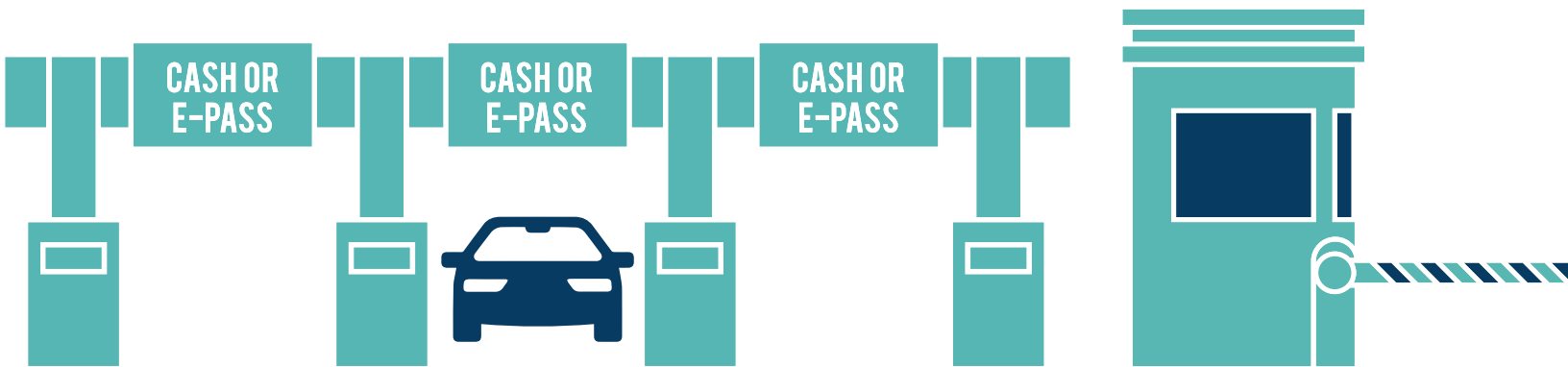


The NC FIRST Commission was created in March 2019 to evaluate North Carolina’s transportation investment needs. Their job is to advise the Secretary of Transportation of new or better ways to ensure that critical financial resources are available in the future. As part of this process, we’ll be looking for input from you, the people of North Carolina! This brief overviews North Carolina’s existing and planned toll roads, examines future tolling strategies, and offers suggestions for statutory changes.

The Future of Tolling in North Carolina

Overview

With North Carolina’s limited use of toll roads, it may be difficult to envision a future where tolling is a dynamic, fundamental component of NCDOT’s transportation revenue portfolio. As the state’s population grows and converges on urban and suburban communities, new toll strategies will need to be considered to address congestion on its highways. Expanding the use and types of tolling is an option that could give legislators the ability to remain economically competitive by improving the flow of commerce. The implementation of a more comprehensive tolling strategy, such as on interstates, may also be considered as a means of replacing some or all of NCDOT’s existing revenues with user fees through tolling.



What are the different types of tolling?

In general, as defined by the Federal Highway Administration, “tolling involves the imposition of a per-use fee on motorists for a given highway facility.”¹ A variety of tolling strategies are in use nationwide and around the world, including toll roads, managed lanes, and cordon pricing projects. The most common tolling methods in the United States are listed below.

Toll roads. Toll roads are controlled-access highways that require the payment of a fee for passage. Today, many toll roads use electronic toll collections with no toll booths to stop or slow traffic.

Managed lanes. “Managed lanes” is an umbrella term for designated highway lanes that are separated from the general-purpose lanes. The flow of traffic is managed by restricting vehicle eligibility, limiting facility access, or collecting variably-priced tolls. Today, the term typically refers to the subcategory of highway lanes that are actively managed through the use of pricing.² Users are charged a variable toll rate that changes based on time of day or the level of congestion, and the rate may vary based on vehicle class or vehicle occupancy.

