HOUSE OF REPRESENTATIVES STAFF ANALYSIS

BILL #: HB 981 Electric and Hybrid Vehicles
SPONSOR(S): Olszewski
TIED BILLS: **IDEN./SIM. BILLS:** CS/SB 384

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Transportation & Infrastructure Subcommittee	13 Y, 0 N	Johnson	Vickers
2) Transportation & Tourism Appropriations Subcommittee	10 Y, 1 N	Cobb	Davis
3) Government Accountability Committee	20 Y, 0 N	Johnson	Williamson

SUMMARY ANALYSIS

Electric Vehicles (EVs) offer a readily available and cleaner fuel source, with higher fuel efficiency and improved air quality. Increasing interest in EV use is driven by higher gas prices and greenhouse gas emission concerns, but their relative high cost compared to conventional fuel-powered vehicles and their relative limited range have restricted the commercial viability of EVs. However, advancements in EV-related technology are continuing, EV manufacturing is rising, and EV prices have been dropping.

The exact number of EVs registered in Florida is somewhat unclear. Under the Department of Highway Safety and Motor Vehicles (DHSMV) current vehicle registration system programming, “fuel type” classification is an optional field and therefore the precise number of EVs registered is unknown.

The bill requires the Florida Transportation Commission (FTC), to review all sources of revenue for transportation infrastructure and maintenance projects and prepare a report to the Governor and the Legislature when the FTC determines that EVs and hybrid vehicles make up 2 percent or more of the total number of vehicles registered in this state. The report must be submitted to the Governor and the Legislature no later than September 1 of the year after the FTC determines that the 2 percent threshold has been met.

The FTC, in consultation with DHSMV, may use commercially available data that the FTC deems reliable to support its determination and report. At a minimum, the report must assess the effect of projected EV and hybrid vehicle use in Florida on future revenue from existing taxes, fees, and surcharges related to nonelectric, private-use motorcycles, mopeds, automobiles, tri-vehicles, and trucks. In addition, FTC, in consultation with the Division of Emergency Management (DEM), must assess transportation infrastructure with respect to emergency evacuations and EVs.

The bill requires the report to include recommendations to the Legislature relating to funding for maintenance and improvements on transportation infrastructure.

Additionally, the bill requires each metropolitan planning organization to address the increased use of autonomous technology and EVs as part of its long-range transportation plan.

The bill is expected to result in a negative, but insignificant workload impact on the FTC; however, the impact can be absorbed within existing resources. Similarly, the bill may result in an indeterminate, though likely insignificant workload impact on DEM and DHSMV, and it is expected that these impacts can be absorbed within existing resources.

FULL ANALYSIS

I. SUBSTANTIVE ANALYSIS

A. EFFECT OF PROPOSED CHANGES:

Current Situation

Florida Transportation Commission

The Florida Transportation Commission (FTC) serves as a citizen's oversight board for the Department of Transportation (DOT), expressway authorities, and regional transportation authorities. The FTC is assigned to DOT for administrative and fiscal purposes but otherwise, functions independently of DOT's control and direction. The FTC is composed of nine Commissioners appointed by the Governor and confirmed by the Senate for four-year terms.

The FTC's primary functions are to:

- Review major transportation policy initiatives or revisions submitted by DOT.
- Recommend major transportation policy to the Governor and Legislature.
- Serve as an oversight body for DOT.
- Serve as an oversight body for transportation authorities and monitors and reports on the efficiency, productivity, and management of those authorities.[1]

Electric Vehicles

Electric Vehicles (EVs) offer a readily available and cleaner fuel source, with higher fuel efficiency and improved air quality. Increasing interest in EV use is driven by higher gas prices and greenhouse gas emission concerns, but their relative high cost compared to conventional fuel-powered vehicles and their relative limited range have restricted the commercial viability of EVs.[2] However, advancements in EV-related technology are continuing, EV manufacturing is rising, and EV prices have been dropping.[3] Within the broad definition of EVs there are the following subcategories:

