



NORTH CAROLINA
Department of Transportation

I-40 Express Lanes Tolling Analysis

Requested by LOSRPO and FBRMPO

David Roy & Carly Swanson, N.C. Turnpike Authority

November 2025

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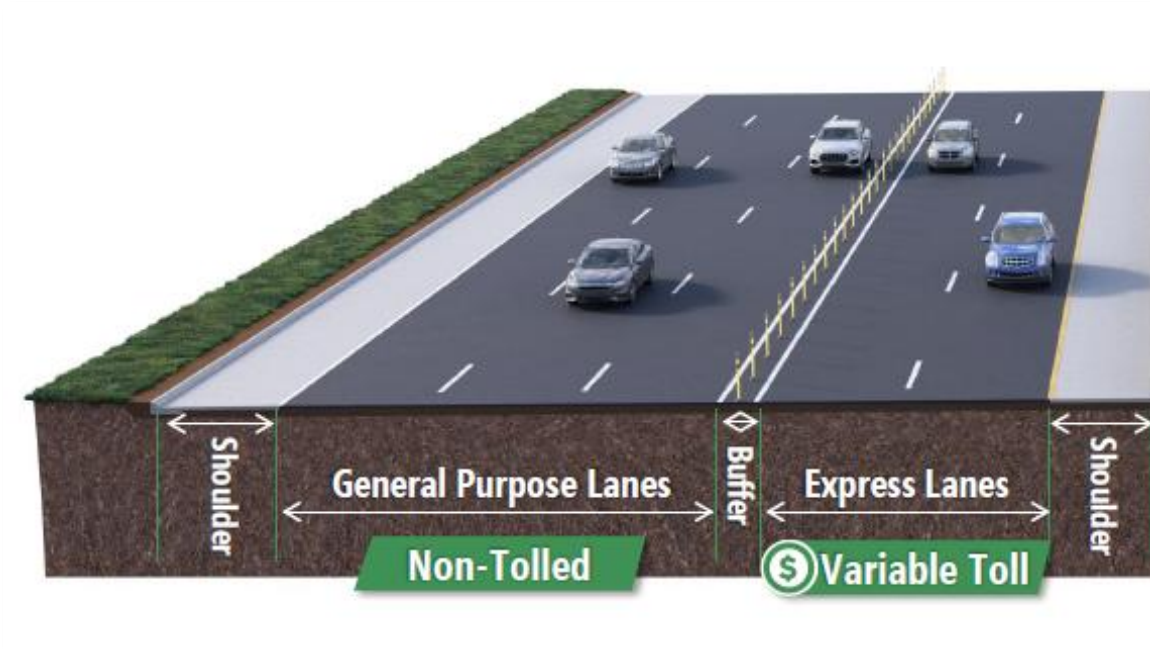
Request to Analyze Tolling Alternatives

- In January 2024, the Land of Sky RPO (LOSRPO) and the French Broad River MPO (FBRMPO) requested NCDOT and NCTA study express lanes on the planned I-6054 widening project.
- Stantec was contracted to provide a sketch-level (Level 1) Traffic and Revenue (T&R) forecast for the Project with various scenarios that served as a basis for analysis.
- A Base Case and an Alternative Case, which assumes higher regional growth forecasts, were prepared for the following two scenarios:
 - One express lanes in each direction
 - Two express lanes in each direction
 - Assumes large commercial vehicles (LCVs) are permitted to use the express lanes and subject to toll rate multipliers.
- NCTA prepared high-level financial feasibility analysis for the Project using the T&R forecasts.



Express Lanes Overview

Express Lanes add much-needed capacity, managing congestion today and supporting the region's growth in the future.



Tolls charged for using the express lanes:

- manage overall congestion and improve flow for everyone on the road
- provide a reliable travel option for those on the express lanes, and
- help fund the project construction, operations and maintenance costs.

Case Studies of U.S. Express Lanes

I-394, Minnesota, 2011

“After the conversion to high-occupancy toll lanes, the number of crashes on the corridor decreased by approximately 5.3 percent.”

