



# 2050 MTP

## Appendix G: Freight Analysis





# FREIGHT

Freight planning is a necessary component of transportation planning to ensure the efficient movement of goods in the MACORTS area. This report provides an overview and assessment of current and future freight movement in the MACORTS area. It also recommends an MPO freight network based on future industrial land use, freight generators, freight commodity flows, and the State's Freight network. Finally, the report identifies freight related transportation improvements for consideration during the Metropolitan Transportation Plan (MTP) update.

## Freight Intensive Land use

Industrial land use is an essential component when analyzing freight movement due to its role in determining the location of the production, storage, and distribution of goods and its expected impact on the roadway network. Areas in the MACORTS area that are designated for industrial zoning often house factories, warehouses, and distribution centers. Figure 1 illustrates the industrial land uses in the future land use maps for each MACORTS county, which show where the current industrial land uses are located and where the counties are planning for future industrial growth. Future industrial land use clusters are greatest near the northeast of Athens along Olympic Drive and Athena Drive, along Newton Bridge Road north of Athens, and southeast of Bogart.

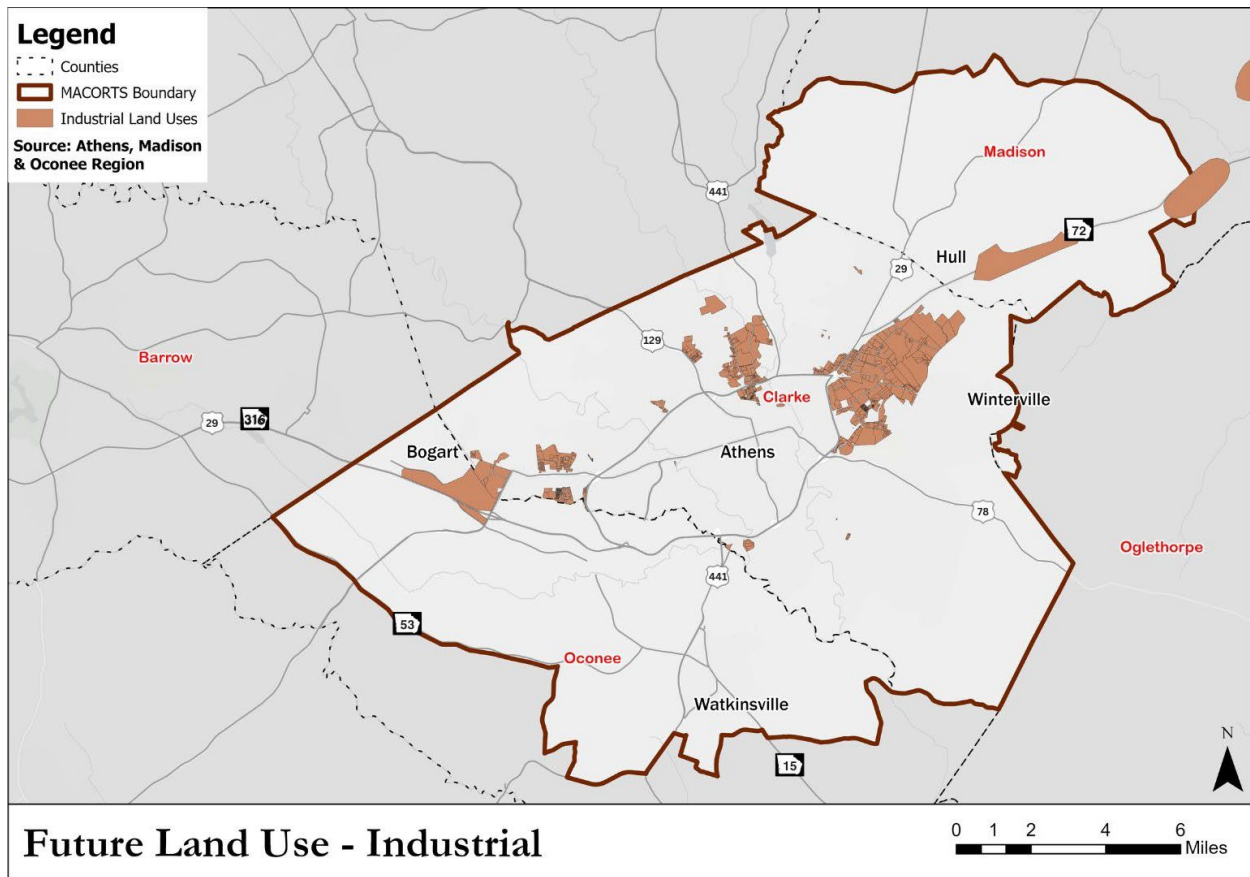


Figure 1 Future Industrial Land Use in MACORTS Area



## FREIGHT GENERATORS

Freight generators are occupied concentrated manufacturing and warehousing locations. Generators range from individual buildings to industrial parks. Identification of freight generators provides a more precise location of current and future hot spots of freight movement and generation. Figure 2 marks the location of significant freight generators located in the MACORTS area. Table 1 lists the organizations associated with these freight generators. Industrial sectors located in the MACORTS area include heavy machinery and equipment, e-commerce, energy and petroleum, food and beverage, and lumber. Freight generators identified in Figure 2 primarily align with future industrial land use in Figure 1.

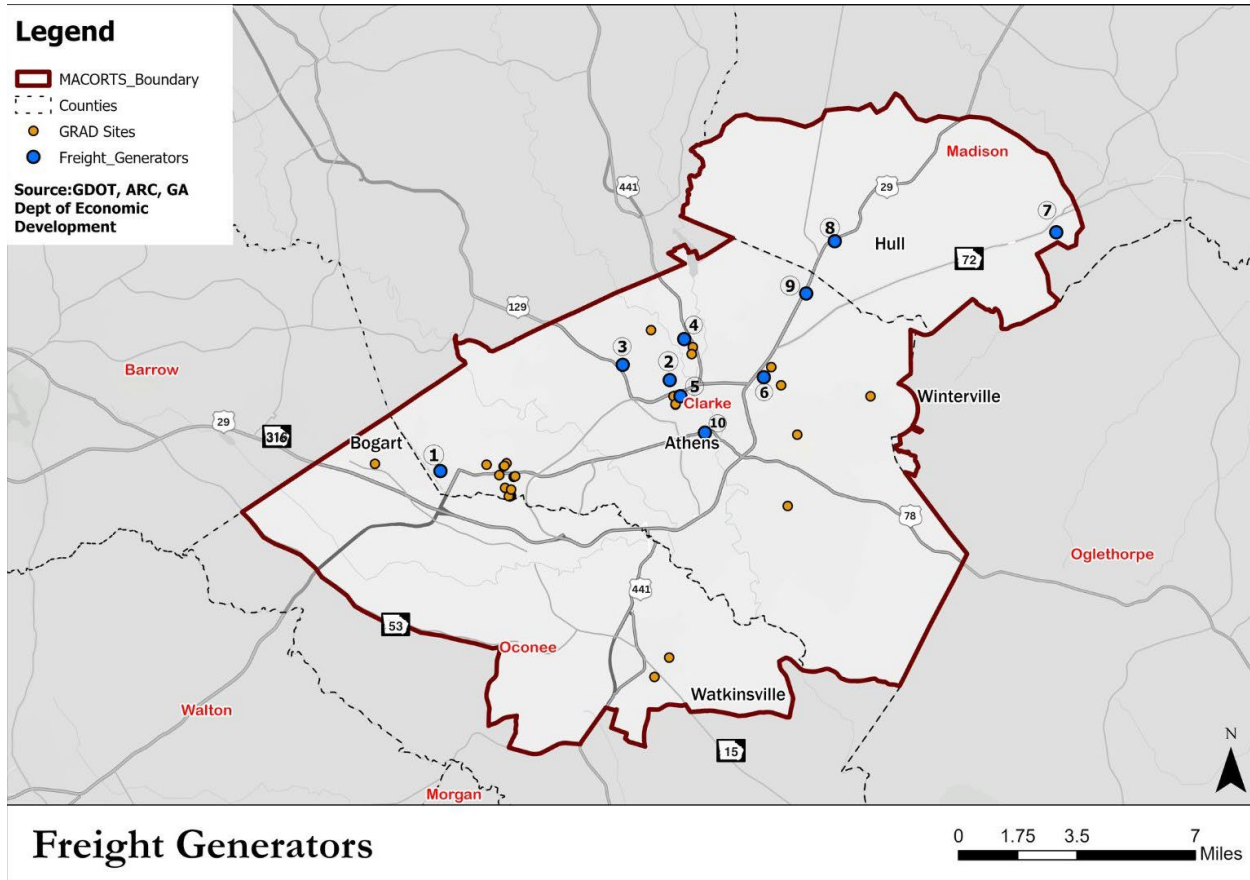


Figure 2 Freight Generators and GRAD Sites in MACORTS area



Table 1 Freight Generators in MACORTS area

Map ID	Freight Generator(s)
1	Caterpillar
2	Georgia Power, Wayfair, Power Partners, Terrapin
3	Colonial Pipeline and related businesses
4	Leon Farmer & Co and Reinicke
5	Pilgrims Pride
6	Large cluster of freight generators
7	Biomass powerplant
8	Recycling center and auto salvage yard
9	Harbin Lumber and LKQ Heavy Truck
10	UGA and convention centers

## GEORGIA READY FOR ACCELERATED DEVELOPMENT (GRAD) CERTIFIED SITES

To supplement the analysis of freight generators and freight intensive land use, Georgia Ready for Accelerated Development (GRAD) Certified Sites that are categorized as industrial are identified in Figure 2 as well. GRAD Certified Sites are sites selected by the GRAD Program, established by the Georgia Department of Economic Development, which offers certification to industrial sites that are applicable for fast-track construction programs through advanced due diligence. To qualify as a GRAD Site, the site must meet due diligence standards including phase I environmental assessment, preliminary geotechnical investigation; cultural and endangered species investigation; zoning designation; utility service assessment; and wetlands and stream delineation. The GRAD Program is a direct effort to increase Georgia's economic development and viability by having a portfolio of ready-made sites available for the industrial sector.

