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 debunks ten common myths about how we pay for our transportation system.

The Top 10 Myths About Transportation Funding

Myth #1: The federal government pays for roads and highways.

Myth #2: The roads were already paid for many years ago.

Myth #3: Public transit is subsidized, but roads and highways are paid for entirely by their users.

Myth #4: Drivers in North Carolina pay a huge amount in gas taxes.

Myth #5: If you raise the gas tax, the price of gas will go up.

Myth #6: A big bond measure would help close the transportation funding gap.

Myth #7: More private sector investment would help close the transportation funding gap.

Myth #8: Increasing revenues for transportation investment isn't politically feasible.

Myth #9: Mileage-based user fees would be unfairly expensive for rural drivers.

Myth #10: If the state just used the dollars they have efficiently, they wouldn't need more.

Overview

Nationwide, states are facing a critical funding gap as motor fuel taxes—still the primary source of state and federal revenues for transportation investments—fall short of needs. Reasons for the gap include increased vehicle fuel efficiency, changing demographics and travel patterns, and rising construction costs. Moving forward, electric and alternative fuel vehicles are expected to make the situation even worse.

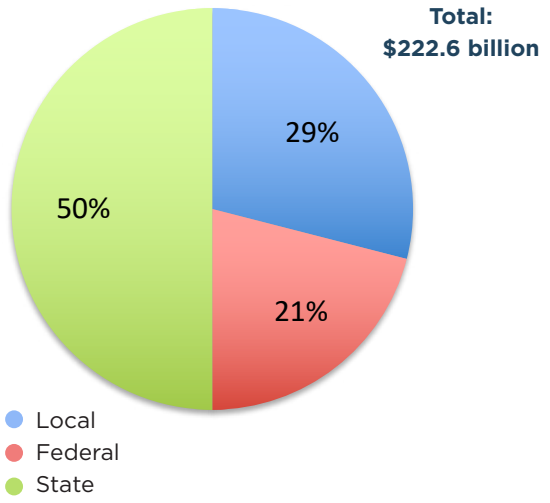
As North Carolina and other states seek to ensure that needed resources continue to be available into the future, this brief offers responses to ten common misperceptions about our transportation system and how it is funded, so as to support decision makers and citizens alike in working toward sustainable, forward-thinking solutions.

Myth #1: The federal government pays for roads and highways.

Reality: States are the biggest funders of roads and highways. Nearly all roads, bridges, airports, and transit systems in the U.S. are owned by state and local governments, which are also responsible for building and maintaining them. Even Interstate highways—the construction of which has been largely paid for through federal assistance—are owned, built, operated, and maintained by the states in which they are located.

In general, federal funding for highways comes to states in the form of grants that only pay for certain kinds of projects and a certain share of costs. Only about 20 percent of North Carolina's state-maintained road miles are eligible for any federal aid.[1] Even then, federal dollars are devoted almost exclusively to capital spending and cannot be used for day-to-day maintenance such as fixing potholes. States are responsible for paying their share on federal-aid projects, plus substantial other road and highway investments.[2] The U.S. Department of Transportation estimates that half of the nation's funding for highways comes from the states, with the federal government and localities supplying the rest (**Figure 1**).[3]

Figure 1: Total Expenditures for Highways in the U.S., 2014



Myth #2: The roads were already paid for many years ago.

Reality: Roads and bridges need regular reinvestment to keep them safe and effective. In addition to the revenues from taxes, fees, or tolls that pay for building transportation assets in the first place, states also need ongoing financial resources to take good care of them over time. Roads and bridges, like any kind of infrastructure, require regular repairs and maintenance—and even then, they eventually reach the end of their design life and must be replaced. Moreover, many of the nation's roadways will need to be modernized to meet the demographic, economic, climate, and technological demands of the 21st century. Yet due to chronic shortfalls in traditional transportation revenues like motor fuel taxes, the cost of restoring and rebuilding aging infrastructure is one that states are struggling to meet, even with federal help. The American Society of Civil Engineers estimates an $836 billion backlog of highway and bridge capital needs nationwide, the bulk of which is for the repair or modernization of existing assets.[4]

[1] NCDOT

[2] For more about intergovernmental roles in highway funding, see www.pewtrusts.org/en/research-and-analysis/reports/2014/09/intergovernmental-challenges-in-surface-transportation-funding and financingtransportation.org/pdf/50_state_review_nov16.pdf.

