Modernizing Transportation Revenue in North Carolina

A Review of the Current State Funding Framework and Potential Alternative Revenue Scenarios

Final Report

Prepared for

Regional Transportation Alliance
800 S. Salisbury St
Raleigh, NC 27601
letsgetmoving.org

Prepared by

Michael Hogan, Victoria Neff
RTI International
3040 E. Cornwallis Road
Durham, NC 27713-2852
www.rti.org

RTI Project Number 24310

November 2026

Contents

Executive Summary 1

I. Introduction and Background 8

II. State of Transportation Funding in North Carolina 9

Trends in Funding 9

Federal Funding 11

Challenges with the State Gasoline Tax 11

Existing State Transportation Funding Structures and Potential Alternatives 15

Regional Peer and Comparison States 19

Local Option Taxes and Targeted Project Funding via Tolling 20

Summary of State Sources 20

III. Modernizing and Simplifying Gasoline Tax Index 22

Potential Indexing Rate Alternatives 22

Prospective: 2027-2036 26

IV. Factors for Consideration of Gasoline Tax and Funding Alternatives 31

Gasoline Tax Policy and Forecasts 31

V. Alternative Future Scenarios for State Transportation Funding 33

Access User Fee (Flat Registration Fee) and example scenarios to replace all or part of state gasoline tax 33

Sales Tax Allocation 35

Highway Use Tax 35

Alternative, Revenue Neutral Scenarios involving Gas Tax, Access User Fee, and Highway Use Tax 36

VI. Alternative Scenarios for Revenue Growth 40

VII. Conclusions and Takeaways 42

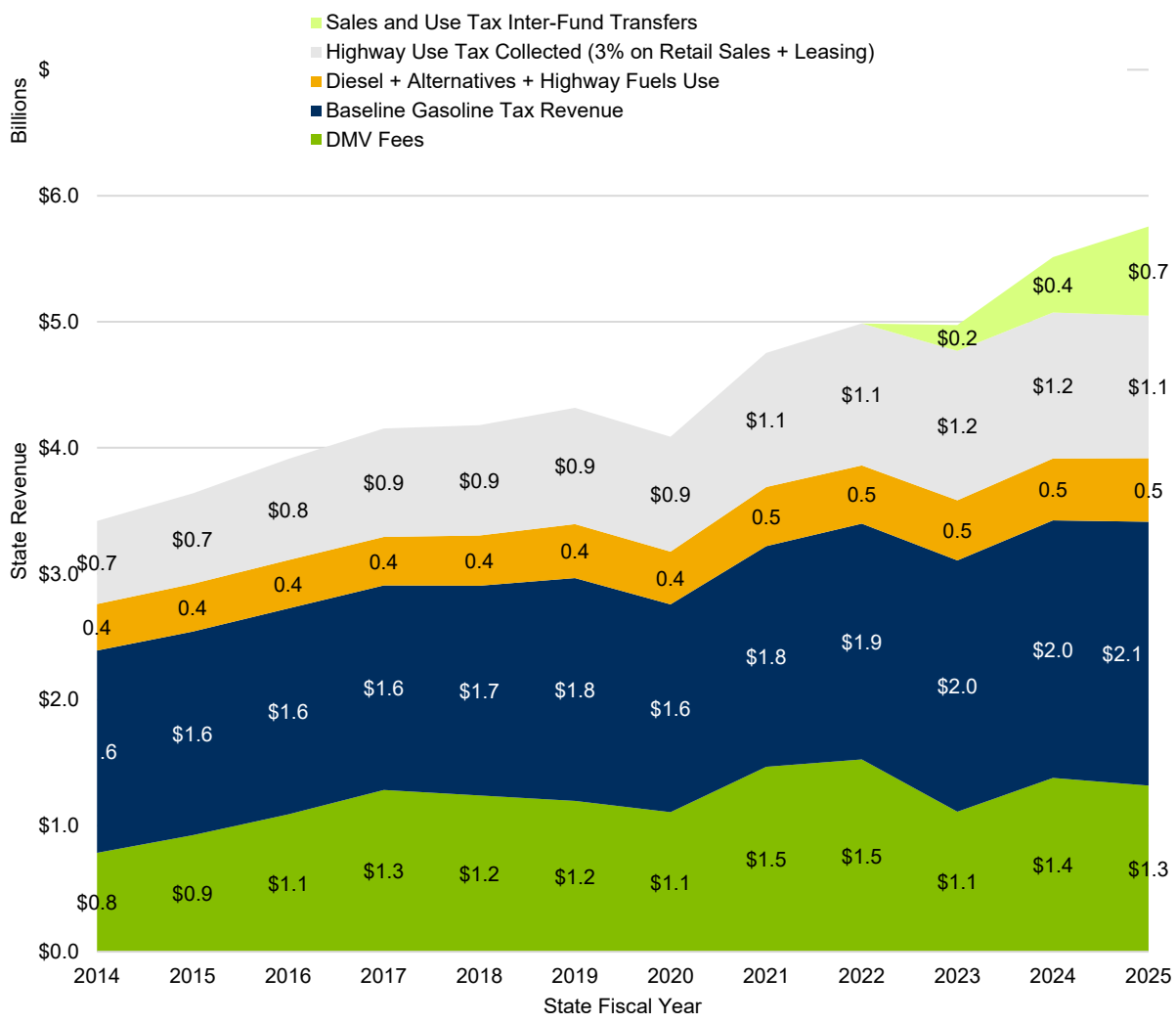
Executive Summary

North Carolina's roadway network is a backbone of the state's economy. Rapid growth of population, registered cars, and vehicle miles traveled (VMT) over the last decade has placed new demands on the North Carolina Department of Transportation (NCDOT) for construction and maintenance. While state transportation revenue has continued to grow over that time, the traditional fuel tax model faces challenges from inflation, rising construction costs, increasing fuel efficiency, changes in driving habits, and the growth of electric and hybrid vehicles. State Departments of Transportation are the primary source of funding for roadway networks in the U.S., and North Carolina is no exception: NCDOT is responsible for collecting three-quarters of its total revenue from state sources, with only one quarter coming from the federal government on average. NCDOT manages one of the largest statewide road networks in the U.S. both in total mileage and percentage of roads that are state managed. Stable revenue for the NCDOT is critical to maintaining the state's competitive transportation network.

Current Sources and the State of Funding

For over 100 years since the introduction of the gasoline tax in North Carolina in 1921, the state has funded roads through a mix of fuel taxes and fees which have evolved over time to respond to increased demand on the network. In 2026, North Carolina's main sources of transportation revenue: DMV fees, fuel taxes, Highway Use Tax (HUT), and the recent addition of the sales tax allocation provide a diversified funding framework that has allowed for both stability and revenue growth over the last decade. As seen in Figure ES-1, total revenue has increased from gasoline taxes and highway use taxes, and the addition of sales tax revenue contributed to new growth over the last three years. Consistent increases in population, registered vehicles, and total vehicle miles traveled (VMT) have supported revenue growth.

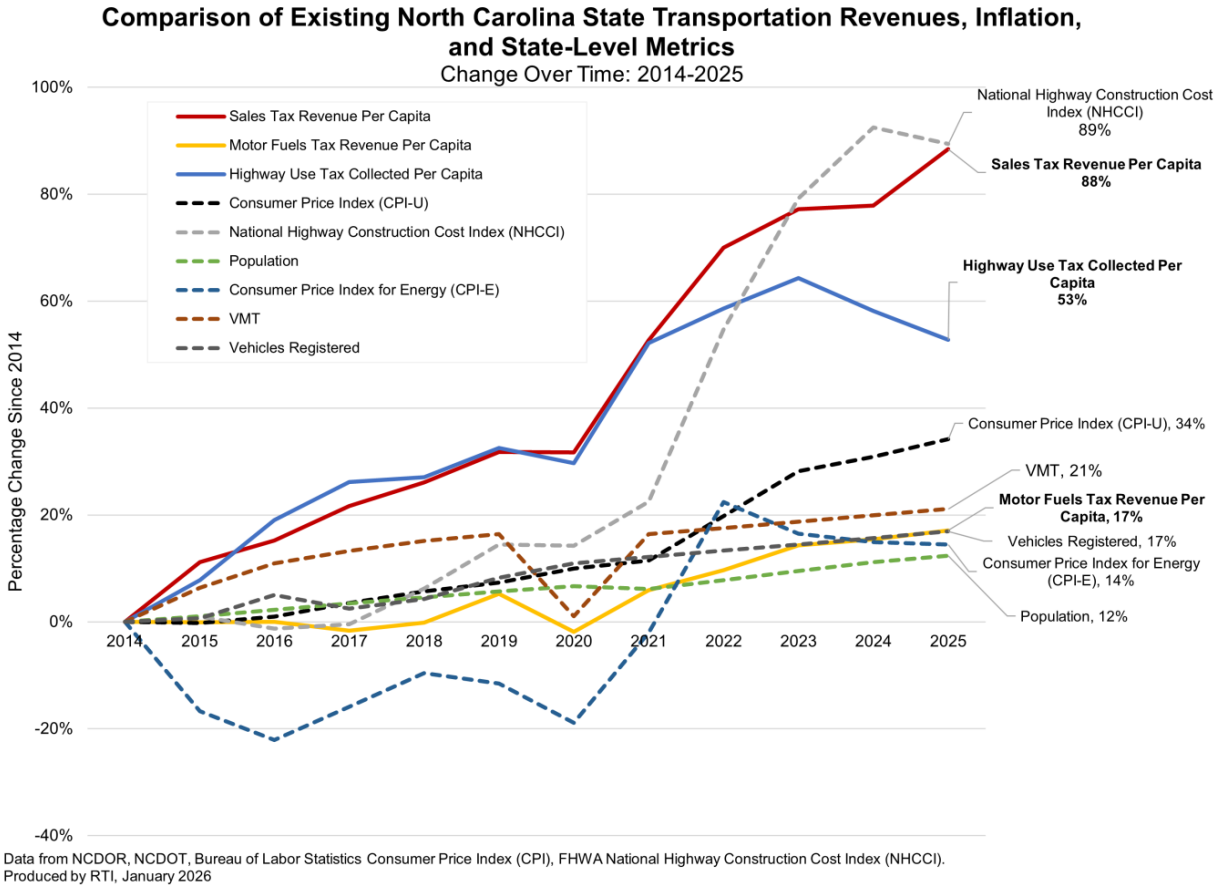
Figure ES-1. State Revenue from Gasoline and Diesel Taxes, Highway Use Tax, DMV Fees, and Sales Tax Allocation, in Billions of Dollars



Source: Historic data from NCDOR. NCDOT Performance Reports. Values in nominal dollars, not inflation adjusted.

The state's rapid growth of population has resulted in an increase in registered cars, with a 17% increase over the past decade. This has driven increases in revenue through gasoline taxes, but the rate of growth has been slower than the rapid increase in construction costs. As seen in Figure ES-2, from 2014 to 2024, state motor fuels tax revenue per capita grew by 17%, but national consumer price index (CPI) grew by 34%, and the national highway construction cost index (NHCCI) calculated by the U.S. Department of Transportation grew by 89%. Federal transportation revenue faces similar challenges. Demand and costs for new construction projects and road maintenance are growing at a faster pace than revenue. Motor Fuels taxes make up a declining share of overall revenue, while other sources like the sales tax and Highway Use Tax have increased at rates that track with inflation.

Figure ES-2. Comparison of Existing North Carolina Transportation Revenue, Inflation Indices, and State-Level Benchmarks



Source: Historic data from NCDOR. NCDOT, Bureau of Labor Statistics, FHWA

The Regional Transportation Alliance (RTA), representing the business community in the Research Triangle Region of North Carolina, seeks to understand a resilient, sustainable, and simple transportation funding framework in North Carolina as the state grows and transportation demand continues to increase. Peer state and national leaders agree that a modernization of the existing motor fuels tax framework is needed to address changing mobility needs and costs. This report focuses on a review of the four primary funding sources that are already in place statewide in North Carolina, and potential options for modernizing those sources, rather than creating new taxes or fees.

Existing State Funding Sources and Options

Four main sources of revenue, shown in Table ES-1, present options for how to modernize and maintain a resilient and inflation-responsive funding framework for statewide transportation in North Carolina.

Table ES-1. Strengths and Drawbacks of North Carolina Transportation Sources

Source *(current % of total)*	Present Use in NC	Strengths	Drawbacks
Gasoline, Diesel Taxes ***(35%, 8%)***	41-cent per gallon tax	▪ Simple to collect; high compliance ▪ Payment directly tied to use of roads ▪ Paid by out-of-state drivers	▪ Losses of revenue from EVs and fuel-efficient cars ▪ Regressive, more costly for rural ▪ Not adequately responsive to inflation
DMV, Registration, Flat Fees ***(23%)***	Title Fee + registration fee EV + Hybrid Fees	▪ Same payment regardless of travel ▪ Stable revenue source	▪ Same payment regardless of travel ▪ Not paid by out-of-state drivers ▪ Risk of noncompliance, enforcement
Highway Use Tax ***(22%)***	One-time tax of 3% of vehicle value, upon sale or transfer	▪ Tax paid is proportionate to vehicle value ▪ Responsive to inflation	▪ Paid once, not annually or periodically ▪ Not paid by out-of-state drivers ▪ Tied to a durable goods purchase
Sales Tax Allocation ***(12%)***	6% of sales tax revenue (based on percentage of sales tied to transportation)	▪ Broad-based revenue source ▪ Paid by all consumers regardless of residency ▪ Responsive to inflation	▪ Not directly tied to individual travel or road usage ▪ Allocation may get clawed back for competing state funding priorities

Source: NCDOT, NCDOR, RTI Analysis

RTA and North Carolina business leaders are exploring options that reflect existing funding sources and structures, rather than introducing new statewide taxes or fees. These include:

- **Modernizing how gasoline tax is indexed** to better reflect inflation and cost pressures. Since 2016, the gasoline tax has been indexed by a mix of population growth (75%) and CPI-energy (25%) and has consistently grown more slowly than the rate of inflation. Other indices such as the core CPI (the current index for DMV fees in North Carolina) or the NHCCI have grown more quickly over the last decade, reflecting increasing costs of construction and road maintenance. On average, the state collects $252 per registered car in gasoline taxes per year. Alternative indices based on inflation would result in a gasoline tax generating between 3% and 31% more for transportation over a 10-year period.
- **An Access user fee** would represent a single fee that would replace some or all the average state gasoline tax paid. The existing electric vehicle and hybrid registration fees in North Carolina are access fees: a single fee to access the state's roadway network.