- All-electric vehicles (AEVs) use a battery pack to store the electrical energy that powers the motor. AEV batteries are charged by plugging the vehicle into an electric power source. Although most United States electricity production contributes to air pollution, the United States Environmental Protection Agency categorizes AEVs as zero-emission vehicles because they produce no direct exhaust or emissions.[4]
- Hybrid-electric vehicles (HEVs) are powered by an internal combustion engine or other propulsion source that can run on conventional or alternative fuel in combination with an electric motor that uses energy stored in a battery. HEVs combine the benefits of high fuel economy and low tail pipe emissions with the power and range of conventional vehicles.[5]
- Plug-in hybrid electric vehicles (PHEVs) use batteries to power an electric motor and use another fuel, such as gasoline or diesel, to power an internal combustion engine or other propulsion source. Using electricity from the grid to run the vehicle some or all of the time reduces operating costs and fuel use, relative to conventional vehicles. PHEVs may also produce lower levels of emissions, depending on the electricity source.[6]

[1] Florida Transportation Commission: http://www.ftc.state.fl.us/aboutus.shtm (Last visited December 13, 2017).
[2] Federal Highway Administration's *FHWA NHTS Brief, Electric Vehicle Feasibility*, July 2016, pp. 1-2, available at: http://nhts.ornl.gov/briefs/EVFeasibility20160701.pdf (Last visited January 4, 2018).
[3] *Id.* at p. 2.
[4] Alternative Fuels Data Center: https://www.afdc.energy.gov/vehicles/electric_basics_ev.html (Last visited February 6, 2018).
[5] Alternative Fuels Data Center: https://www.afdc.energy.gov/vehicles/electric_basics_hev.html (Last visited February 6, 2018).
[6] Alternative Fuels Data Center: https://www.afdc.energy.gov/vehicles/electric_basics_phev.html (Last visited February 6, 2018).

Impact of EVs on Transportation Funding

Taxes on gas and diesel fuel are a primary source of revenue for both the federal highway fund and the State Transportation Trust Fund.[7] Transportation funding has generally experienced a continuing shortfall attributed to static federal gas tax rates, more fuel-efficient vehicles, and increasing transportation construction and maintenance costs.[8]

Annual fuel tax revenues at both the state and federal levels are directly based on the number of gallons of gasoline and diesel fuel consumed. Because AEVs are not powered by gasoline or diesel, and because HEVs and PHEVs use less gasoline or diesel fuel than a conventional vehicle with only an internal combustion engine, an increase in the number of EVs operating in Florida would result in less revenue being raised from fuel taxes for comparable vehicle miles traveled.

Research reveals a limited number of studies specifically focused on the impact of EVs on fuel tax revenues. Of the most recent, a 2015 study conducted by the University of Central Florida acknowledges the increasing national EV sales trend for the five-year period prior to the study but concludes that "…despite the increase, electric and plug-in electric vehicles still represent a small portion of the US auto market. With total vehicles sales for 2014 coming in at around 16.5 million, EVs made up less than 1 percent of total sales."[9]

The study further concludes that EVs, for now and in the near future, will have only a small impact on gas tax revenues but notes a University of Texas study on EV market share suggesting that by 2050, over 50 percent of gas tax funds may be lost.[10] The authors highlight the importance of understanding the notion that "the rate at which revenue declines depends on many factors…The relationship among these factors is complex and continued investigation is warranted to better understand vehicle fleet mix, fuel economy, and fuel tax revenue."[11]

According to the study, a number of states are exploring or implementing revenue-generating alternatives, both to increase transportation funding in general and to prepare for revenue reduction due to increased EV sales. These alternatives include a fee based on the number of miles a given vehicle travels,[12] as well as increased direct taxes and surcharges on EV purchases.[13]

EV Registration in Florida

The registration license tax for EVs is the same as that for a non-electric vehicle.[14] The exact number of EVs registered in Florida is somewhat unclear. Under the Department of Highway Safety and Motor Vehicles (DHSMV) current vehicle registration system programming, "fuel type" classification is an optional field and therefore the precise number of EVs registered is unknown.

DHSMV analyzed vehicle identification numbers (VINs) in its motor vehicle registration database using available software and estimated that of the 16.2 million vehicles with VINs that could be analyzed,

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[7] Florida Department of Transportation's *Florida's Transportation Tax Sources, A Primer*, January 2017, at p. 4, for a listing of federal and state transportation tax sources and rates for calendar year 2017, available at: http://www.fdot.gov/comptroller/pdf/GAO/RevManagement/Tax%20Primer.pdf (Last visited December 13, 2017).