[3] U.S. Department of Transportation (most recent data available as of 2019): www.fhwa.dot.gov/policy/23cpr/

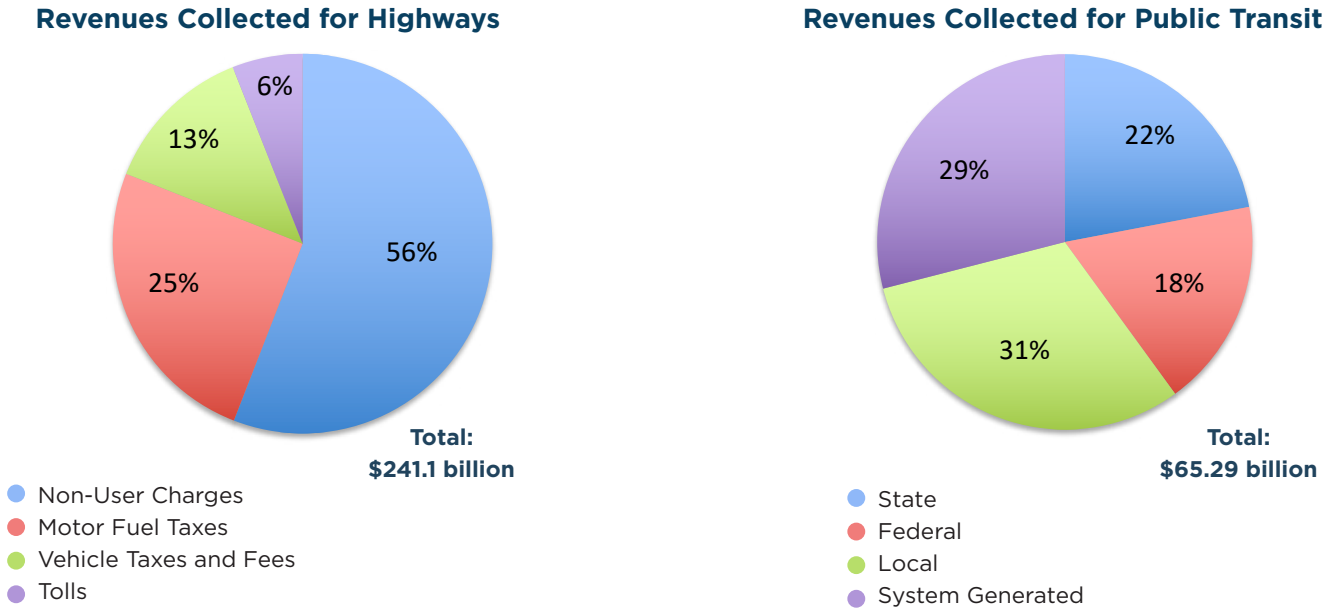
[4] www.infrastructurereportcard.org/cat-item/roads/

Myth #3: Public transit is subsidized, but roads and highways are paid for entirely by their users.

Reality: Both roads and public transit are paid for by a combination of user fees and other public revenues. A complex blend of federal, state, and local revenues pays for both roads and public transit, and less than half of all dollars that are spent on either mode come from their respective users. At the federal level, both highways and transit are supported by federal taxes on gasoline and diesel and other transportation-related excise taxes, as well as general fund transfers that are making up for shortfalls in those revenue streams. North Carolina, like many states, spends most of its own gas taxes and other transportation revenues on roads, but also uses some of the proceeds for statewide multimodal investments that include transit, rail, aviation, and ferries. Local governments support both roads and transit with general funds, property taxes, vehicle fees, and other revenues.

