North Carolina FIRST Commission
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Testimony by Dr. Alison Premo Black, Senior Vice President & Chief Economist

The Economic Benefits of Transportation Investment in North Carolina

Honorable Nancy McFarlane, Chairman Ward Nye, and members of the commission, thank you for the opportunity to appear before you today.

My name is Alison Premo Black. I am senior vice president and chief economist of the Washington, D.C. -headquartered American Road and Transportation Builders Association (ARTBA).

I will note that Chairman Nye is ARTBA's first vice chairman and the firm he leads, Martin Marietta Materials, is an ARTBA member.

Since 1902, ARTBA has represented the U.S. transportation design and construction industry. On behalf of more than 8,000 public and private sector members, we advocate for strong investment in transportation to meet the general public and business demand for safe and efficient travel.

Our chapter affiliate in the state is Carolinas AGC, and we are proud to have worked together with them for decades to advance the pro-transportation investment agenda.

I have been chief economist and a senior executive with ARTBA for nearly 20 years. During that time have conducted over 100 studies on state funding trends and the economic impacts of transportation investment.

Today I will testify about some of the immediate and longer-run benefits of transportation investment, as well as the opportunity cost when investments are not made. I will conclude by outlining some of the future trends that will impact the need for transportation investment in North Carolina.

Transportation Construction is an Engine of Economic Growth

There are two primary economic impacts that occur when state or local governments make transportation capital investments.

The first is the immediate increase in jobs and economic output from the construction activity.

Based on data from the U.S. Bureau of Economic Analysis, every dollar of transportation capital investment in North Carolina produces at least $2.04 in increased output and business activity across all sectors of the economy—not just construction.

How does this ripple effect work? Highway, street and bridge contractors purchase inputs—such as materials—from North Carolina businesses, in addition to other firms outside of the state, as they complete work on projects. These suppliers then purchase items from other firms, creating an indirect effect.

The employees of the construction firms and supplier industries spend their earnings by purchasing clothing, food and other goods and services, thereby creating induced demand in other sectors of the state economy. As jobs are created or sustained, employees receive additional income and spend more, and businesses increase sales.

Subsequently, taxes grow due to larger payroll and sales volumes, providing the state and local municipalities with additional revenues to reinvest in North Carolina.

Our analysis estimates that public and private sector transportation capital outlays, construction work and maintenance expenditures in North Carolina will reach $7.4 billion in 2019.

This investment, in turn, helps generate $15 billion in total economic activity for North Carolina businesses. Transportation construction and maintenance activity contributes $8 billion to the state's gross domestic product (GDP), accounting for 1.4 percent of total state GDP.

Over 110,000 jobs are supported by just this transportation construction and maintenance activity. In addition, there are over 2 million North Carolina jobs in industries like agriculture, manufacturing, tourism, retail and other sectors that are extremely dependent on the transportation network.

But this just measures the effects of the construction activity. The second economic impact is in the longer run. Increased transportation investment means that North Carolina drivers would spend less time stuck in traffic and save on operating costs as mobility and road conditions improve. Less congestion will help lower emissions and improve air quality.

Increased business productivity would lead to stronger economic growth. Safety improvements would help save lives and reduce the number and severity of vehicle crashes.

The overall economic benefits of transportation investment to a state's economic activity are well documented in the economics literature. There are numerous studies that have found a positive correlation between transportation infrastructure investment and economic development. Although the exact impact of the investment has varied among studies, the fact that there is a positive relationship is widely accepted.

A conservative estimate finds that this long-run return on transportation investments is between $4 and $5 dollars for every $1 invested and could be even higher for individual projects.[1]

A recent study by the U.S. Treasury Department of 40 projects of national and regional significance found that the return on investment for some projects can range as high as $8 or $10 in net economic benefits for every $1 invested.[2]

Transportation investment, mobility and a high-quality infrastructure are also important factors when businesses are making their own location and capital investment decisions.

U.S. businesses spent $1.6 trillion on logistics costs in 2018, according to the 30th Annual State of Logistics Report, released by the Council of Supply Chain Management Professionals.

Many areas across the country are making strategic transportation investments to attract new business. In the last six years, 31 states, including North Carolina, have increased or adjusted their state motor fuel tax rate, in addition to raising other user fees.

There is also an opportunity cost if North Carolina fails to make adequate transportation investments to address growing demand.

In our analysis, compared two different funding scenarios for state highway investment in North Carolina to illustrate this point, using models created by the Federal Highway Administration (FHWA). The difference between the results illustrate how not investing enough in the transportation system creates additional costs that are paid by the users of the system.

