

Electric Vehicle Adoption Rates and Impact on Florida Motor Fuel Tax¹

The motor fuel tax is an essential component of Florida’s funding structure for the state’s transportation system, including road maintenance and improvement. The motor fuel sales tax rate in calendar year 2023 is 16.2 cents per gallon of gasoline and diesel fuel. The 2023 State Comprehensive Enhanced Transportation System (SCETS) Tax is 8.9 cents per gallon of gasoline and diesel fuel.² Altogether, the motor fuel sales tax and SCETS tax combine to comprise about 63% of the state revenue sources estimated at the Transportation Revenue Estimating Conference which substantially funds the Department of Transportation’s five-year work program ending in state fiscal year 2027-28.³ The Florida Department of Transportation currently estimates that the typical Florida driver pays about \$123 in state gas tax every year.⁴

The market share of electric vehicles (EVs) in Florida is expected to increase significantly over the course of the next 10 years. Consumer demand for EVs is driven by more affordable purchase prices relative to its history, increased accessibility to charging stations, and extended battery life. Under the Inflation Reduction Act of 2022, a credit of up to \$7,500 for eligible electric vehicles and eligible individuals is available until 2032.⁵ The cost of the lithium-ion battery pack used in EVs is expected to decline to \$72/kWh in 2030,⁶ a sizeable decline from the estimated 2022 cost of \$153/kWh.⁷ This decline in cost is one of the primary factors that will make EVs more competitively priced with conventional internal combustion engine (ICE) vehicles. According to the U.S. Department of Energy, as of June 2022 Florida had the second highest count of EVs (95,640) amongst states.⁸ Florida is also among the top four states that have taken the lead in combatting “range anxiety” concerns among EV owners.⁹ Additionally, many automakers have detailed plans to electrify a significant portion of their fleet over the next decade, including General Motors to have 40 percent of their U.S. product to be battery-powered by the end of 2025,¹⁰ and Honda’s aspiration to have 40 percent of global vehicle sales to be electric by 2030.¹¹ Deloitte is currently forecasting that EV sales will globally account for 32% of all new light-duty vehicles sold by 2030.¹²

¹ Prepared by participants, as defined in s. 216.134(4)(b), F.S., of the August 2023 Transportation Revenue Estimating Conference from the Office of Economic and Demographic Research, Governor’s Office, Department of Transportation, and Department of Revenue.

² https://floridarevenue.com/taxes/Documents/fuel_charts/22B05-06_chart.pdf

³ Transportation Revenue Estimating Conference held March 1, 2023

⁴ Provided via email from FDOT staff in June 2023

⁵ [Credits for New Clean Vehicles Purchased in 2023 or After | Internal Revenue Service \(irs.gov\)](https://www.irs.gov/credits-retirements/credits-for-new-clean-vehicles-purchased-in-2023-or-after)

⁶ <https://theicct.org/publication/update-on-electric-vehicle-costs-in-the-united-states-through-2030/#:~:text=As%20battery%20pack%20costs%20drop,cars%2C%20crossovers%2C%20and%20SUVs.>

⁷ [FOTW #1272, January 9, 2023: Electric Vehicle Battery Pack Costs in 2022 Are Nearly 90% Lower than in 2008, according to DOE Estimates | Department of Energy](https://www.energy.gov/fotw/fotw-1272)

⁸ <https://afdc.energy.gov/data>

⁹ https://digitalcommons.lasalle.edu/cgi/viewcontent.cgi?article=1002&context=analytics_capstones

¹⁰ [General Motors To Offer 40 Percent EVs By 2025 | GM Authority](https://www.gm.com/news/2022/01/2022-01-20-general-motors-to-offer-40-percent-evs-by-2025)

¹¹ [Honda to Spend \\$40 Billion on Electric Cars, Plans to Have 30 EV Models - Bloomberg](https://www.bloomberg.com/news/articles/2022-01-20-honda-to-spend-40-billion-on-electric-cars-plans-to-have-30-ev-models)

¹² [Electric vehicle trends | Deloitte Insights](https://www.deloitte.com/us/en/insights/industry/automotive/electric-vehicle-trends.html)

The Transportation Revenue Estimating Conference includes a table of assumptions which are used when preparing the forecast. These assumptions include Fleet Miles per Gallon, which is the fuel economy of the overall fleet of light vehicles. The source of this forecast is the National Economic Estimating Conference. According to the staff responsible for preparing the data underlying the assumptions, fleet conversion from gas powered to battery electric vehicles is currently included in the forecasted fuel economy.¹³ It is important to note that battery electric vehicles are still a relatively small portion of the U.S. and Florida fleets (less than 1%).¹⁴ While electric vehicle impact on **new vehicle** fuel economy is imminent, there will be a delay of at least five to seven years before this impact can be observed in the **overall fleet** as the universe of vehicles on the road converts from gas-powered to electric.¹⁵ This process will take many years to complete as gas powered vehicles currently on the road have a reasonable expectation to continue use for at least ten to fifteen years.¹⁶ Also note that there are other factors which influence fuel economy, such as improved fuel efficiency of gas-powered vehicles and the mix between light and heavy vehicles.