I-95, Florida, 2017

“In the first six years of the express lanes operating, fatal crashes in the corridor decreased nearly 16 percent.”

I-405, Washington, 2015-2019

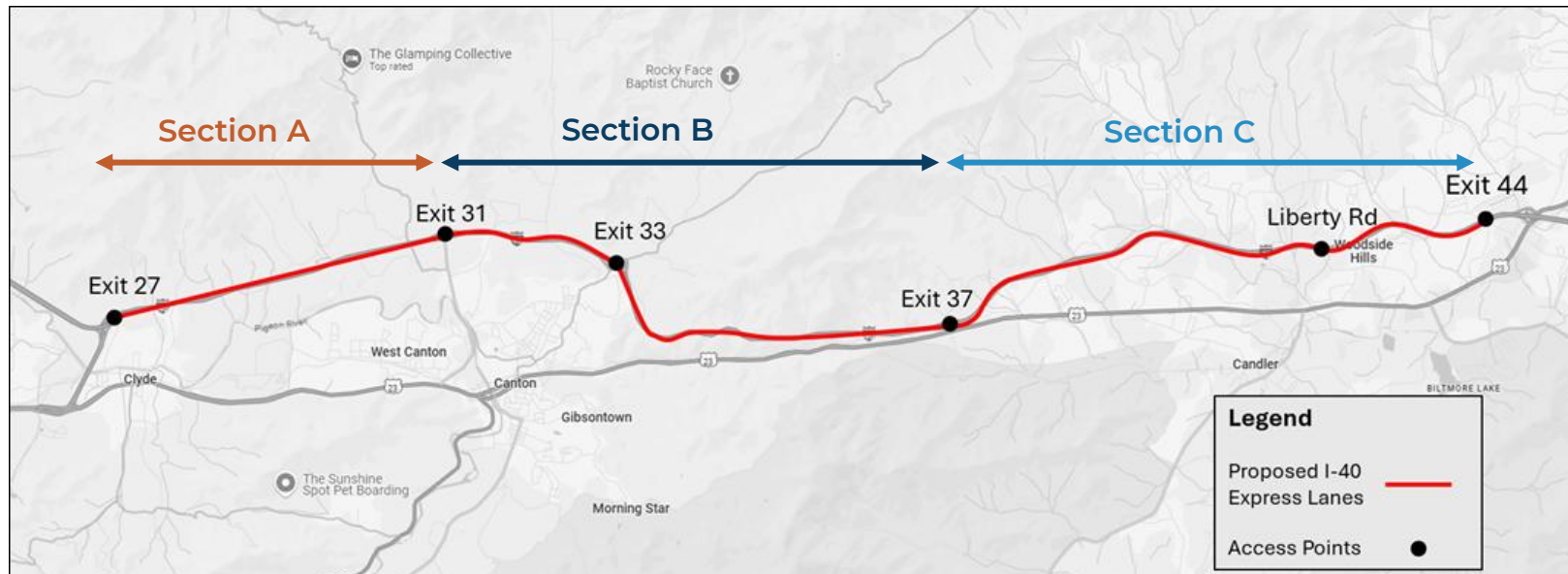
“The corridor carries up to 23 percent more vehicles each weekday during the peak periods, yet drivers saved an average of 11 minutes using the express lanes. Speeds in the GP lanes have improved by ~3 MPH ”

I-405, Washington, 2019

“Only eight percent of accounts used the facility more than 40 times during the year, 48 percent of users used the facility once.”

