electrification of the light duty fleet, and this bill is an example of the foresight shown by the state of Oregon as it relates to one type of electric vehicle, the Battery Electric Vehicle (BEV). However, without the -11 amendment, HB 4036 ignores an important and complementary electric vehicle type, the FCEV. FCEVs are electric vehicles that use zero-carbon hydrogen to produce electricity on board the vehicle while emitting only pure water vapor from the tailpipe and have some unique characteristics that are not available to BEVs.

For example, FCEVs' long range (over 300 miles) and fast refueling (3-5 min) are an important advantage, allowing for long distance and/or continuous driving with little down time to refuel. And since the overall FCEV refueling experience mimics gasoline powered vehicles, it is an excellent zero emission choice for drivers in multi-unit dwellings and older housing stock for which it may be cost prohibitive or legally complicated to make necessary electrical upgrades to install electric vehicle supply equipment (EVSE). Additionally, FCEV technology is scalable and more suited than BEV technology to larger size vehicles both in the LDV sector but also in the medium-duty and heavy-duty vehicle sector as well. In fact, Toyota is testing Class 8 (80,000lb GVW) fuel cell trucks in the Port of Los Angeles/Long Beach to demonstrate the capability of FCEV technology. The technology can even scale smaller – Plug Power, for example, has over 20,000 fuel cell forklifts operating in warehouses and distribution centers across the country. If FCEV technology can power a sedan like the Mirai and a Class 8 truck, it can power everything in between – a broader hydrogen ecosystem including fuel cell-powered construction equipment, airport ground support equipment, and marine ships is possible.

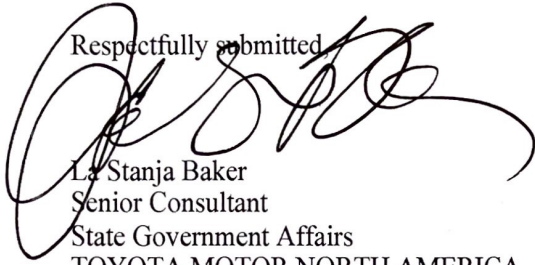
A key challenge for BEVs is the matching of electricity production and vehicle charging without negatively impacting the grid. However, in the case of FCEVs, hydrogen production and vehicle refueling are temporally uncoupled so that the hydrogen can be produced when it is most efficient to do so. Oregon has an abundance of carbon-free hydroelectric power and a growing supply of wind power, creating an opportunity to produce renewable hydrogen at a relatively low cost. In addition to powering transportation, renewable hydrogen could be added to Oregon's natural gas pipelines to being decarbonizing the system. By creating hydrogen through electrolysis—particularly when renewable electricity generation exceeds demand—Oregon could cost-effectively utilize its carbon-free energy to decarbonize its transportation and natural gas systems.

Unlike PHEVs and BEVs for which the main refueling location is home (for those able), FCEVs *require* hydrogen refueling infrastructure *before* vehicles are introduced. For example, the Air Resources Board in California has concluded that California cannot achieve its ambitious emissions reduction goals unless FCEVs are an integral part of the light duty vehicle fleet mix. Toyota introduced the Mirai FCEV in October 2015 with three stations in California. Currently, there are 39 public hydrogen stations in operation and over 6,000 FCEVs on the road including the Toyota Mirai, Honda Clarity FCEV, and Hyundai Nexa.

With this in mind, Toyota respectfully requests that the -11 amendment to HB 4036 be adopted to ensure technology neutrality and enable utilities to invest in both battery electric (EVSE) and fuel cell electric (hydrogen) infrastructure.

Feel free to contact me at [La.Stanja.Baker@toyota.com](mailto:La.Stanja.Baker@toyota.com) or 310-787-562 for additional information.

Respectfully submitted,



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