Twenty-eight GRAD Sites are located within the MACORTS area (Figure 2), indicating the value of continuing the cultivation of industrial economic development within the area. Similar to the identified freight generators, GRAD Sites within MACORTS are predominantly located where future industrial land use is present and clustered near identified freight generators. GRAD site clusters surround Bogart and north of Athens along US 78 and US 129. GRAD sites that are not presently located where future industrial land use exists illustrate locations where potential industrial functions will occur.

## Commodity Flows

Freight commodity flows are the movement and distribution of goods. Analysis of freight commodity flows in the MACORTS area was conducted using Transearch data. Transearch is a commercial commodity flow database, produced by S&P Global, and is used by the Georgia Department of Transportation (GDOT) for current and previous freight studies. S&P Global is one of the leading





econometric forecasting firms. Transearch provides commodity flow volumes nationally by freight mode. Annual traffic volumes are reported in tons and product value, where tons reflect the physical demand on infrastructure, and product value reflects economic activity. Freight movement captured by Transearch includes originated, terminated, local, and pass-through traffic.

To help determine candidate roadways for the MACORTS freight network, current and projected freight commodity flows between 2019 and 2050 were used. Table 2 lists the current and future freight commodity flows and the percent change between 2019 and 2050. In 2019, 6.7 million truck units moved within the area. This is equivalent to 80 million tons and \$65 billion in product value. Transearch estimates that by 2050, 11.8 million truck units will move throughout MACORTS, equating to 144 million tons and \$129 billion in product value. Between 2019 and 2050 there is a 76.1 percent growth in annual truck units and 98.5 percent increase in product value. As freight commodity flows are expected to nearly double, the increase volume and movement will have direct impacts on the roadway network and infrastructure.

Table 2 MACORTS Region Freight Commodity Flows

Annual Traffic Volumes	2019	2050	Growth Rate
Annual Truck Units	6.7 million	11.8 million	76.1%
Annual Tons	80 million	144 million	80.0%
Annual Product Value	\$65 billion	\$129 billion	98.5%

Source: Transearch and the Georgia Freight Plan

To better understand where freight is traveling in the MACORTS area and which routes will experience the most growth in freight, this commodity flow data is mapped in Figure 3. This illustrates the percent change of freight commodity flows from 2019 to 2050 and annual truck units along routes in and around the MACORTS area. The majority of routes have growth percentages of at least 100 percent. The greatest percent growth is located primarily along the corridor of US 29/SR 316 that connects Bogart to Athens. Growth percentages higher than 150 percent are also present in the MACORTS area. The highest percent growth rate, over 150 percent, is located from Prince Avenue to West Broad Street, corridors that connect directly to downtown Athens for delivery purposes. This illustrates that although urban areas are not delineated with industrial land use, they are often the destination for goods and are active participants in freight movement.

Annual truck units, as identified in Figure 3, have higher frequencies along the Atlanta Highway, southeast of Bogart, and US 29/SR 316 with its connection to Monroe Highway (US 78 Business). These corridors are located within areas zoned for industrial uses. Major routes near areas zoned for industry primarily have higher annual truck units. Athens Perimeter is a corridor that is not adjacent to large areas of industrialized land with a high amount of truck units. The Athens Perimeter is located north of downtown Athens and provides connectivity between US 78 and US 129. This further illustrates the impact of deliveries in downtown Athens have on the roadway network.

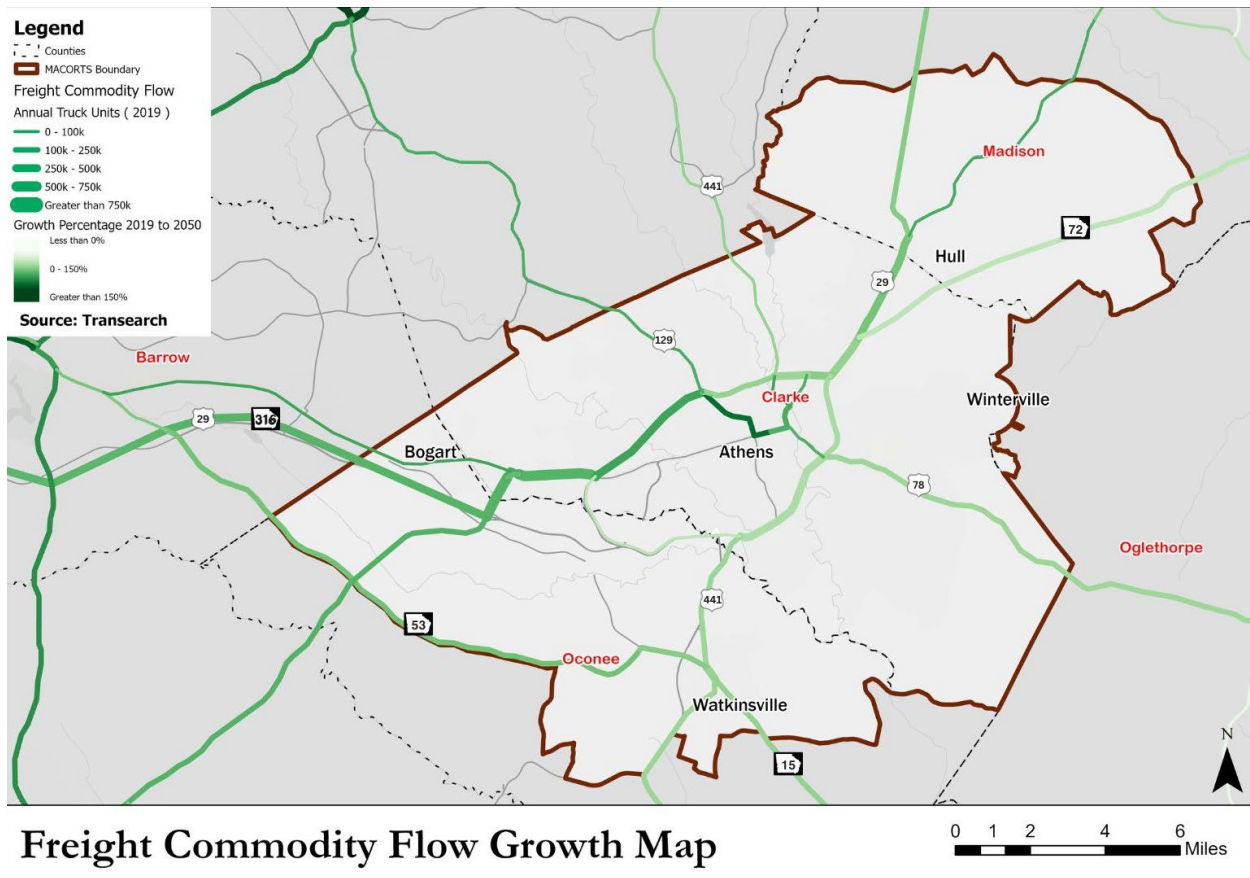


Figure 3 Freight Commodity Flow Growth Map

## Truck Bottleneck Analysis

Truck bottlenecks are points of congestion or restricted capacity within a roadway network where the flow of goods is considerably impacted. The MACORTS area contains a few bottlenecks identified in the 2023 Georgia Freight Plan. Analysis used to determine truck bottlenecks utilized congestion metrics determined in the National Cooperative Highway Research Program (NCHRP) Report 925<sup>1</sup>. 2021 travel data from the National Performance Management Research Data Set (NPMRDS) published by the Federal Highway Administration (FHWA) was combined with hourly truck volume data to calculate Vehicle Hours of Excess Travel (VHET) and Vehicle Hours of Unreliability (VHU). VHET is equivalent to the reduction in speed, and VHU is equivalent to the reduction in reliability.

Monetization parameters from NCHRP Report 925 were then used to estimate user costs incurred by trucks when faced with recurring and non-recurring congestion. The sum of both cost metrics represents the total cost of delay. The estimated total cost of delay is then used to evaluate delays at congested locations which is represented by truck bottlenecks, the location of where high costs are generated. The top five percent of bottlenecks in urban non-Atlanta areas were included in the 2023

<sup>1</sup> ESTIMATING THE VALUE OF TRUCK TRAVEL TIME RELIABILITY, NATIONAL ACADEMIES (2019):  
[HTTPS://NAP.NATIONALACADEMIES.ORG/CATALOG/25655/ESTIMATING-THE-VALUE-OF-TRUCK-TRAVEL-TIME-RELIABILITY](https://nap.nationalacademies.org/catalog/25655/estimating-the-value-of-truck-travel-time-reliability)



Georgia Freight Plan<sup>2</sup>. Of the top five percent, four bottleneck locations are present in the MACORTS area.