Fleet fuel economy is an important variable that must be considered when forecasting motor fuel consumption. The chart below shows the historical and forecasted Fleet Miles per Gallon.¹⁷ Note that fuel economy stays mostly flat from fiscal year 1990-91 until fiscal year 2010-11, only increasing 3.7% during the twenty-year period. Conversely, fuel economy then increased 19.5% during the ten-year period of fiscal year 2010-11 to fiscal year 2021-22, and is forecasted to further increase by 21.9% by fiscal year 2031-32. During the fiscal year 1990-91 to fiscal year 2010-11 time period in which fuel economy was largely flat, the consumption of motor fuel grew by an average of 1.6% per year. From fiscal year 2010-11 to fiscal year 2021-22 that average fell to 1.4%, though the onset of the global pandemic contributed to the lower growth rate.¹⁸ According to IBISWorld Industry Report for Gas Stations with Convenience Stores in the U.S., the growing use of hybrid and electric cars is threatening gasoline sales, which represent 75% of industry revenue, causing revenue growth to marginally decelerate.¹⁹ While there are other factors which are taken into account when forecasting fuel consumption ranging from population growth, fuel prices, and employment, the forecasted increase to fuel economy, for which fleet conversion to electric is a factor, most certainly has a cooling effect upon the motor fuel consumption forecast, particularly towards the end of the forecast horizon.

¹³ Verified via phone conversation with IHS staff in 2021.

¹⁴ [What Percent Of US Car Sales Are Electric? \(jdpower.com\)](https://www.jdpower.com/press-releases/2022/01/20/what-percent-of-us-car-sales-are-electric/)

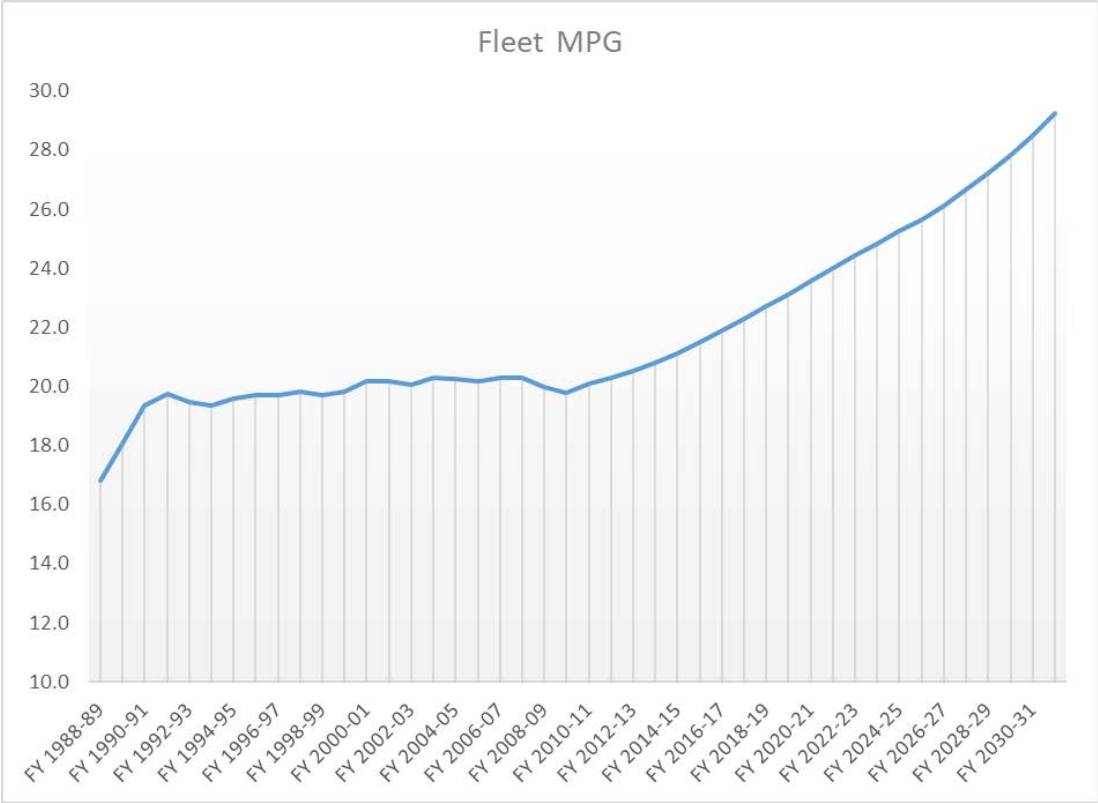
¹⁵ Explained via phone conversation with IHS staff in 2021.

¹⁶ Explained via phone conversation with IHS staff in 2021.

¹⁷ National Economic Estimating Conference held February 9, 2023

¹⁸ Transportation Revenue Estimating Conference history

¹⁹ IBISWorld Industry Report for Gas Stations with Convenience Stores in the U.S.



Even so, given that the currently adopted assumption regarding Fleet Miles per Gallon embeds expectations regarding the fleet conversion and the long time horizon over which the change will occur, no changes to the forecasting methodology are recommended at this time.