I-40 Express Lanes Project Overview

- Project would add ~16.4 miles of express lanes to I-40 from Exit 27 and Exit 44.
- General widening project previously broken into three sections for prioritization:
 - Section A (I-6054A) – widening from Exit 27 to Exit 31
 - Section B (I-6054B) – widening from Exit 31 to Exit 37
 - Section C (I-6054C) – widening from Exit 37 to Exit 44



Tolling Analysis Results

- The tolling analysis indicates that the revenue forecasts for both scenarios are sufficient to cover all operations & maintenance and major maintenance costs, and at least a portion of the upfront capital costs.
- Both scenarios would require gap funding outside of toll revenue backed debt to complete construction.
 - Consistent with all other toll projects in North Carolina to date.
 - Gap funding would be from the STIP and/or federal discretionary grants.
- The scenarios with two express lanes in each direction generated additional revenue due to commercial traffic.
- Changes to the Project’s cost estimate or interest rates could affect the results of the analysis.

Analysis Results* (2025 \$)	One Express Lane	Two Express Lanes
Project Financing Cost	~ \$700 million	~ \$850 million
Bond (R) – Financing Capacity	~ \$225 million	~ \$350 million
Funding Gap	~ \$475 million	~ \$500 million

**Analysis results are subject to change.*

Prioritization 8.0: Highway Mobility

Criteria	Measure Description	Statewide Mobility (100%)	Regional Impact (70%)	Division Needs (50%)
Congestion	[Volume] and [Volume/Capacity]	30%	20%	15%
Benefit/Cost	[10-year Travel Time Savings benefit] + [10-year Safety Benefit] / [Cost to NCDOT]	25%	20%	15%
Safety	SEG: Crash Density, Crash Severity, Crash Rate, Safety Benefits INT: Crash Frequency, Crash Severity, Safety Benefits	10%	10%	10%
Freight	[Truck Volumes] and [Truck Percentage]	25%	10%	5%
Economic Competitiveness	TREDIS Model Output: [% Change in Long-Term Jobs] and [% Change in County Economy over 10 years]	10%	-	-
Accessibility / Connectivity	[Measurement of county economic distress indicators] and [degree the project upgrades mobility of the roadway]	-	10%	5%

Purpose: measure the expected benefits of the project over a 10-year period against the estimated project cost to NCDOT

(Travel Time Savings over 10 years in \$
+ Safety Benefits over 10 years in \$)

Project Cost to NCDOT at time of submittal

+

Other Funds

Total Project Cost

x 100

Costs can be lowered and score increased if the other funds (non-federal or non-state funds) are designated towards the project. Includes Toll Revenue minus financing costs

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Bonus Allocation

- N.C.G.S. § 136-189.11(f)(3): “...the Department shall make available for allocation an amount equal to one-half of the project construction cost derived from toll revenue bonds.”
 - “The amount made available for allocation to other eligible highway projects shall not exceed one hundred million dollars (\$100,000,000).”
- Initial tolling analysis results for the Project show the maximum of \$100 million in Bonus Allocation being made available to LOSRPO and FBRMPO.
- Potential funding for the LOSRPO and FBRMPO to apply on other projects located in the same county(ies) as the I-40 express lanes.
- Funds must be authorized for the bonus allocation project within five years of financial close.

Illustrative Schedule

This illustrative schedule assumes the Project scores well in P8.0 and is funded for construction in the 2028-2037 STIP:



If the Project does not score well in P8.0 and is not funded for construction in the 2028-2037 STIP, the Project would have to be resubmitted to P9.0 which would delay this schedule at least 2 years.

Tolling Analysis Summary

- In response to the request from LOSRPO and FBRMPO, express lanes were analyzed on the planned I-6054 widening project.
- The following two scenarios were analyzed under different levels of regional growth forecasts:
 - One express lane in each direction
 - Two express lanes in each direction
- Forecasted revenue for both scenarios can cover all operations and maintenance costs and some upfront capital costs, but additional gap funding would be needed to complete construction (consistent with all NC toll projects).
- **NCDOT and NCTA are not advocating for a particular path forward.**
- NCDOT and NCTA will continue to provide support as LOSRPO and FBRMPO determine the best path forward for the region.



Contact Us

David Roy

Director of Innovative Finance
dwroy@ncdot.gov

Carly Swanson

Director of Innovative Delivery
caswanson1@ncdot.gov