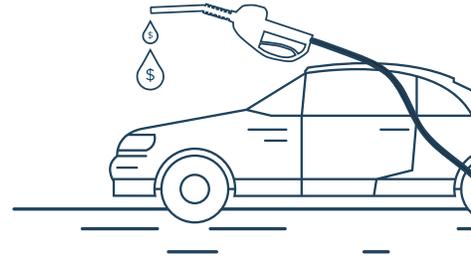


The NC FIRST Commission was created in March 2019 to evaluate North Carolina’s transportation investment needs. Their job is to advise the Secretary of Transportation of new or better ways to ensure that critical financial resources are available in the future. As part of this process, we’ll be looking for input from you, the people of North Carolina! This brief looks at the motor fuels tax and discusses reasons why the consumption of gasoline and diesel will decline along with revenues.



The NC Motor Fuels Tax

Overview

Enacted in 1921, state motor fuels tax revenue collections contributed over \$1.9 billion dollars in FY 2020 to the North Carolina Department of Transportation’s (NCDOT) highway and multi-modal projects. COVID-19 impacts reduced the consumption of motor fuels and lowered revenues 7.5 percent compared to FY 2019. Approximately \$80 million of the lost revenues, resulting from Executive Order (E.O.) 116, will be captured in FY 2021.¹ Representing 52 percent of state transportation resources, changes in fuel economy, consumer mobility preferences, and alternative fuel vehicles will erode these revenues.

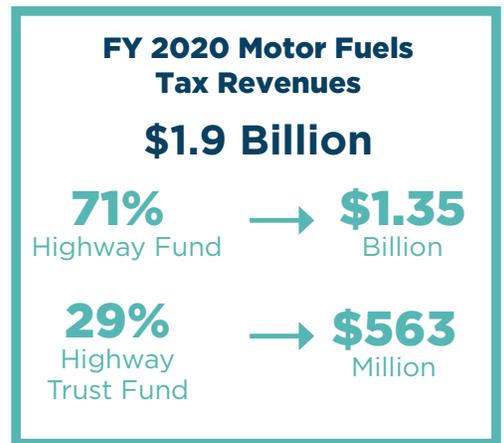
How does the gas tax work?

Often referred to as the “gas tax,” the state charges a \$0.361 tax on each gallon of motor fuel (gasoline and diesel) purchased and an additional \$0.0025 per gallon inspection fee. While the rate normally fluctuates each January 1, a statutory change prohibits the 2021 rate from dropping below \$0.361.²

Gas tax revenues are NCDOT’s largest funding source and the law requires these revenues be used only for transportation purposes.³ Motor fuels tax revenues are deposited into two funds. In FY 2019-20, 71 percent of revenues were deposited in the Highway Fund and 29 percent deposited in the Highway Trust Fund. Gas tax revenues support 63 percent of maintenance and operations in the Highway Fund and 36 percent of capital needs in the Highway Trust Fund.

Beginning in FY 2020-21, an additional statutory change will increase maintenance funding by shifting the distribution of motor fuels tax proceeds from the 71/29 percentage split used in FY 2019-20 (see box to right). The Highway Fund will receive 81 percent in FY 2020-21, 80 percent in FY 2021-22, and 75 percent in future years. The Highway Trust Fund will receive 19 percent in FY 2020-21, 20 percent in FY 2021-22, and 25 percent in future years.⁴

The taxation rate on motor fuels is updated annually based on changes in population and the Consumer Price Index for energy costs.⁵ Implemented on Jan. 1, 2017, this updated formula produced modest increases in the tax rate in 2018 and 2019 and a \$0.001 decrease in 2020. These increases are necessary to offset expected future reductions in fuel consumption and pay for the increasing demands on the state’s infrastructure.



¹ governor.nc.gov/documents/executive-order-no-116
² 2019 N.C. Sess. Laws, Chap. 2019-91, §4.2
³ N.C. Gen. Stat. §105-449.62

⁴ 2019 N.C. Sess. Laws, Chap. 2019-91, §4.6
⁵ N.C. Gen. Stat. §105-449.80. The formula is calculated by adding to the existing rate the percentage change in the state’s population (75% of formula) and the Consumer Price Index for energy (25% of formula).

How much do I pay in gas taxes?

The amount you pay in gas tax (which is included in the retail price paid at the pump) is dependent on your vehicle and your driving habits. Generally, newer vehicles have higher fuel economy while city driving and aggressive driving lower your vehicle's fuel economy. NCDOT estimates the average North Carolina driver currently travels 12,000 miles annually in a vehicle that burns one gallon of motor fuel every 22 miles. Therefore, an average driver pays approximately \$200 annually in gas tax, or \$3.80 weekly.

