Funding Alternatives & Investment Strategies

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Preface

The I-77 corridor is an essential link for the Charlotte Metropolitan area. The continued ability for people, goods, and services to move quickly and conveniently throughout the region is essential to maintaining the region's robust economic growth and development, as well as quality of life for residents.

Unfortunately, the current reality is that the region's transportation network, made up of highways, transit, secondary roads, and bicycle and pedestrian components, simply does not have the capacity to meet the region's current needs, let alone meet its ongoing robust growth. North Carolina's key planning document: **NC Moves 2050 Plan** makes this shortfall clear as it estimates that statewide transportation revenues will total about $29b between 2020 and 2030, but to properly build, maintain, and operate the system as a whole at a "high" standard would require $108 billion. The plan shows ever greater shortfalls occurring subsequent to 2030. The 2050 plan provides statewide numbers, but the Charlotte region is not an exception to the state's overall transportation infrastructure deficit. In fact, given its rapid growth in the 21st Century, as other sections of this report document, the region's needs are probably more than just a proportional share of the state's shortfall.[1]

To address the gap between needs and means, this study has identified a range of possible strategies and solutions, not including improvements to I-77, to address connectivity within this corridor and the greater metro region. While a discussion of potential transportation improvements in this corridor is important, such a discussion is incomplete unless it addresses what is typically the most troubling and difficult aspect of building, operating, and maintaining surface transportation infrastructure: how to pay for it. This paper addresses that thorny issue.

Context Elements

Before discussing specific funding ideas, it is important to provide some context and background. There are four elements noted here to provide context. These four elements are:

1. Costs
2. What the existing funding mechanisms are
3. The capacity of potential changes in funding
4. Past studies/proposals to address funding shortfalls

The cost of building, operating, and maintaining an effective and efficient transportation infrastructure network is quite high. For example, NCDOT's highway construction estimating tool generates a prediction that constructing a single mile of four lane interstate highway will cost $7.9 million.[2] This figure does not include any interchanges, grade separations, bridges, or utility relocations so the overall

[1] NCDOT, "*NC Moves 2050 Plan,*" ncdot.gov, February 2021, p 19, https://www.ncdot.gov/initiatives-policies/Transportation/nc-2050-plan/Documents/nc-moves-final-plan.pdf. (accessed Sep. 9, 2021).

[2] NCDOT Project Services Unit, "*Preliminary Estimate Section Excel Spreadsheet,* connect.ncdot.gov, January 30, 2020. https://connect.ncdot.gov/projects/roadway/training/preliminary%20estimate.xls. (accessed Sep. 9, 2021).

cost per mile of building a new section of interstate is even higher than this. When one considers that I-77 traverses 106 miles in North Carolina, one can appreciate just how expensive it is to construct major new roadways.

It is not just roads that are expensive - mass transit as presently configured is also very costly. For example, the largest transit provider in the Charlotte region, Charlotte Area Transit System (CATS), had an annual operating budget in 2020 of just under $179 million with only a modest portion of its revenues derived from fares.[3] And this transit agency only serves a relatively small portion of the metropolitan region's land mass.

Even bicycle and pedestrian improvements can prove costly. Using Charlotte again as the example, from its $784 million **Big Ideas** bond program from 2014 through 2020 Charlotte has committed $99,600,000 to provide safe pedestrian and bicyclist connections to the LYNX Blue Line Extension through the Northeast Corridor Infrastructure (NECI) program and $87,000,000 more to ensure pedestrian and bicyclists safety through the sidewalk program, Vision Zero projects, and the bicycle program.[4]

Second, the funding mechanisms and rates presently in place to pay for this infrastructure, which consist primarily of the motor fuel tax for roads, sales taxes, and additional local government funding for transit, are simply insufficient to meet all the state and region's transportation needs. If this were not the case, the necessary improvements would already be either built, purchased, under construction or in operation.

Third, it is important to ensure that a change in an existing revenue source or the addition of a new one can deliver enough funding to make a difference. Two notable examples of successful efforts to provide sufficient and sustainable funding are legislative changes recently made to bolster the statewide motor fuel tax[5] revenues and transit funding via the sales tax approved by the voters in Mecklenburg County.[6]

Currently, NCDOT estimates that, to fully meet statewide roadway needs, its annual budget would need to increase from the current figure of about $5 billion to $7 billion.[7] This funding shortfall exists even though North Carolina already has the 13th highest motor fuel tax rate in the country and the fact that the motor fuel tax is dedicated to maintaining the transportation system. Recently (2017), the state legislature approved indexing the motor fuel tax rate to the Consumer Price Index (25%) and to population growth (75%) (adjustment is made on the first of each calendar year). Passing any type of

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[3] City of Charlotte, North Carolina, "*Comprehensive Annual Financial Report*," charlottenc.gov, June 30, 2020, p 138, https://charlottenc.gov/GS/procurement/publications/FY20_CAFR.pdf. (accessed Sep. 9, 2021).

[4] City of Charlotte, "*Adopted FY 2021 Budget*," charlottenc.gov, July 1, 2020, p xvi, https://charlottenc.gov/budget/FY2021/adobted/FY2021_Adopted_Budget_Book-Final_Draft.pdf. (accessed Sep. 9, 2021).

[5] NC First Commission, "*Issue Brief: Edition 1 Update*," ncdot.gov, August 2020, https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-1.pdf. (accessed Sep. 9, 2021).

[6] City of Charlotte, *"CATS Financial Information,"* charlottenc.gov, https://charlottenc.gov/cats/Pages/budget.aspx. (accessed Sep. 9, 2021).

[7] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* ncdot.gov, January 2021, p11, https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/2021-01-08-final-report.pdf. (accessed Sep. 9, 2021).

fuel tax increase at the state level is significant, especially when one considers that the Federal government has not increased its motor fuel tax since 1993.[8] It is not only at the state level that North Carolinians have acted to develop or maintain a substantial funding source for transportation. Voters in Mecklenburg County approved a half cent sales tax for transit (initially in 1998[9] and reapproved in 2007).

Efforts such as these do make a real difference, but the efforts to date still leave significant funding short falls both for mass transit and for highways. The inflation adjustment noted above in the motor fuel tax, for example, is already built into the existing $5 billion NCDOT budget. In addition, the Charlotte Moves Task Force, which is discussed in more detail below, is recommending an additional one percent sales tax for "mobility" in Mecklenburg County with about half of it dedicated to mass transit. NCDOT and Charlotte Moves have sought these changes because these are taxation methodologies capable of generating substantial and sustainable funding over an extended period.