- **Express lanes.** An express lane is the most common type of managed lane. By creating a separate lane from the high-traffic general-purpose lane, the express lane can provide a faster travel time. With fewer entrance and exit points, the express lane also moderates the flow of traffic. Express lanes use variable pricing to restrict the flow of traffic so that a travel time or speed limit can be maintained.
- **HOV and HOT lanes.** High-occupancy vehicle (HOV) lanes require passenger vehicles to have a minimum number of passengers (typically three or more) to use the lane. Eligible vehicles are not charged a toll to access the restricted lane. High occupancy toll (HOT) lanes are still free for qualifying high-occupancy vehicles, but also allow vehicles with fewer people to use the limited-access lane if they pay a toll.
- **Dedicated reversible lanes.** To manage the flow of commuting patterns to and from city centers, some cities reverse the direction of traffic on certain managed lanes.

Cordon pricing. Cordon pricing is a type of congestion pricing that charges a toll to access a restricted area, such as a congested part of a city. Used internationally in places like Singapore and London, cordon pricing may be in effect only during commuting times with varying toll rates to moderate travel time.

Thanks to a law enacted last year by the New York legislature, New York City is set to be the first U.S. city to institute cordon pricing.³ The New York City cordon pricing around Manhattan is expected to go into effect in 2021. Several other cities including Los Angeles, San Francisco, and Seattle⁴ are also looking at cordon pricing.

What is tolled now and what is planned to be tolled in North Carolina?

Created as an independent agency in 2002, the North Carolina Turnpike Authority was restructured as a business unit within NCDOT in 2009. It is governed by a nine-member authority board and is authorized to study, construct, and operate toll roads. The Turnpike Authority’s Toll Policy is to “evaluate the feasibility of financing high-capacity urban and rural highway improvements through the levying of tolls or managed lanes pricing options... [and] define feasibility of tolling and priced managed lanes” in coordination with MPOs and RPOs.⁵

The General Assembly authorizes NCDOT to establish and operate 11 toll roads, but the department can study an unlimited number of toll roads. North Carolina has three toll roads in operation, four more that are underway, and several others under consideration.

¹ www.fhwa.dot.gov/ipd/tolling_and_pricing/defined/

² ops.fhwa.dot.gov/publications/fhwahop13007/pmlg1_0.htm

³ N.Y. Vehicle and Traffic Law §§1701 et seq.; 2019 N.Y. Laws, Chap. 59

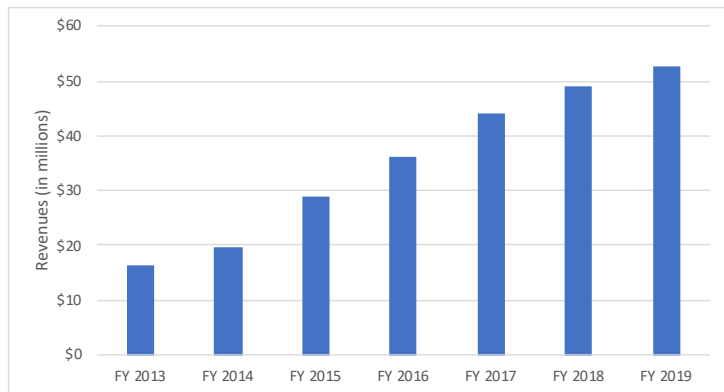
⁴ www.npr.org/2019/04/02/709243878/new-york-is-set-to-be-first-u-s-city-to-impose-congestion-pricing; www.ttnews.com/articles/los-angeles-feasibility-study-will-look-congestion-pricing

⁵ connect.ncdot.gov/projects/planning/Planning%20Document%20Library/NCTollProjDevPolicyHandbook_FINAL.pdf

Open to traffic. Three toll facilities are already open to traffic. Located in Mecklenburg, Iredell, Union, and Wake counties, these projects include:

- **Triangle Expressway.** The \$1 billion Triangle Expressway, an 18.8-mile controlled-access toll road located in Wake County, opened its first section in December 2012. It is owned and operated by the N.C. Turnpike Authority. Tolls are set at a fixed rate and change each January 1. Transactions grew 8.7 percent from 2018, reaching 55.7 million in FY 2019.⁶ As shown in **Figure 1**, increased traffic counts continue to support annual revenue growth. FY 2019 revenues exceeded \$52 million.