[8] *See* the U.S. Department of Energy National Renewable Energy Laboratory's *Primer on Motor Fuel Excise Taxes and the Role of Alternative Fuels and Energy Efficient Vehicles*, August 2015, at p. 7, available at: https://www.afdc.energy.gov/uploads/publication/motor_fuel_tax_primer.pdf (Last visited January 4, 2018).

[9] *See* the Electric Vehicle Transportation Center's *Implications of Electric Vehicles on Gasoline Tax Revenues*, December 2015, at p. 8 available at: http://www.fsec.ucf.edu/en/publications/pdf/FSEC-CR-2011-15.pdf (Last visited January 4, 2018).

[10] *Id.* at p. 12.

[11] *Id.*

[12] Known as VMT (vehicle miles traveled) and MBUF (mileage-based user fee). Fees are assessed based on the actual amount of road use, not on fuel consumption.

[13] *See* the U.S. Department of Energy National Renewable Energy Laboratory's *Primer on Motor Fuel Excise Taxes and the Role of Alternative Fuels and Energy Efficient Vehicles*, August 2015, at p. 7, available at: https://www.afdc.energy.gov/uploads/publication/motor_fuel_tax_primer.pdf (Last visited January 4, 2018).

[14] Section 320.08001, F.S. Registration fees differ based on factors such as the type of vehicle, its weight, the license plate chosen, and whether the registration period is one or two years.

16,116 EVs are registered in Florida, or about 0.1 percent.[15] A review of DHSMV's analysis of the companion Senate bill suggests that the 16,116 EVs are actually the number of AEVs registered in Florida and does not include HEVs or PHEVs. Based on DHSMV's analysis, of the 16.2 million vehicles with VINs that could be analyzed, approximately 247,131 EVs, including AEVs, HEVs, and PHEVs, are registered in Florida, or about 1.53 percent.[16]

Emergency Evacuation

The Division of Emergency Management (DEM) is responsible for maintaining a comprehensive statewide emergency management program. Among DEM's duties is a requirement to prepare a state comprehensive emergency management plan containing provisions that will ensure the state is prepared for emergencies and minor, major, and catastrophic disasters.[17] As part of the plan, DEM must include an evacuation component including specific regional and interregional planning provisions and promoting intergovernmental coordination of evacuation activities. Among other items, this part of the plan must establish strategies for ensuring sufficient, reasonably priced fueling locations along evacuation routes.[18] A review of available information on the DEM website[19] did not identify an assessment of EV charging stations for the purpose of emergency evacuations.

Section 377.815, F.S., authorizes the Department of Agriculture and Consumer Services (DACS) to post information on its website relating to alternative fueling stations or EV charging stations that are available for public use. However, the authorization is not specific to emergency evacuation. DACS's website[20] contains a link to the Alternative Fuels Data Center (AFDC) website with information related to alternative fuels by state. According to AFDC, 882 EV charging stations (1,979 outlets) are currently available in Florida, excluding private stations.[21] DHSMV notes that no EV charging stations within Florida's transportation infrastructure are specifically designated for use during emergency evacuations.[22]

Metropolitan Planning Organizations

Metropolitan Planning Organizations (MPOs) are federally mandated transportation planning organizations comprised of representatives from local governments and transportation authorities. The MPO's role is to develop and maintain the required transportation plans for a metropolitan area and to ensure that federal funds support local priorities. Federal law requires MPOs in urbanized areas with a population of more than 50,000 individuals.[23] Florida currently has 27 MPOs.[24]

Section 339.175, F.S., provides state law regarding MPOs and generally mirrors applicable federal law. MPOs carry out four primary activities:

- Developing and maintaining a Long-Range Transportation Plan, addressing no less than a 20-year planning horizon.
- Updating and approving a Transportation Improvement Program, a four-year program for highway and transit improvements.
- Developing and adopting a Unified Planning Work Program, identifying the MPO's budget and planning activities to be undertaken in the metropolitan planning area.