Figure 4 illustrates the location of the four truck bottlenecks present in the MACORTS area, and Table 3 lists the truck bottlenecks' locations. Truck bottlenecks are located on US and State routes that provide direct connectivity to freight generators or are located on corridors listed as a Statewide Designated Freight Corridor. US 78 has two truck bottlenecks, one near Bogart and the other near downtown Athens. Identifying and addressing the present truck bottlenecks in the MACORTS area will improve efficiency and reliability for freight movement within the area.

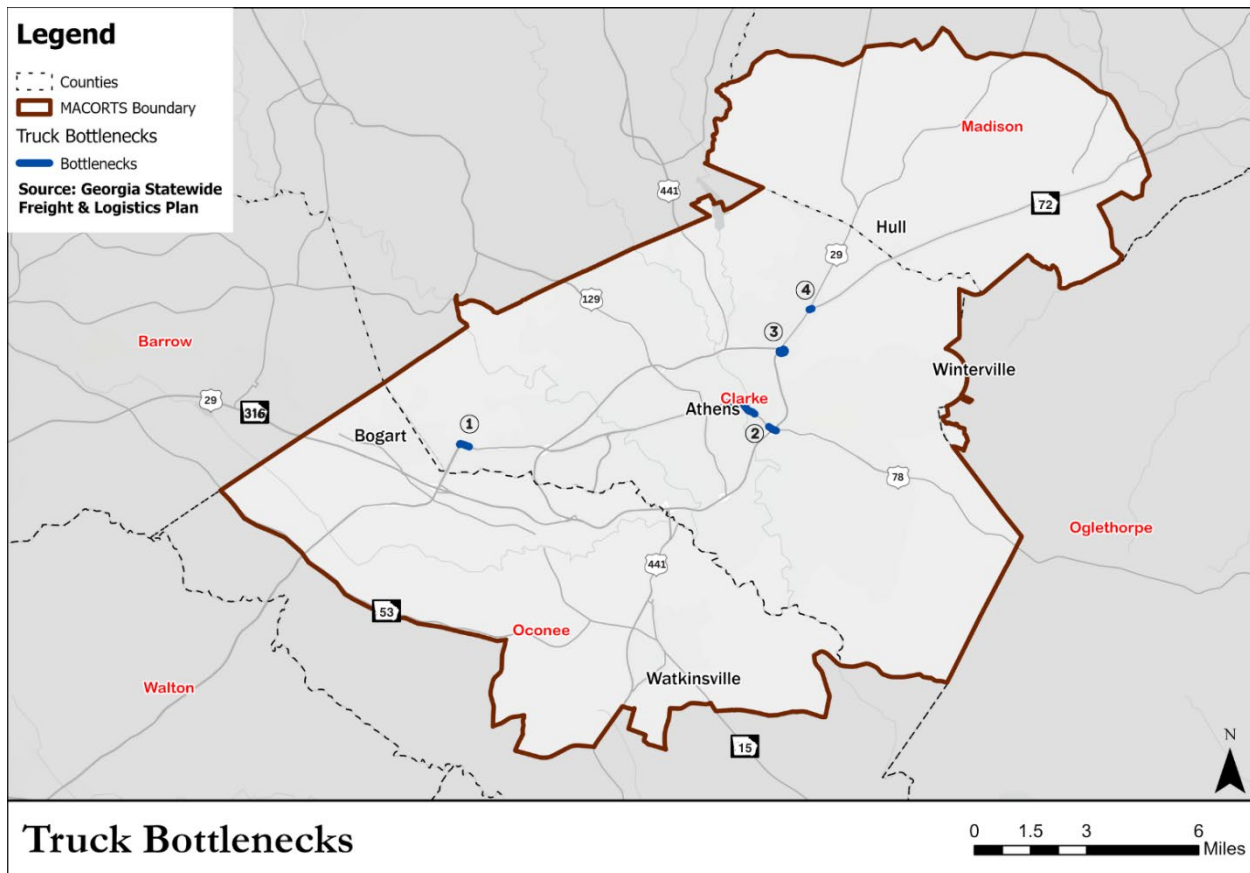


Figure 4 Truck Bottlenecks located in MACORTS Area

Table 3 Truck Bottlenecks Locations in MACORTS Area

ID #	Bottleneck Location
1	US 78 (Monroe Hwy) at Atlanta Hwy
2	US 78 (Oconee St) between Lumpkin St and US 441/SR 10 (Outer Loop)
3	US 441/SR 10 (Outer Loop) northeast junction
4	US 20 at SR 72

<sup>2</sup> GEORGIA FREIGHT PLAN, GEORGIA DEPARTMENT OF TRANSPORTATION (2023):  
[HTTPS://WWW.DOT.GA.GOV/INVESTSMART/FREIGHT/GEORGIAFREIGHT/GEORGIAFREIGHTPLAN.PDF](https://www.dot.ga.gov/investsmart/freight/georgiafreight/georgiafreightplan.pdf)



Source: Georgia Freight Plan

## Truck-Related Crashes

Safety and security were identified as top priorities for the MTP by the MACORTS by technical stakeholder committees. To understand safety considerations related to freight movement, an analysis was conducted of crashes involving trucks. In addition to the impact on safety and health, truck-related crashes also have the potential to decrease economic generation due to loss of goods and time. Determining the location of truck-related crashes assists in defining corridors and intersections in need of safety improvements. Truck-related crashes between 2017 and 2021 were analyzed to determine the location with greater frequency of crashes and the type of crashes. Crash data was collected from Numetric, a crash data platform utilized by GDOT. Of the 31,435 crashes in MACORTS, 1,129 (about four percent) were truck-related crashes between 2017 and 2021. Figure 5 identifies areas with the lowest and greatest concentration of truck-related crashes. Areas with the greatest concentration of truck-related crashes occur within and near downtown Athens. US and State routes have a higher concentration of crashes throughout the corridors especially where interchanges are present.

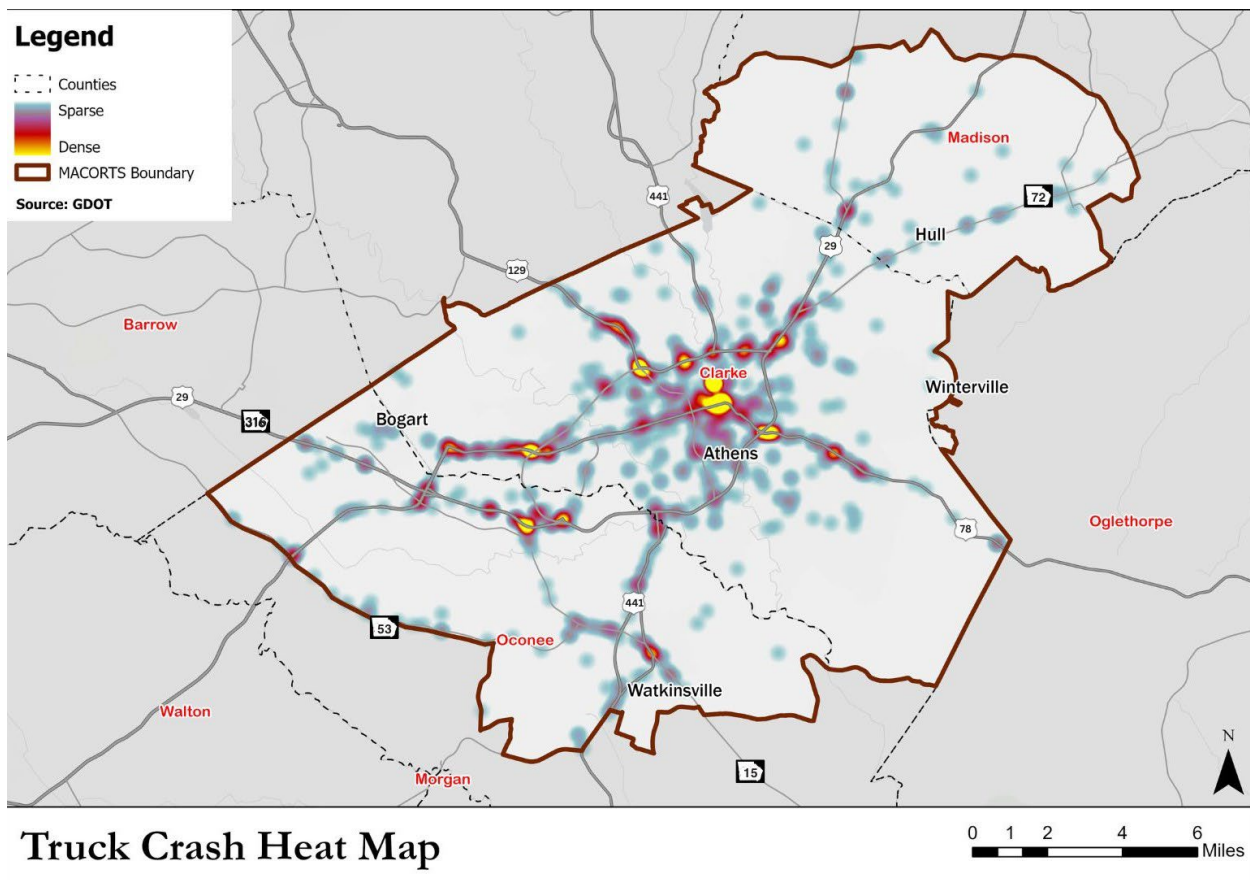


Figure 5 Heat Map of Truck-Related Crashes

Figure 6 lists truck-related crash types present between 2017 and 2021. Rear end crashes are the most common crash type in the area resulting in five serious injuries. Angled crashes, collisions where the front of a vehicle strikes the side of the other vehicle at a near right angle, constitute 27 percent of truck-related crashes in the MACORTS area. Angled crashes can be more serious in



nature, these resulted in ten serious injuries and one fatality. “Not A Collision With A Vehicle,” truck-related collisions that do not involve a second vehicle, are the fourth most common crash in the MACORTS area, leading to two fatalities, the highest number of fatalities per crash type.