The final key point is that this report is not a unique effort. The issue of how to pay for surface transportation improvements has not just suddenly emerged. Other significant efforts to address this concern exist. This paper notes a few of their key findings and uses a select few of them as its basis. The three key initiatives and associated reports considered are:

1. The NC First Commission Report. This commission chartered by NCDOT researched emerging trends and considered the impact new technologies and changing demographics would have on North Carolina's current funding model as they made informed and forward-thinking recommendations of how to address these changes. Its report was issued in January 2021.[10]
2. The Charlotte Moves Task Force Report. This task force's charge was to advise the City of Charlotte on the creation of a new Strategic Mobility Plan that integrates and updates current vehicle, pedestrian, bicycle, transit, and safety plans, and sets mobility goals for the city's immediate region (essentially Mecklenburg County and adjacent jurisdictions). Its primary goal was to recommend to the Charlotte City Council a catalytic program of mobility investment, what the task force calls a "Transformational Mobility Network", that addresses the City's growing mobility needs, and a funding strategy to pay for it.[11]
3. The Committee of 21 for Road Solutions for Now and the Future. This committee was formed by the Charlotte Chamber, the City of Charlotte, and Mecklenburg County in 2008 with the express purpose of concentrating on Charlotte-Mecklenburg's network of roads to prioritize needs, identify long-term funding options, and advocate for proposed funding. This report is more than a decade old, but the concerns and issues it addressed are essentially the same ones being considered today. Seeing how these problems were considered then provides some useful historical perspective as we continue to wrestle with the various transportation challenges faced

[8] NC First Commission, "*Issue Brief: Edition 1 Update*".
[9] City of Charlotte, *"CATS Financial Information."*
[10] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report."*
[11] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* citycharlottencgov.asurdreedge.net, December 2020, https://citycharlottencgov.azureedge.net/Charlotte_MOVES_Task_Force_Report_December_2020.pdf . (accessed Sep. 9, 2021).

today. As an additional point, The Committee of 21 Report, unlike the other two, includes some regionalized funding approach concepts, as opposed to the statewide view in NC First and the local perspective in Charlotte Moves.

Baseline Assumptions

In addition to the context provided above, it is also useful to explicitly state the underlying presumptions on which this paper bases its recommendations. The documents noted above largely just assumed that everyone agrees on underlying transportation needs and shortfalls, but if there is disagreement on these base line assumptions, coming to any type of consensus is unlikely. By discussing them here any concerns can be potentially addressed which will facilitate moving forward.

These base line assumptions are:

A. Near term availability:
   Although the remaining options are not listed in any particular order, near term availability is listed first because transportation systems take years to plan, develop, fund, design, construct, and operate. Given the timelines involved, procrastination is simply not a viable option, especially when it comes to identifying what improvements to do and the revenues to pay for them.
B. Prioritization
C. Time
D. Sustainability
E. Geography

A. Near Term Availability

The funding options recommended (and discussed below) in this paper: **sales tax, property tax, and registration fees**, are, largely, the traditional methods for local governments in North Carolina to collect revenues needed to fund their operations. Accordingly, it is not surprising that past efforts to identify funding solutions viable for near term implementation have also focused on these three revenue sources. For example:

- The Charlotte Moves task force recommended consideration all of three of these revenue sources. It ranked the sales tax as its preferred means to fund the mobility plan but considers all three as viable.
- The Committee of 21 report also recommended in the near term the use of increased sales tax and vehicle registration fees to fund transportation improvements.
- The NC First Commission proposes a statewide sales tax of one half or three quarters of a percent dedicated to transportation purposes. It did not consider property taxes as it views that as purely a tax for use by local governments.

B. Prioritization

A key issue that all transportation planning efforts must address is how to prioritize the various elements that compose the surface transportation system. A region's transportation infrastructure is generally composed of many different elements including

- Highways, roads, bridges, and tunnels
- Mass transit
- Bicycle and pedestrian facilities
- Freight rail
- Freight terminals
- Newly emerging factors such as micro mobility technologies such as electric scooters and Electric Vehicle (EV) charging infrastructure.

At present, most of this array of transportation elements is constructed, operated, and maintained by different authorities. In North Carolina, for example, mass transit is generally operated at the county or municipal level while the roads are mostly controlled by the NCDOT. Consequently, the Charlotte Area Transit System (CATS) has its own dedicated sales tax for transit and its own governing authority.[12] NCDOT has a completely different set of revenue sources for roadways as well as its own governance structure.[13] Bicycle lanes and pedestrian facilities are often operated by the parks and recreation divisions of local or county governments, and freight rail is often under private ownership with extensive public regulation.

Since all of these revenue sources are separate and all of their governing structures are separate as well, transportation improvements tend to occur in whichever "silo" happens to have the funds to implement them. This organizational structure typically results in a lack of coordination within each governing entity operating is its own "silo" not considering the overall transportation needs of the community. To develop a comprehensive effort to address a region's transportation concerns, the logical starting point is to come to consensus on how to prioritize the system's essential elements, which ones to fund first, and how to integrate all the elements of these systems into a single plan for execution. This may require some significant level of realignment of lines of authority. For example, the ten counties within North Carolina that make up the Charlotte metropolitan region are not all within the same division of NCDOT. It may also result in the ceding of some current board or commission's authority at the local level to a new entity at the regional level, or even the consolidation of all transportation related funding within the region.

C. Time

The funding strategies selected for further analysis that are highlighted in subsequent sections of this report were chosen for various reasons, but the preeminent one in all cases, was their availability for implementation in the immediate/near term (2022-2027). In the medium (2027-2037) or longer term (2037-2050+), funding options such as a regional Mileage-Based Use Fee (MBUF) or Transportation as Utility may well prove viable. In fact, one or more of them may even ultimately provide superior results for the Charlotte region, but new approaches such as these are not, for a variety of reasons detailed later in this report, likely to prove of use in the next five years or so. Waiting for these types of approaches to become viable could mean doing nothing in the interim; with the current state of the

[12] City of Charlotte, *"Metropolitan Transit Commission (MTC)", charlottenc.gov,* https://charlottenc.gov/cats/boards/Pages/mtc.aspx. (accessed Sep. 9, 2021).
[13] NCDOT, *"Board of Transportation,"* ncdot.gov, https://www.ncdot.gov/about-us/board-offices/boards/board-transportation/Pages/default.aspx. (accessed Sep. 9, 2021).

surface transportation system and the amount of time to implement transportation improvement efforts, the region cannot afford to defer action for another five years. So, the suggested pathway is to start working now to implement some combination of the recommended funding options and, second, to start the process of determining the feasibility and preferences for implementing one or more of these other alternatives in the longer term.

D. Sustainability

The good news regarding surface transportation assets is that if they are properly maintained they normally have a very long, useful life. A bridge may not need replacing for 75 years, and a bus can easily have a life of 10-15 years or more. The flip side of this is that these long lives are also accompanied by a need, year after year, to properly maintain these assets. In addition, as the metropolitan region grows so does the need for additional system capacity. Consequently, the funding sources for transportation assets must have a similarly long and sustainable life. "One Time" injections of funds such as occurred during the recession in 2008 via the *American Recovery and Reinvestment Act,*[14] while certainly valuable, are not capable of providing the sustained funding needed to build, operate, and maintain transportation systems in the medium to long term. Consequently, the ability of particular funding source(s) to reliably deliver substantial and predictable revenues year after year is essential.