An expanded fee, applied to all cars registered in the state that are not powered by diesel, could be paid annually, similar to existing electric vehicle fees or other vehicle registration fees, or it could be paid monthly, bimonthly, or quarterly. The access fee would be predictable and could be indexed to address inflation but not directly related to road usage or travel. The fee would be in addition to the current standard registration fee of $38.75. If implemented universally to fully replace the gasoline tax, the access fee would replace the additional fees charged today in North Carlina for fully electric ($214.50) vehicles and plug-in hybrid vehicles ($107.25, set at 50% of the fully electric vehicle rate). Diesel fuel taxes would remain in place: they are primarily related to commercial trucks and collected through interstate and international agreements.

- **Incremental changes to Highway Use Tax,** currently collected as 3% of the sale price upon vehicle purchase or transfer, could raise more revenue over time. Highway Use Tax revenue has been responsive to inflation and has grown quickly over the last five years as the price of new and used cars has grown and the vehicle fleet has grown. However, it can be susceptible to economic downturns or slowdowns in car buying (a less frequent, durable good purchase) and like an access user fee is not directly related to road usage. North Carolina's current Highway Use Tax rates are lower than neighboring and peer southeastern states except South Carolina, which caps total Highway Use Tax at $500.
- **Maintaining a defensible sales tax allocation for transportation**, currently set at 6% of total sales tax revenue, to reflect the estimated percentage of consumer spending on transportation-related purchases such as parts and services. Sales tax is more responsive to inflation as it is assessed on the price of consumer goods. Since 2023, it has added a layer of diversification to the state's transportation revenue sources.

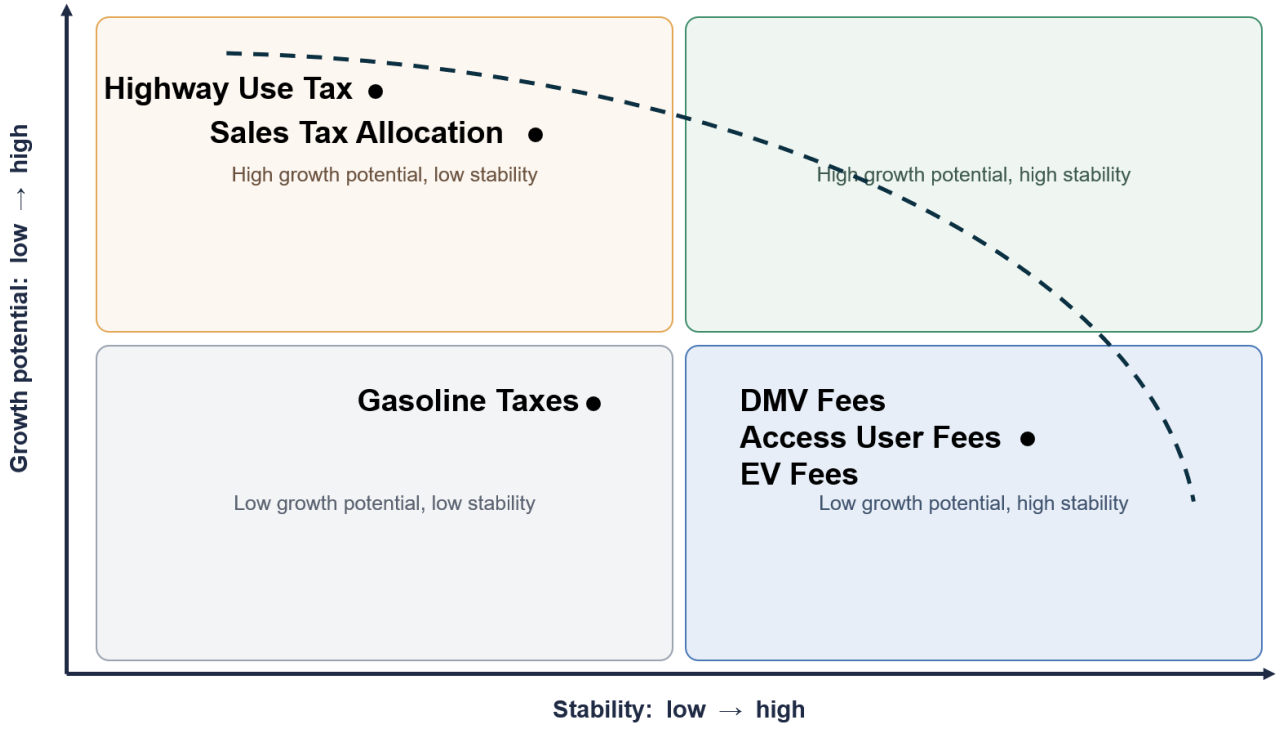
North Carolina's transportation revenue mix balances stability and growth potential: As seen in Table ES-3, DMV fees including potential access user fees offer stability but may not grow with rising demand and costs, while sales taxes and highway use taxes have grown quickly but may be less stable if consumer purchasing patterns change. As many states have seen, gasoline taxes are slowing and increasingly uncertain as driving patterns and vehicle mixes change.

Motor Fuels Tax Suspension: October-November 2026

Citing high gasoline prices due to shocks in global oil markets, the North Carolina General Assembly voted in October 2026 to suspend the state motor fuels tax on gasoline and diesel until the end of November, or just under two months. Independent estimates projected the two-month suspension to cost the state around $350 million, with transfers from state savings covering the cost to the NC Department of Transportation.

The North Carolina Chamber noted that high costs of fuel called for an alternative to relieve costs to consumers but showed the vulnerability of motor fuels taxes for transportation revenue. The Chamber called on North Carolina to develop a long-term reliable and diversified approach for future infrastructure funding.

Figure ES-3. Comparison of Existing North Carolina Transportation Revenue, Inflation Indices, and State-Level Benchmarks



There are tradeoffs between taxes based on road usage (e.g., gasoline taxes), as opposed to taxes on road users like flat registration fees, taxes based on vehicle value, or taxes related to transportation (e.g., sales tax allocation). A road usage tax like a motor fuels tax can be considered fair as it is roughly proportionate to travel, but there are risks to resilience if travel patterns change such as during an economic downturn or disruptive event. Gasoline tax suspensions are becoming more popular, including in North Carolina, in light of rising energy prices. A flat registration fee is predictable but presents questions of fairness, if it is applied equally to both low-mileage and high-mileage users. A tax based on vehicle value is more proportionate to income and reflective of inflation, as high income drivers will be more likely to buy pricey cars, but there are risks with a tax collected once on a durable good purchase as opposed to a consistent funding stream. A sales tax allocation based on transportation purchases provides inflation responsiveness but may not directly relate to travel.

Historically, the gasoline tax was the largest source of state revenue and was driven by road usage: users who drove more miles would pay a larger amount in gasoline taxes. In recent years, this dynamic has changed as more high-efficient and electric cars enter the fleet. The other sources are tied to road users: DMV fees including registration and electric vehicle (access) fees, highway use tax, and sales tax are paid by users of the transportation system but not necessarily proportional to the amount of usage. Other sources including toll roads and local sales tax options allow for targeted revenue for specific projects and are currently in place in several of the state's largest metropolitan counties, but this report focuses on statewide sources.

Moving forward, resilient transportation revenue for the state may come from a combination of modernizing one or more of the existing sources to retain the strengths of the current system: simplicity, diversification, and indexing for growth while addressing some of the challenges related to cost inflation and changing demands for gasoline and road transportation.

I. Introduction and Background

Gasoline taxes, levied per gallon at the state and federal level, are the most common source of transportation funding in the United States. In addition to the federal gasoline tax per gallon, North Carolina taxes gasoline at 41¢ per gallon in 2026. The state gasoline tax has been indexed for inflation since 1986 under various formulas. Since 2016 it has been adjusted on an annual basis based on an index of energy costs and population and has ranged between 36¢ and 41¢ per gallon over the past five years.

Historically, gasoline tax revenue has tracked with miles driven, and taxes paid by drivers corresponded directly to travel and road use. However, gasoline consumption has changed, driven by electric, plug-in hybrid, and high efficiency vehicles and changing driving patterns. In addition, road maintenance needs continue to increase, and inflation has driven up costs of construction. Considering these shifts, regional and state leaders are exploring alternatives for resilient transportation revenue, which would address rising costs to build and maintain transportation infrastructure.

Researchers, policymakers, and business leaders at the regional, state, and national level are exploring alternatives to the gasoline tax. These include electric charging fees, increased registration fees, road user charges (RUCs) such as vehicle miles traveled (VMT) fees, congestion charges, tolling options, and non-transportation revenue sources. Each of these alternatives come with potential benefits, risks, drawbacks, and limitations -- including challenges of implementation, applicability, fairness, enforcement, and public opinion. There is no single or perfect solution to funding transportation, and North Carolina has been able to maintain revenue stability and growth through diversified funding sources over the last two decades.

The report presents the current state of transportation funding in North Carolina, potential alternatives for funding transportation at the statewide level, and explores alternatives and their feasibility in North Carolina. For simplicity and feasibility, this report limits its focus to potential adjustments of existing state revenue sources for transportation. These sources include a revised and simplified inflation index for gasoline taxes and DMV fees, a flat access user fee as an expansion of existing DMV and electric/hybrid registration fees, retaining the existing sales tax allocation to transportation, and an increase to the highway use tax. The intent is not to take a position on one or the other, but to lay out the alternatives and explore the potential risks and benefits of each.

This report is prepared by RTI International and supported by the Regional Transportation Alliance (RTA), representing the business community in the Research Triangle Region of North Carolina. This work follows several years of research and engagement with the regional and statewide business community to understand how to identify and promote a resilient, sustainable, and simple transportation funding framework in North Carolina as the state grows and transportation demand continues to increase.

II. State of Transportation Funding in North Carolina

State revenue for the North Carolina Department of Transportation (NCDOT) approached $6 billion by 2025[1]. The NCDOT takes a balanced approach to funding transportation and relies on four primary sources to raise this revenue: motor fuels taxes, DMV fees, highway use taxes, and sales tax allocations that support the highway fund and highway trust fund. North Carolina is recognized nationally as having an overall balanced and competitive tax environment, contributing to its economic and population growth and consistent ranking among the top states for business. Transportation revenue has grown with state population growth: motor fuels tax revenue corresponds directly with gasoline sold and historically correlates with total vehicle miles traveled (VMT). Highway Use Taxes and sales tax allocation are growing as population and spending increase, and DMV fees have remained consistent. Transportation funding is allocated separately from the general fund.

Over its history, funding for NCDOT has evolved. Since the implementation of the gasoline tax in 1921, the state has revised the formula various times including in 1987, 1989, 1992, and 2017. The state introduced the Highway Trust Fund in 1989 funded through gasoline tax, DMV fees, and a 3% highway use tax on new vehicle sales. The EV registration fee came into effect in 2014 and a sales tax allocation of 6% was phased in between 2022 and 2024.

Trends in Funding

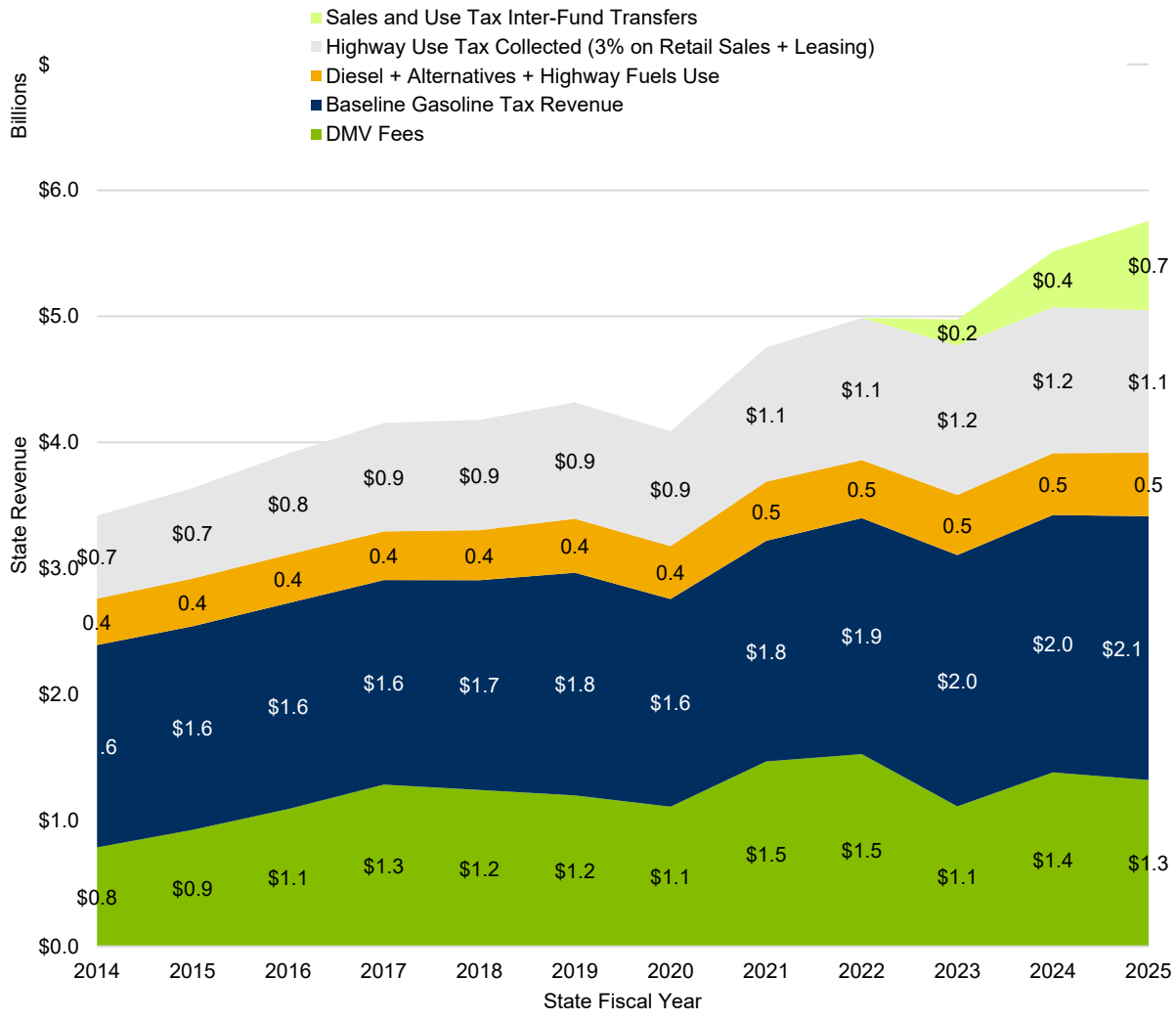
By the end of 2025, state motor fuels taxes contributed an estimated $2.5 billion annually to transportation in North Carolina. Gasoline sales generated 80% of motor fuels taxes; diesel and other highway fuels made up the remaining 20%. Gasoline sales and tax revenue relate most closely to private passenger vehicles, while diesel taxes primarily relate to freight and commercial vehicles. Consistent state population growth and new car registrations have driven overall growth in gasoline tax revenue, DMV fees, and highway use tax. The sales tax allocation implemented in 2022 created an additional source of revenue to complement historic sources of revenue for transportation. Over the last five years, the sharpest rate of growth has come from highway use tax and sales tax allocation, both of which are assessed on a per-dollar basis and reflect the rising prices of cars and consumer goods.