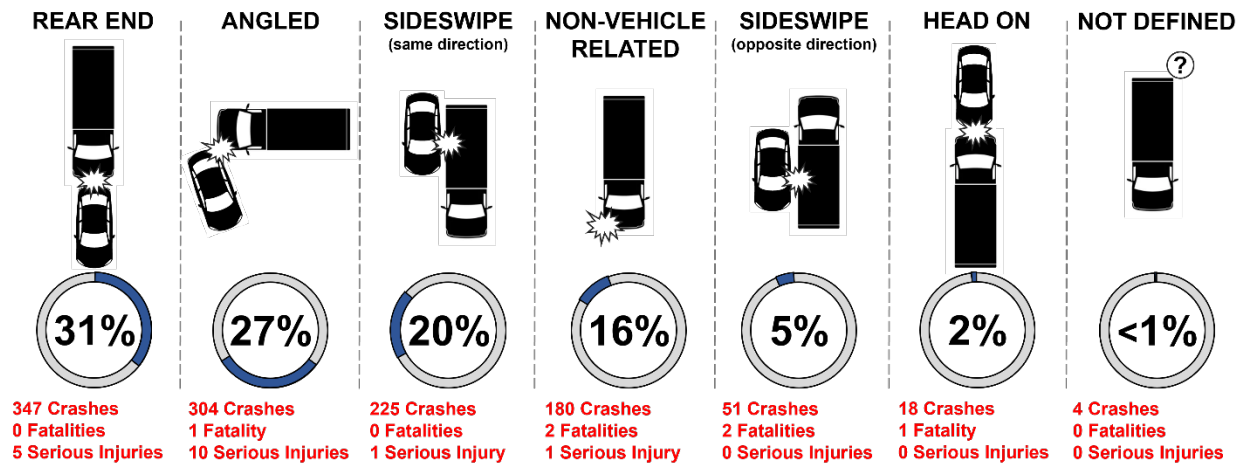


Figure 6 Crash Types Present between 2017 and 2021

“Not A Collision With A Vehicle” is an important crash type to spotlight as the factors that led to these crashes can depend on roadway geometric conditions not suitable for large trucks. Table 4 explicates collisions without another vehicle by KABCO severity and lists the generalized observations about crash causes. KABCO is a scale used to represent injury severity when reporting a crash. Trends present from this crash type include: attempting to negotiate a curve or tight righting; failure to negotiate curves; collisions within ditches or fixed structures; and collisions with guardrails, embankments, and curves. The themes observed indicate that collisions without another vehicle involved are potentially due in part to geometric and roadway design, which can be mitigated with improvements.





Table 4 “Not A Collision With A Vehicle” Truck Crash Trends

KABCO Crash Categories	# of Crashes	Summarized Observations/Trends due to Truck Crashes
K – Fatal Injury	2	<ul style="list-style-type: none"> <li>• Straight-on collision with pedestrian.</li> <li>• Straight-on collision with tree.</li> </ul>
2 – Serious Injury	1	<ul style="list-style-type: none"> <li>• Straight-on collision with pedestrian.</li> </ul>
3 – Minor Injury	15	<ul style="list-style-type: none"> <li>• Truck overturns attempting to negotiate a curve or a tight right turning movement.</li> <li>• Failure to negotiate curves, resulting in collisions with fixed structures such as traffic signposts, trees, and utility poles.</li> <li>• Straight-on or entering/exiting driveway collisions with pedestrians.</li> <li>• Straight-on collisions with either ditches or bridge/pier abutments.</li> </ul>
4 – Possible Injury	15	<ul style="list-style-type: none"> <li>• Truck overturns attempting to negotiate a curve or a tight right turning movement.</li> <li>• Failure to negotiate curves, resulting in collisions with fixed structures such as traffic signposts, trees, and utility poles.</li> <li>• Straight-on collisions with either ditches or with fixed structures.</li> </ul>
5 – No Injury	147	<ul style="list-style-type: none"> <li>• Similar crash details/trends identified in above ‘KABC’ categories in larger quantities.</li> <li>• Other straight-on collisions with animals.</li> <li>• Other straight-on collisions guard rails, embankments, and curbs.</li> </ul>
<b>TOTAL CRASHES</b>	<b>180</b>	<b>Non-Vehicle Related Manner of Collisions</b>

Figure 7 illustrates the location of “Not A Collision With A Vehicle” crashes in the MACORTS area. This crash type is primarily concentrated in downtown Athens where E Broad St and Oconee St connect, which tend to have narrower lanes, tighter turning radii, and on-street parking, which may contribute to issues with truck movements. US and state routes with a higher frequency of crashes include US 29, US 441, SR 316, and SR 72. The most common cause of crashes on these corridors are failure to negotiate turns resulting in crashes with fixed objects such as guardrails, bridge posts, and utility poles. Some of most severe crashes of this type include collisions with pedestrians. This is the case for fatal and serious injury crashes on US 78 Business/West Broad/Atlanta Highway. In addition, in more rural areas of MACORTS, two-lane roads that lack shoulders, curbs, or lighting, are associated with these types of truck crashes, indicating the potential need to evaluate geometric and roadway design.

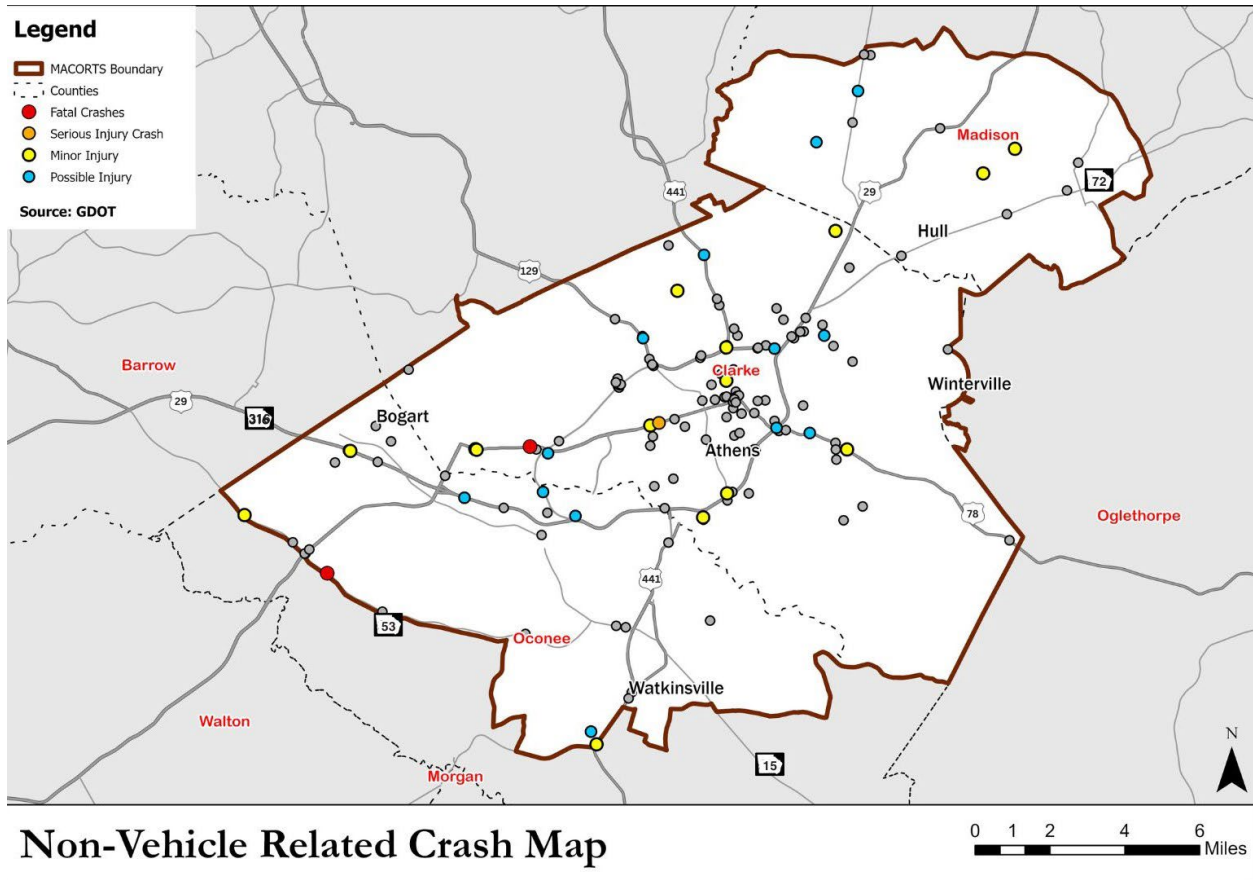


Figure 7 Non-Vehicle Related Crash Map

## Truck Parking Inventory

Truck parking is necessary for the safety and well-being of drivers. The Federal Motor Carrier Safety Administration provides regulations that require rest breaks at specific time intervals contingent on consecutive hours on and off duty. Required rest periods aim to improve highway safety by preventing crashes related to exhaustion. In 2012, Jason's Law was established under Moving Ahead for Progress in the 21st Century (MAP-21). One requirement of Jason's Law is for states to evaluate and derive a metric system to measure truck parking and identify truck parking shortages. The 2023 Georgia Freight Plan identified truck parking locations and shortages. As of March 2022, over 27,000 truck parking spaces are located across Georgia. Five truck parking facilities, illustrated in Figure 8, are located in and near MACORTS. Table 5 lists the parking space inventory and the corridor where the truck parking facility is located. There are approximately 217 truck parking spaces available between the five identified truck parking facilities.