In the end, only about 44 percent of highway funding nationwide comes from fuel taxes, tolls, or other user fees, and about 29 percent of transit funding is from fares and other system-generated revenues (**Figure 2**).[5] Neither mode, then, pays for itself, but both draw substantially on other public revenues to promote an interconnected, coordinated transportation system that offers options for people and goods to get where they're going.

Figure 2: Total Revenues for Highways and Public Transit in the U.S., 2014



[5] www.fhwa.dot.gov/policy/23cpr/. The difference of $18.5 billion between revenues (Figure 2) and expenditures (Figure 1) for highways represents funds that were placed in federal, state, and local reserves in 2014.

Myth #4: Drivers in North Carolina pay a huge amount in gas taxes.

Reality: The average driver in North Carolina pays just $25 per month in total gas taxes. In every state, gasoline and other fuels are subject to both state and federal taxes that are used to pay for transportation infrastructure. Fuel taxes are usually not set as percentages, like sales taxes, but as dollar amounts. The federal tax on gasoline is levied nationwide at a rate of $0.184 per gallon. It was last raised in 1993 and has lost more than 40 percent of its value to inflation since then.[6] State taxes vary widely. North Carolina's state gas tax is currently $0.361 per gallon, adjusted annually to track with inflation and population,[7] plus a $0.0025 per gallon inspection fee. In total, the tax rate per gallon in North Carolina is slightly above the U.S. average (**Figure 3**).

The amount a motorist pays in gas tax (which is included in the retail price paid at the pump) depends on how much they drive and their vehicle's fuel economy (**see Figure 4**). NCDOT estimates that the average North Carolina driver travels 1,000 miles each month in a vehicle that gets 22 miles per gallon. Thus, an average driver pays only about $25 per month in state and federal gas taxes combined ($16.52 state, $8.36 federal), or $300 annually. Over the course of a year, one driver's contributions in state gas taxes is about enough to patch a single pothole.

Figure 4: How Much Do I Pay in State Gas Taxes?

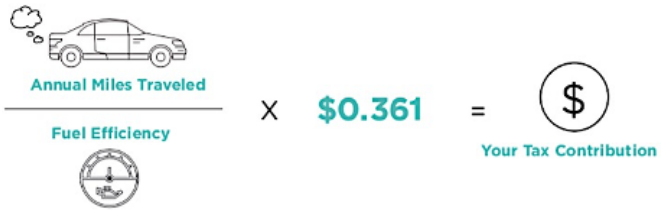
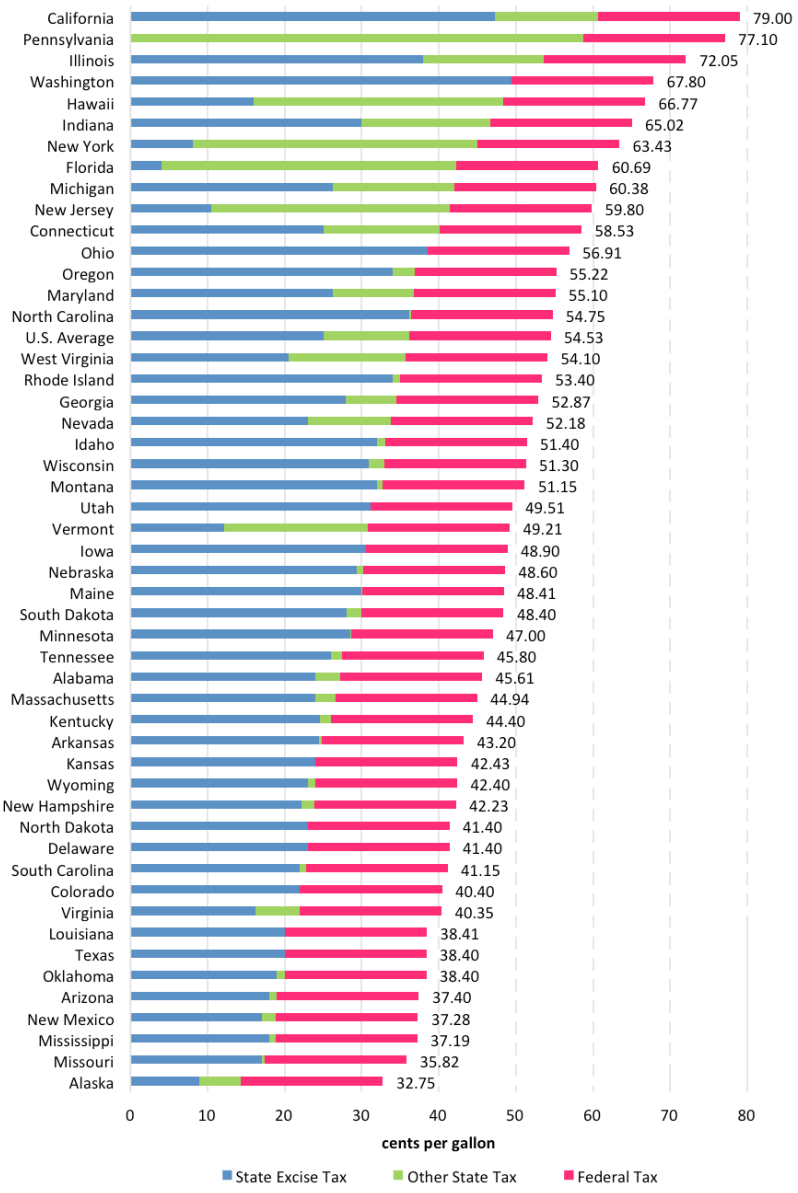