As shown in Figure 1, overall state transportation revenue has grown to nearly $6 billion by 2025. Growth between 2014 and 2025 was steady on average, but revenue fell by over 10% in 2020 as private passenger travel and gasoline purchases declined due to pandemic era work-from-home, travel downturns, and school closures. The pandemic revealed a vulnerability in consistent revenue coming from gasoline taxes, and by extension other travel-based measures. However, diesel tax revenues remained consistent since demand for freight and logistics remained; highway use taxes also remained high as consumers continued to buy and lease cars. Since 2021, total transportation revenue has increased, driven by increasing population, driving levels returning to pre-2020 values, and the sales tax allocation starting in 2022.

[1] An additional $1.8 billion came from Federal sources, which are not included in this analysis.

The North Carolina State Highway Use Tax (HUT), in place since the 1989 creation of the Highway Trust Fund, is based on the sale price of a new or used vehicle and is paid upon transaction when a title is transferred. Research in 2020 from the NC First Commission indicated a risk of future growth of the HUT as research pointed to declining vehicle ownership[2]. However, since 2020 HUT revenue has increased significantly, driven by the increasing price of new and used cars, which reached record highs in 2025[3]. Additionally, revenue from the state sales tax allocation, a new source of revenue as of 2023, exceeded the proceeds from state diesel taxes by 2025.

Figure 1. State Revenue from Gasoline and Diesel Taxes, Highway Use Tax, DMV Fees, and Sales Tax Transfers, in Billions of Dollars



Source: Historic data from NCDOR. NCDOT Performance Reports. Values in nominal dollars, not inflation adjusted.

[2] https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-3.pdf
[3] https://www.caranddriver.com/news/a69047202/average-new-car-price-rises-above-50000/

For North Carolina, diversified funding has allowed the state DOT to retain resilient funding despite exogenous shocks such as the downturn in driving in 2020 during the pandemic, and to continue to grow in an environment of increasing costs and fuel efficiency.

Federal Funding

States rely partially on federal funding to supplement state funding for transportation. In North Carolina, Federal funds make up an average of 25% of total DOT revenue each year.

Since 1956, the Federal Highway Trust Fund (HTF) has supported road construction funded primarily through gasoline, diesel, and truck taxes. Since 1993, the Federal Gasoline Tax has remained at $0.183 per gallon, with no adjustments for inflation. Price increases, increased efficiency, and declining VMT growth have placed a strain on the sustainability of the HTF over the last 30 years, requiring additional federal appropriations from non-transportation revenues during regular surface transportation reauthorization. National industry and advocacy groups have lobbied for federal motor fuels tax reform options for several decades including a national registration fee, a national EV fee, and adjustments to the federal motor fuels tax per gallon to account for inflation.

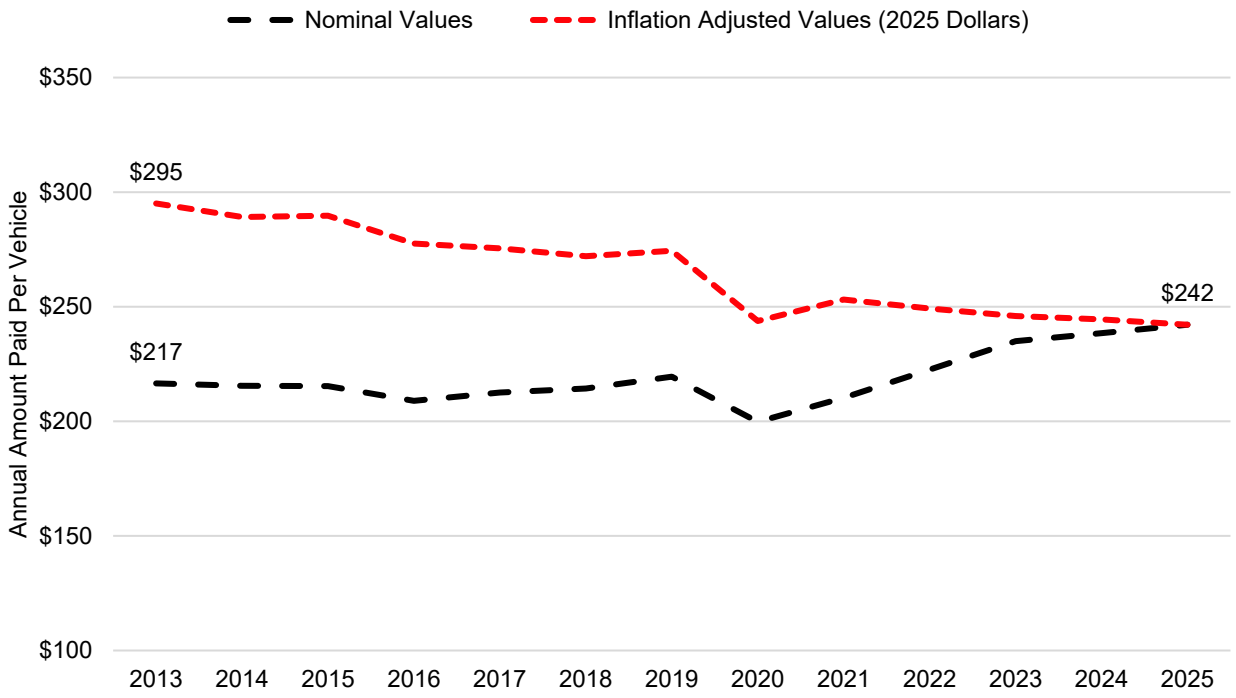
Analysis from the Eno Center for Transportation outlines the challenges of the Federal Highway Trust Fund and its revenue model, estimating that to maintain solvency the federal government would have to significantly cut spending or increase revenue through roughly doubling the gasoline tax or imposing an additional $120 national registration fee to address the existing shortfall.[4] In May 2026, the House Committee on Transportation and Infrastructure proposed the Build America 250 bill, the update to the federal surface transportation reauthorization. The bill passed out of committee on a bipartisan basis and incorporated a new federal partial access user fee framework consisting of a national electric vehicle fee ($130) and hybrid vehicle registration fee ($35) that would be collected through a state mandate and raised on a biannual basis to adjust for inflation[5].

Challenges with the State Gasoline Tax

As shown in Figure 2, the average gasoline tax paid per gasoline vehicle registered in North Carolina was $242 in 2025. Based on current trends, we estimate the average to be $246 in 2026. While this was an increase from a decade prior in nominal dollars, average gasoline tax per vehicle has declined by 18% when adjusted for inflation over the last 10 years. This reflects trends in gasoline tax revenue where inflation, fuel efficiency, and slowing VMT growth have placed pressures on the gasoline tax as a consistent revenue source. Additionally, indices of construction costs have outpaced general inflation over the last decade, placing additional strain on the state's ability to deliver transportation infrastructure projects.

[4] https://enotrans.org/eno-resources/the-last-exit-fixing-the-highway-trust-fund-while-solvency-is-still-solvable/
[5] https://transportation.house.gov/surface-transportation-reauthorization/

Figure 2. Average Gasoline Tax Paid per Vehicle in North Carolina: 2013-2025



Source: Historic data from NCDOR. Consumer Price Index from BLS

In 2026, the state gasoline tax per gallon increased to 41¢ per gallon (from 40.3¢ per gallon in 2025), or an increase of 1.7% based on the state's formula for indexing. At the current rate of growth of VMT and fleet fuel consumption, we can project that the average car will generate $246 in state gasoline tax per vehicle in 2026, or a nominal increase of 2.5%. For reference, year-over-year inflation in November 2025 was 2.7%, indicating the state will collect marginally less in real dollars in state gasoline taxes per vehicle in the coming year.

Gasoline taxes as a Share of State Revenues

Research from the National Association of State Budget Offices shows that in 2024, gasoline tax revenue made up 37.6% of states' transportation funding on average – a decline from 41.1% in 2018. States including California, Louisiana, and Arizona all forecast funding shortfalls driven by gasoline tax revenue failing to keep pace with inflation. In North Carolina, gasoline taxes made up 35% of funding in 2024, down from 48% in 2014 – although the size of this drop is primarily due to the increasing allocation of sales tax revenue to transportation during that time. In the future, as sales tax allocation, highway use tax, and EV registration fees make up a larger share of state revenue, the gasoline tax is projected to continue to decline as percentage of transportation funding.

Since FY 2023, a portion of state sales tax revenue has gone to transportation in North Carolina. By July 2024, 6% of sales tax revenue has been allocated to transportation – based on the percentage of commercial sales tied to transportation –adding an estimated $720 million to transportation revenue. While not as large as DMV fees, motor fuels taxes, or Highway Use

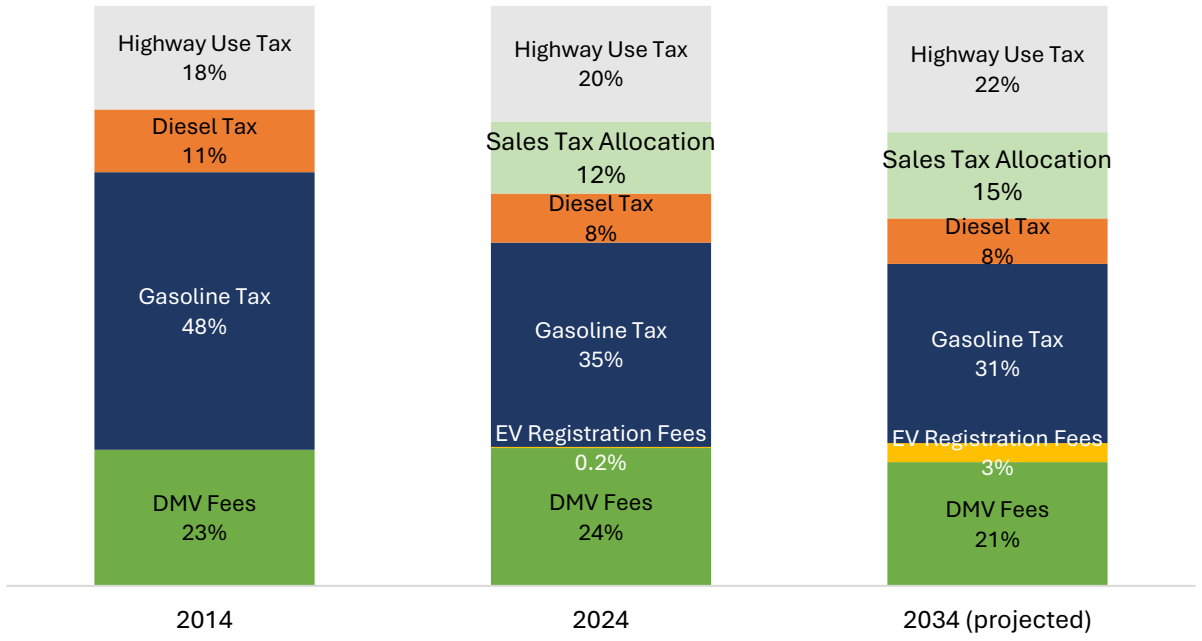
Tax, the sales tax allocation will contribute significantly to revenue stability and future growth in transportation funding in North Carolina.

If trends continue, sales tax revenue will continue to outpace diesel tax revenue, and Highway Use Tax (HUT) revenue will start approaching gasoline tax revenue. HUT is calculated as 3% of the sale value of new vehicles. As new cars increase in price, Highway Use Tax will increase alongside it, more closely tracking with inflation[6]. Sales tax allocation will represent an important source of revenue, tracking with increases in consumer spending, population, and inflation. One driving factor behind the rapid growth of sales tax and highway use tax was rapid inflation from 2020 to 2024 in prices of consumer goods, services, and cars, peaking at over 8% in 2022 before returning to 2.7% in November 2025. While inflation is cooling, it is difficult to predict if inflation rates will return to the Federal Reserve's 2% target rate[7] and how changes in energy prices and policy will affect car prices in the future.

In a status quo scenario, the state revenue from existing sources will continue to grow, with highway use tax and EV fees making up a larger share of overall state revenue while gasoline tax, diesel tax, and DMV fees grow more slowly. Figures 3 and 4 outline the percentages and total dollar amounts.

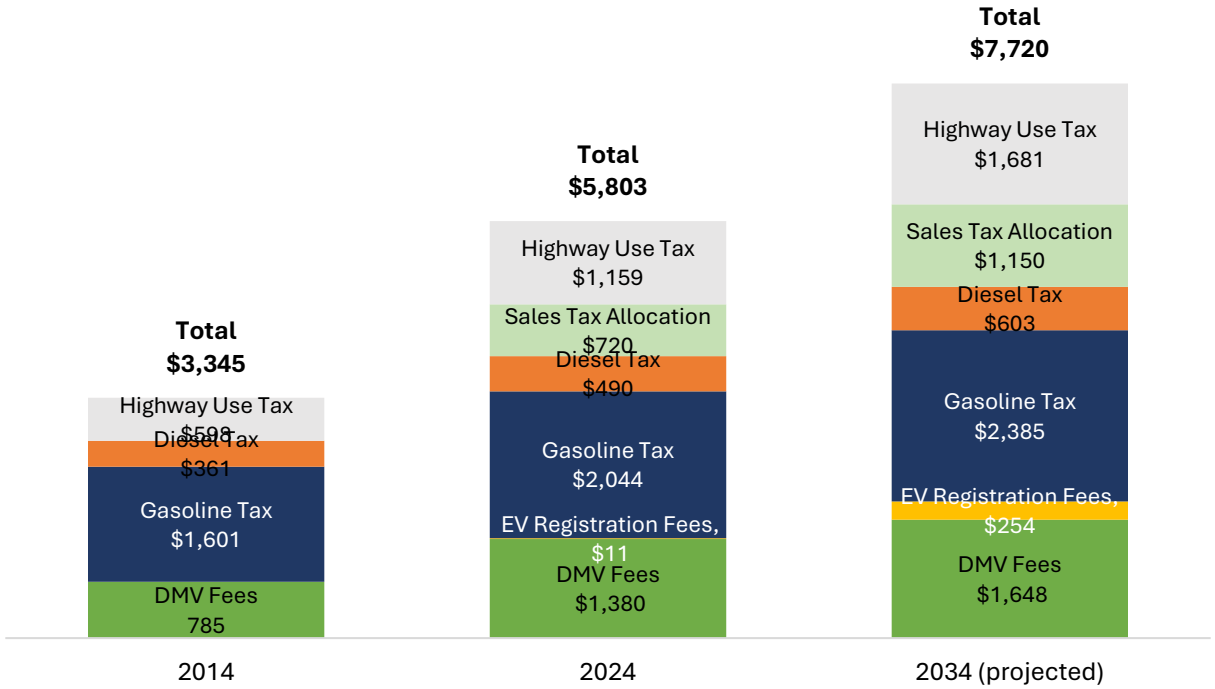
[6] In 2025, average new car prices exceeded $50,000, an increase of 25% from five years earlier. https://www.caranddriver.com/news/a69047202/average-new-car-price-rises-above-50000/
[7] Federal Reserve Bank of Minneapolis. https://www.minneapolisfed.org/about-us/monetary-policy/inflation-calculator/consumer-price-index-1913-

Figure 3. Proportion of Sources of State Transportation Revenue in North Carolina: 2014, 2024, and 2034 (projected), Percentages



Source: Historic data from NCDOR, RTI Estimates

Figure 4. Proportion of Sources of State Transportation Revenue in North Carolina: 2014, 2024, and 2034 (projected), Total Values, Nominal Dollars (millions)



Source: Historic data from NCDOR, RTI Estimates

Diesel Taxes

This report focuses primarily on gasoline vehicles, which are primarily private passenger cars. However, diesel and commercial vehicles make up around 10% of the state fleet and 8% of state motor fuels tax revenue. Diesel fuel demand and tax revenue are driven primarily by logistics, commercial vehicles, and trucks. Changes in private passenger behavior have little impact on diesel fuel demand: purchases tend to be less price elastic and driven by business demand. Increasing demand for just-in-time logistics, delivery services, and commercial uses currently drives diesel demand, but more electric options are entering the market. Major logistics companies are incorporating electric trucks into their fleet to address total cost of ownership and air quality demands and in many cases already have cost parity with diesel fuel. However, long-haul trucks face greater challenges for cost parity[8]. Market estimates from Goldman Sachs indicate that autonomous delivery trucks may enter the market more quickly than private passenger vehicles as their costs become cheaper per mile than human operators, which may impact diesel demand[9].