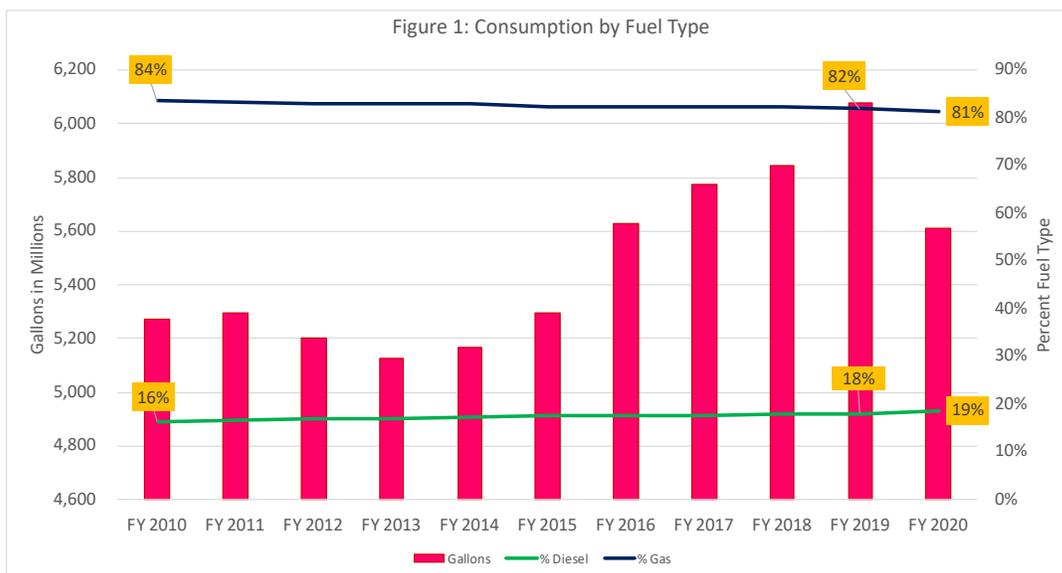


Why are people concerned about the future of the gas tax?

In general, fuel consumption in North Carolina has typically gone up each year, which has meant more gas tax revenues to pay for needed infrastructure investments. However, larger shifts in driving patterns, vehicle fuel economy, and alternative fuel vehicles are threatening the long-term future of the gas tax.

A key factor in motor fuel consumption is the state's economic health. As shown in **Figure 1**,⁶ with few exceptions, fuel consumption dropped during the Great Recession but then rose steadily until COVID-19 impacted mobility. COVID-19 reduced motor fuel consumption by 7.6 percent, or 466 million gallons, compared to FY 2018-19. E.O. 116,⁷ signed on March 10, 2020, extended the filing period for motor fuel tax returns and waived penalties for failure to pay until July 15, 2020. This delay shifted approximately \$80 million of the lost revenues to FY 2021.

While consumption of both gasoline and diesel typically increases each year, diesel sales have grown more than gasoline sales in seven of the last 10 years. This trend indicates the movement of more goods by truck as the economy has grown, but also reflects some of the broader societal shifts that are already affecting personal gasoline consumption and which will erode future fuel tax revenues. Moderating sales of motor fuel are not unique to North Carolina and can be seen around the country (see **Figure 2** on next page). FY 2019-20 data also indicates that COVID-19 impacts increased the percentage share of diesel fuel from truck traffic, including expanded use of e-commerce transactions.



⁶ North Carolina Department of Revenue

⁷ governor.nc.gov/documents/executive-order-no-116

Did you know?

5.6 Billion
Gallons of Gas
Purchased in
FY 2020



Your annual individual contribution supports the patching of **one** pothole



On average, you pay

\$3.80



a week on the gas tax

North Carolina has the

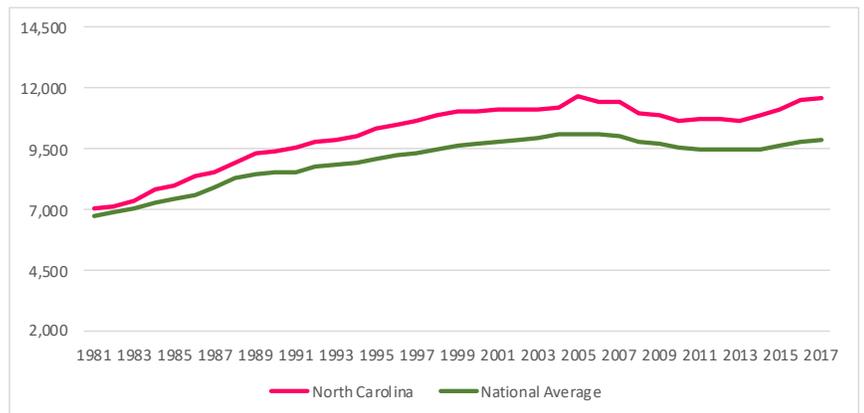


highest gas tax in the nation

Why will consumption decline?

