

Driving Forward: Analyzing the Economic Impacts of Truck-Only Lanes

David Casazza, Associate

Scott Lerer, Economic Assistant

Anthony Modicamore, Economic Assistant

Regional Economic Models, Inc.

what does REMI say?sm

America's Trucking Dilemma

Why Truck Only Lanes

Examples of Truck only lanes

Pros, Cons, & Impacts

[Model Demo] TranSight 5.0

Economic Impact overview

Q&A

America's Truck Dilemma

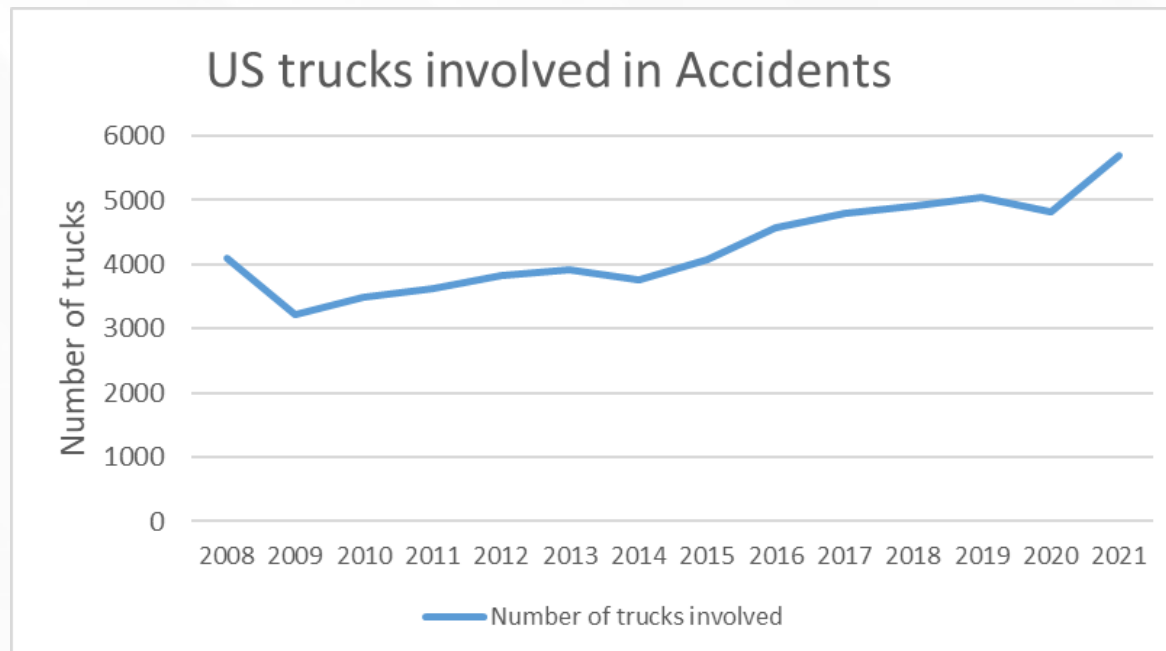


- Trucks are a crucial to U.S. freight
 - 72.6% of the domestic tonnage shipped (American Trucking Associations)
- Present safety concerns
 - According to the National Safety Council, "5,700 large trucks were involved in a fatal crash" "in 2021"
 - 72% of the victims killed in "large-truck crashes" are other motorists (NSC)
 - 12% of all passenger vehicle occupant fatalities occur in heavy truck crashes (Forkenbrock & March, 2005)
 - Related to truck size, weight, difficulty stopping (Shamma, 2018)
- One possible solution is truck only lanes

Why Truck Only Lanes?



- Truck lane designations and restrictions are put in place to ensure that trucks remain within specified lanes.
 - Primary goal: to alleviate congestion
 - Secondary goal: to enhance safety by separating slower-moving and larger trucks, particularly when navigating steep hills.
- By implementing such measures, authorities aim to create a more organized and efficient flow of traffic while minimizing potential risks posed by heavy vehicles.