Federal Trucking Taxes

In addition to collecting federal diesel taxes, the Federal Government collects 12% excise tax on new heavy-duty truck sales, which can range between $15,000 to over $35,000 in taxes paid upon purchase. Additionally, they collect an annual heavy highway vehicle use tax of up to $550 per year on vehicles of 55,000 pounds or more. These relate to the higher impact of heavy trucks on federal interstate highways and contribute an outsized share to federal transportation revenues. No comparable federal tax exists for private passenger vehicles.

In these cases, electric commercial and delivery vehicles are already paying the state electric vehicle fee in North Carolina and paying a higher annual registration fee based on weight. As the state's mix of commercial and delivery vehicles shifts towards more electric vehicle adoption, future revenue considerations – (beyond the scope of this research report) will include how they are registered, how state EV fees are paid, and the impact of heavier battery-powered commercial vehicles on the road.

Existing State Transportation Funding Structures and Potential Alternatives

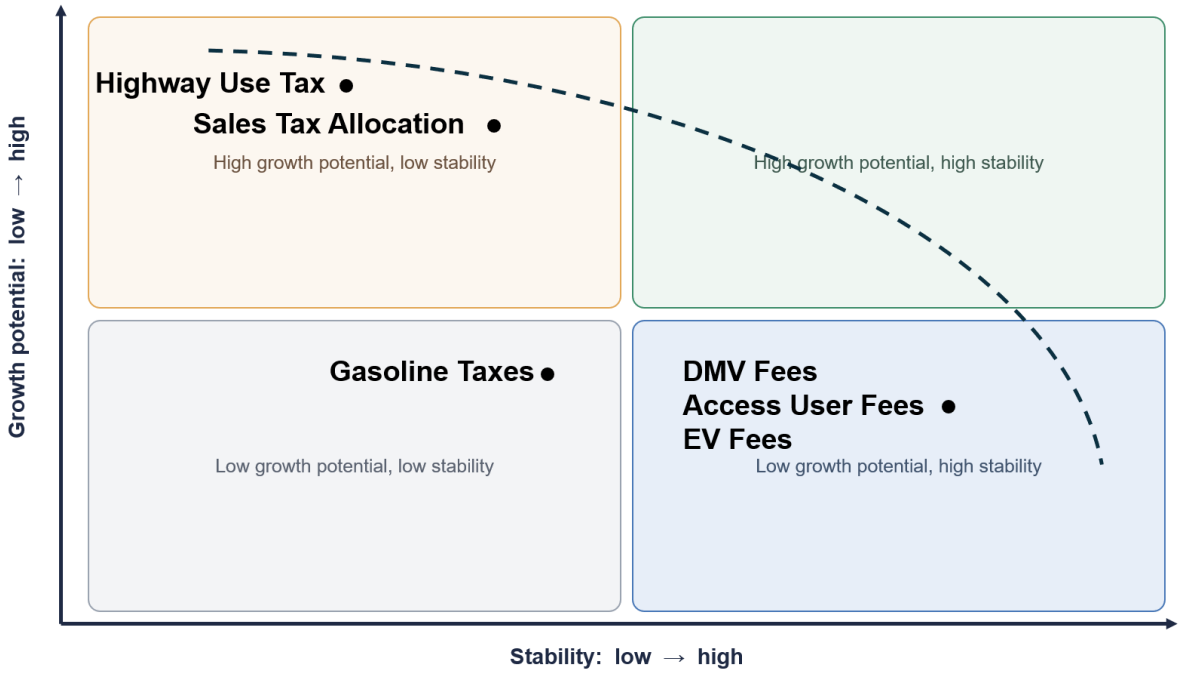
State revenues make up over 75% of the state's transportation funding, and North Carolina has one of the highest shares of road miles owned and managed by the state DOT as opposed to local or federal ownership. Only five states in the U.S. have over half of road miles owned by the state DOT (WV, DE, VA, NC, SC) and North Carolina is the largest of those states by population and road miles[10]. Only North Carolina and Texas have over 80,000 miles of state-managed roads. This places a large responsibility on the state DOT for construction and maintenance. At the outset of the motor fuels tax, it served as an equal implementation of the user fee for road use and a reliable source of revenue for state-funded transportation infrastructure. However,

[8] https://www.eesi.org/papers/view/fact-sheet-the-future-of-the-trucking-industry-electric-semi-trucks-2023
[9] https://www.goldmansachs.com/insights/articles/robotaxis-to-become-a-400-billion-dollar-market-in-2035
[10] Public Road Length, 2022. FHWA. https://www.fhwa.dot.gov/policyinformation/statistics/2022/pdf/hm10.pdf

inflation pressures and the growing gap between fuel efficiencies of cars on the roads have since challenged both the revenue it is able to generate, as well as its fairness in realistic execution. While diversification of funding mechanisms has helped to maintain transportation revenue in North Carolina, challenges persist in maintaining stable revenue and addressing inflation.

The four main mechanisms for funding provide a mix of growth potential and stability as shown in Figure 5. DMV fees are fixed and offer a stable and predictable source of funding. Sales Tax Allocation and Highway Use Tax track with sales of goods and vehicles respectively and have grown quickly over time as prices have risen but are less predictable and subject to economic shifts. Gasoline taxes have been slow growth and less stable, as they have not kept up with inflation and increasing fuel efficiency.

Figure 5. Growth Potential and Stability of Transportation Funding Sources in North Carolina



Source: RTI Analysis of data from NCDOR, national sources, interviews

Gasoline taxes and Fuel Efficiency

Gasoline taxes continue to be the largest single source of funding and continue to track the closest with travel. However, inflation and structural declines from electric vehicles and fuel efficiency are eroding the revenue from gasoline taxes in North Carolina. According to a report by TRIP, a national transportation research nonprofit, the average fuel efficiency of passenger vehicles in the United States has improved significantly, rising from 20 miles per gallon in 2010 to 24.5 miles per gallon in 2020.

Efficiency is expected to continue increasing to about 32 miles per gallon by 2030 and 37 miles per gallon by 2040. Over the same period, electric vehicles are projected to grow rapidly,

increasing from about five percent of new vehicle sales in 2023 to 60 percent by 2040, when they are expected to make up roughly 30 percent of the total passenger vehicle fleet.[11] Despite changes in federal policy, industry analysts expect consumers to continue to buy more fuel efficient, plug-in hybrid, and electric vehicles that generate less gasoline tax revenue.

Registration Fees

DMV fees and vehicle registration charges make up roughly one-fifth of state transportation funds and offer a stable, immediate funding source to replace declining gasoline tax revenue for electric vehicles or hybrid drivers. However, these fees present several significant drawbacks as they currently only adjust for inflation every four years, meaning they often lag rising maintenance and construction costs, and do not account for individual drivers' road usage or out-of-state drivers.[12]

The amount of funding collected by DMV fees and vehicle registration charges is also impacted by evasion, with owners failing to register on an annual basis. "Ghost" cars: vehicles with license plates that obscure the true ownership of the vehicle, whether through alteration, forgery, or improper registration, are a concern[13] that has raised more attention in states like New York and New Jersey, but North Carolina has not been immune. To help mitigate this issue, as of January 1st, 2025, North Carolina has implemented a statewide print-on-demand temporary registration plate system. This system electronically associates the vehicle owner's information at the time of printing to prevent the mass production of forged paper plates.[14] However, registration fees can be evaded when new residents neglect to register their vehicles, or when they are purposely registered in a different state to avoid higher registration fees.[15] [16] In 2026, North Carolina eliminated paper registration cards and stickers as part of a transition to a fully digital registration system.

Highway Use Tax

The Highway Use Tax (HUT), a 3% tax on the sale price of a purchase or transfer of a new or used vehicle in North Carolina, has been consistent and responsive to inflation while providing a substantial revenue yield with small rate change and low implementation and administrative costs. In 2024, it generated $1.2 billion in state revenue. As noted above, while the NC First Commission in 2020 projected a decline in the HUT driven by carsharing and declining private car ownership, the data in practice showed the opposite effect: car purchases went up and car sales prices hit record highs in 2025. However, while Highway Use Tax grew consistently over

[11] TRIP. (2023, April). *Moving North Carolina forward: Providing a modern, reliable and sustainable transportation system in the Tar Heel State.*
[12] North Carolina Department of Transportation. (2024, April 2). *NCDMV fees to increase July 1, per state law* [Press release].
[13] New York City Council. (2025, August 28). *New York City Council investigation reveals widespread use of fraudulent and out-of-state license plates to evade tolls and traffic cameras* [Press release].
[14] DMV Proposed Legislative Changes, N.C. Sess. Laws 2024-30, H.B. 199 (2024).
[15] California Highway Patrol. (n.d.). *Report out-of-state registration violators*.
[16] L4SB Law. (2025, April 29). *The hidden risks of registering your car in another state to dodge sales tax*. Law 4 Small Business.

the decade from 2015 to 2025, driven by high purchase costs for new and used vehicles, a future economic slowdown or slowdown in purchasing of cars could impact revenue[17].

Sales Tax Allocation for Transportation

Tax revenue from non-traditional sources like general fund allocations of transportation-related sales taxes to transportation funding have benefits and risks. The North Carolina General Assembly implemented an allocation of sales tax revenue to transportation in 2022, growing to 6% in 2024. The allocation of 6% of sales tax revenue from the General Fund to Transportation, calculated by the estimate of sales that are related to transportation-related goods, is generating needed revenue for the state's infrastructure and complementing other revenue sources. However, future competing priorities with a tight state budget could risk funding being clawed back or reallocated to other uses such as health, education, or other state government demands.[18]

[17] North Carolina Department of Transportation. (2020, January). *NC FIRST Commission issue brief: Motor fuel tax* (Edition 3).
[18] North Carolina Department of Transportation. (2020, July 31). *Revenue options: Advantages and disadvantages* [Handout].

Regional Peer and Comparison States

Most states in the U.S. collect revenue through a combination of gasoline taxes, annual registration fees, and a highway use tax or equivalent collected as a percentage of the sale price upon purchase or transfer of a new or used vehicle. When compared to most peers, North Carolina has a relatively low highway use tax at 3%, which replaces the state sales tax of 4.75% on car purchases. North Carolina's rate is below most other southern and peer states as seen in **Table 1.**Neighboring South Carolina is an exception: while the 5% rate is higher than the 3% rate in N.C., it comes with a $500 maximum, which means that any vehicle purchase of $10,000 or more will pay $500. Other states apply their sales tax or a higher rate but may have caps or exceptions, in particular for new residents bringing a vehicle previously registered in another state. North Carolina's gasoline tax is similar to neighboring Virginia but higher than other states, and annual vehicle registration fees vary.

Table 1. North Carolina and Peer State Transportation Taxes and Fees

State	Vehicle Sales/Registration Tax Rate Upon Purchase	Caps or Limits	Deduction for Trade-in Value?	State Gasoline Tax Rate per Gallon (2026)	Annual Private , Passenger Vehicle Registration Fee (2026)
North Carolina	3%	$250 for new residents, $2,000 for RVs	No	41.0¢	$46.25
Virginia	4.15%	No	No	41.6¢	$30.75–$35.75 (by weight)
South Carolina	5%	$500 cap	No	28.75¢	$20 annual equivalent ($40 biennial)
Tennessee	7% (+ local option taxes)	Cap on local option taxes	No	27.4¢	$26.50, plus county fees
Georgia	7%	3% for new residents	No	33.85¢	$20
Florida	6%	No	No	39.3¢	$14.50–$32.50 base fee (by weight; other statutory fees apply)
Maryland	6.5%	$41.60 for new residents, vehicle 7 model years old or older	No	46.19¢	Varies by vehicle weight and registration term
Texas	6.25%	$90 for new residents	Yes	20.0¢	$51.75 state total, plus local/processing fees

Source: NCDOR, Virginia DMV, South Carolina DMV, Tennessee Dept of Revenue, Georgia Department of Revenue, Florida Department of Revenue, Maryland MVA, Texas Comptroller

Local Option Taxes and Targeted Project Funding via Tolling

Local Option Sales Taxes

North Carolina allows for local option sales taxes for transportation if they are approved by voters. As of 2026, four counties have local option sales taxes in addition to the standard state and county sales tax rates: Wake, Durham, and Orange have a 0.5% additional sales tax that funds regional transit, while as of July 1, 2026, Mecklenburg has a 1.5% local tax to support transit and roads.

Tolling

Since 2002, the North Carolina Turnpike Authority has had the authority to plan, develop, build, and operate toll roads in North Carolina. In the state, toll road (turnpike) projects are requested by local planning organizations and are considered in areas with high congestion and a need to raise additional funding for specific projects. Current toll roads in North Carolina are in the Research Triangle (I-885/540 Triangle Expressway) and in the Charlotte Metro Area. In total, the Turnpike Authority generated $147 million in revenue in FY 2025, of which 75% was from the Triangle Expressway[19]. Toll roads generate revenue by only charging users who access and use the freeways, through a transponder or cameras to capture license plates. Funds raised by toll roads support construction and maintenance for those specific projects. Since the creation of the Turnpike Authority and the opening of the Triangle Expressway in 2012, there are now 3 open toll roads in North Carolina, 2 under construction, 3 under development, and additional projects being considered by regional planning organizations to alleviate local and regional traffic congestion.