Figure 1: Triangle Expressway Revenues, FY 2013–2019



- **Monroe Expressway.** The \$731 million Monroe Expressway, a 19.8-mile controlled-access toll road located in Mecklenburg and Union Counties, opened to traffic on Nov. 27, 2018. It is owned and operated by the N.C. Turnpike Authority. Toll rates are set at a fixed rate and change each January 1. Last year, the Monroe Expressway had 15.5 million transactions and earned \$6.5 million in revenue.⁷
- **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 cost to use the express lanes increases as the number of users grows. The project, located in Mecklenburg and Iredell Counties, partially opened to traffic in June 2019. The final section opened on Nov. 16, 2019. This project was built as a public-private partnership and is owned by NCDOT. I-77 Mobility Partners, the project's developer, financed and oversaw construction of the project and will set toll rates, operate, and maintain the lanes. The Turnpike Authority provides customer service and issues toll invoices for the project.

Under construction or under development. Four more projects are programmed for funding and are either under construction now or are scheduled to be soon. Each project will be owned and operated by the N.C. Turnpike Authority, including:

- **Complete 540—Phase I.** The \$2.2 billion Complete 540 project is a 28-mile limited-access toll road in Wake County that will extend the Triangle Expressway to U.S. 64. Phase I, a 17.8-mile section that is already under construction, is expected to open to traffic in 2023. At that time, the N.C. Turnpike Authority will set the toll rates, which are to be adjusted annually.
- **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.
- **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.
- **Mid-Currituck Bridge.** The Mid-Currituck Bridge will be a 7.3-mile project that includes one two-lane bridge over the Currituck Sound and a separate two-lane bridge that spans Maple Swamp on the Currituck County mainland. With the federal Record of Decision issued in March 2019, the \$492 million project is scheduled to be let for construction in 2021.

⁶ FY 2019 N.C. Turnpike Financial Statement

⁷ Ibid.

Under consideration. Without further tolling authority from the legislature, NCDOT can build four more toll projects. Potential projects are included in the 10-year State Transportation Improvement Program (STIP). Several of the projects under consideration expand or connect to completed toll projects. Since state law does not clearly define what constitutes a project, it is unclear if these projects can be collapsed under the original project rather than be treated as a new project. Proposed projects include, among others:

- **Complete 540—Phase II.** The final 10.8-mile section of the Complete 540 project in Wake and Johnston counties, costing \$665 million, is programmed for construction to begin in FY 2029. This project will complete the I-540 loop around Raleigh.
- **Morrisville Connection to N.C. 540.** Connecting McCrimmon Park to N.C. 540 in Wake County, this short, \$64 million, 1.5-mile connector is scheduled to begin construction in 2027. While this project essentially provides access to an existing toll facility, it may not be considered a toll road depending on the final design.
- **I-77 South Express Lanes.** Widening I-77 to add managed lanes, for an 11.2-mile stretch from the South Carolina state line to I-277, is projected to cost more than \$1 billion. It is scheduled to begin construction in 2029.

How are toll projects financed?

Without the ability to use alternative funding sources such as tolls, many states would be unable to pay for large construction projects, or would have to split projects into multi-year segments. Toll projects often rely on a mix of federal and state funding sources, as well as federal loans, revenue bonds, or other types of financing arrangements that are to be paid back from future toll revenues. Some projects are delivered through “public-private partnerships,” with varying levels of private sector participation in financing, designing, building, operating, or maintaining each facility. Some managed lanes projects may include additional non-toll improvements that are funded wholly through traditional federal and state transportation dollars.

What federal restrictions impede the expansion of toll projects?