Figure 3: Gasoline Motor Fuel Taxes as of January 1, 2020



[6] www.cbo.gov/budget-options/2018/54817

[7] Since 2017, North Carolina's tax rate on motor fuels has been updated annually based on changes in population and inflation. 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) (N.C. Gen. Stat. §105-449.80).

Myth #5: If you raise the gas tax, the price of gas will go up.

Reality: Changes in gas taxes are not directly reflected in the retail price at the pump. Unlike sales taxes, which are paid directly by customers at the time of purchase, most motor fuel taxes in the U.S. are excise taxes, which are paid by businesses further up the supply chain. The fuel suppliers and importers that pay the tax include it in the product price, so the tax is ultimately paid by those who subsequently purchase and consume the fuel. But because fuel taxes are only indirectly paid by customers, raising (or lowering) gas taxes does not result in a penny-for-penny change in the price at the pump.

A recent study of the market impacts of state gas tax changes from 2013 to 2018 found that, on average, just one-third of the new rates was passed through to consumers on the day the change took effect, with no significant impact after that.[8] Even Alaska's total suspension of its gas tax in 2008 did little to reduce pump prices—but cost the state $40 million.[9] In the end, retail gas prices are mainly affected by crude oil prices and supply relative to demand, as well as other factors like refining costs, distribution and marketing costs, profit margins, and local competition among gas stations.[10]

Myth #6: A big bond measure would help close the transportation funding gap.

Reality: Bonds can't fix the funding gap because they need to be paid back. A defining characteristic of infrastructure projects are their large, up-front costs. But the fuel taxes and other revenues that ultimately pay for these projects only materialize slowly, over time. Financing tools like bonds bridge the gap by allowing states to raise money quickly and pay it back gradually. When a state issues bonds for major capital projects, it sells the bonds to investors and then pays those investors back over an extended period. For example, the Build NC Bond Act of 2018 authorizes the state to issue up to $3 billion in bonds for essential road projects, to be paid back from the Highway Trust Fund over a period of up to 15 years.[11] Critical infrastructure can therefore be delivered much sooner than it otherwise would be, which may even help keep costs down by getting ahead of future price increases and inflation. But bond debt must be repaid to its investors, with interest. Thus, bonds are not a long-term funding strategy, but rather end up being a significant expense for transportation budgets. Still, because the interest rates on state-issued bonds are relatively low[12] and the costs are often outweighed by the public benefits of the projects they make possible, bonds are one of the most common tools that states use to finance road and bridge projects, representing billions of dollars in outstanding debt nationwide.[13]

Myth #7: More private sector investment would help close the transportation funding gap.