Summary of State Sources

Table 2 summarizes the present use, strengths, and drawbacks of North Carolina's primary statewide transportation revenue sources.

[19] North Carolina Turnpike Authority FY 2025 Annual Comprehensive Financial Report. https://www.ncdot.gov/divisions/turnpike/investor/Documents/2025-ncta-acfr.pdf

Table 2. Strengths and Drawbacks of North Carolina Statewide Transportation Revenue Sources

	Present Use	Strengths	Drawbacks
Motor fuels taxes	• North Carolina presently levies a 41-cent tax per gallon (gasoline & diesel) as well as an additional .0025 cents per gallon inspection tax • Additional 18.4-cent federal tax per gallon	• Simple to collect and systems already exist. Difficult to evade for gasoline-powered vehicles. • Decades of institutional experience, public acceptance • Designed to connect payments directly to travel and revenue is directly tied to transportation • Allow taxes to be collected simply from out-of-state drivers who purchase fuel in North Carolina	• Electric vehicles and fuel efficiency gains deplete revenue from motor fuels taxes • Not equally applied (fuel-efficient or EVs pay less than gasoline powered) • Regressive (affects low-income drivers more) • Current indexing formula does not adequately adjust for inflation.
DMV fees, registration fees, or flat access user fees	• North Carolina charges a title fee of $66.75 and a registration fee of $46.25 for privately owned passenger vehicles • Heavier trucks and commercial vehicles pay a weight-based registration fee • Flat fees exist for hybrid and EV registrations to offset lost motor fuels tax revenue	• Drivers pay the same amount regardless of travel • Simple to collect and administrative systems already exist • Stable revenue source	• Drivers pay the same amount regardless of travel • Inflation adjustment currently occurs every four years, not annually • Out-of-state drivers traveling through the state would not be accounted for • Risks of evasion, non-compliance, or ghost cars
Highway Use Tax based on vehicle value	• North Carolina's one-time highway use tax is 3% of the vehicle's value (not to exceed $250 for new NC residents)	• Simple to collect and systems already exist • Revenue is proportionate to value (high-income owners of more expensive vehicles pay more) • Responsive to inflation as car sale prices have increased	• Not directly tied to road use • Paid only upon purchase or transfer, not an annual or regular payment from drivers • Stability of revenue may be impacted if car buying trends slow or decline due to recession or changing buying patterns
Non-transportation funding sources, Sales Tax Allocation	• Effective July 2024, a percentage of the sales tax revenue, consistent with the proportion of transportation-related sales tax expenditures in North Carolina is allocated from the General Fund to the Highway Fund on a quarterly basis. Currently 6%.	• Flexible revenue (can support transportation system as a whole) • More responsive to inflation	• Not directly tied to travel or transportation (although related to associated expenditures) • May fluctuate with economic conditions in event of recession or downturn • Competing legislative priorities may result in funds clawed back to general fund

III. Modernizing and Simplifying Gasoline Tax Index

The state has indexed its gasoline tax to address inflation since 1986. In 2016, the General Assembly passed legislation to set North Carolina's state gasoline tax per gallon at $0.34 plus an annual multiplier, indexing by population growth (75%) and the energy component of the consumer price index (25%) . These changes were implemented by the legislature to address declining revenue because of falling gasoline prices in the mid-2010s.

Since 2016, the state motor fuels tax has risen from $0.34 to $0.41, representing an increase of $0.07 per gallon or 20.5%. While fuel tax revenue has grown over the last 10 years, driven by growth in state population and indexing by energy costs, it has not kept pace with inflation as measured by the consumer price index nor with the costs of highway construction tracked by the US Department of Transportation through the National Highway Construction Cost Index (NHCCI). As shown in Table 3, these rapidly increasing construction costs have placed a constraint on NCDOT's budget and its ability to deliver a timely and robust transportation program for North Carolina.

Table 3. Change over Time in Transportation Revenue, Costs, and Growth: 2014-2025

Value	*Percentage Change, 2014-2025*
State Transportation Revenue Sources	
State Motor Fuels Tax Per Capita	**17%**
Highway Use Tax per Capita	53%
Vehicle Registration Fees per Capita	50%
State Sales Tax Per Capita[20]	88%
Cost Indices	
Consumer Price Index-Energy (CPI-Energy)	14%
Consumer Price Index (CPI)	34%
National Highway Construction Cost Index (NHCCI)	89%
Growth Indices	
State Population	12%
Registered vehicles	17%
Vehicle Miles Traveled	21%

Potential Indexing Rate Alternatives

In the future, motor fuel taxes are projected to continue growing more slowly than inflation. The regional and statewide business community is interested in exploring potential alternative indexing options to allow state revenues to better keep pace with inflation and generate sufficient funding to address planning, construction, and maintenance needs. DMV fees and

[20] *State sales tax (4.75%) revenue collected is allocated to the general fund. Since 2023, an allocation of sales tax revenue has been transferred from the general fund to the Department of Transportation

other state fees are also adjusted to address inflation. Costs such as license and vehicle registration fees are indexed every four years, based on the consumer price index (CPI-U) reported from the U.S. Bureau of Labor Statistics.

As this section will show, alternative indexing measures such as the CPI-U or NHCCI would result in alignment with increased costs to deliver transportation infrastructure, a higher gasoline tax, and more revenue for the state to meet transportation funding needs. The balance of this report reviews potential alternative indexing options, and the potential financial impacts of various frameworks, from both a retrospective and prospective standpoint.

Retrospective: 2016-2026

From 2016 to 2026, the gasoline tax generated an estimated $22 billion for NCDOT, under the existing indexing framework of 75% population and 25% CPI-Energy in place since 2016. Had one of several alternative indexing scenarios been in place; for example, one that applied a higher weight to either the consumer price index or NHCCI, the state would have a higher gasoline tax and higher annual revenue for NCDOT to address rising construction costs. As shown in Table 4, various scenarios show the hypothetical gasoline tax and revenue in 2026 based on implementation at the end of 2016.

Table 4. Hypothetical Gasoline tax Indexing Alternatives and Impact: 2016-2026

Scenario: Annual Index for Gasoline tax Revisions starting 2016 *at* $0.34/gal	Gasoline tax Per Gallon (Jan 1, 2021)	Gasoline tax Per Gallon (Jan 1, 2026)	Modeled Annual Revenue (2026)	Modeled Cumulative Revenue (2016-2026)	Increase in Cumulative Revenue over Baseline (2016-2025)
Baseline: 75% Population, 25% CPI-Energy (current fuel tax index)	*$0.361*	*$0.410*	*$2.3 B*	*$22.0 B*	-
a) 75% CPI-U, 25% Population *(same components, opposite percentages)*	$0.370	$0.439	$2.4 B	$22.6 B	$0.6 B (+3%)
b) 100% CPI-U *(current index for DMV fees)*	$0.375	$0.461	$2.5 B	$23.2 B	$1.2 B (+5%)
c) 75% CPI-Energy, 25% Population	$0.410	$0.477	$2.6 B	$24.6 B	$2.6 B (+12%)
d) 25% NHCCI, 75% CPI-U	$0.387	$0.507	$2.7B	$24.5 B	$2.5B (+12%)
e) 50% NHCCI, 50% CPI-U	$0.398	$0.557	$3.1 B	$25.9 B	$3.9 B (+18%)
f) 75% NHCCI, 25% Population	$0.404	$0.582	$3.2 B	$26.7 B	$4.7 B (+21%)
g) 75% NHCCI, 25% CPI-U	$0.410	$0.609	$3.4 B	$27.4 B	$5.4 B (+25%)
h) 100% NHCCI	$0.422	$0.665	$3.7 B	$28.9 B	$6.9 B (+31%)

Source: Baseline from NCDOR, alternatives from Bureau of Labor Statistics and U.S. Department of Transportation. Totals modeled by RTI, assuming indexing formula started at the end of 2016.

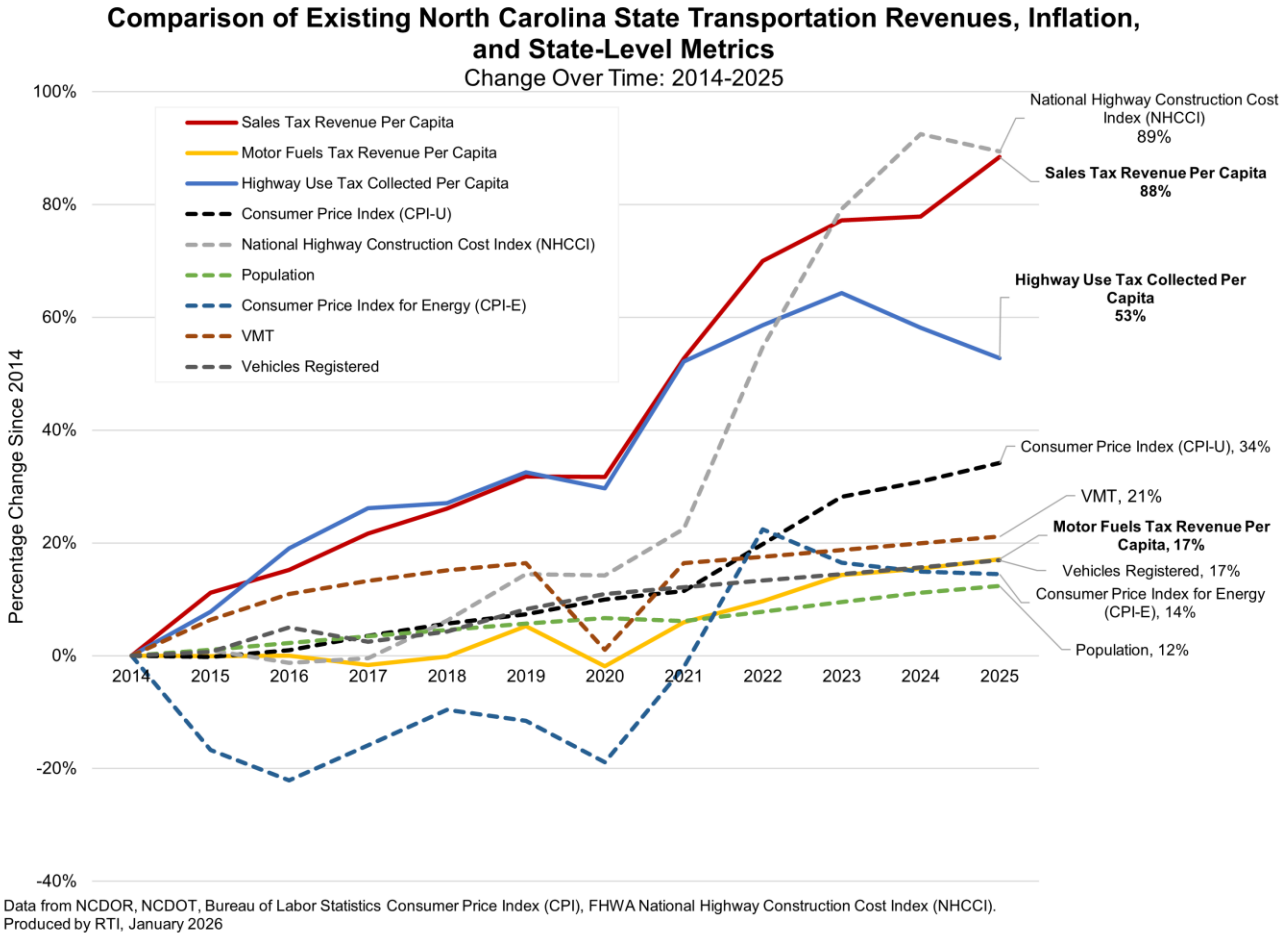
Had the North Carolina state gasoline tax been benchmarked to the standard measure of inflation (consumer price index or CPI-U), the gas tax at the end of the decade would have been

8.6 cents/gallon higher than under the current index, and it would have produced a cumulative $1.2 billion or 5% more over a 10-year period., Other scenarios that account for construction costs (NHCCI) would have generated varying cumulative gasoline tax revenue increases from 12% up to 31% over the time period.

Since 2014, while population and gasoline tax revenue per vehicle have grown more slowly than standard measures of inflation, sales tax per capita and HUT revenue per vehicle have kept track with inflation. Both sales tax and highway use tax are closely tied to the prices of consumer goods and cars, a key component of inflation. Energy CPI started to increase in 2017 following a decline in 2014-2016: that decline in energy prices was one of the motivators for the state legislature to change the funding formula following a loss in gasoline tax revenue.

Similarly, rates started to diverge between 2021 and 2022 when standard measures of inflation and construction costs saw sharp increases, driving the difference between gasoline tax revenue and cost indices like NHCCI and CPI, as shown in Figure 6.

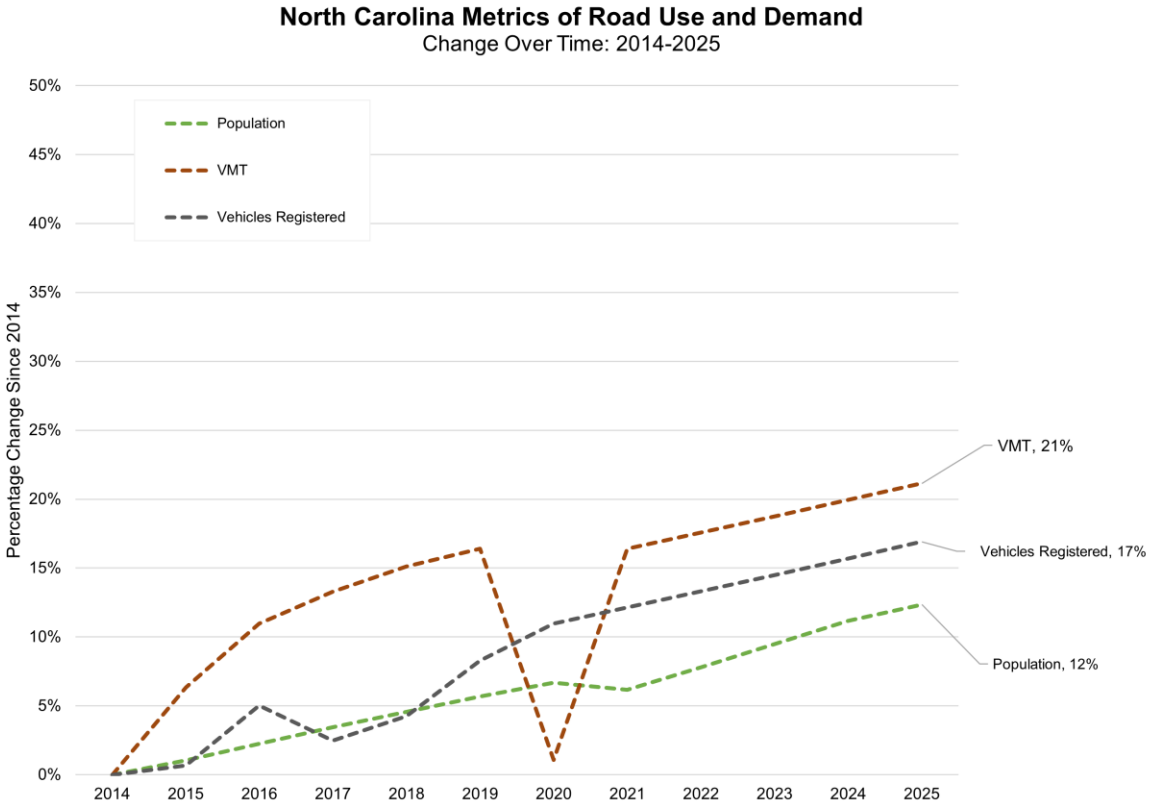
Figure 6. Comparison of NC Transportation Revenue, Inflation Indices, and Growth



Data from NCDOR, NCDOT, Bureau of Labor Statistics Consumer Price Index (CPI), FHWA National Highway Construction Cost Index (NHCCI).
Produced by RTI, January 2026

As shown in Figure 7, total road use, vehicle registrations, and population growth were relatively consistent over the period between 2014 and 2025, excluding a sharp decline in Vehicle Miles Traveled (VMT) in 2020, driven by pandemic-era closures.