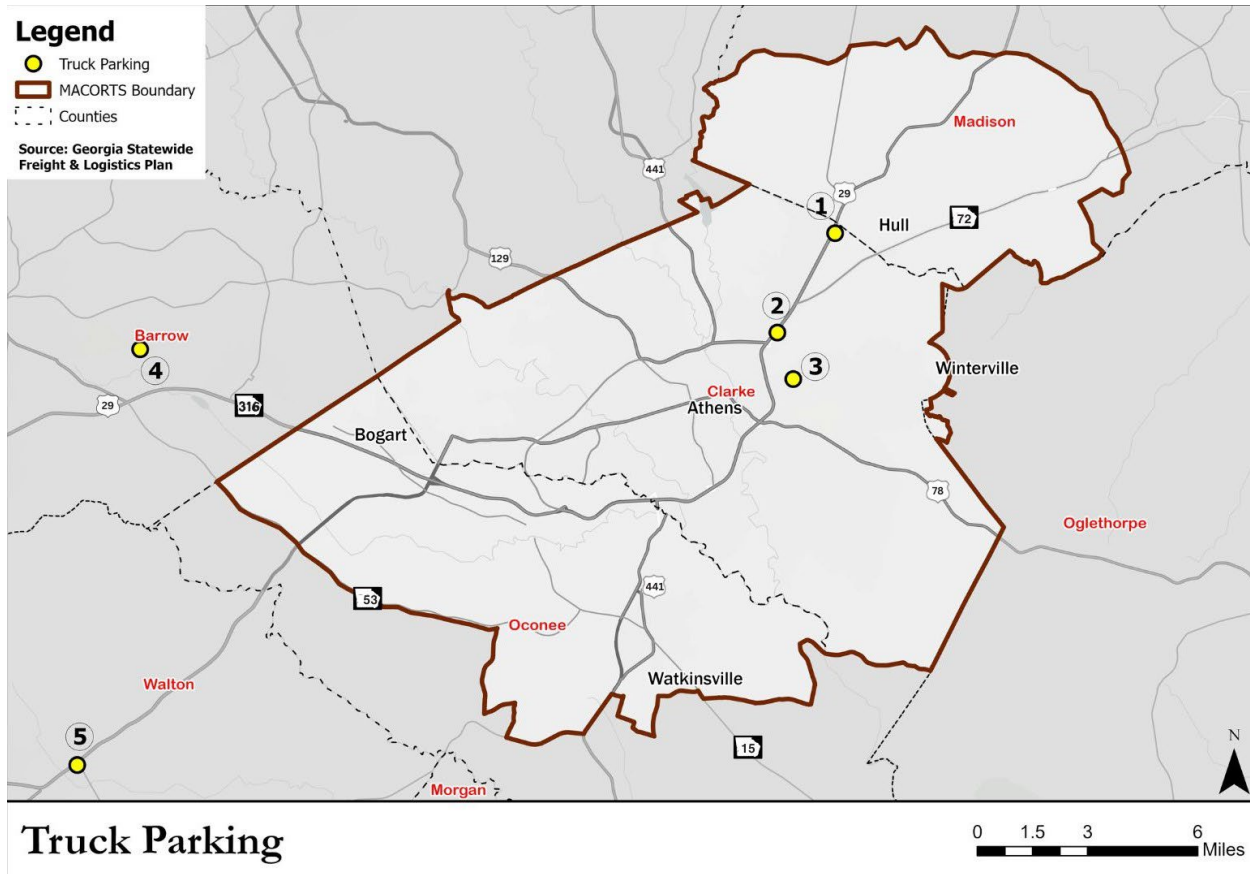


Figure 8 Truck Parking located within and near the MACORTS area

Shortages identified in the 2023 Georgia Freight Plan are applicable to MACORTS. Required rest periods is one of the main components of the growing truck parking shortage present in Georgia as freight movement in the state increases. Additional truck parking facilities are needed for long-term and short-term use. Increasing truck parking accessibility would decrease the use of unauthorized truck parking like ramp parking, roadway shoulders, and vacant lots that pose safety risks for drivers. At the statewide level, truck drivers spend up to an hour daily searching for safe parking, which leads to lost time, wages, and fuel<sup>3</sup>. This may also lead to additional emissions and noise impacts from trucks.

<sup>3</sup> GEORGIA FREIGHT PLAN, GEORGIA DEPARTMENT OF TRANSPORTATION (2013), PAGE 3-11:  
[HTTPS://WWW.DOT.GA.GOV/INVESTSMART/FREIGHT/GEORGIAFREIGHT/GEORGIAFREIGHTPLAN.PDF](https://www.dot.ga.gov/investsmart/freight/georgiafreight/georgiafreightplan.pdf)



Table 5 Identified Parking Space Facility Inventory

#	Name	Route	Truck Parking Spaces
1	Valero Gas Station	US 29	30
2	Circle K Gas Station	US 29	60
3	Athens Tractor Trailer Parking	Hancock Industrial Way	>100*
4	Chevron Gas Station	Atlanta Hwy	2
5	Marathon Gas Station	US 78	25

\*Unpaved gravel lot without marked spaces. Quantity is approximate.

## Rail Transportation

Rail is an important component of Georgia's transportation network. Georgia has the seventh-largest rail network in the United States. The State has identified the importance of its railway network for freight movement in the 2023 Georgia Freight Plan and the 2021 Georgia State Rail Plan. Similar to truck freight transport, rail freight transport within the MACORTS area provides a connection to raw materials, manufactured goods, and inland ports. Rail freight transport is present in the MACORTS area, as identified in Figure 10, and is served by CSX and Norfolk Southern (NS) lines. CSX carries approximately fifteen through trains per day and NS carries an average of one train per day through MACORTS<sup>4</sup>.

NS railway movement within MACORTS are anticipated to increase with the opening of the Northeast Georgia Inland Port, to be located on the NS line near I-985 and White Sulphur Road in Hall County, to the north of MACORTS. The Port will directly link to the Port of Savannah on NS rail lines. The opening of the inland port will improve resiliency of the supply chain and reduce congestion on the State's Freight Network. The inland port will promote economic development and growth in the surrounding areas, including MACORTS.

## AT-GRADE RAIL CROSSING

At-grade crossings are the intersection of a roadway and a railroad at the same level and are critical points in a freight network. At-grade crossings are designed to include markings and notifications to indicate where a railway and roadway intersect. Figure 9 identifies the location of the rail crossings and the associated warning devices in the MACORTS area. Passive warning devices include pavement and sign notifications of a railway crossing; active warning devices use flashing lights and/or gates to notify road users when a train is a pass and to restrict access to the railway when in use.

At-grade railway crossings pose challenges, including safety and reliability, to truck freight movement. At-grade crossings cause delays along the supply chain and may produce bottlenecks on the roadway. Longer trains, up to two or three miles long, have become more common in recent years. While these longer trains result in efficiencies for freight carriers and lowers fuel usage, the amount of time that roadway crossings are closed due to train activity can also grow, causing delays for commuters, emergency vehicles, transit vehicles, and more. The delay caused by at-grade

<sup>4</sup> FEDERAL RAILROAD ADMINISTRATION SAFETY MAP DATA: [HTTPS://FRAGIS.FRA.DOT.GOV/GISFRASAFTTY/](https://fragis.fra.dot.gov/gisfrasaftty/)



crosses create impacts beyond time. It increases the cost of the driver, the truck, and the goods being transported. At-grade crossings at times may inhibit the efficiency of truck freight movement in the MACORTS area.