States are authorized to toll new highways, but limitations exist on existing highways. New interstate toll lanes may be added only if the number of non-tolled lanes is not reduced. While a limited three-project federal pilot program exists, the prohibition on tolling free highways in need of reconstruction is often discussed as a serious obstacle that must be removed to address the nation’s aging infrastructure. A separate 15-project pilot program authorizes the use of variable pricing to reduce congestion.

What changes would be needed in North Carolina to expand the use of tolling?

Tolling is a strategy that can address growing infrastructure needs, free up existing revenues for other needed projects, and even improve travel times. However, several impediments restrict the expansion of toll projects. Enacting a series of legislative changes, with proper controls and monitoring, would be necessary to pursue additional tolling strategies. Legislators may wish to consider amending statutory provisions to:

Increase the number of public-private partnership (P3) projects. State law⁸ authorizes NCDOT or the Turnpike Authority to enter into up to three P3 projects. NCDOT's first P3, the I-77 Express Lanes, authorized the private partner to design, build, finance, operate, and maintain the project. This is just one of many P3 variations that transfer some level of both risk and responsibilities for infrastructure projects to the private sector. The legislature may wish to consider expanding the number to five P3 projects to give NCDOT added flexibility to pursue alternative financing arrangements.

Consider statutory changes that reflect broader tolling policy goals. North Carolina's history with toll projects has evolved from brand-new toll roads to managed lanes, but future tolling strategies will need to be more dynamic. Changes to consider could include authorizing other congestion mitigation strategies such as cordon pricing, or revisiting current statutory provisions that only allow the use of managed lanes if they do not reduce the number of existing non-tolled general-purpose lanes.⁹ Additionally, the legislature may wish to reframe the purpose of managed lanes and make conforming changes to the Strategic Transportation Investments law.¹⁰ Revenues generated from future managed lane projects may not be enough to support debt repayment, so they may need to be funded through Highway Trust Fund revenues. Since some managed lanes projects would not support toll-supported debt, the lack of revenue generated may, in turn, impact the ability of these projects to compete for funding through the strategic prioritization process. The legislature will need to decide whether the long-term congestion mitigation and mobility benefits of managed lanes merit special consideration; if not, these projects may be unable to compete. Lastly, lawmakers could consider authorizing a "Toll First initiative"¹¹ to toll projects that are financially viable and provide congestion relief to communities.

Increase local flexibility in the use of bonus allocations and toll revenue. State law¹² provides an incentive for local planning organizations that choose to utilize tolling on projects in their respective region. The incentive is an allocation of state funding, referred to as a "bonus allocation," that can be used to pay for the construction of other eligible highway projects. However, local planning organizations are restricted in how they can utilize bonus allocations as those funds are limited within the regional and division tiers. Relaxing those restrictions may encourage local planning organizations to consider expanding their use of tolling. Moreover, excess toll revenue generated by a project is required to remain on that project or a contiguous toll facility, limiting the local planning organization's ability to reinvest those proceeds on other toll projects within the region. The reinvestment of those funds could free up Highway Trust Fund revenues for other projects.

Increase the number of toll projects. NCDOT is authorized to study, plan, develop, and undertake preliminary design work on an unlimited number of Turnpike projects, but the number of projects that can proceed to design, right-of-way, and construction is limited to 11 projects.¹³ Unless the statutory cap is raised or removed, NCDOT will be unable to proceed beyond preliminary engineering on future toll projects.

⁸ N.C. Gen. Stat. §136-18(39a)(a)

⁹ N.C. Gen. Stat. §136-89.199(a)

¹⁰ N.C. Gen. Stat. §§136-189.10 et seq.

¹¹ www.ncdot.gov/about-us/board-offices/boards/turnpike-authority/Documents/2017-10-18-finance-committee-documents.pdf

¹² N.C. Gen. Stat. §136-189.11(f)(3)

¹³ N.C. Gen. Stat. §136-89.183(a)(2)