E. Geography

Defining Statewide, Regional, and Local

To really address the issues in the defined corridor study area, such an effort requires a look beyond those immediate limits. Quite simply, the corridor's importance and impact reach much further than the area encompassed in the technical study, and the benefits of major improvements throughout that corridor will substantially benefit the larger region. Accordingly, this report is not limited to Mecklenburg and Iredell Counties (Local) which are the counties the defined corridor traverses in North Carolina. Instead, it is based on a regional perspective. The proposed funding solutions are based upon a region which encompasses ten counties in North Carolina: Anson, Cabarrus, Cleveland, Gaston, Lincoln, Rowan, Stanly, Union, and, of course, Mecklenburg and Iredell (Region).

In this instance, the regional perspective does not cross the state line into South Carolina to include York and Lancaster Counties. It does not do so for two reasons. First, these two counties' taxpayers have already imposed upon themselves a one cent sales tax for capital improvements. The one in York is dedicated entirely to transportation[15] and the one in Lancaster County[16] while not exclusively for roads, is largely used for that purpose. Second, establishing regional planning and taxation jurisdictions that

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[14] Congressional Research Service, *"American Recovery and Reinvestment Act of 2009 (P.L. 111-5): Summary and Legislative History,"* crsreports.congress.gov, April 20, 2009, https://crsreports.congress.gov/product/pdf/R/R40537. (accessed Sep. 9, 2021).

[15] York County, South Carolina, *"Sales Tax History,"* penniesforprogress.net, http://penniesforprogress.net/158/Sales-Tax-History. (accessed Sep. 9, 2021).

[16] Lancaster County, South Carolina, *"Operating and Capital Budget Fiscal Year 2020-2021,"* cms9files.revize.com, p 5, https://cms9files.revize.com/lancastercountysc/Document_Center/Department/Finance/Annual%20Budget%20Document/FY2021_Budget-in-Brief.pdf, p 5. (accessed Sep. 9, 2021).

cross state lines, while not unprecedented, is significantly more complicated than doing so within a single state.

In the near term (the next 1-5 years) the most important activity to improve planning and funding transportation improvements, is for the ten North Carolina counties in the Charlotte metropolitan area to develop and implement the governance structures to act as a region rather than separate counties, municipalities, and metropolitan planning organizations. Regional collaboration does potentially mean that funds raised in one county may be spent in another, but this does not mean the "donor" county's residents gain no benefit by contributing to the expense of building a transportation facility physically located outside its boundaries. To the extent one county's residents use of roads or mass transit located in another county for their daily commute, an investment made outside the county where one lives and pays taxes, may prove itself a sound investment. Regional planning also allows for the aggregation of funds at a higher rate for the highest priority projects. Clearly, a regional approach must not mean that all the funds flow from the suburban areas into the congested metropolitan core, but agreements to ensure the planning effort is truly regional in its approach to improvements can mitigate such concerns. A regional approach, as suggested here, has proven itself successful in other major metropolitan regions. The Minneapolis area is one example of this where an overarching Metropolitan Council has the authority and "addresses issues that transcend any one neighborhood, city, or county."[17]

Finally, it is important to note that in North Carolina most roads are operated and maintained by NCDOT.[18] So, one could argue that the solution to all these transportation issues is the responsibility of the state (Statewide). It is certainly true that the state possesses resources beyond those of the localities and the region, but the state also has somewhat different priorities and must address needs across the entire state. As an example, the state is dealing with the recovery from the recent hurricanes that have created massive damage to the transportation infrastructure of the state's eastern coastal regions. The key point here is that depending upon which of these viewpoints one assumes, one will likely come to somewhat differing conclusions. Therefore, is it important, up front, to make clear that this is written from a regional perspective and designed to benefit those that live and work in the Charlotte metro area.

1.0 Funding Alternatives

Part A: Alternatives Recommended for Consideration in the Immediate/Near Term:

Part A of this report explores six funding alternatives recommended for consideration and implementation in the immediate/near term, (2022-2027). These are prioritized for consideration due to the reasons noted in the prior section.

[17] Metropolitan Council, *"Who We Are,"* metrocouncil.org, https://metrocouncil.org/About-Us/Who-We-Are.aspx. (accessed Sep. 9, 2021).

[18] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p19.

These alternatives, listed in no priority order, are:

1. Regional Sales Tax
2. Regional Motor Fuels Sales Tax
3. Regional Motor Vehicle Sales Tax
4. Regional Property Tax, ALL Property
5. Regional Property Tax, Vehicles ONLY
6. Regional Motor Vehicle Registration Fee

1. Regional Sales Tax

a. On current items subject to sales tax (general sales tax)
b. On motor fuel sales
c. On the sale of Motor Vehicles

Background:

The Committee of 21 report recommended a half cent sales tax for Mecklenburg county for local road construction. This was a particularly noteworthy recommendation as in 1998, the County had already voted to approve a half cent sales tax to support the CATS.

The NC First Commission report also has an extensive section on the potential use of sales taxes for transportation purposes. In the case of the Commission, it evaluated several alternative approaches. These included a half-cent or a three-quarter-cent increase in the current State sales tax, partially offset by decreases in the motor fuel tax and dedicating a portion of current sales tax revenues derived from automotive sources to the transportation system.

The Charlotte Moves Task Force report concludes with its primary funding recommendation as presenting to the voters either a half-cent or a one-cent local (Mecklenburg County) sales tax increase used to support a mix of transit and infrastructure improvements. In the case of Mecklenburg County, this would be in addition to the half-cent sales tax already in place to support transit.[19]

Not only has the region experienced using sales tax to support transit, it also has seen the effective and very successful use of sales tax to support transportation infrastructure improvements just across the state line in York and Lancaster Counties, South Carolina. [20] York County first implemented a one-cent sales tax for transportation in 1997 known as Pennies for Progress, and county residents have approved the retention of this tax as part of four different referendums (public vote) to improve its road network.[21]

Revenue Generation Potential, Regional Sales Tax:

The existing sales tax is a relatively broad-based tax. Although the sale of most services is exempt, most goods are taxed. Notable exceptions are motor vehicles (subject instead to the Highway Use Tax), Motor Fuels (subject to the motor fuel tax), groceries, and prescription drugs. Even with these exceptions, the

[19] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* p 66.
[20] Lancaster County, South Carolina, *"Operating and Capital Budget Fiscal Year 2020-2021,"* p 5.
[21] York County, South Carolina, *"Sales Tax History."*

current sales tax base is quite large, approximately $39 billion in the ten-county region. The half-cent sales tax for transit in Mecklenburg County, for example, currently generates about $110 million annually.[22] For the ten-county region a half-cent sales tax would generate around $195 million per year based on recent spending trends (2019).[23]

Advantages, Regional Sales Tax:

a. The administrative burden of imposing this tax is minimal. Sales tax collections are well established as are the mechanisms for adjusting the rates and distributing the funds collected per statute and locality.
b. The sales tax is very broad based and a relatively small (ex. 1%) adjustment to it can raise a substantial amount of money.
c. To the extent that tourists, convention attendees, and others visit the area and buy goods, non-residents of the region share in paying for the transportation improvements.
d. Since the sales tax is calculated as a percentage of the cost of the purchased commodity, as the cost of goods increases due to inflationary pressures the amount of sales tax collected automatically adjusts as well. Consequently, a sales tax incorporates a "built in" inflation protection mechanism.