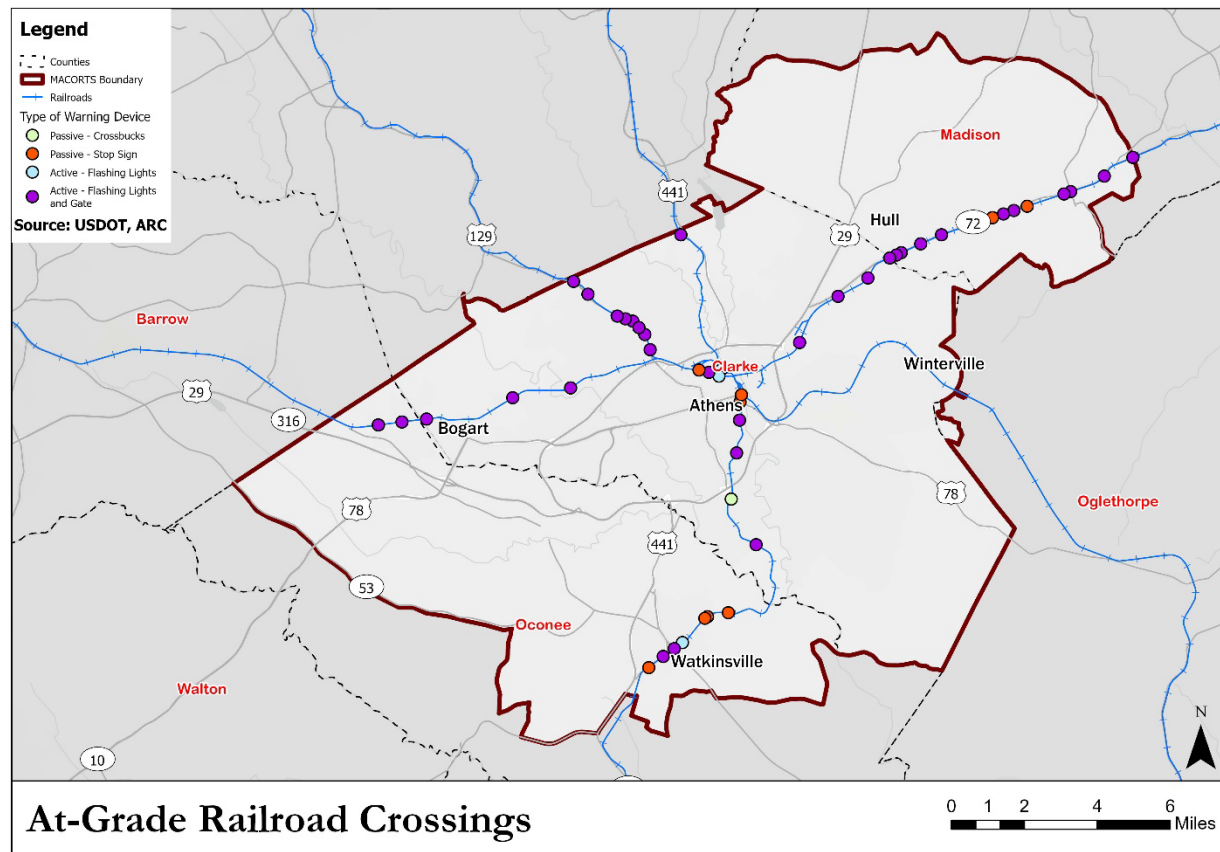


Figure 9 At-Grade Railroad Crossings

## Freight Route Network

The Fixing America's Surface Transportation (FAST) Act, signed into law in 2015, directed the FHWA to establish a National Highway Freight Network (NHFN) to strategically direct federal resources and policies toward improving the performance of highways in the U.S. freight transportation system. US and State routes located in the MACORTS area are not presently part of the NHFN but are part of the State's Freight Network.

The State Freight Network connects intermodal facilities, airports, and various industrial facilities within Georgia. In 2013, Georgia House Bill 202 exempted Interstate highways and designated state freight corridors from congressional district balancing to increase job creation and freight flow while reducing traffic. As such, the Georgia State Transportation Board included facilities carrying significant freight volumes to be part of the State Freight Network. Figure 10 lists the Statewide Designated Freight Corridors within MACORTS that are part of the State Freight Network included in the 2023 GDOT Freight Plan. US 441, SR 72, and SR 316 are designated by GDOT as freight corridors. These designated corridors provide regional and area-wide connections for the movement of goods within Georgia.





In addition to the State Freight Network, MPOs are also required by the FHWA to identify freight networks. To determine candidates for the MACORTS freight network and increase connectivity throughout the larger Piedmont region, the State Freight Network and nearby MPO's freight networks were included in the analysis. Nearby MPOs include the Atlanta Regional Council (ARC) and the Gainesville-Hall MPO (GHMPO). In 2010, ARC adopted the Atlanta Strategic Truck Route Master Plan (ASTRoMaP)<sup>5</sup> which identified a Regional Strategic Truck Route Network for the region. ASTRoMaP network near the MACORTS area is illustrated in blue in Figure 10. Corridors selected in the ASTRoMaP include US 78 located south of Bogart. In 2018, GHMPO adopted the Regional Freight Study, which identified the GHMPO Regional Freight Network. Corridors identified in GHMPO's freight network that are near and provide connection to MACORTS are US 129 and SR 60.

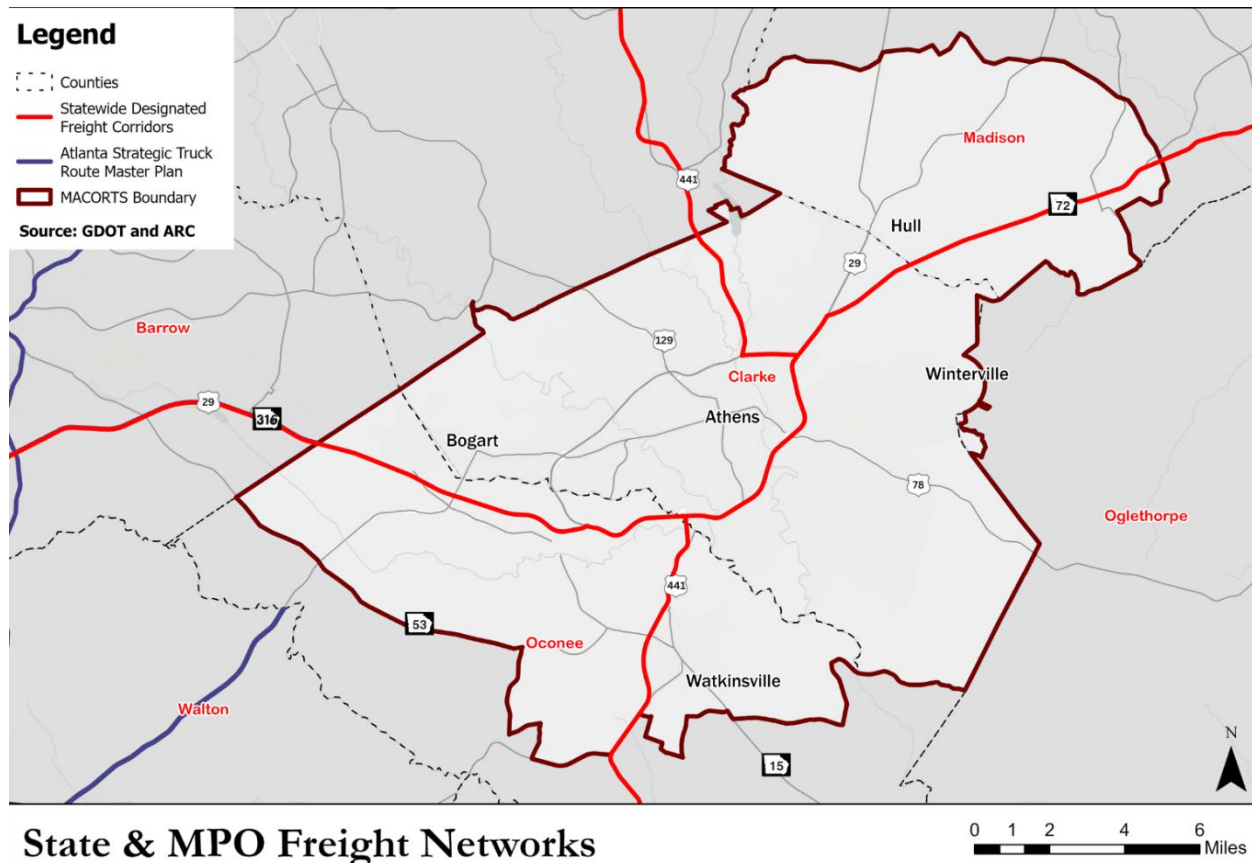


Figure 10 State & MPO Freight Networks

## MACORTS FREIGHT NETWORK RECOMMENDATIONS

Based on federal guidelines determined by the FHWA, MACORTS must identify its own Freight Network. Figure 11 illustrates candidates for MACORTS Freight Network. Candidates include:

<sup>5</sup> ATLANTA REGIONAL COMMISSION (2010): <https://atlantaregional.org/what-we-do/transportation-planning/freight-transportation/atlanta-strategic-truck-route-master-plan-astromap/>



- US 441, SR 316, and 72, highlighted in red, are included because they are part of the Statewide Designated Freight Corridors list in the 2023 Georgia Freight plan. The US 441 route will support the future Watkinsville Bypass alignment.
- US 78, highlighted in orange, is included due to its connection to the ASTRoMaP extension freight corridor from Walton County.
- SR 10, highlighted in blue, is listed because the corridor completes the Athens loop.
- US 129, highlighted in green, is a candidate as it has direct freight connections to the planned Northeast Georgia Inland Port and is located near freight generators in the Jefferson and Pendergrass areas.
- US 29, highlighted in purple, is listed due to its future freight flow and its proximity to industrial land uses.
- Winterville Road, highlighted in pink, is included because of its connection to Athen Ben Epps Airport, a quarry, and a lumber yard.