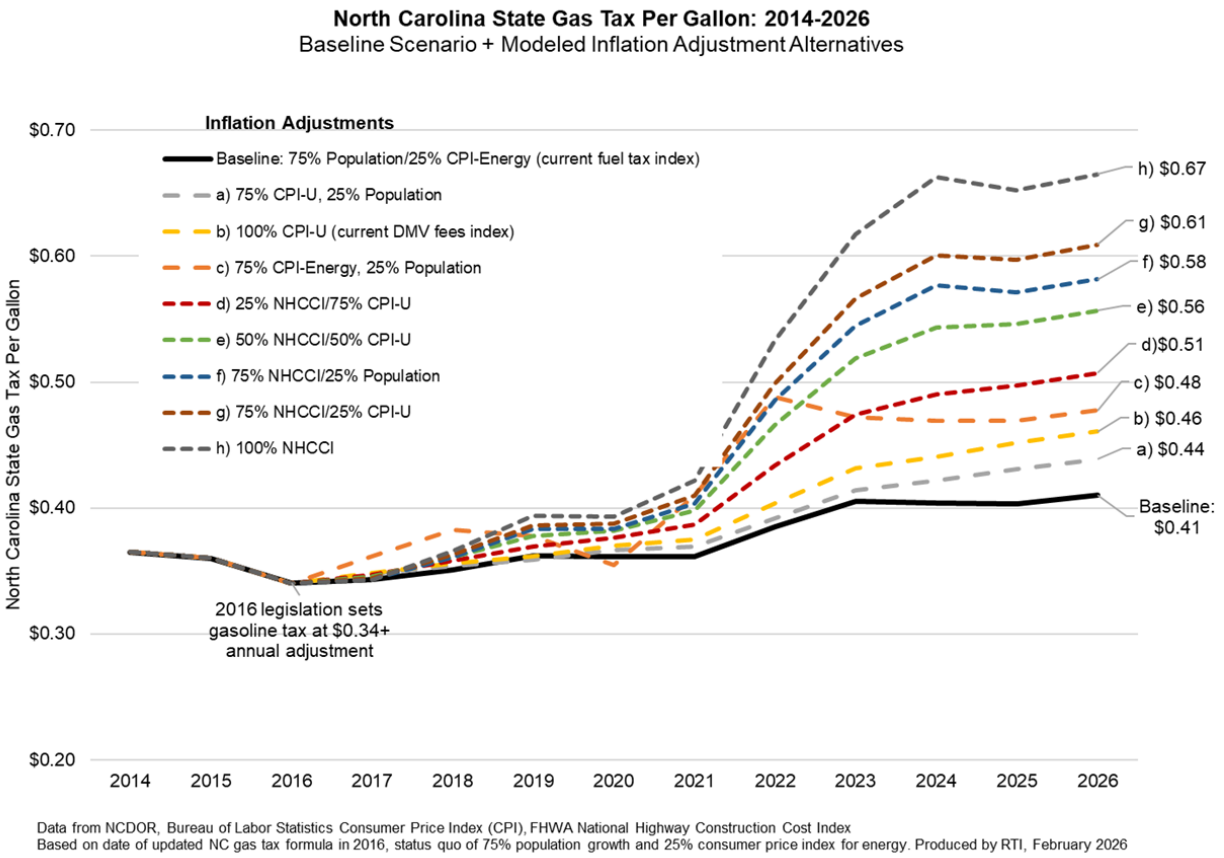
Figure 7. Metrics of Road Use and Demand in North Carolina: Growth from 2014 to 2025 in VMT, Registered Vehicles, and Population



Data from NCDOR, NCDOT, Bureau of Labor Statistics Consumer Price Index (CPI), FHWA National Highway Construction Cost Index (NHCCI).
Produced by RTI, January 2026

Had the gasoline tax been indexed by a different measure such as a combination of CPI and NHCCI, the state gasoline tax would have followed a different trajectory from 2016 (the year of implementation of the updated gasoline tax formula) to 2026, driven by faster growth in highway construction costs and consumer costs, as shown in Figure 8.

Figure 8. Modeled Gasoline tax in North Carolina Based on Alternative Indexing Formulas: 2016-2026



Prospective: 2027-2036

Similarly, future scenarios show how a different indexing formula could result in more revenue over the next decade. If a new gasoline tax index were implemented starting at the end of calendar year 2026 (starting January 1, 2027) based on a baseline of $0.41 per gallon in 2026 and indexed by a combination of CPI, population, and/or NHCCI growth, various scenarios would result in an increase in gasoline tax and annual state revenue over the next decade. While use of the current baseline would result in a cumulative $27B over the next decade, alternatives present a higher gasoline tax and overall state revenue from the gasoline tax ranging between a 3% and 31% increase, as shown in Table 5. This is based on the assumptions that rates of growth in population, CPI, energy, and construction costs follow a similar trend to the prior decade and may vary based on rates of inflation, energy costs, and construction costs.

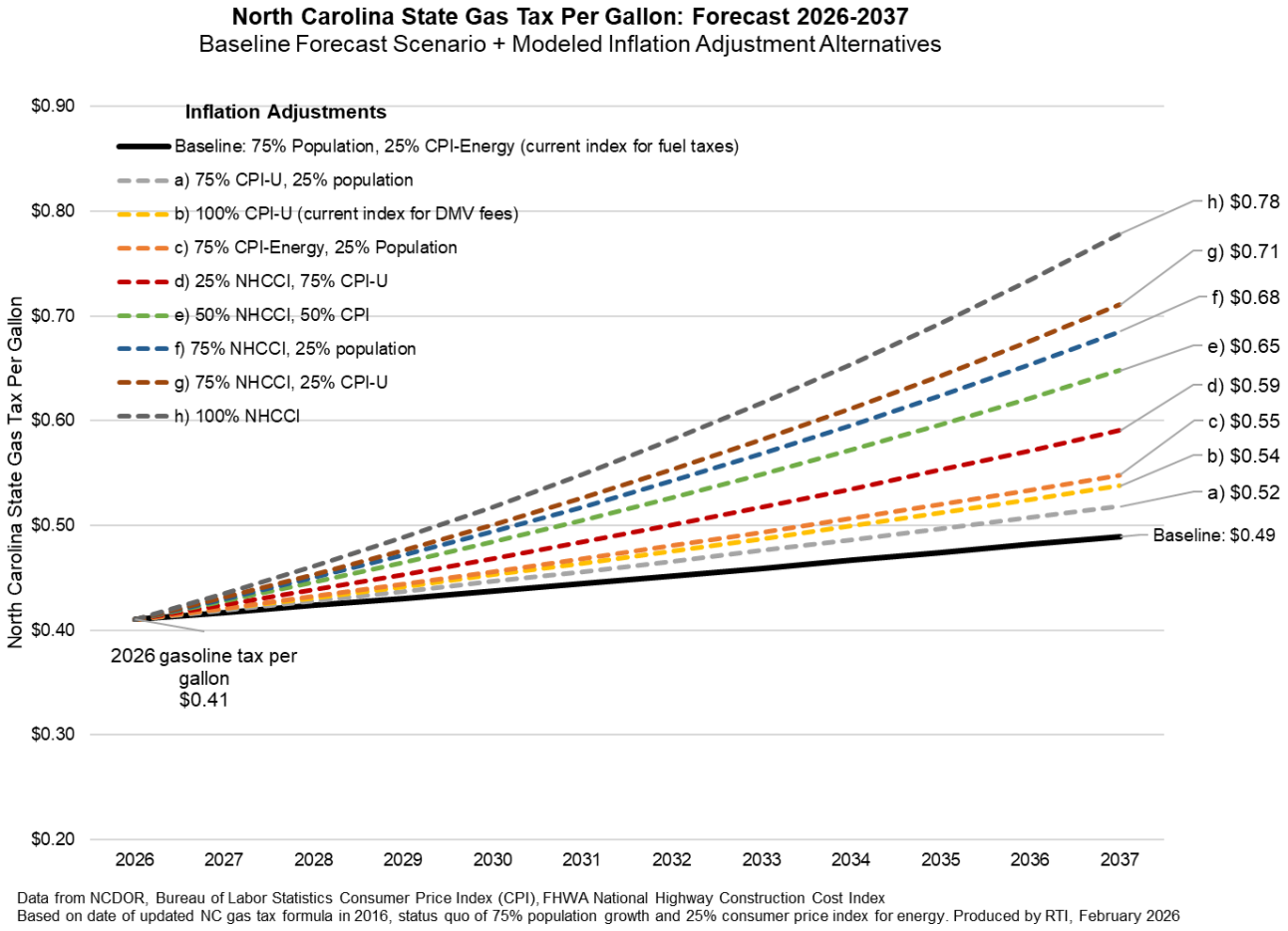
Table 5. Projected Hypothetical Gasoline Tax Revenue Scenarios in North Carolina: 2027-2036

Scenario: Annual Index for Gasoline tax Revisions Starting 2027 at $0.410/gal	Gasoline tax Per Gallon (Jan 1, 2032)	Gasoline tax Per Gallon (Jan 1, 2037)	Modeled Annual Revenue (2036)	Modeled Cumulative Revenue (2027-2036)	Increase in Cumulative Revenue from Baseline (2027-2036)
Baseline: 75% Population, 25% CPI-Energy (current fuel tax)	*$0.452*	*$0.490*	*$2.7 B*	*$27.0 B*	-
a) 75% CPI-U, 25% Population *(same components, opposite percentages)*	$0.466	$0.518	$2.8 B	$27.9 B	$0.9 B (+3%)
b) 100% CPI-U *(current index for DMV fees)*	$0.475	$0.538	$2.9 B	$28.5 B	$1.5 B (+6%)
c) 75% CPI-Energy, 25% Population	$0.480	$0.548	$3.0 B	$28.8 B	$1.8 B (+7%)
d) 25% NHCCI, 75% CPI-U	$0.500	$0.591	$3.2 B	$30.1 B	$3.1 B (+11%)
e) 50% NHCCI, 50% CPI-U	$0.526	$0.648	$3.5 B	$31.7 B	$4.7 B (+17%)
f) 75% NHCCI, 25% Population	$0.542	$0.685	$3.7 B	$32.8 B	$5.8 B (+21%)
g) 75% NHCCI, 25% CPI-U	$0.553	$0.710	$3.9 B	$33.5 B	$6.5 B (+24%)
h) 100% NHCCI	$0.582	$0.778	$4.2 B	$35.3 B	$8.3 B (+31%)

Source: Baseline from NCDOR, alternatives from Bureau of Labor Statistics and U.S. Department of Transportation. Totals modeled by RTI, assuming indexing formula started at the end of 2026.

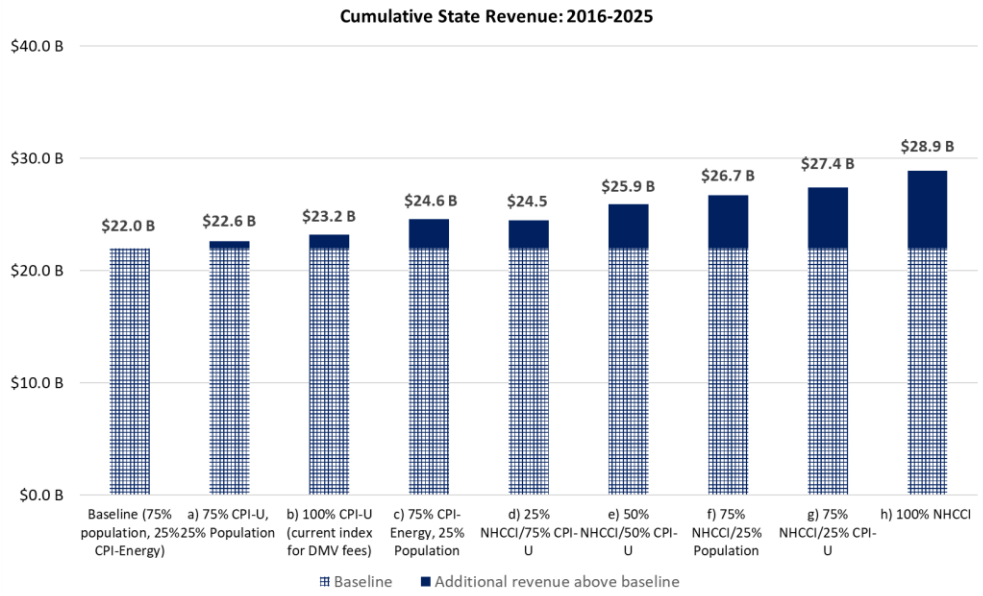
As shown in Figure 9, the range of scenarios outlines the possibilities for a future gasoline tax, implemented at the start of 2027, based on one of a series of alternative funding formulas. Forecasts indicate that consumer, energy, and highway construction cost indices will grow more quickly than population which would drive higher gasoline taxes under different scenarios.