In the first scenario, North Carolina continues to invest an average of $1.5 billion per year for major highway capital reconstruction and improvements to existing roadways. In the second scenario we modeled the results of an average annual investment level of $4 billion, which is the estimated amount to make all cost-beneficial improvements to the system, according to the FHWA model. In each case, the model prioritizes projects with the highest economic return.

The results add up—the difference in overall user benefits between the higher investment level and maintaining current spending is $11 billion over the next 10 years.

In other words, at a higher level of investment, North Carolina drivers would save an additional $11 billion over the next decade from increased safety benefits, lower operating costs and savings from improved travel times.

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[1] R. Shapiro and K. Hassett, "Healthy Returns: The Economic Impact of Public Investment in Surface Transportation," 2005, and U.S. Department of Treasury, "Importance of Infrastructure Investment for Spurring Growth" available at https://www.treasury.gov/connect/blog/Pages/Importance-of-Infrastructure-Investment-for-Spurring-Growth-.aspx

[2] Report available at https://www.treasury.gov/connect/blog/Pages/Importance-of-Infrastructure-Investment-for-Spurring-Growth-.aspx as of August 2019.

If North Carolina does not make these investments, users will forego those benefits and pay more as congestion increases and conditions deteriorate. The cost of doing business will increase and consumers will pay for goods and services.

Under the scenario of a higher investment level, the percent of travel on deficient roads in North Carolina could fall from 20 percent of travel to 5.5 percent. The additional funding would allow over 15,000 miles of roadway to be improved. If North Carolina simply maintained current investment, the percent of travel on deficient roads would increase to 31.3 percent over the next ten years, as fewer projects were completed and improvements were made to just over 6,200 miles of roadway.

Transportation Challenges in North Carolina

Meanwhile, the cost of delivering projects continues to rise every year. While investments and improvements in technology, operations and project delivery have helped stretch dollars further, the simple fact is that the cost of materials, labor and other inputs continue to increase every year—just as they do for all businesses.

Over the last 30 years, ARTBA estimates that the average cost of highway and bridge construction projects has doubled – a project that would have cost $100 million in 1990 would require over $200 million today. The price for some key inputs, like steel and asphalt, have more than tripled in that timeframe.[3]

Average project costs rose 4 percent last year alone, nearly double the rate of general inflation in the U.S. economy, which was 2 percent.

As a growing state, North Carolina faces a growing number of transportation challenges and increased demand for transportation services.

Our analysis of data from the National Bridge Inventory shows nearly 6,250 bridges in North Carolina—one-third of all bridges in the state—need to be repaired or replaced. The estimated cost of making all these repairs is $1.9 billion. One in ten bridges in the state has been classified as structurally deficient, which means that one of the key elements is was rated in poor or worse condition during the last inspection process.

Over 12 percent of major highways need to be repaired. As the population and economy of North Carolina continue to grow, drivers are spending more time stuck in traffic. The cost of congestion in the four largest urban areas in the state has more than tripled since 2000, according to the Urban Mobility Report from the Texas Transportation Institute. In 2000 the cost of congestion was $568 million—this has grown to $1.7 billion in 2017.

[3] ARTBA analysis of industry wages, prices and overhead, data from U.S. Bureau of Labor Statistics.

Additional challenges include the expected increase in freight shipments as well as changes in technology. As vehicles become more fuel efficient, this will mean less money being raised by the traditional motor fuel taxes that North Carolina and other states rely on.

Finally, the federal highway program also plays a critical role in supporting North Carolina's investments in infrastructure. Although steps have been taken recently in Washington, D.C. to begin work on the scheduled 2020 reauthorization of the federal highway and public transit programs, the uncertainty over the Highway Trust Fund is an issue that North Carolina and every state is facing.

Federal funds provide, on average, 51 percent of annual capital outlays for highway and bridge projects made by state governments. In North Carolina, this figure is 46 percent.

Congress and the Trump administration are now facing an $18 billion average annual shortfall between incoming Highway Trust Fund revenues and the amount needed to preserve current surface transportation investment levels. Absent congressional action, states could face a 40 percent cut in investment beginning in 2021.

Conclusion

In addition to spurring immediate economic growth, investment in North Carolina's infrastructure creates tangible assets that are long-lived and facilitate economic activity for many years to come by providing access to jobs, services, materials and markets.

An improved transportation network results in reduced operating costs and increased market access for North Carolina businesses. Sustained investment in highways, streets and bridges is critical to making the best use of these capital assets.

The efficient and safe movement of goods and people is critical to your state's economic competitiveness and the quality of life for your fellow citizens. Every employee, customer and business pay a price when the system is congested, unsafe or in poor condition.

Thank you again for the opportunity to appear before the commission.

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