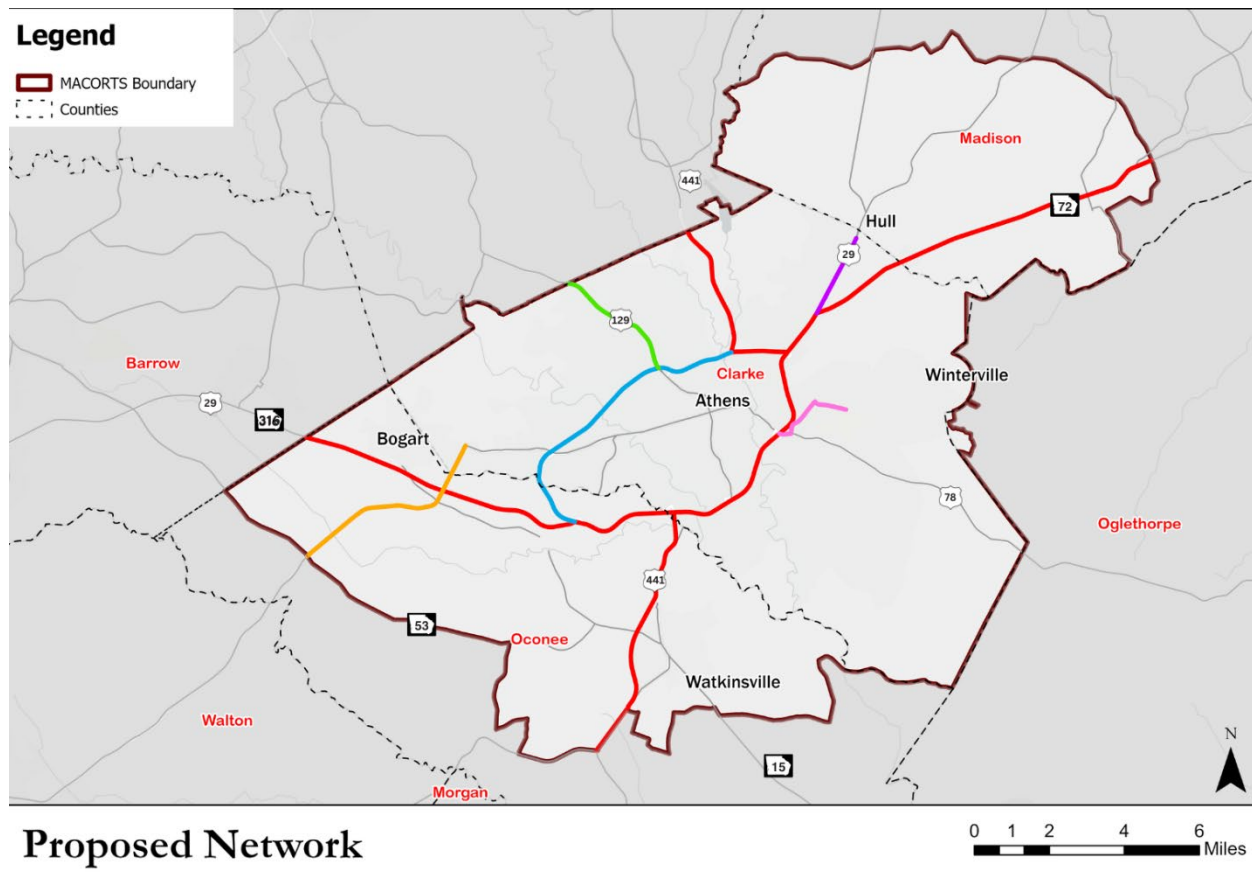


Figure 11 Proposed MACORTS Freight Network

## Freight Recommendations

The following section lists recommendations for the MACORTS area from the State in the 2023 Georgia Freight Plan, and by the MPO. The updated MACORTS freight project recommendations are



anticipated to address the growing freight volumes, safety considerations, and rail crossing delays, presented in this chapter. The projects on this list improve capacity, operations, and/or safety for routes on the statewide freight network and the MACORTS freight network, as well as provide improved access and connectivity to freight intensive land uses and freight generators.

## GEORGIA FREIGHT PLAN RECOMMENDATIONS

The 2023 Georgia Freight Plan included recommendations for freight projects for long-term consideration through 2050. These projects include Foundational, Catalytic, and Innovation investments. Based on the 2023 Georgia Freight Plan, multiple Foundational and Catalytic recommended projects are located in the MACORTS area. These projects are subject to funding and prioritization by GDOT.

Foundation projects are investments that address asset management activities for cost-efficient freight operations. These projects maintain a state of good repair on the existing statewide freight network and/or improve safety for the current network as freight volumes increase. The Foundational program focuses on reconstruction, rehabilitation, and the improvement of existing physical assets that support logistics-enabled industries. Foundational projects include interchange and bridge upgrades, increased truck parking, signalization, and local assistance programs. There are nine recommended Foundational projects located in the MACORTS area. Table 6 lists the projects by type, name, description, and estimated completion timeframe. Figure 12 exhibits the location of the recommended Foundation projects.

Table 6 GDOT Recommended Foundational Projects

#	Type	Name	Description	Completion Timeframe*
1	Interchange Reconstruction	SR 316 @ Jimmy Daniel Rd	Reconstruct as grade-separated diamond interchange	2028
2	Interchange Reconstruction	SR 316 @ Oconee Connector	Reconstruct as grade-separated interchange	2028
3	Grade Separation	SR 316 @ Virgil Langford Pkwy	Create a bridge for Virgil Langford Pkwy to cross over SR 316	2025
4	Grade Separation	SR 316 @ Mars Hill Rd	Grade separation	2030
5	Bridge Replacement	SR 10 @ North Oconee River	Bridge Replacement	2030
6	Bridge Replacement	SR 10 @ CSX Railroad	Bridge Replacement	2029
7	Bridge Replacement	SR 10 @ CSX Railroad	Bridge Replacement	2028
8	Bridge Replacement	SR 10 @ North Ave	Bridge Replacement	2029
9	Bridge Replacement	SR 10 @ Middle Oconee River	Bridge Replacement	2029

Source: Georgia Department of Transportation

\*Subject to funding and prioritization by GDOT

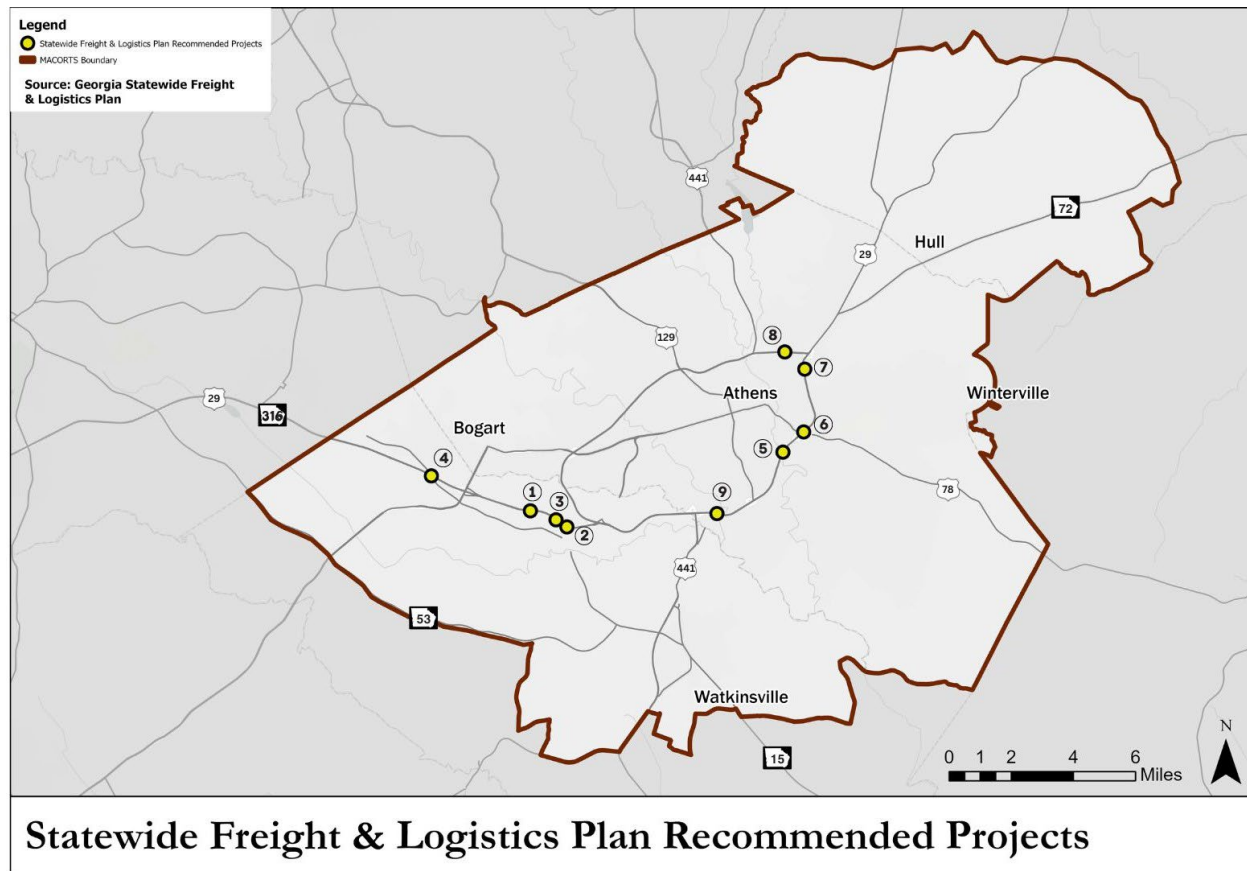


Figure 12 GDOT Recommended Foundational Projects

Catalytic projects are investments meant to build upon Foundational projects to support and develop key industries throughout Georgia. These projects are also to maintain or improve current network performance as freight movement in the state increases. Catalytic projects focus on strategic infrastructure expansions to aid economic development and increase customer base. Catalytic projects are either highway or multi-modal. Highway projects are initiatives like road building, while multi-modal projects are advancement-based initiatives that improve modal choice, redundancy, and support highway relief. Of the three catalytic projects located within the MACORTS area, all are highway projects. Table 7 lists the lists the projects by type, name, and description. Figure 13 exhibits the location of the recommended Catalytic projects.