Figure 9. Modeled Gasoline tax in North Carolina Based on Alternative Indexing Formulas, Forecast 2027-2036



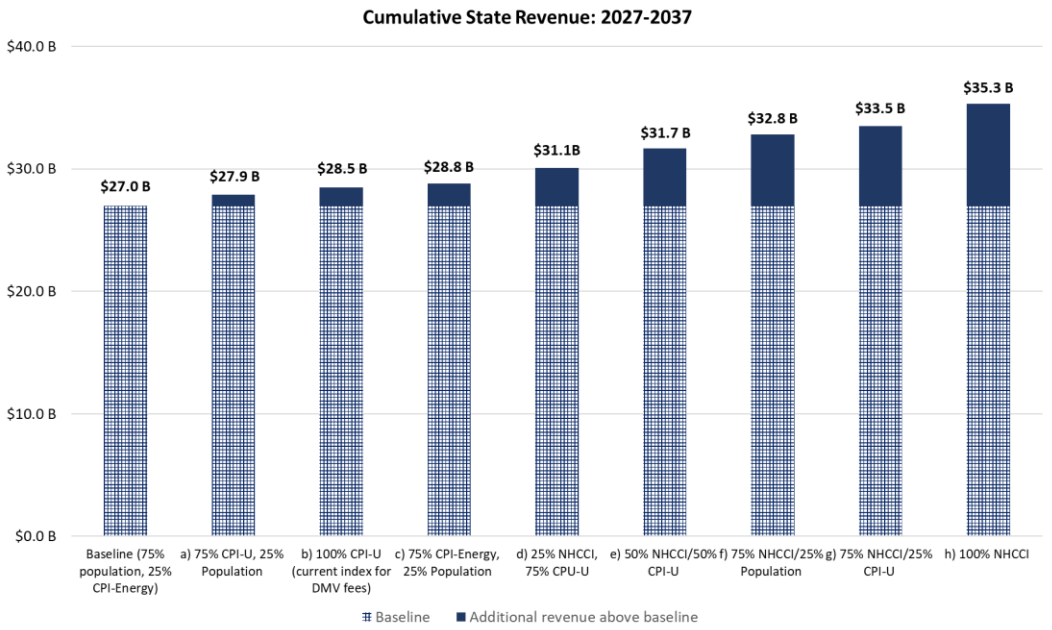
As noted above, the different scenarios retrospectively and prospectively would result in an increase of between 3% and 31% in revenue over a 10-year period. (Figure 10 and Figure 11)

Figure 10. Retrospective Cumulative Revenue of Alternative Gasoline tax Indices, 2016-2025



Forecast of state revenue based on inputs from NCDOR, Bureau of Labor Statistics Consumer Price Index, National Highway Construction Cost Index. Baseline asssumes gas tax adjusted annually by 75% population, 25% Energy CPI based on state formula. Produced by RTI, January 2026

Figure 11. Prospective Forecast Cumulative Revenue of Alternative Gasoline tax Indices, 2016-2025



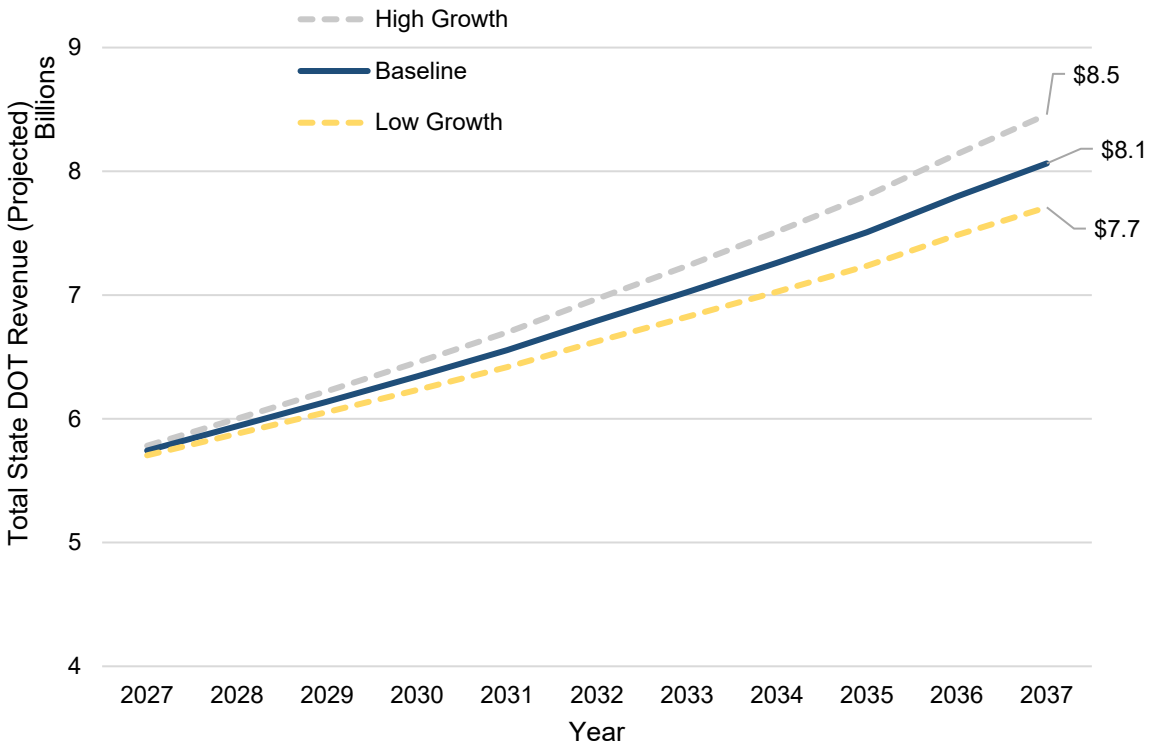
Forecast of state revenue based on inputs from NCDOR, Bureau of Labor Statistics Consumer Price Index, National Highway Construction Cost Index. Baseline asssumes gas tax adjusted annually by 75% population, 25% Energy CPI based on state formula. Produced by RTI, January 2026

Variability of Consumer Price Index, Sales Tax, and Highway Use Tax

Various factors including changes in Consumer Price Index and spending impact the current mix of funding sources through motor fuels taxes, DMV fees, highway use tax, and sales tax allocation. Future models vary based on statewide growth rates of CPI, highway use tax, and sales tax. As noted, highway use tax and sales tax are the most volatile as they depend on shifting consumer spending habits. In the case of highway use tax, increasing car prices are driving up tax revenue but may discourage consumers from buying new cars in the future, hindering growth. We model a baseline as well as a low- and high-growth scenario to show the impact of possible changes in consumer behavior based on existing indexing formulas for gas tax and DMV fees, as well as various annual inflation and growth rates; Figure 12 presents the resulting model outputs.

- Baseline: 2.5% CPI, 3.2% CPI energy, 4.5% annual HUT growth, and 5.5% annual sales tax growth
- Low growth: 2.5% CPI, 3.2% CPI energy, 3.5% annual HUT growth, and 4.5% annual sales tax growth
- High growth: 2.5% CPI, 3.2% CPI energy, 5.5% annual HUT growth, and 6.5% annual sales tax growth

Figure 12. Total State DOT Revenue: Future Growth Model Outputs based on Low, Baseline, and High Growth Scenarios 2027-2037



Source: RTI model, based on data from NCDOR on Highway Use Tax and Sales Tax Revenue

IV. Factors for Consideration of Gasoline Tax and Funding Alternatives

Most forecasts, including those from the NCDOT, indicate that state transportation revenue will continue to increase as state population grows, drivers continue to use roads and buy gasoline and diesel fuel, and diversified funding through EV fees, Highway Use Tax, and allocation of sales tax revenue. At the same time, several factors impact the long-term resilience and viability of the gasoline tax and other alternatives for transportation funding.

Over the last ten years, the following four factors have impacted gasoline tax and transportation revenue in North Carolina:

- **Inflation:** Growth in state gasoline tax revenue per gallon, per vehicle, and overall did not keep pace with inflation in the period between 2021 and 2025. Two measures of overall and road construction inflation: Consumer Price Index (CPI) and the National Highway Construction Cost Index (NHCCI) are continuing to grow faster than gasoline tax revenue.
- **Fuel efficiency:** Across the fleet, fuel efficiency is increasing between 0.7% and 1% each year, resulting in fewer gallons of gasoline consumed per mile driven. Although Federal fuel economy standards are proposed to be revised to less ambitious targets with a federal target of 0.5% annually, new vehicles entering the fleet are replacing older, less efficient models.
- **Electric vehicle adoption:** In 2025, electric vehicles accounted for around 9% of new car sales and that number is projected to remain consistent or grow slowly as federal incentives are removed and buyers face barriers such as range anxiety and costs. However, industry analysts see plug-in hybrid and hybrid vehicles making up a larger share, resulting in fewer gallons of gasoline purchased. In January 2026, Hybrids made up 19% of new car sales.
- **Shocks:** recession, pandemic, or suspensions in transportation taxes: In 2020, total gasoline sales dropped by 10% or more in some states, resulting in less revenue from gasoline taxes. Other historic events such as recessions resulted in lower gasoline tax revenue. In addition, states have suspended gasoline taxes during times of high inflation or high oil prices.

Gasoline Tax Policy and Forecasts

Gasoline-powered internal combustion engine vehicles will remain the predominant source of vehicle propulsion in North Carolina for at least the near future. While some forecasts show EV sales projected to be 60 percent of total sales by 2040, that would only account for 30 percent of the total passenger vehicle fleet at that time. Industry experts highlight that plug-in hybrids are a popular choice among consumers, but the same concerns of increased fuel efficiency will

remain and continue in the coming years. In addition, gasoline taxes are not immune from political pressures. In times of high energy prices, tax holidays rollbacks are politically popular. Georgia repealed its motor fuels taxes during spring 2026 in response to rising fuel prices. In October 2026, North Carolina suspended its motor fuels taxes for two months, citing high fuel prices to consumers.

V. Alternative Future Scenarios for State Transportation Funding

Other alternatives could serve as a partial or full replacement for the state gasoline tax and address some of the concerns around unstable and declining revenue. These alternatives, presented in this section as revenue-neutral options, would result in North Carolina taxpayers paying the same on average through different proportions or rates of our existing revenue sources such as access fees or highway use taxes to offset a partial or full reduction of the gasoline tax.

Access User Fee (Flat Registration Fee) and example scenarios to replace all or part of state gasoline tax

A flat registration fee or access fee could replace the gasoline tax by charging all drivers the same amount regardless of road usage. This is a common state-level approach for electric and in some cases hybrid vehicles, who pay a flat fee to account for lost gasoline tax revenue. As of 2025, 40 states charged a flat vehicle registration fee for EVs in place in lieu of gasoline tax receipts from those vehicles.

A full replacement of the gasoline tax with an access user fee for all vehicles would be an additional **$246 per gasoline-powered vehicle in 2026**, based on average miles driven, fuel efficiency, and gallons of gasoline purchased. This value, indexed annually for inflation, could provide a resilient and predictable funding source in the future. It would be collected regardless of vehicle type and road usage, assuming enforcement and collection mechanisms allow evasion to be mitigated.

The existing flat rate electric vehicle fee is an access user fee. A universal access user fee would resemble the existing EV fee structure but would be applied to all cars registered in the state. North Carolina is one of 40 states that charges an EV and/or a plug-in-hybrid flat fee to account for some or all the gasoline tax not paid by EV and HEV drivers. In 2025, North Carolina had the fourth-highest EV fee in the country behind New Jersey, Georgia, and Indiana. Between 2024 and 2025, EVs made up an average of 10 percent of new vehicle sales in the U.S. After over a decade of consistent sales growth, industry analysts point out that rates of growth may plateau with the phase-out of federal tax credits and concerns about cost and range, but they will continue to make up an increasing share of the vehicle fleet. In 2026, hybrids accounted for nearly 20 percent of new car sales.

Federal Registration Fee Proposals

In light of declining motor fuels tax revenues and diverging road use, national groups including the Alliance for Automotive Innovation and the Eno Center for Transportation have advocated for a weight-based or flat federal registration fee for all cars in the U.S.

They argue that a registration fee would fill the funding gap for the Federal Highway Trust Fund and address the disparity between revenue from traditional gasoline-powered, high efficiency, hybrid, and electric vehicles.

The Build America 250 Act, passed out of committee in the House in May 2026, outlines a framework for collecting a federal EV and hybrid vehicle fee to make up for lost federal motor fuels tax revenue.

A complete or partial replacement of the gasoline tax with a flat fee in 2027 could range between $68 and $252, based on projected rates of inflation and vehicle miles traveled as shown in Table 6. Note that all scenarios below assume that the existing $38.75 registration fee is retained.

Table 6. Hypothetical Revenue-Neutral Scenarios for Reduced Gasoline Tax Starting in 2027

Scenario	Gasoline Tax	Access User Fee	Highway Use Tax
Baseline ($0.41 gasoline tax + no access fee + 3% HUT)	***$0.41***	***$0***	***3%***
$0.30 gasoline tax + access fee + existing 3% HUT	$0.30	$68	3%
$0.20 gasoline tax + access fee + existing 3% HUT	$0.20	$129	3%
$0.10 gasoline tax + access fee + existing 3% HUT	$0.10	$191	3%
$0.00 gasoline tax + access fee + existing 3% HUT	$0.00	$252	3%

A flat annual registration fee applied to all vehicles to replace a gasoline tax could be collected from all drivers through existing technology and would not require additional DMV administrative infrastructure. Since this framework would apply the average gasoline tax paid per vehicle today

to all registered vehicles, it would benefit drivers who drive more, which are predominantly in rural and exurban areas, while adding more costs to lower mileage drivers. In addition, out of state drivers would not pay the access user fee at all, which would create a challenge if North Carolina were to implement an access user fee for residents, but neighboring states did not do so for registered vehicles in their respective states. Additionally, it would require a higher level of enforcement of annual state registration, which has been a challenge in North Carolina with increasing rates of late payments or non-payment[21] However, the specific overall revenue implications would depend on how the fee were implemented; for example, if it were activated concurrently with a repeal of the state gasoline tax, overall sales tax revenue for transportation (described below) could increase if buyers choose to spend more on consumer goods as a result of lower gasoline prices.

Sales Tax Allocation

Since 2022, the North Carolina Department of Revenue has allocated a portion of sales tax from the state General Fund to the Department of Transportation: by 2025 that value represented 6% of all sales tax revenue, or an estimated $750 million. For comparison, diesel taxes estimated to raise just over $500 million for transportation over the same year.

Sales tax revenue has grown consistently between 2020 and 2025, a product of increasing population, consumer spending, and inflation. Over the past 15 years, sales tax has grown from between $5 billion and $6 billion per year to nearly $12 billion by 2025, reflecting a compound annual growth rate of 7%. By contrast, the state's population grew by 1% year-over-year over the same period, showing that growth in sales tax outpaced population growth. However, it is not guaranteed year-over-year and may track with changes in consumer spending.