Disadvantages, Regional Sales Tax:

a. The relationship of the general sales tax to transportation is limited. Historically transportation infrastructure is paid for at the state and national level by fuel taxes which are essentially a user fee. The general sales tax does not meet this criterion.
b. The sales tax is regressive. Although this is somewhat moderated by the fact that higher income individuals tend to buy more goods subject to the sales tax, it is still on balance a regressive tax that is more burdensome upon those with lower incomes.
c. If the sales tax in the region becomes significantly higher than the rates charged in surrounding areas, people may adjust their shopping habits to purchase goods in another county that does not have a local sales tax in place. This phenomenon could impact the competitive position of businesses within the region.
d. The state, municipal, and county governments within the region already use the sales tax to fund a wide range of governmental functions. Presumably, there is a limit to the sales tax burden the residents would consider reasonable. When sales tax rates reach that limit, to the extent they are used for transportation, it may limit their availability to pay for other governmental functions.
e. Sales taxes can prove somewhat volatile from year to year. Although the sales tax base is quite large and generally stable, there are exceptions. In times of significant economic contraction such as the recession in 2008, sales tax revenues can decline significantly and take several years, or more, to recover.

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[22] City of Charlotte, North Carolina, "*Comprehensive Annual Financial Report*," p 138.
[23] NCDOR, *"Statistical Abstract of North Carolina Taxes 2019,"* files.nc.gov, Table 36A, https://files.nc.gov/ncdor/documents/reports/completeabstract_2019.pdf. (accessed Sep. 9, 2021).

f. Sales tax increases require legislative authorization, County Commission approval and voter approval. Accomplishing this requires a concerted, carefully prepared, and executed campaign to garner voter approval.

2. Regional Sales Tax on Motor Fuels

Background on generalized concept of sales tax provided in previous section

Revenue Generation Potential, Regional Motor Fuel Sales Tax:

An alternative sales tax initiative would impose a sales tax solely upon the sale of motor fuels within the region. Currently motor fuels are taxed by the state under the motor fuel tax statutes, and they are exempted from the standard sales tax. A regional sales tax on motor fuels would presumably be imposed on top of the existing motor fuel tax. Assuming that this sales tax would be 100% devoted to transportation and is set at 1% of the purchase price of fuel priced at $2.50/gallon, 2.5 cents per gallon, the annual receipts are estimated at approximately $35m. If the sales tax rate was set at the average sales tax rate in the region, (7%) then the annual revenues would fall in the $240-$250m range.[24]

Advantages, Regional Motor Fuel Sales Tax:

a. Most fuel retailers currently remit sales taxes on other goods sold at their place of business so they are already familiar with the forms and processes to collect and remit the sales tax.
b. A motor fuel sales tax would, by definition, be imposed upon motor fuel purchases. So, it would closely adhere to the user fee principal historically associated with how surface transportation is funded.

Disadvantages, Regional Motor Fuel Sales Tax:

a. At present only motor fuel taxes are collected on motor fuel purchases. The imposition of a sales tax in addition to the motor fuel tax would impose a one-time administrative burden on the vendors of fuel. Fuel sale prices include taxes so all gas pumps would need to be reprogrammed to charge the sales tax, and the sellers would need to separately account for the sales tax on fuel.
b. The motor fuel tax rate charged in North Carolina is slightly more than $0.36 per gallon, and in 2020 it was the 12th highest rate charged by any state in the nation.[25] To the extent that a sales tax is imposed on top of the existing fuel tax, it will further increase the cost of motor fuel in North Carolina. This may impact the state and the region's overall cost of living and economic competitiveness. It may also result in individuals specifically leaving the region or the state, to the extent that they can, to purchase motor fuel.
c. Motor fuel taxes are becoming a less and less viable source of funding for the surface transportation system as vehicles become more fuel efficient and as the miles people drive may be permanently impacted by shifts in driving patterns as more people work from home and commute less[26].

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[24] NCDOR, *"Statistical Abstract of North Carolina Taxes 2019,"* Table 53.
[25] NC First Commission, "*Issue Brief: Edition 1 Update*".
[26] NC First Commission, "*Issue Brief: Edition 1 Update*".

d. A motor fuel sales tax is regressive, and motor fuel is an essential item. To the extent that individuals with lower incomes need to drive extensive distances to either their place of employment, education, or child-care, they are impacted more severely than those with higher incomes. This is particularly true when housing affordability drives where one lives relative to where one works.

e. As with a general sales tax increase, this would require legislative authorization, County Commission approval, and voter approval. Accomplishing this requires a concerted and carefully done campaign to garner voter approval.

3. Regional Motor Vehicle Sales Tax

Background:

At present, only about 5% of current state sales tax revenues are derived from the sale of transportation related goods.[27] This number would be closer to 12-15% if motor vehicle sales were subject to the sales tax, but North Carolina has exempted motor vehicle sales from the sales tax. In lieu of the sales tax it charges a Highway Use Tax. This Highway Use Tax is set at three percent of a vehicle's purchase price, less the value of any vehicle taken in trade. Effectively, this means that North Carolina has the lowest tax on vehicle sales in the U.S. It also means that motor vehicle sales are not subject to the state and local sales tax which in the Charlotte region averages just less than seven percent.[28] This disparity is the basis of the NC First Commission proposing a doubling of the Highway Use Tax. One other possible alternative is authorizing county governments (or a region) to impose their local sales tax rate on the sale of motor vehicles and dedicating those sales tax receipts to transportation funding.

Revenue Generation Potential, Regional Motor Vehicle Sales Tax :

According to NCDOT, the average amount collected in Highway Use Tax per transaction in 2020 was $379.[29] Assuming a sales tax of 3% per transaction, the same rate that the state currently uses, in the ten-county region and using the number of HUT transactions in the ten-county region in 2020 (495,713[30]), it is estimated that collections could total approximately $190 million annually. Even with the addition of this 3% tax, the total tax amount collected per transaction would still be lower than the general sales tax rate in the region. Setting a rate other than 3% would, of course, result in a differing annual amount of revenue.

Advantages, Regional Motor Vehicle Sales Tax:

a. The current sales tax exemption set by the state for motor vehicles removes access for localities to a very significant portion of their sales tax base. Permitting local governments to tax motor vehicle sales would eliminate this anomaly.