Reality: Private financing can't fix the funding gap because it, too, needs to be paid back. As public revenues for transportation investment continue to fall short, interest has grown in turning to the private sector to help deliver much-needed infrastructure improvements. At least 38 states, including North Carolina, now have laws that authorize "public-private partnerships" in which a government agency can contract with a private entity to take on greater risks and responsibilities for transportation projects.[14] In many cases, the private role has included providing substantial up-front capital to get a project off the ground more quickly.[15]

However, this is not free money. The private sector must be paid back over time—and make a return on its investment. The revenues that ultimately pay for a project come from the same traditional sources that public agencies already rely upon: taxes, fees, and tolls. As a result of this repayment obligation, as with bonding, public-private partnerships cannot add new revenues or fix funding shortfalls in the long run.

[8] transportationinvestment.org/2020/06/11/gas_tax_analysis_retail_price

[9] tax.alaska.gov/programs/programs/reports/AnnualData.aspx?60210; www.commonwealthnorth.org/download/past_study_groups/Infrastructure-Study-Group/2009TransportationStudy.pdf

[10] www.eia.gov/energyexplained/gasoline/price-fluctuations.php; transportationinvestment.org/2020/06/11/gas_tax_analysis_retail_price

[11] www.ncdot.gov/about-us/how-we-operate/finance-budget/Pages/build-nc.aspx

[12] States traditionally issue municipal bonds, on which the interest paid to investors is exempt from federal (and usually state) income taxes. This reduces the state's interest cost because investors are generally willing to accept lower interest rates in return for the tax advantage.

[13] www.financingtransportation.org/pdf/50_state_review_nov16.pdf

[14] As of February 2019; see www.ncsl.org/research/transportation/ncsl-p3-update.aspx. North Carolina's statute allows NCDOT to enter into up to three agreements with private entities to "finance, ... plan, design, develop, acquire, construct, equip, maintain, and operate transportation infrastructure in this state" (N.C. Gen. Stat. §§136-18[39] et seq.). The state's first agreement under this law authorizes a private partner to design, build, finance, operate, and maintain the I-77 Express Lanes. The finance component includes $248 million in private equity, which along with other project costs will be paid back from toll revenues. For details, see www.ncdot.gov/projects/i-77-express-lanes.

[15] www.cbo.gov/publication/56044; www.nap.edu/catalog/25561

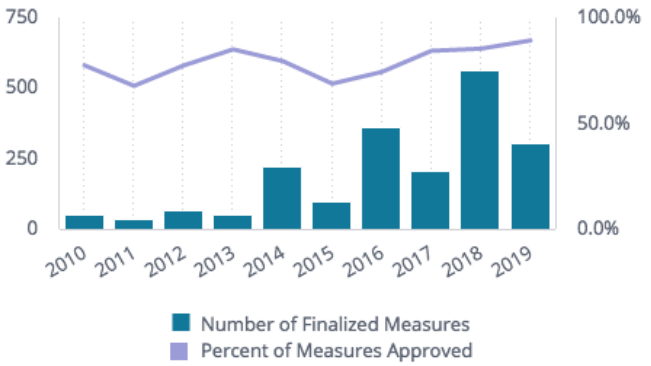
Myth #8: Increasing revenues for transportation investment isn't politically feasible.