[15] *See* the DHSMV's SB 384 bill analysis at p. 5. (On file with the House Transportation & Infrastructure Subcommittee).
[16] *Id.*
[17] Section 252.35(2)(a), F.S.
[18] *Id.*
[19] DEM's Florida Disaster website is available at: http://www.floridadisaster.org/index.asp (Last visited November 28, 2017).
[20] *See* the Florida Department of Agriculture and Consumer Services website available at: http://www.freshfromflorida.com/Energy/Florida-Energy-Clearinghouse/Transportation (Last visited November 28, 2017).
[21] *See* the AFDC's website available at: https://www.afdc.energy.gov/fuels/electricity_locations.html, including a map and a download spreadsheet of locations and related information. (Last visited November 27, 2017).
[22] *Supra* note 17 at p. 5.
[23] 23 U.S.C. s. 134
[24] A list of Florida's MPOs and links to each specific MPOs website is available at https://www.mpoac.org/ (Last visited November 9, 2017).

- Preparing a Public Participation Plan, describing how the MPO involves the public and stakeholder communities in transportation planning.

Section 339.175(7), F.S., requires each MPO to develop a long-range transportation plan addressing at least a 20-year planning horizon. The long-range transportation plan must:

- Identify transportation facilities that will function as an integrated metropolitan transportation system.
- Include a financial plan demonstrating how the plan can be implemented, indicating resources from public and private sources that are reasonably expected to be available to carry out the plan, and recommending any additional financing strategies for needed projects and programs.
- Assess capital investment and other measures necessary to ensure the preservation of the existing metropolitan transportation system and make the most efficient use of existing transportation facilities to relieve vehicular congestion, improve safety, and maximize the mobility of people and goods.
- Indicate, as appropriate, proposed transportation enhancement activities.
- Coordinate the development of the long-range transportation plan with the State Implementation Plan developed pursuant to the requirements of the federal Clean Air Act in metropolitan areas that are classified as nonattainment areas for ozone or carbon monoxide.

Proposed Changes

The bill requires the FTC to review all sources of revenue for transportation infrastructure and maintenance projects and prepare a report to the Governor and the Legislature when the FTC determines that EVs and hybrid vehicles make up 2 percent or more of the total number of vehicles registered in this state. The report must be submitted to the Governor and the Legislature no later than September 1 of the year after the FTC determines the 2 percent threshold has been met.

The FTC, in consultation with DHSMV, may use commercially available data that the FTC deems reliable to support its determination and report. The report must, at a minimum, assess the effect of projected EV and hybrid vehicle use in Florida on future revenue from existing taxes, fees, and surcharges related to nonelectric, private-use motorcycles, mopeds, automobiles, tri-vehicles, and trucks.

The FTC, in consultation with DEM, must assess transportation infrastructure with respect to emergency evacuations and EVs, including, but not limited to, the availability of EV charging stations.

The report must include recommendations to the Legislature:

- To ensure continued funding for necessary maintenance that provides for adequate levels of service on existing transportation infrastructure;
- To accomplish improvements and capacity projects on transportation infrastructure that meet the demand from projected population and economic growth; and
- To accomplish necessary improvements to transportation infrastructure that would support emergency evacuations by users of EVs.

The FTC may undertake and complete the review and report before the state reaches the 2 percent threshold if the FTC finds that earlier completion is appropriate to maintain a financially stable long-term transportation work program.

The bill amends s. 339.175(7)(c)2., F.S., providing that in preparing their long-range transportation plans, MPOs must consider technological improvements necessary to accommodate advances in vehicle technology such as the increased use of autonomous technology and EVs.

B. SECTION DIRECTORY:

Section 1 creates an unnumbered section of law that requires the FTC to conduct an analysis and issue a report when certain conditions are met.

Section 2 amends s. 339.175, F.S., relating to metropolitan planning organizations.

Section 3 provides an effective date of July 1, 2018.

II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

A. FISCAL IMPACT ON STATE GOVERNMENT:

1. Revenues:

None.

2. Expenditures:

The bill is expected to result in a negative, though likely insignificant workload impact on FTC related to producing the report required by the bill; however, the impact can be absorbed within existing resources.[25]

Similarly, the bill may have a negative, though likely insignificant workload impact on DEM and DHSMV associated with consulting with FTC in its preparation of the required report. It is expected that these impacts can be absorbed within existing resources.

B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

1. Revenues:

None.

2. Expenditures:

The bill does not appear to have a fiscal impact on local governments.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

III. COMMENTS

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. This bill does not appear to affect county or municipal governments.

2. Other:

None.

B. RULE-MAKING AUTHORITY:

[25] Email from FTC. December 14, 2017. Copy on file with Transportation & Infrastructure Subcommittee.

None.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES

None.