



Legislative Fiscal Bureau

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Joint Committee on Finance

Paper #696

Hybrid-Electric Vehicle Fee Definition (Transportation -- Transportation Finance)

[LFB 2019-21 Budget Summary: Page 408, #10]

CURRENT LAW

2017 Act 59 created a \$75 fee for hybrid-electric passenger vehicles and a \$100 fee for non-hybrid, electric passenger vehicles. These supplementary fees are required in addition to the existing, annual vehicle registration fees, and were to be imposed beginning January 1, 2018. A hybrid-electric vehicle is currently defined as capable of using gasoline, diesel fuel, or alternative fuel to propel the vehicle, but that is propelled to a significant extent by an electric motor that draws electricity from a battery that has a capacity of not less than four-kilowatt hours and may be capable of being recharged from an external source of electricity.

GOVERNOR

Amend the definition of a hybrid-electric vehicle to mean a vehicle that is capable of using both electricity and gasoline, diesel fuel, or alternative fuel to propel the vehicle. Increase estimated transportation fund revenue by \$3,070,200 in 2019-20 and \$6,675,100 in 2020-21.

DISCUSSION POINTS

1. According to the U.S. Department of Energy, hybrid-electric vehicles are powered by an internal combustion engine in combination with one or more electric motors that use energy stored in batteries. Hybrid-electric vehicles ("hybrids") combine the benefits of high fuel economy and low tailpipe emissions with the power and range of conventional vehicles. Past federal policies have been aimed at encouraging the technology advancements in, and the purchase of, these type of vehicles for these reasons.

2. The U.S. Department of Energy states that two types of hybrids exist in today's U.S. automobile market:

"Mild hybrids - also called micro hybrids - use a battery and electric motor to help power the vehicle and can allow the engine to shut off when the vehicle stops (such as at traffic lights or in stop-and-go traffic), further improving fuel economy. Mild hybrid systems cannot power the vehicle using electricity alone. These vehicles generally cost less than full hybrids but provide less fuel economy benefit than full hybrids"; and

"Full hybrids, have larger batteries and more powerful electric motors, which can power the vehicle for short distances and at low speeds. These vehicles cost more than mild hybrids but provide better fuel economy benefits."

3. The Department indicates under the proposed definition change, DOT would apply the additional registration fee only to full hybrids. DOT indicates that it would search the vehicle identification number (VIN) for a hybrid identification as only vehicles that have full hybrid capabilities would carry this hybrid VIN identification.

4. Subsequent to the enactment of the fee under 2017 Act 59, DOT determined that the Department is unable to identify by vehicle identification number the subset of hybrid-electric vehicles that have batteries with more than four-kilowatt hours of capacity. As a result, the Department is only assessing the \$100 fee on electric ("non-hybrid, electric") vehicles, which can be identified.

5. The policy reasoning behind having owners of hybrid-electric vehicles pay additional registration fees on their vehicles is that due to the fuel efficiency of such vehicles, the vehicle owner does not pay motor vehicle fuel taxes into the transportation fund in an amount equal to the costs they put on the state's transportation infrastructure.

6. The proposed modification to the definition would allow DOT to collect the \$75 annual fee for hybrid-electric passenger vehicles without reference to battery capacity and would become effective on the general effective date of the bill. However, the estimated revenues in the bill associated with this provision appear to reflect six months of collections in 2019-20. [Alternative 1] It is unlikely that DOT would be able put the administration system in place to collect the hybrid-electric fee for registrations on effective date of the bill. The Committee could instead make the hybrid-electric definition effective on the October 1, 2019, which would increase the estimated revenue from the fee compared to the bill (due to the administration's six-month estimate) by \$1,535,100 in 2019-20. [Alternative 2]

7. While hybrids would generally pay less in fuel costs, including fuel taxes, compared to a similar-sized conventional gas-powered vehicle, some contend that a \$75 additional registration fee may be too high, and overstates the difference in fuel taxes paid. The following table shows the annual fuel tax and registration fee costs for the owner of two similar-sized vehicles with one being a hybrid and the other being a similar sized conventional vehicle. The fuel efficiency amounts listed are combined miles per gallon (MPG), which is a weighted average of highway and city MPG, as determined by the United States Environmental Protection Agency.

**Annual State Registration Fee and Fuel Tax Cost Estimates
for Hybrid and Conventionally-Powered Vehicles**

	<u>Small Car Comparison</u>		<u>SUV Comparison</u>	
	<u>2017 Toyota Prius (Hybrid)</u>	<u>2017 Honda Fit</u>	<u>2017 Toyota RAV4 (Hybrid)</u>	<u>2017 Toyota RAV4</u>
Engine size	1.8 L	1.5 L	2.5 L	2.5 L
Horsepower	121	130	194	176
Combined MPG	52	36	32	25
Annual Fuel Tax	\$71	\$103	\$116	\$148
Annual Registration Fee	<u>150*</u>	<u>75</u>	<u>150*</u>	<u>75</u>
Total (Fuel tax + Reg Fee)	\$221	\$178	\$266	\$223
Difference		\$43		\$43

*Includes \$75 hybrid fee.