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[27] NCDOR, *"Statistical Abstract of North Carolina Taxes 2019,"* Table 32.

[28] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 32.

[29] NC First Commission, "*Issue Brief: Edition 3 Update*," ncdot.gov, August 2020, https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-3.pdf. (accessed Sep. 9, 2021).

[30] NCDOT, "REQ0271658 *(Public Records Request)* – Occurrences of HUT Collections for the provided counties in FY 19-20 & FY 20-21," August 2021.

b. A strong nexus exists between a sales tax on motor vehicles and transportation funding. Historically, transportation infrastructure funding is derived from taxes closely related to transportation. For example, motor fuel taxes are essentially a user fee. Similarly, using the sales tax revenues derived from the sale of transportation related goods and motor vehicle sales for transportation purposes has a clear nexus to transportation.
c. Local governments have many functions they perform and limited funds to use to pay for them. Accordingly, an important consideration when seeking either a general sales tax increase or a property tax increase to dedicate for transportation is to identify to what extent doing so might "crowd out" spending for some other programs the communities deem as a priority. Since this is currently an "untapped" portion of the sales tax base, a targeted tax such as this is less likely to be viewed as diverting funds from other governmental priorities.

Disadvantages, Regional Motor Vehicle Sales Tax:

a. The state exempted motor vehicle sales from the general sales tax and instead imposed the Highway Use Tax on them for a reason. Specifically, it wanted to see the taxes on these sales go to the transportation system. If there is a possibility that the local governments might wish to use these funds for any purpose other than transportation, the legislature would be unlikely to advance authorizing legislation.
b. The purchase of a motor vehicle is a major expense, especially for those of lower incomes. A sales tax on top of the vehicle's purchase price and all the other fees and expenses associated with buying a car could prove a significant economic burden on some.
c. As with the motor fuel tax, this revenue source may face some long-term sustainability issues. If transportation as a service is made more viable, particularly in urban areas (ride sharing, car sharing), people may shift from car ownership to subscription services for transportation. If this trend matures to a significant degree, the number of vehicles bought and sold each year may diminish significantly.[31]

4. Regional Property Tax (ALL Property)

a. On all property
b. On motor vehicles only

Background:

The Committee of 21 report did not consider a property tax for transportation purposes. The NC First Commission looked at a statewide property tax but does not recommend the implementation of one for transportation funding. The Charlotte Moves Task Force does recommend the use of an increase in the current property tax as secondary or alternative to the sales tax as a funding source.[32]

Currently in North Carolina the property tax is not used at the statewide level. The property tax is generally seen as a revenue source reserved for use at the county and municipal level of government. In

[31] NC First Commission, "*Issue Brief: Edition 3 Update.*"
[32] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* p 66.

fact, the NC First Commission notes that only four states currently have a statewide property tax, none of which devote any of the revenues collected via this tax for transportation funding.[33]

In North Carolina, property taxes are imposed not solely upon real property but upon vehicles as well. The vehicle property taxes assessed are currently collected by the NCDMV[34] at the same time vehicle registration fees are paid and the revenues collected go to the county's general fund, they are not dedicated to use for transportation needs.

Revenue Generation Potential, Regional Property Tax (ALL Property):

Property tax is set as a number of cents per hundred dollars of the value of the properties subject to the tax. Since the tax base is so large, even a small assessment can generate significant amounts of revenue. NC First, for example, estimates that over a ten-year period a tax of .0001 per $100 of property value would generate $1.23 billion in revenues statewide.[35] The Charlotte Moves report estimates that in Charlotte a tax of 1-cent per $100 would generate $14 million annually at an average cost per homeowner of $21.48.[36]

Within the ten county Charlotte metropolitan area in North Carolina, the total property tax base is about $320 billion with a weighted average property tax rate of 76.83 cents per hundred dollars of assessed value. This generated about $1.75 billion of tax receipts in 2019. Each additional 1 cent per hundred dollars of assessed value, if dedicated to meet transportation needs, would generate between $25 and $30 million. The actual amount collected per year depends upon changes in assessed value, assessment cycles, and what exemptions may be granted[37].

Advantages, Regional Property Tax (ALL Property):

a. The property tax is well established as a means for local and county governments to obtain the funds to serve their citizens.
b. The mechanisms to assess and collect property taxes are well established so the administrative costs are minimal.
c. Due to the size of the property tax base, the actual cost per property (as noted in the Charlotte Moves report noted above) is relatively modest.
d. Property taxes are generally progressive in their application because the amount due increases along with the value of the owned property. For the most part, higher assessed property is correlated to higher incomes and the ability to afford to pay the tax.
e. Property tax rates and their use are set in North Carolina by the County so the process to implement a property tax is relatively straight forward.

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[33] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 172.
[34] Official North Carolina DMV, *"Vehicle Property Taxes,"* ncdot.gov, https://www.ncdot.gov/dmv/title-registration/taxes/Pages/vehicle-property-tax.aspx. (accessed Sep. 9, 2021).
[35] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 172.
[36] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* p 66.
[37] Anson, Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union Counties, *"Comprehensive Annual Financial Reports," (most recent published for each County; accessed May, 2021).*

Disadvantages, Regional Property Tax (ALL Property):

a. Property taxes are typically used to fund a wide array of local government needs such as fire protection, education, and other general fund uses. Although some property taxes may currently be used for local transportation improvements, efforts to dedicate a significant percent of property tax revenues to transportation may receive "pushback" from advocates for the other purposes for which property taxes are used.

b. Although there is a clear linkage between property values and access to a good transportation network, it is not a direct user fee connection and, historically, transportation revenues are tied closely to the user fee principal.

5. Regional Property Tax on Vehicles ONLY

Background:

In North Carolina, property taxes are imposed upon vehicles as well on real property. The vehicle property taxes assessed are currently collected by NCDMV at the same time vehicle registration fees are paid,[38] and the collected revenues go to the county's general fund. These funds are not dedicated to use for transportation needs. One possibility is to designate a property tax upon vehicles solely dedicated to paying for transportation improvements. A property tax solely upon vehicles is not a concept that was explored in the NC FIRST, the Charlotte Moves, or the Committee of 21 reports.

Revenue Generation Potential, Regional Property Tax on Vehicles ONLY:

In the Charlotte Metropolitan Area there are currently approximately 2.1 million vehicles[39] of all types. This number includes buses, motorcycles, trailers, freight trucks, automobiles, and light duty trucks with assessed value in 2021 estimated at about $20.4 billion[40]. Although this figure is considerably less than the total assessed value for all property in the region, it is still a significant base of value. For revenue estimating two alternatives are considered. The first is dedicating the current property taxes generated by vehicles to transportation. The second is to add an additional assessment rate to vehicles and dedicate these additional revenues to meeting transportation needs. If all the current amounts of the annual vehicle property tax collected are reallocated to transportation, then the amount annually generated is about $156M per year. If a new tax is imposed for this purpose, then it is estimated to generate approximately $2.2 million per penny assessed per hundred dollars of value.