Pros, Cons, & Impacts



Pros

- Can prevent collisions between large commercial vehicles and passenger cars
- Potentially reduced congestion, allowing easier travel
 - Cars are less congestive than trucks (Forkenbrock & March, 2005)
 - There are many indirect benefits through reducing congestion

Cons

- Very expensive to build
 - One estimate was \$2.5 million per lane mile from Poole and Samuel (Forkenbrock & March, 2005)
- Trucks could avoid roads due to tolls (Forkenbrock & March, 2005)
 - This can lead to congestion elsewhere

Examples of Truck-Only Lanes



- Two on California's I-5 (Shamma, 2018; CalTrans)
- GDOT has plans on I-75 (Shamma, 2018; GDOT)



One of California's I-5 Truck Lanes (Photo: Jim Allen, FreightWaves)

what does **REMI** say? sm

I-75 Commercial Vehicle Lanes

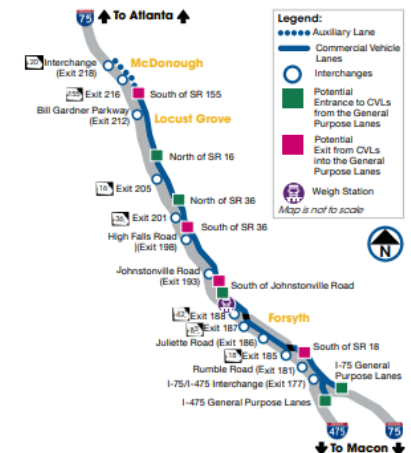
A Major Mobility Project — P.I. Number: 0014203

Fact Sheet

What is the Project?

The I-75 Commercial Vehicle Lanes (CVL) project will improve safety, travel-time reliability, and mobility for freight operators and passenger vehicles. The project involves the construction of two, barrier-separated, northbound truck-only lanes beginning at the I-75/I-475 Interchange in Monroe County along the I-75 corridor for approximately 41 miles, ending near the SR 20 Interchange (Exit 218) in Henry County. The project will benefit all motorists by improving safety and travel-time reliability, while also improving freight mobility to help maintain the state's competitiveness and economic growth.

Where is the Project?



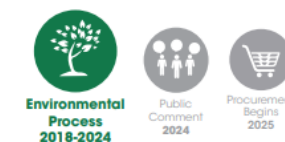
5 Things You Need to Know

1. Adds new northbound truck-only lanes for approximately 41 miles on I-75 from the Macon area to the McDonough area.
2. Maintains existing general purpose lanes for passenger vehicles, while providing physical separation to enhance safety.
3. Projected to reduce delay for commercial vehicles and in general purpose lanes during peak periods.
4. Reduces maintenance costs on general purpose lanes due to the separation of freight and passenger vehicle traffic.
5. One of the large-scale Major Mobility Investment Program projects to improve transportation in Georgia.

What's the Project Status?

The project is in development phase to evaluate overall limits, identify environmentally sensitive areas, study existing and future traffic patterns and determine potential access locations. The project team hosted a Public Information Open House (PIOH) in Q4 2020. The next opportunity for public comment will be the Public Hearing Open House (PHOH) in 2024. The schedule is subject to change.

What's Next?



Stay Connected

All current project layouts and alignments are available on the project web page.

<https://majorobilityga.com/projects/i75cvl>

75cvl.dot.ga.gov (sign up for updates)

678-528-7275 (voicemail)

Georgia Department of Transportation

One Georgia Center | 600 West Peachtree Street NW
Atlanta, GA 30308

Like and follow us!