Reality: Most voters support transportation investment, and most lawmakers—from either party—who vote to increase transportation revenues still win re-election. Post-election analyses have consistently found that voters across the nation support investment in transportation infrastructure. In 2019 alone, voters in 19 states approved 89 percent of 305 state and local transportation ballot measures, for a total value of more than $9.6 billion in bond financing and tax revenues.[16] Over the last decade, the American Road and Transportation Builders Association calculates that 81 percent of nearly 2,000 transportation investment measures have succeeded at the ballot box (**Figure 5**).[17]

In North Carolina, every statewide ballot measure in state history for investment in roads and highways has passed, and local transportation measures have been approved since 2002 in at least Asheville, Cary, Charlotte, Cornelius, Durham County, Goldsboro, Greensboro, Harrisburg, High Point, Holly Springs, Mecklenburg County, Orange County, Raleigh, Wake County, Wilmington, and Winston-Salem.[18]

Voters have also continued supporting politicians who take action to increase transportation revenues. Since 2013, 92 percent of state legislators nationwide who voted to raise gas taxes have been re-elected—the same re-election rate as lawmakers who voted against those bills. This holds true on both sides of the aisle: 91 percent of Democrats and 94 percent of Republicans have won re-election after voting to raise gas taxes.[19] In the executive branch, high-profile governors of both parties have been returned to office after signing gas tax increases into law, as have three presidents (Eisenhower, Reagan, and Clinton) who raised the federal gas tax in their first terms.[20]

Figure 5: State and Local Transportation Investment Ballot Measures, 2010–2019



[16] transportationinvestment.org/research/election-reports/

[17] transportationinvestment.org/research/election-reports/ballot-measures/

[18] The Council of State Governments; Eno Center for Transportation; transportationinvestment.org/research/election-reports/; cfte.org/initiatives/campaigns/?state=NC; ballotpedia.org/Transportation_on_the_ballot; ballotpedia.org/Local_ballot_measures,_North_Carolina; www.ncsbe.gov/Election-Results

[19] transportationinvestment.org/research/election-reports/state-lawmaker-reelection/

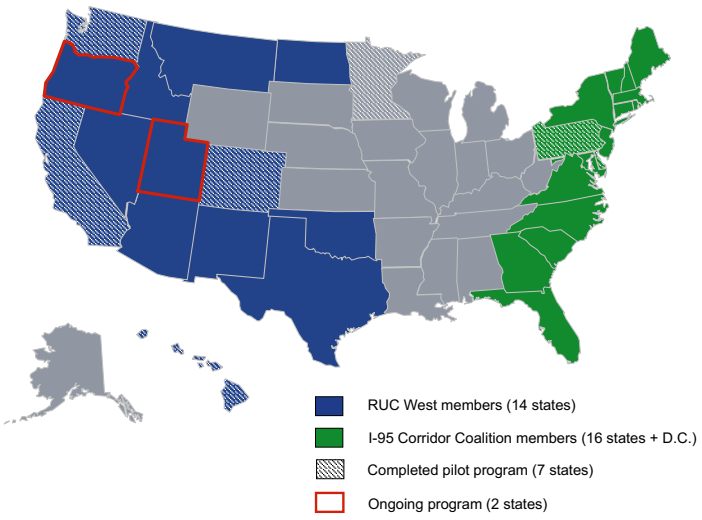
[20] transportationinvestment.org/wp-content/uploads/2017/04/ARTBA-TIAC-2013_2016-Legislator-Reelection-Analysis.pdf; www.washingtonpost.com/opinions/five-myths-about-gas-taxes/2014/12/19/cca3bc00-808a-11e4-81fd-8c4814dfa9d7_story.html; www.fhwa.dot.gov/infrastructure/gastax.cfm

Myth #9: Mileage-based user fees would be unfairly expensive for rural drivers.

Reality: Mileage-based user fees are more equitable for rural drivers than gas taxes. As fuel taxes decline due to improved vehicle fuel economy and other factors, states are exploring other revenue options for transportation investment. One alternative that has come to the forefront is the possibility of charging drivers based on how many miles they drive instead of how much gas they buy. Per-mile fees have been studied in many states and opt-in programs have been enacted in both Oregon[21] and Utah[22] (**Figure 6**).