Advantages, Regional Property Tax on Vehicles ONLY:

a. A property tax upon vehicles has a clear linkage to transportation and access to a good transportation network, so it would be perceived as meeting a historical tie between transportation revenues and the user fee principal.

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[38] Official North Carolina DMV, *"Vehicle Property Taxes."*

[39] NCDOT-DMV, "VRBRTC8X *(Public Records Request)* – Vehicle Registrations by Counties and Towns," August 2021

[40] Anson, Cabarrus, Cleveland, Gaston, Iredell, Lincoln, Mecklenburg, Rowan, Stanly and Union Counties, *"Comprehensive Annual Financial Reports," (most recent published for each County; accessed May, 2021).*

b. Property taxes upon motor vehicles are currently collected by NCDMV in conjunction with annual vehicle registration fees, so administratively this is simple, straightforward, and enforceable in its implementation.

Disadvantages, Regional Property Tax on Vehicles ONLY:

a. If the decision is made to redirect current vehicle property taxes to transportation, then the counties and local governments which currently use those revenues for other purposes will need to either identify new revenue sources to replace the lost revenues or cut their expenditures.
b. If the decision is to create a new property tax surcharge on vehicles it would require a legislative change at the state level.
c. In setting a new property tax surcharge on vehicles, setting an appropriate property tax that is not overly burdensome on those with lower incomes may prove an issue when collected in conjunction with annual registration fees.

6. Regional Motor Vehicle Registration Fee (in addition to those that already exist)

Background:

The Committee of 21 recommended an annual vehicle registration fee of $30 to $60 in its report in 2008. The NC First Commission also looked closely at an increased statewide vehicle registration fee but considered it in a more limited manner for either heavy vehicles or Electric/Hybrid vehicles. The Charlotte Moves Task Force also suggested an increased vehicle registration fee as a secondary funding source.

Currently in North Carolina, the DMV processes about 8.25m registrations annually with privately owned vehicles paying a base fee of $38.75 per year.[41] The DMV processes these registrations and simultaneously bills the vehicle owner for local property taxes and any local registration fee. So the DMV already has the administrative capacity to identify county of ownership and allocate any local or regionally imposed registration fee to the appropriate local agency. In fact, four other counties in North Carolina (Durham, Orange, Randolph, and Wake) already impose a regional/county registration tax with the net proceeds dedicated to support of mass transit.[42] Municipalities may levy an annual fee of up to $30 for street improvements and public transit [43] (Charlotte already does so). The state has also recently built into its registration fee structure a provision to adjust the fee for inflation once every four years.

Revenue Generation Potential, Regional Motor Vehicle Registration Fee:

At present there are about 1.81m motor vehicles (automobiles and light trucks) upon which a regional fee may be imposed. This does not include trailers, tractor trailer trucks, or motorcycles. If these other

[41] NC First Commission, "*Issue Brief: Edition 6 Update*," ncdot.gov, September 2020, https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-briefs-edition-6.pdf. (accessed Sep. 9, 2021).
[42] NC First Commission, "*Issue Brief: Edition 6 Update*."
[43] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* p 67.

vehicle types are included, the number of registered vehicles increases to about 2.1m. Using the currently allowed figure for municipal governments, $30 as a base, annual revenues of about $54m are generated. The Charlotte Moves report notes in its report that a $10 increase in the fee in its jurisdiction has a value of $8.8m.[44]

Advantages, Regional Motor Vehicle Registration Fee:

a. A key appeal of a regional vehicle registration fee increase is the administrative simplicity of it. NCDMV already collects an annual fee and already has in place mechanisms to collect fees on behalf of the county or municipality in addition to the base statewide fee.
b. Vehicle registration fees align closely with the user fee principle historically associated with mechanisms used to fund the transportation system. Even though this is a flat fee, logically all users of the system (and if one owns a vehicle, presumably one plans to use the system) should pay a reasonable amount to access the system.
c. Registration fees can be calibrated to enhance their fairness/equity. For example, fees can be graduated based upon vehicle purchase price, vehicle age, or weight. It is even possible to include waivers based upon owner's income. These types of fee schedules, however, do make the administration of the program somewhat more complicated.
d. These fees apply to a very large volume of vehicles. The sheer number of vehicles in the region permits a relatively low annual fee to generate a substantial amount of revenue.
e. Incorporating the state's existing quadrennial inflation adjustment factor can allow the purchasing power of this fee revenue to remain constant.

Disadvantages, Regional Motor Vehicle Registration Fee:

a. Equity and affordability are key items to consider when implementing a flat fee. For lower income individuals, an annual additional regional registration fee when combined with the existing state fee, property tax, and any already existing municipal fee (Charlotte currently has in place a $30 municipal fee) may prove a significant financial burden.
b. As the NC First report also notes, there are potential concerns that "fine-tuned" fees not only require higher administrative cost, but they may also run counter to other possible public policy goals. For example, higher fees for hybrid/EVs may make sense since they pay little or no motor fuel taxes, but they may also discourage people from purchasing such vehicles even though their use reduces greenhouse gas emissions.[45]
c. A regional fee is only paid by those who live in the region, even though the transportation system is accessible to those who live outside the region.
d. A flat annual fee, unlike the motor fuel tax, is not directly correlated to one's use of the system. To the extent that the use of more motor fuel is related to one's use of the system it is typically perceived as a more equitable tax as the more you use the system the more you pay.

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[44] Charlotte Moves Task Force, *"Charlotte MOVES Task Force Report,"* p 67.
[45] NC First Commission, "*Issue Brief: Edition 8 Update*," ncdot.gov, May 2020, https://www.ncdot.gov/about-us/how-we-operate/finance-budget/nc-first/Documents/nc-first-brief-edition-8.pdf. (accessed Sep. 9, 2021).

Part B: Alternatives Recommended for Consideration in the Long Term:

Part B of this report explores three funding alternatives recommended for consideration in the medium (2027-2037) to long-term (2037-2050+). They are:

1. Regional Mileage Based User Fee (MBUF)
2. Regional Business Improvement District
3. Regionally Established Transportation as Utility

1. Regional Mileage Based User Fee (MBUF)

A MBUF is a user fee charge based on miles driven within a specified geography, usually a state. A regionalized MBUF is a supplemental fee charged for miles driven in a sub region that is paid to a regional/local authority for its use maintaining and operating surface transportation assets.[46]

The MBUF's primary attractions are:

a. It can charge all vehicles for their use of the road unlike the motor fuel tax which penalizes a low fuel efficiency vehicle and presently does not charge an electric vehicle at all.
b. Depending on the technology used, it can be tailored to meet goals beyond simply collecting a flat fee per mile traveled. It can do so by charging differing rates per mile based upon the time of day or location.