07/12/2023

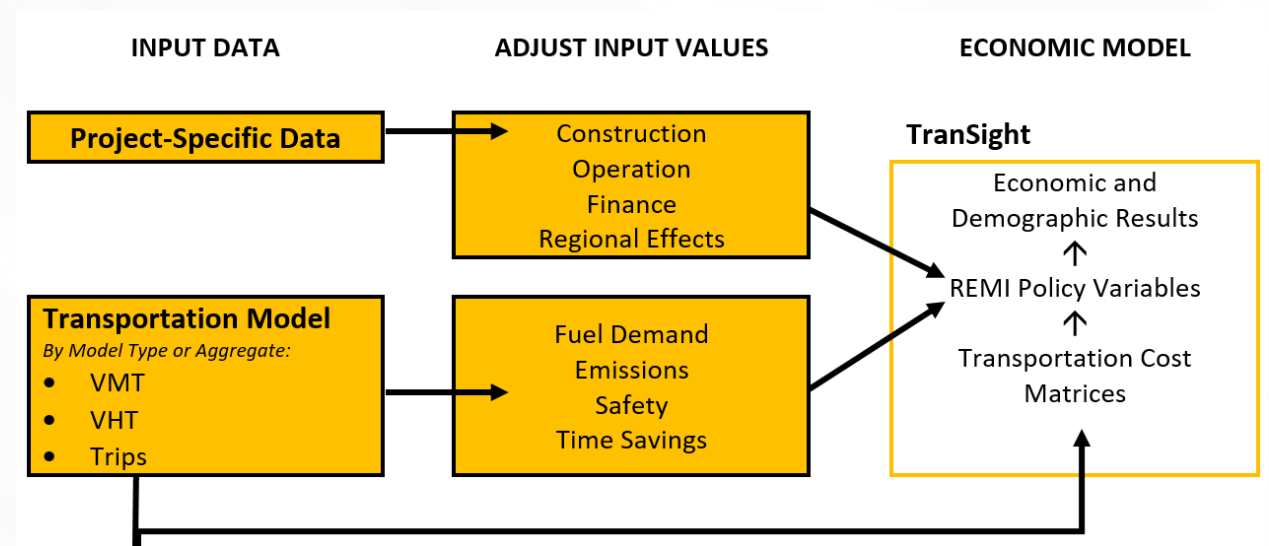
GDOT's I-75 CVL Project Sheet (GDOT)

Model Simulation: REMI TranSight



TranSight is the premier software solution for comprehensive evaluations of the total economic effects of transportation policy.

Grounded in over 20 years of modeling experience, decision-makers depend on TranSight to forecast the short- and long-term impacts of transportation investments on jobs, population, income, and other economic variables



what does **REMI** say?sm

Potential Scenarios Analysis



We will examine two hypothetical truck only lane projects:

Project 1 (small)

- Average speed increase of 1 mph
- 3 injury crashes and 2 fatal crashes each year are prevented
- Less expensive than Project 2

Project 2 (large)

- Average speed increase of 2 mph
- 6 injury crashes and 4 fatal crashes each year are prevented
- More expensive than Project 1

Project BCA Comparison



Analysis Period 2023 — 2055 (Fixed 2023 Dollars)	Project 1 (small)	Project 2 (large)
Benefit-Cost Ratio	2.008	2.586
Net Benefits	\$323,315,966	\$887,675,649
Total Costs	\$320,769,857	\$559,648,793
Construction Costs	\$229,686,768	\$451,457,353
Design Costs	\$91,083,089	\$108,191,441
Land Acquisition Costs	\$0	\$0
Total Benefits	\$644,085,823	\$1,447,324,443
Travel Time Savings	\$549,434,885	\$1,069,170,587
Safety Benefits	\$288,271,123	\$576,542,246
Fatal Accidents	\$283,907,028	\$567,814,056
Injury Accidents	\$4,364,095	\$8,728,189
Property Damage Accidents	\$0	\$0
Vehicle Operating Cost Savings	(\$6,261,468)	(\$12,541,723)
Fuel Cost Savings	(\$6,261,468)	(\$12,541,723)
Non-Fuel Cost Savings	\$0	\$0
Operating and Maintenance Cost Savings	(\$191,186,329)	(\$191,186,329)
Emissions Benefits	\$3,827,613	\$5,339,663
Volatile Organic Compounds	\$683,621	\$1,297,691
Nitrogen Dioxide	\$2,151,600	\$2,462,284
Sulfure Dioxide	\$0	\$0
Particulate Matter	\$0	\$0

what does **REMI** say?sm

Project Impact Comparison 1



Project 1 (small) Results											
Category	Units	2023	2024	2025	2026	2027	2028	2029	2030	2055	Annual Average
Total Employment	Individuals (Jobs)	-30	202	578	794	921	984	1,011	1,017	1,201	1,010
Population	Individuals	-1,115	-694	58	654	1,138	1,521	1,821	2,055	3,071	2,401
Labor Force	Individuals	-827	-461	40	395	676	893	1,059	1,182	1,731	1,308