Complementing the motor fuels tax and other direct transportation revenue with a sales tax allocation allows for diversification and helps to address declining per capita gasoline tax revenue. However, policy research shows a risk of non-transportation revenue being clawed back in a fiscal crisis and policymakers choosing to reallocate funding elsewhere.

In addition to the statewide sales tax allocation, North Carolina allows local counties to raise sales taxes for transit, and large counties including Wake, Mecklenburg, Durham, and Orange have passed local sales tax ordinances to do so. Because sales taxes are tied to the price of goods consumed, they track closely with inflation through the consumer price index.

Highway Use Tax

In 2025, North Carolina collected $1.1 billion in Highway Use Tax (HUT), assessed as 3% of the sale price of all transactions of new and used vehicles in the state. Over the decade prior, highway use tax revenue grew at a compound annual rate of 6.75%, driven by the combination of in-migration, vehicle fleet growth, low interest rates, and rapidly rising costs of new and used cars[19]. Adjustments to the Highway Use Tax could offset the gasoline tax or complement a

[21] WRAL News, Feb 12, 2024. https://www.wral.com/story/wral-investigates-expired-license-plates-why-you-could-pay-for-other-drivers-procrastination/21280309/

potential access user fee, but HUT is more volatile on a year-over-year basis. As a durable good, vehicle purchases are less frequent and consumer habits can vary based on prices, interest rates, economic conditions, and reliability of existing cars. While HUT has grown quickly over the last few years, there are many variables that could result in growth or decline in the future. These are explored in the following section on fiscal impacts of alternative scenarios, and in section VI on alternative scenarios for growth.

Alternative, Revenue Neutral Scenarios involving Gas Tax, Access User Fee, and Highway Use Tax

We explore potential frameworks that could provide revenue neutrality upon implementation, assumed to be January 1, 2027, and how they would potentially impact state revenue in 10 years (by 2037). The cases fall under three categories: continuation of gasoline taxes and DMV fees indexed by different measures of inflation, a flat fee indexed annually by CPI to replace the gasoline tax, or a mixed flat fee and HUT increase to replace the gasoline tax.

Simplify and adjust the Index for Motor Fuels Taxes and DMV Fees

As noted earlier, adjusting and simplifying the inflation index for motor fuels taxes and EV fees annually by various measures could result in estimated state tax revenue to support transportation ranging from $3.1 to $4.6 billion over the next ten years:

- Baseline (75% population/25% CPI-E): $3.1 billion annual revenue in 2037
- CPI-U Index: $3.3 billion, i.e., $0.2 billion more annual revenue in 2037 than under status quo indexing
- 50% CPI-U/50% NHCCI Index: $3.9 billion, i.e., $0.8 billion more in annual revenue by 2037
- NHCCI Index: $4.6 billion, i.e., $1.5 billion more in annual revenue by 2037

Access User Fee to Completely Replace Gasoline Tax, Indexed Annually

A flat registration fee or access user fee indexed by the consumer price index (CPI-U) for all private passenger vehicles – the same inflation index currently used by DMV fees today – could serve as a 1:1 replacement for the gasoline tax. If this were implemented in 2027, the annual state access user fee would be $251. This would increase to $321 per year by 2037 because of inflation indexing by CPI-U and would generate $3.4 billion in annual revenue for the state in that year. This amount would replace the sum of revenue from both the gasoline tax and the existing additional registration fees for EV and Hybrid Vehicles. If a different index rate were used, for example, 75% CPI-U and 25% NHCCI, the access user fee would be $418 per year in 2037 and would generate $4.3 billion in annual revenue for the state given inflation trends over the past decade.

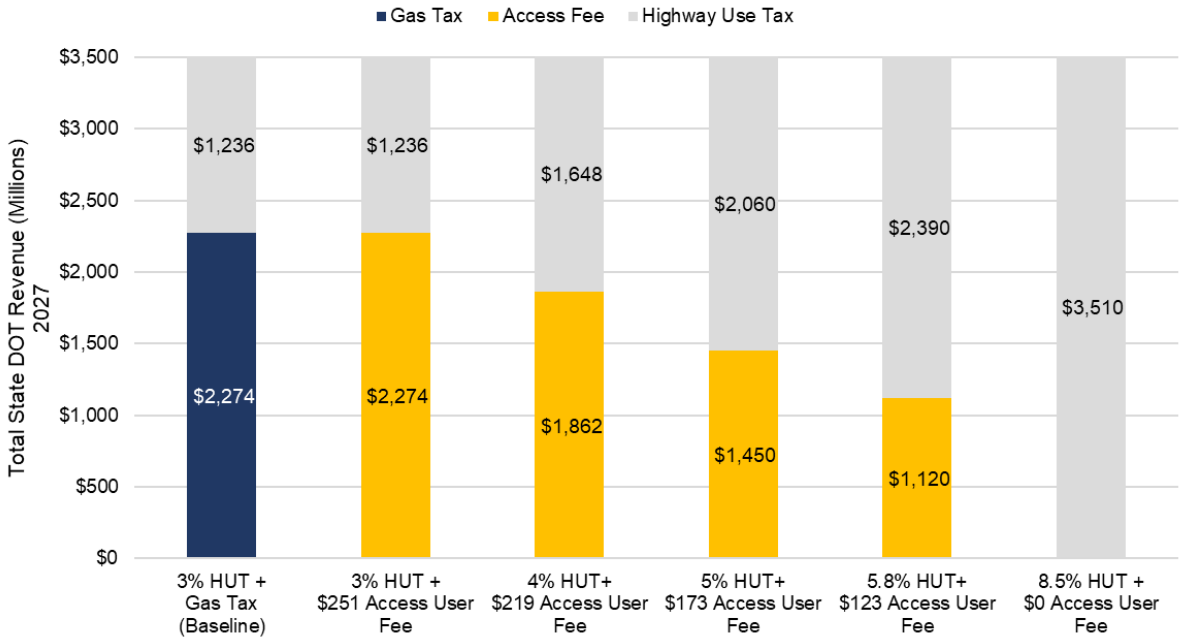
Combination of Access User Fee and Increased Highway Use Tax to Completely Replace Gasoline Tax

Another framework to completely replace the gasoline tax in North Carolina would be a combination of an increase in the highway use tax and a new access user fee. The following scenarios reflect various combinations of North Carolina access user fee and highway use tax to fully replace the revenue gap from a repeal of the gasoline tax, totaling an estimated $3.5 billion in combined revenue in 2027. Any of the following hypothetical scenarios reflect various combinations to fully replace the gasoline tax and add to the existing highway use tax, revenue neutral upon implementation, assumed to be in 2027:

- $251 access user fee + 3% Highway Use Tax (i.e., no change to existing 3% highway use tax; $251 access user fee fully replaces existing state gasoline tax)
- $219 access user fee + 4% Highway Use Tax (i.e., combination of 1% increase in highway use tax plus lower access user fee fully replaces existing state gasoline tax)
- $173 access user fee + 5% Highway Use Tax
- $123 access user fee + 5.8% Highway Use Tax (note: this represents a 50/50 split between access user fee and highway use tax increase to fully replace state gasoline tax)
- $0 access user fee + 8.5% Highway Use Tax (5.5% increase in highway use tax which fully replaces state gasoline tax)

As shown in Figure 13, each proposed source would contribute to state revenue from the gasoline tax, access fee, and/or Highway Use Tax to generate $3.5 billion in projected revenue in 2027. These assume continued patterns of purchases of gasoline and cars in the coming year.

Figure 13. Hypothetical Impact on Total State Revenue: Example Gasoline tax, Access User Fee, and Highway Use Tax Scenarios, 2027



Source: RTI model, based on data from NCDOR on Highway Use Tax revenue

By order of magnitude, a 1.5 percentage point increase in the highway use tax would account for roughly quarter of gasoline tax revenue or equivalent, while a 3-percentage point increase in the highway use tax (double the existing rate) would replace an estimated half of the current gasoline tax revenue. These are presented as hypothetical scenarios to highlight the level of increase of other taxes and fees required to fully replace the revenue from the gasoline tax, based on the assumption that car buying purchases continue at the same rate.

Combination of Access User Fee, Increased Highway Use Tax, and Retention of Small Gasoline Tax

A combination of new state access user fee and highway use tax increase, coupled with the retention of a small gasoline tax, could be another way to retain current revenue at the time of implementation. One advantage of such a framework would be to retain a travel-based revenue measure without having to either create a new revenue source or completely forego an approach that provides additional revenue stability and/or growth. To retain revenue neutrality in the near term and long-term resilience and growth, different combinations of a reduced gasoline tax, highway use tax changes, and/or a variable access user fee offers alternatives for how to collect transportation revenue.

- Retention of $0.30, $0.20 or $0.10 per gallon gasoline tax, reduced from the current $0.41 rate (i.e., approximately 25% to 75% of existing state gasoline tax revenue) or a complete replacement of the gasoline tax
- Variable access user fee charged to all registered drivers

In these hypothetical scenarios, the average vehicle would generate the same amount of revenue at the time of implementation, but the balance of payments would be spread across different taxes and fees. Various scenarios, presented in Table 7, show how a reduction in the gasoline tax could be accompanied by one or more alternatives to maintain current revenue with growth and stability.

Table 7. Hypothetical Revenue-Neutral Scenarios for Reduced Gasoline Tax Starting in 2027

Scenario	Gasoline Tax	Access User Fee	Highway Use Tax
Baseline ($0.41 gasoline tax + no access fee + 3% HUT)	***$0.41***	***$0***	***3%***
$0.30 gasoline tax + access fee + existing 3% HUT	$0.30	$68	3%
$0.20 gasoline tax + access fee + existing 3% HUT	$0.20	$129	3%
$0.10 gasoline tax + access fee + existing 3% HUT	$0.10	$191	3%
$0.00 gasoline tax + access fee + existing 3% HUT	$0.00	$252	3%
$0.30 gasoline tax + access fee + 0.5% HUT increase	$0.30	$45	3.5%
$0.20 gasoline tax + access fee + 0.5% HUT increase	$0.20	$106	3.5%
$0.10 gasoline tax + access fee + 0.5% HUT increase	$0.10	$168	3.5%
$0.00 gasoline tax + access fee + 0.5% HUT increase	$0.00	$229	3.5%
$0.30 gasoline tax + access fee + 1.0% HUT increase	$0.30	$22	4%
$0.20 gasoline tax + access fee + 1.0% HUT increase	$0.20	$83	4%
$0.10 gasoline tax + access fee + 1.0% HUT increase	$0.10	$145	4%
$0.00 gasoline tax + access fee + 1.0% HUT increase	$0.00	$206	4%
$0.30 gasoline tax + access fee + 1.5% HUT increase	$0.30	$0	4.5%
$0.20 gasoline tax + access fee + 1.5% HUT increase	$0.20	$61	4.5%
$0.10 gasoline tax + access fee + 1.5% HUT increase	$0.10	$122	4.5%
$0.00 gasoline tax + access fee + 1.5% HUT increase	$0.00	$184	4.5%

Source: RTI model, based on data from NCDOR on Highway Use Tax revenue

Any final recommended revenue package would need to incorporate several factors including public acceptance, car buying patterns, and the burden placed on car buyers to pay a large upfront tax as part of purchases.

VI. Alternative Scenarios for Revenue Growth

As noted in the introduction, this report focuses on potential adjustments of existing revenue sources for transportation to maintain consistency and simplicity. These sources include a revised and simplified inflation index for gasoline taxes and DMV fees, a flat access user fee as an expansion of existing DMV and electric/hybrid registration fees to partially or fully replace gasoline taxes, and retention of the sales tax for transportation. One alternative for future growth is an increase in the highway use tax, which at 3% is among the lowest rates among Southern states, below most peers and the state sales tax rate.

A half percent increase in highway use tax could result in $200 to $300 million in new state revenue annually, or over $3 billion in additional revenue over the next 10 years. As shown in Table 8, various hypothetical scenarios ranging from 0.25 to 2 percentage point increase in the Highway Use Tax would result in total state DOT revenue increases ranging from 2% to 15% over the next 10 years, resulting in total revenue amounts that would be comparable to gasoline taxes by 2037.

Table 8. Projected Impact of Hypothetical Highway Use Tax Increase: 2027-2037

Scenario: Highway Use Tax	Modeled Annual HUT Revenue (2027)	Modeled Annual HUT Revenue (2037)	Modeled Cumulative HUT Revenue (2027-2037)	Increase in Cumulative DOT Revenue over Baseline (2027-2037)
Baseline HUT: 3% of vehicle value at sale/transfer	*$1.2 B*	$1.9 B	$17.1 B	
HUT: 3.25%	$1.3 B	$2.1 B	$18.5 B	+ $1.4 B (2%)
HUT: 3.5%	$1.4 B	$2.2 B	$20.0 B	+ $2.9 B (4%)
HUT: 3.75%	$1.5 B	$2.4 B	$21.4 B	+ $4.3 B (6%)
HUT: 4%	$1.6 B	$2.6 B	$22.8 N	+ $5.7 B (8%)
HUT: 4.25%	$1.8 B	$2.7 B	$24.2 B	+ $7.1 B (9%)
HUT: 4.5%	$1.9 B	$2.9 B	$25.6 B	+ $8.5 B (11%)
HUT: 4.75%	$2.0 B	$3.0 B	$27.1 B	+ $10.0 B (13%)
HUT: 5%	$2.1 B	$3.2 B	$28.5 B	+ $11.4 B (15%)

Source: RTI model, based on data from NCDOR on Highway Use Tax revenue

Although Highway Use Tax has grown quickly over the last decade driven by high vehicle costs, other factors present risks for continued future growth. High sticker prices on new cars combined with higher interest rates may push drivers to keep cars on the road for longer, lowering the frequency of new and used car transactions. In an economic downturn or crisis, owners may choose to forego buying a new or used car which could present a risk to predictable tax revenue from the Highway Use Tax. For example, Highway Use Tax declined by

1% between 2019 and 2020 during the pandemic downturn but quickly rebounded in the following years, reaching new record highs in 2023 and 2024 due to high car prices.

As noted above, any final recommended revenue package would incorporate several factors including public acceptance, car buying patterns, and the burden placed on car buyers to pay a large up-front tax as part of purchases.

VII. Conclusions and Takeaways

Transportation funding resiliency and inflation responsiveness is a priority for business groups including RTA and the NC Chamber as well as the North Carolina Department of Transportation. The existing state transportation revenue structure takes a diversified approach, balancing growth potential with stability of revenue while pushing towards fairness. It combines sources that are tied to economic growth and inflation (sales tax allocation, highway use tax) with steady sources (DMV and registration fees) and sources that are tied to road use (motor fuels taxes). At the same time, the approach faces challenges including declining gasoline tax revenue and concerns of regressive taxation, placing a greater burden on rural and low-income drivers. Future approaches to balance growth, resiliency, and fairness could include rebalancing the levels and proportions of our existing revenue sources.