The MBUF's primary disadvantages are:

a. To the extent MBUF is calculated manually, it is very expensive and difficult to administer and automated systems for calculating, billing, and collecting it are not currently fully developed.
b. The public has privacy concerns that the government will use this data, especially if the data is automated, to track their exact location and the potential to use it as something other than a means to raise revenue. Examples of this potential alternative use are altering the MBUF charge by time of day to discourage driving at times of peak congestion, or charging differing rates based upon your location. It is the aspect of a system knowing your location that has certain groups concerned about personal privacy related to travel in their own vehicle.
c. To date these concerns, particularly the ones related to privacy, have prevented the widespread adoption of MBUFs. This is despite the fact that various states have experimented with them for more than a decade. At this point in time, a standard for how to administer and operate a MBUF simply does not exist. Also, most MBUF schemes presume that they replace the current motor fuel tax. This is seen as one of the ways to make such a system more attractive to users. A regional MBUF enacted absent a statewide implementation would not fit that scenario.
d. Finally, there is the issue of how to address the miles driven by vehicles traveling into and out of the region.

[46] MBUFA, *"What Are Mileage-Based User Fees?",* mbufa.org, http://www.mbufa.org/what.html. (accessed Sep. 9, 2021).

Conclusion: Although a regional MBUF may make sense at a future date, at present the issues associated with its implementation make it unviable. NCDOT is participating in an MBUF feasibility study and if and when a statewide MBUF system is implemented, a regional MBUF surcharge could be considered.

2. A Regional Business Improvement District (BID)

The use of BIDs to construct major transportation improvements is not one that is typically proposed. Historically, BIDs are quite focused to a specific locale and limited in what they seek to accomplish. In fact, the current definition of a BID reflects this:

> *A business improvement district (BID) is a defined area within which businesses are required to pay an additional tax or fee in order to fund projects within the district's boundaries. These districts typically fund services beyond those performed by government with its existing tax revenues. BIDs normally choose to pay these supplemental taxes or fees to ensure they have transportation facilities to make their locations more attractive to customers or accessible to meet their needs. Examples of improvements BIDs often fund include improved traffic signals, sidewalk and road aesthetics, or transit stops. The revenue derives most commonly from a tax assessment on commercial property owners.*[47]

For a BID to have a positive impact addressing the transportation issues in the Charlotte region, the effort would require a BID to include essentially all the commercial and industrial properties in the region. Second, to ensure it was a "true" BID which garnered support from the business community, the types of improvements funded with these funds would presumably be restricted to improvements focused on access to and from or within specific commercial and industrial areas rather than on improvements to arterial or collector roads providing improved access for commuters. Third, in the current COVID-19 dominated world, which improvements are most appropriate to make while the stability of the retail/commercial tax base is uncertain. Post-COVID-19, consumer shopping patterns and the way retail operates may look very different than it did in the recent past.

Conclusion: While a BID has potential to deliver substantial access improvements in commercial and industrial areas, a BID is unlikely to deliver the range of improvements needed to meet the goals and objectives of the Beyond 77 or any other region wide effort.

3. A Regionally Established Transportation Utility

Transportation is essential for our access to basic necessities, not unlike access to electricity and water. Users would pay fees for the use of the transportation system with the rates reflective of the cost of constructing, operating, and replacing it. The basis for calculating rates is established by governing ordinances which typically are set by a public commission. One potential fee alternative is based on the

[47] Southeast Tennessee Development District, *"The Southeast Tennessee Green Infrastructure Handbook for Local Governments,"* Archived March 20, 2012 on http://www.sedev.org/downloads/GreenInfrastructureHandbook.pdf. (accessed Sep. 9, 2021).

estimated number of trips a property generates, providing a direct connection between the costs of transportation facilities and their demand.[48]

Funding transportation infrastructure via a utility model is a concept periodically discussed but not yet implemented in anywhere in the country. Although this idea has significant appeal, the fact that no entity has yet implemented a transportation utility in the U.S. means whomever sets up the first one has to address and resolve many concerns. Key questions are developing an appropriate regulatory scheme, how to enforce it (unlike electricity you cannot easily shut off access to delinquent rate payers), effectively explaining such a system to the general public, and the process for determining just what the appropriate components of the "essential" system are. For example, should rates include the cost of bicycle and pedestrian improvements or only those corridors used to move freight, and who and how is that decided?

Another key issue for this concept is whether/how it may operate on a regional/local level if not also implemented at the state level. Presumably if implemented statewide, it could replace all current motor fuel taxes and, possibly all the other funding measures in place with the exception of motor vehicle registration. The rates could vary somewhat by region based upon the transportation needs and ambitions of the region but replacing the current array of transportation funding sources could make this concept much more appealing. If implemented on a regional level as an overlay upon the state's present transportation funding, it could prove considerably more complicated to explain to the public and to implement.

Conclusion: Transportation as a utility is a very appealing concept that merits further study and consideration for implementation as some future date, but it is not sufficiently mature to propose implementing at this time.

Part C: Alternatives Not Viewed as Sustainable or Sufficient.

1. Additional Federal Funding
2. Additional Funding from NCDOT/State of North Carolina
3. Tolls: Tolled Express Lanes/Tolled Highways
4. Tolls: Cordon Pricing/Congestion Pricing

1. Additional Funding from the Federal Government

As the NC First Report notes, the Federal Government last raised the motor fuel tax rate in 1993. Since Congress routinely appropriates more funding for highway construction out of the Federal Highway Trust Fund than it receives in annual revenue, it is essentially insolvent. Further complicating matters as noted below:

> *As a result of general inflation, the purchasing power of federal gasoline taxes are sharply declining.... for more than a decade, revenues have generated less than the amount spent… The federal tax rate peaked at the 2017 equivalent of 49 cents per gallon in 1960. The real buying power of the gas tax is now about what it was in the*

[48] Eno Center for Transportation, *"Transportation as Utility,"* enotrans.org, March 23, 2013, https://www.enotrans.org/article/transportation-as-utility/. (accessed Sep. 9, 2021).

> *early 1980s, before the big 1982 tax increases. Combined with the impacts from rising fuel economy in gasoline powered vehicles and an increase in electric vehicles, Highway Trust Fund revenues have required additional funding to maintain current spending levels.*[49]

Given these facts, the simple answer of hoping someone else will pay to repair and expand the region's transportation infrastructure, specifically the federal government, seems unrealistic for now. Admittedly the federal government dramatically expanded its role in transportation in the past, but the federal government has not raised its motor fuel tax since 1993, and at present there are no indications that either the President or Congress have an appetite for increasing the fuel tax.

A possibility of an infrastructure infusion as part of a stimulus package or a 'grand' infrastructure deal in 2021 is quite real, but these infrastructure bills have been discussed for years and to date nothing has passed. Even assuming that a bill does pass, only a limited portion of the funds will address surface transportation infrastructure, and only a portion of these federal funds will be allocated to North Carolina. Within the state's federal allocation only a portion will be available to the Charlotte region. Most significantly funds delivered through these types of legislation are "one time" boosts; they do not allow for the sustainable year-after-year funding needed to construct, operate, and maintain a region's transportation system.