8. As shown in the table, assuming 12,000 miles driven annually and using the current state motor vehicle fuel tax rate of 30.9 cents per gallon, an owner of a Toyota Prius Hybrid would pay an estimated \$43 (\$221 - \$178) more in state fuel taxes and registration fees (including the additional hybrid fee) than an owner of a similar-sized, conventionally-powered vehicle (Honda Fit). Using the same assumptions, an owner of a Toyota RAV4 Hybrid would pay an estimated \$43 (\$266 - \$223) more in state fuel taxes and registration fees than an owner of a conventionally-powered Toyota RAV4.

9. If the above analysis is representative, setting the additional hybrid-electric fee at \$32 annually (\$75 current fee - \$43) would be more in line with the difference in state fuel taxes paid by a hybrid-electric vehicle compared to a conventional fuel-powered vehicle. Adopting the Governor's recommended change in the definition of hybrid-electric vehicle with an October 1, 2019 effective date and reducing the additional fee to \$32 annually would increase revenues compared to current law by \$1,965,000 in 2019-20 and \$2,848,000 in 2020-21. However, hybrid-electric vehicle fee revenues compared to the bill would be lower than the amount in the bill by \$1,105,200 in 2019-20 and \$3,827,100 in 2020-21. [Alternative 3]

10. It should also be noted that even among conventional vehicles the annual fuel tax and registration fee costs vary substantially and could be greater than the difference in those same costs when comparing a hybrid-electric vehicle and a conventional vehicle. For example, as shown in the table, the owner of a Honda Fit would pay an estimated \$178 annually in state fuel taxes and registration fee costs, which is \$45 less than the estimated \$223 that would be paid by the owner of a Toyota RAV4.

11. Some contend that a consumer's choice to purchase a hybrid-electric vehicle for its

higher fuel efficiency is the same choice other consumers make when choosing the more fuel efficient vehicle between two conventional vehicles. Hybrid technology is evolving such that hybrid vehicles available in the U.S. market now come in all-sized vehicles. It does hold that between two comparably-sized vehicles, one conventional and one fully hybrid-electric, the hybrid electric would typically pay less in fuel costs, including state fuel taxes. However, the same concept would hold for any consumer who makes a decision to purchase a more fuel efficient vehicle when choosing between two conventional vehicles. That consumer would also pay less in fuel costs, including state taxes, than if the consumer had chosen the less fuel efficient vehicle. [Alternative 4] Consequently, the Committee could delete the current law additional registration fee of \$75 on hybrid-electric vehicles.

12. If the Committee were to take no action on the Governor's recommendation, DOT would continue to not have the ability to collect the \$75 additional registration fees on hybrid-electric vehicles given the current law definition for those vehicles. [Alternative 5]

ALTERNATIVES

1. Approve the Governor's recommendation to amend the definition of a hybrid-electric vehicle to mean a vehicle that is capable of using both electricity and gasoline, diesel fuel, or alternative fuel to propel the vehicle on the effective date of the bill. Increase estimated transportation fund revenue by \$3,070,200 in 2019-20 to reflect six months of revenue and by \$6,675,100 in 2020-21.

ALT 1	Change to	
	Base	Bill
SEG-REV	\$9,745,300	\$0

2. Modify the Governor's recommendation to amend the definition of a hybrid-electric vehicle to mean a vehicle that is capable of using both electricity and gasoline, diesel fuel, or alternative fuel to propel the vehicle by making the definition change first be effective on October 1, 2019. Increase estimated transportation fund revenue compared to the bill by \$1,535,100 in 2019-20 for a total of \$4,605,300 in that year, which would reflect nine months of revenue rather than the six months included under the bill. Revenues in 2020-21 would be estimated at \$6,675,100.

ALT 2	Change to	
	Base	Bill
SEG-REV	\$11,280,400	\$1,535,100

3. Approve the Governor's recommendation to modify the definition of a hybrid-electric vehicle and modify the current law additional hybrid-electric fee of \$75 annually to instead be a \$32 annual fee effective October 1, 2019. Increase revenues compared to current law by \$1,965,000 in 2019-20 and \$2,848,000 in 2020-21 and reduce revenues compared to the bill by \$1,105,200 in 2019-20 and \$3,827,100 in 2020-21.

ALT 3	Change to	
	Base	Bill
SEG-REV	\$4,813,000	- \$4,932,300

4. Delete the current law provision that authorizes DOT to assess an additional \$75 annual registration fee on hybrid-electric vehicles.

ALT 4	Change to	
	Base	Bill
SEG-REV	\$0	- \$9,745,300

5. Take no action (the existing hybrid-electric vehicle fee would continue to apply and DOT would not be able to collect the fee on those vehicles).

ALT 5	Change to	
	Base	Bill
SEG-REV	\$0	- \$9,745,300

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