Project 2 (large) Results											
Category	Units	2023	2024	2025	2026	2027	2028	2029	2030	2055	Annual Average
Total Employment	Individuals (Jobs)	259.4	331.5	302	673	905	1,031	1,096	1,126	1,407	1,156
Population	Individuals	-1,346	-1,097	18	885	1,599	2,171	2,623	2,978	4,319	3,463
Labor Force	Individuals	-1,008	-790	1	511	923	1,244	1,491	1,679	2,404	1,853

what does **REMI** say?sm

Project Impact Comparison 2



Project 1 (small) results											
Category	Units	2023	2024	2025	2026	2027	2028	2029	2030	2055	Annual Average
Gross Domestic Product	Millions of Fixed Local (2023) Dollars	-17.4	9.5	53.0	77.7	92.7	100.6	104.7	106.4	168.7	119.3
Output	Millions of Fixed Local (2023) Dollars	-29.2	12.8	88.0	131.3	157.2	170.5	176.9	179.2	293.7	203.1
Personal Income	Millions of Fixed Local (2023) Dollars	-66.5	2.8	50.1	66.9	81.4	92.0	99.6	106.2	238.4	146.2
Disposable Personal Income	Millions of Fixed Local (2023) Dollars	-56.6	1.2	40.8	54.4	66.2	75.5	82.2	88.1	200.9	122.6
Project 2 (large) results											
Category	Units	2023	2024	2025	2026	2027	2028	2029	2030	2055	Annual Average
Gross Domestic Product	Millions of Fixed Local (2023) Dollars	6.0	11.6	22.0	63.9	90.3	105.2	113.3	117.5	194.4	135.2
Output	Millions of Fixed Local (2023) Dollars	13.9	17.2	30.1	104.4	150.7	176.5	190.2	197.1	338.7	230.0
Personal Income	Millions of Fixed Local (2023) Dollars	-66.0	-20.4	37.0	57.2	78.5	94.1	105.3	115.1	290.0	171.0
Disposable Personal Income	Millions of Fixed Local (2023) Dollars	-57.0	-19.0	30.2	46.9	64.5	78.1	87.9	96.7	247.1	145.2

what does REMI say?sm

Thank you for attending!

For more information, please contact
info@remi.com

- Forkenbrock, D.J. & March, J. (2005, September/October). Issues in The Financing of Truck-Only Lanes. *Public Roads*, 69(2). <https://highways.dot.gov/public-roads/septemberoctober-2005/issues-financing-truck-only-lanes>
- National Safety Council. (n.d.). *Large Trucks – Injury Facts*. Retrieved August 11, 2023, from <https://injuryfacts.nsc.org/motor-vehicle/road-users/large-trucks/>
- American Trucking Associations. (n.d.). Economics and Industry Data. Retrieved August 11, 2023, from <https://www.trucking.org/economics-and-industry-data>
- Shamma, T. (2018, March 6). *Georgia Transportation Officials Plan To Build A \$1.8 Billion Truck-Only Highway*. NPR. <https://www.npr.org/2018/03/06/591266949/georgia-transportation-officials-plan-to-build-a-1-8-billion-truck-only-highway>
- Caltrans. (n.d.). *Truck-Only Lanes*. Retrieved August 11, 2023, from <https://dot.ca.gov/programs/traffic-operations/legal-truck-access/truck-only-lanes>
- Georgia Department of Transportation [I-75 Commercial Vehicle Lanes](#)