Conclusion: The best-case assumption is that federal aid will continue at current levels adjusted for inflation with possibly a one time "shot" of federal stimulus dollars.

2. Additional Funding from the North Carolina Department of Transportation (NCDOT)/State of North Carolina

The NC First Commission was formed, "*To advise the Secretary of Transportation in the formation of a sustainable long-range transportation investment strategy,"* and in its cover letter to the Secretary, the Commission's first observation was that the state's current system for funding its surface transportation system is "becoming obsolete" and "already inadequate to meet our state's increasingly growing needs."[50]

The Commission's broad finding was that:

> *Currently, North Carolina's annual transportation investment level will equal an estimated $50 billion over the next decade (roughly $5 billion annually). The Commission's consensus recommendation is to increase the total investment level over the next decade by at least an additional $20 billion…. The Commission has identified a menu of potential options that could be utilized to reach this goal. Implementation of multiple investment strategies will allow North Carolina to*

[49] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 74.

[50] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 9.

modernize and increase total transportation investments. This will ensure the state's continued economic vitality and quality of life as well as future competitiveness.[51]

As noted above, the state is already expending considerable sums annually on its surface transportation system yet has explicitly stated that the amounts currently available are insufficient. In fact, the Commission notes that deteriorated roads cost North Carolinians about $3.4B in higher costs. In the Charlotte region it estimates an additional congestion cost per driver to be $1,269.[52] This deterioration is continuing even though in 2020 North Carolina set the state-motor fuel tax rate at about $.36 per gallon, the 13th highest in the nation.[53]

If the state could focus its expenditures for surface transportation on the Charlotte region, that would resolve most if not all the area's transportation funding needs, but that is not viable. In fact, due to the recent pair of hurricanes that have struck the state's coastal regions, if any area is to receive prioritization it is the coastal region of North Carolina as its network is repaired and made more resilient.

Conclusion: The current funding limitations and transportation needs statewide are such that expecting material increases in the proportion of state funds spent in the Charlotte region compared to the rest of the state is unrealistic. If, however, at some future point the state either legislatively or by referendum materially reforms its transportation funding mechanisms and materially increases its annual funding, it could provide significant relief for the Charlotte region.

3. Tolls: Tolled Express Lanes and Tolled Highways

Four significant projects involving the use of tolls are already either completed or underway in the Charlotte region. These are the:

a. Monroe Expressway. The $731 million Monroe Expressway is a 19.8-mile controlled-access toll road located in Union County. It was opened for traffic in November 2018.

b. I-77 Express Lanes. The $647 million I-77 Express Lanes project, a 26-mile designated toll lane corridor, uses dynamic pricing to control the flow of traffic. The project, located in Mecklenburg and Iredell Counties, partially opened to traffic in June 2019. The final section opened on Nov. 16, 2019. It is important to note that this project was the subject of Public Private Partnership (P3) and that public funding for this project was considerably less than the total project cost.

c. I-485 Express Lanes. The $330 million I-485 Express Lanes project, a 17-mile toll lane in Mecklenburg County, is under construction and expected to open in 2022. Like the I-77 Express Lanes project, toll rates will fluctuate based on traffic volume.

d. U.S. 74 Express Lanes. Two U.S. 74 express lane projects, located in Mecklenburg County, are expected to begin construction in 2024. These projects will build express lanes from I-277 to I-485. Toll rates will fluctuate based on traffic volume.

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[51] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 11.

[52] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 23.

[53] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 31.

All four of these above toll-supported projects are already considered in the modeling performed for the *Beyond 77* study, as well as the planned 77 South Express Lanes:

e. I-77 South Express Lanes. This 11.2-mile project to widen I-77 and reconstruct the freeway and construct managed lanes from the South Carolina state line to I-277, is projected to cost more than $1 billion. Construction is not scheduled to begin until 2029 at the earliest.[54]

Although specific toll projects such as these ones noted above can and do provide meaningful congestion relief, there are significant limitations on tolls as a revenue source to serve as a long-term regional transportation funding solution. First, as the NC First Commission report indicates, current state laws place significant limitations on the use of tolling as a source for revenue at the local or county level. Specifically, tolled projects must first and foremost pay for the debt service and operations and maintenance of the tolled facility. If they are constructed via a public private partnership, the tolls collected also need to pay the investors who funded the project. The net result is that typically a toll road rarely generates enough revenue to pay for anything other than its own construction, maintenance, and operations. Second, the state currently has in place a cap on the number of toll-based projects permitted. Third, the state has a bonus allocation system that allocates funds to Metropolitan Planning Organizations (MPO) and municipalities that accept tolled projects within their boundaries. North Carolina implemented this system as an incentive to encourage regions to construct tolled facilities. Certainly, this incentive program can provide meaningful amounts of funding to the region, but these are a one-time revenue boost and not a source for year over year sustainable funding.[55]

4. Cordon Pricing and Congestion Pricing

Cordon pricing is setting tolls paid by users (private cars) to enter a restricted area, usually within a city center, as part of a demand management strategy to relieve traffic congestion within that area. At present no official cordon pricing scheme is in effect in the United States, though several cities, particularly New York, are seriously considering its implementation. The locales best known for the use of cordon pricing at present are London and Singapore.

Cordon pricing efforts use fees to control either throughput or the sheer number of vehicles in an urban area; they are designed/priced to change behavior and are not directed toward raising revenues to construct or operate and maintain infrastructure.[56]

Congestion pricing doesn't impose downtown cordon fees for drivers, but focuses on specific crowded highways, with variable fees keyed to traffic levels, and thus higher charges at peak hours. Congestion pricing schemes can be designed either to optimize vehicle throughput or revenues. Typically, revenue optimization is used in cases where revenues are needed to pay debt service, operations, and maintenance costs for the facility and through put is optimized when such factors are of lesser importance.

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[54] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 10.

[55] NC First Commission, *"NC Future Investment Resources for Sustainable Transportation (NC FIRST) Commission, Final Commission Report,"* p 10.

[56] Land Transport Authority, *"Congestion Pricing Experiences in Singapore,"* itf-oecd.org, 2010, https://www.itf-oecd.org/sites/default/files/docs/rtfeb10chin.pdf. (accessed Sep. 9, 2021).

Conclusion *(applicable for both #3 Tolls & #4 Cordon Pricing and Congestion Pricing)*: Tolls come in a number of variants and can provide opportunities for significant specific improvements. Within the Charlotte region, the most promising projects are either completed or underway with the tolls they will generate dedicated to repaying the debt incurred to construct them and then to operate and maintain them. These projects and the bonus allocations the state provides when they are implemented are not sufficient, by themselves, to meet the need for improvements in the Charlotte Metropolitan area's transportation system over time.