One major shift that is affecting gasoline consumption is that people are changing their driving habits. Although gasoline consumption has gone up in recent years, that modest increase may be due mainly to population growth. More people are driving, but per capita measures of vehicle miles traveled (**Figure 2**)⁸ indicates how much each person drives is leveling off or even declining. While studies disagree on the impacts of ridesharing services, other factors such as urbanization, increased use of public transit, and technological advances are expected to continue to affect fuel consumption and related taxes.

Figure 2: Vehicle Miles Traveled per Capita



⁸ Data in Figure 2 compiled by Eno Center for Transportation: www.enotrans.org/wp-content/uploads/2019/06/VMT-per-capita-by-state-1981-2017.pdf. Correction made to 2009 North Carolina data.

Why will consumption decline? (continued...)

Beyond changing mobility preferences, improved fuel economy and an increase in alternative fuel vehicles are also expected to affect fuel consumption. As shown in **Figure 3**,⁹ the fuel economy of North Carolina vehicles is rising steadily, up 2.4 miles per gallon over the last 10 years. Although North Carolina now has just a small share of the nearly 1.5 million electric vehicles operating in the United States,¹⁰ in-state sales of these vehicles grew 57 percent over the last calendar year and sales of hybrid vehicles grew by 6.4 percent.

Analysts predict that sales of electric and hybrid vehicles will quickly increase as charging infrastructure expands and battery costs decrease. The Edison Electric Institute, for example, estimates that electric vehicle sales will surpass 18.7 million nationwide by 2030. Owners of electric and hybrid vehicles in North Carolina pay less in combined gas taxes and registration fees compared to owners of gasoline-powered vehicles (**Figure 4**).¹¹ An owner of an electric vehicle invests \$51 less per year in the state's infrastructure than the average driver. This shortfall will add up as the use of these vehicles continues growing.

Figure 3: Factors Influencing Fuel Consumption

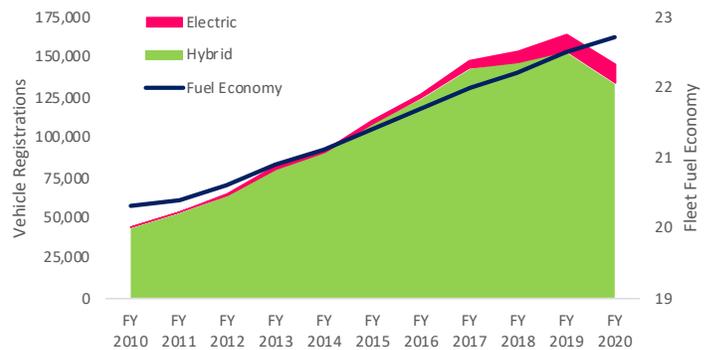
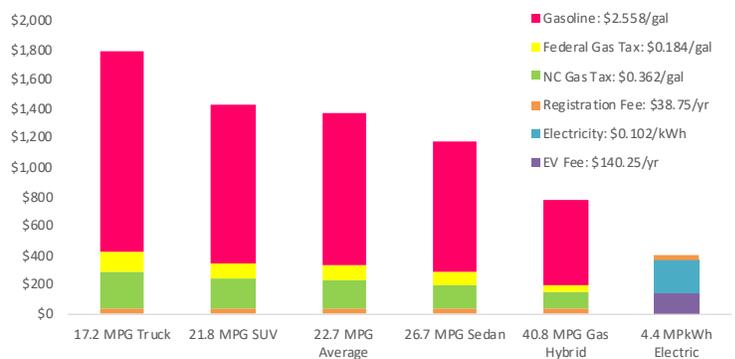


Figure 4: Total Annual Cost to North Carolina Drivers



Summary

Although a recovering economy and a growing population have provided modest growth in motor fuel consumption in recent years, the increase is not sustainable. As more drivers alter their mobility patterns that reduce miles traveled and shift to more fuel-efficient vehicles, motor fuel tax revenues will decline. As a result, new or better revenue sources will be necessary to offset those losses and ensure that North Carolina can meet its future transportation investment needs.

⁹ North Carolina Department of Transportation

¹⁰ Edison Electric Institute. Figure represents electric vehicle sales in the United States through December 2019.

¹¹ North Carolina Department of Transportation