Mileage-based approaches can help ensure that all motorists pay their fair share toward the roads they use, even if they drive high-efficiency or electric vehicles that contribute little or no gas tax. Per-mile fees also turn out to be fairer—and often less expensive—for rural drivers than the current gas tax system. Here's why: Rural residents tend to drive slightly farther each year than urban residents, so they already pay more in fuel taxes.[24] But rural drivers also tend to own older and larger vehicles with lower fuel economy, so they also pay more in fuel taxes for each mile. Compared to this double whammy with fuel taxes, a fee where all drivers pay the same per-mile rate regardless of vehicle type leaves rural drivers better off. Recent analyses of several states have confirmed that rural households would generally pay less per year under a mileage-based system than they do now in gas taxes, while their urban counterparts would pay slightly more.[25]

Figure 6: Mileage-Based User Fee Pilots and Programs as of May 2019[23]



Myth #10: If the state just used the dollars they have efficiently, they wouldn't need more.

Reality: No amount of belt-tightening can make up for the structural problems with fuel taxes. Across the country, transportation funding needs are rapidly outstripping dedicated revenue streams. As vehicle fuel economy improves and electric vehicles grow in popularity, gas taxes are falling. Meanwhile, investment needs are rising due to aging infrastructure, cost inflation, and increased demand, especially in and around fast-growing metropolitan areas. As a result, the American Society of Civil Engineers calculates that the nation is spending less than half of what is needed to maintain its roads and public transit.[26]

Efficiency measures among the states have helped to mitigate the impacts of this chronic funding gap, but they cannot eliminate it. Over the past decade, NCDOT has become a leader in efficient management by adopting a nationally recognized project selection process, reducing its staff, and establishing internal cost controls.[27] As of 2018, North Carolina was rated the 11th highest state for pavement conditions while achieving the 7th lowest per-mile expenditures.[28] Yet it is estimated that through 2040, existing revenue sources will yield only 66 percent of the funds needed to keep the state's roads at their current level of service, let alone improve them—a gap of more than $30 billion.[29] To close a gap of this magnitude will require a thorough and renewed commitment to critical transportation infrastructure that includes robust and sustainable revenue streams.

[21] Or. Rev. Stat. §§319.883 et seq.

[22] Utah Code Ann. §§72-1-213 et seq.; Utah Administrative Code §R940-8

[23] www.udot.utah.gov/main/uconowner.gf?n=8492047436445647; I-95 Corridor Coalition

[24] As noted by the Oregon DOT, "Studies show that rural drivers typically drive further per trip than their urban counterparts, but they are more likely to combine trips while urban drivers take many short trips. In the end, rural drivers typically drive slightly more than urban drivers, but they already pay fuels tax on those miles." See www.oregon.gov/odot/Programs/RUF/IP-Road%20Usage%20Evaluation%20Book%20WEB_4-26.pdf.

[25] www.ebp-us.com/en/projects/financial-impacts-road-usage-charge-drivers-rural-and-urban-households; www.rand.org/pubs/rgs_dissertations/RGSD295.html; waroadusagecharge.org/final-report/

[26] www.asce.org/failuretoact/

[27] www.ncdot.gov/initiatives-policies/Transportation/stip/Pages/strategic-transportation-investments.aspx; N.C. Gen. Stat. §§136-189.10 et seq.; 2015 N.C. Sess. Laws, Chap. 2015-241

[28] Most recent data available from www.bts.gov/road-condition and www.fhwa.dot.gov/policyinformation/statistics.cfm. Pavement condition is based on the percentage of total road miles in "acceptable" condition according to the International Roughness Index. For the methodology for calculating per-mile spending on state-owned highways, see reason.org/policy-study/24th-annual-highway-report/. For a similar comparison among peer states only, see www.ncdot.gov/about-us/how-we-operate/finance-budget/Documents/shaping-ncdot-future-september-2019.pdf.

[29] www.ncdot.gov/about-us/how-we-operate/finance-budget/Documents/shaping-ncdot-future-september-2019.pdf; www.ncdot.gov/initiatives-/policies/Transportation/plan/