Table 7 GDOT Recommended Foundational Projects

#	Type	Name	Description
1	Widening	US 441 from SR 10 to Clarke County Line	Widening from two to four lanes
2	Widening	SR 15 from Antioch Church Rd to US 129	Widening from two to four lanes
3	Widening	US 441 from Apalachee River to Astondale Rd	Widening from two to four lanes

Source: Georgia Department of Transportation



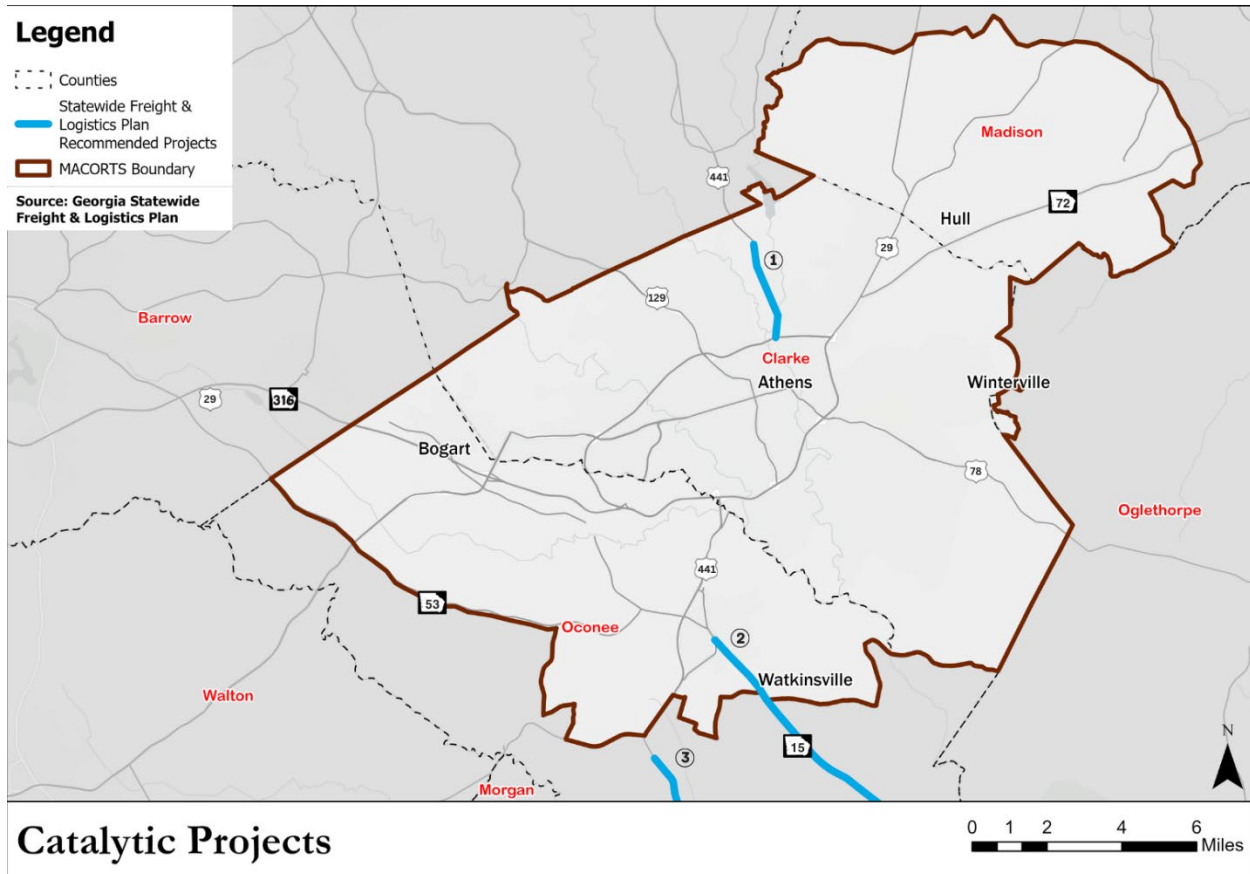


Figure 13 GDOT Recommended Catalytic Projects

## MACORTS FREIGHT RECOMMENDATIONS

Based on the analysis presented in this chapter, freight-related recommendations specific were determined to provide greater support for freight movement as it continues to increase in MACORTS. MACORTS recommended projects plan to enhance service, efficiency, and safety as freight commodity flows are expected to nearly double by 2050. The following sections outline the universe of recommendations both with and without the consideration of fiscal constrain.

### Universe of Freight Recommendations

Table 8 lists the universe of all freight-related recommended projects and are organized by the project's relationship to freight: whether the roadway is listed as a Statewide Designated Freight Corridor; is a candidate for the MACORTS Freight Network; has significant freight commodity flow; has high traffic bottleneck, backups, and crash density; or is near industrial land use. Rail-specific recommendations were also included to mitigate traffic backups caused at at-grade railroad crossings. The majority of identified projects are to update current infrastructure, to better support additional freight capacity, and to improve roadway design elements. These recommended projects will enhance truck driver safety, road user safety, and increase the efficiency of freight movement. This list also includes existing programmed projects that are considered to have a freight benefit.





Table 8 Universe of MACORTS Freight Recommendations

Project ID	Primary Work Type	Description
<b>Projects Located on a Statewide Freight Network</b>		
0002391	Widening	Widen US441 to a 4-lane median divided roadway
0013763	Interchange	Interchange - A bridge is proposed to accommodate an interchange at Dials Mill Rd. and SR 316. The intersection of Dials Mill Ext. at SR 316 is proposed to be closed.
0013764	RIRO	The proposed design includes converting the existing at grade intersection of SR 316 and CR 64/McNutt Creek Road in Oconee County, Georgia to a right-in, right-out, at grade slip ramp configuration. The project length will be approximately 2.6 miles from exit sign to exit sign and the proposed construction length will be approximately 0.77 miles and includes at-grade on and off ramps for SR 316 to connect to McNutt Creek Road. The existing at grade crossover will be removed and replaced with a 44-ft depressed grass median section.
0013765	Interchange	Grade separation of SR 316 from Mars Hill Road
0013766	Interchange	Grade separation of SR 316 from Julian Drive
0013767	Interchange	Grade separation of SR 316 from Jimmy Daniel Road
0013768	Interchange	The project will construct a new bridge and approaches to create a grade separation on Virgil Langford Road over SR 316. The preferred alternate proposes to construct the bridge on shifted alignment. The bridge will consist of three (3) lanes including a left turn lane. Lanes will be 12 ft. wide, 2 ft lateral offset and 6ft-6in wide sidewalk. The reconstructed roadway will be two (2) lanes with appropriate turning lanes with urban shoulders 12ft wide including sidewalk. The approximate length of the project will be 2,000 ft. with a design speed of 35 mph. The existing posted speed limit is 45 mph, and this project is proposing to reduce it to 35 mph. This reduction in speed is being coordinated with the county and GDOT district. The project is located in northeast Oconee County, west of the City of Athens, Ga.
0013768	Bridge	The project will construct a new bridge and approaches to create a grade separation on Virgil Langford Road over SR 316. The preferred alternate proposes to construct the bridge on shifted alignment
0013769	Interchange	Grade separation of SR 316 from Oconee Connector
P-12	Interchange	Add turn lanes to this intersection to provide better access and traffic flow to the renewable-energy power plant opening June 2019
P-79	Interchange	This project would construct a connector road between SR 24/US441 and SR 15 south of Watkinsville to enable truck traffic to avoid downtown Watkinsville
<b>Projects Located on the MACORTS Freight Network and the Statewide Freight Network</b>		



0013613	Widening	Widen from 2 and 3 lanes to 4 lanes with grass and flush median
0013715	Bridge Replacement	Replace the existing bridge over the Middle Oconee River at the SR 10 Loop.
0013716	Bridge Replacement	Replace the existing bridge at SR 8 / US 29
0013806	Bridge Replacement	SR 10/US 78 Bridges at North Oconee River
0019265	Bridge Replacement	SR 10 LOOP SB & NB @ NORTH OCONEE RIVER 1.4 MI S OF ATHENS
0019266	Bridge Replacement	SR 10 LOOP SB & NB @ CSX RAILROAD 1.3 MI S OF ATHENS
0019267	Bridge Replacement	Replace the existing bridges at SR10 Loop at CSX railroad 1.5 mi NW of Athens.
0019268	Bridge Replacement	Replace the existing bridges at SR10 Loop at 1.5 mi NE of Athens.
0019269	Bridge Replacement	SR 10 LOOP EB & WB @ MIDDLE OCONEE RIVER 3.5 MI S OF ATHENS
0019614	Reconstruction/Rehabilitation	SR 10 @ E. Broad Street and Foundry St
P-10	Access Management	Convert existing 7-lane section from the Middle Oconee River to Hancock Avenue to median divided for access management between signalized intersections and safety improvements at key intersections; bicycle and pedestrian facilities are included.
P-20	Interchange	Reconstruct existing interchange with extension of entrance ramps, add turn lanes to ramp intersections, and install traffic signal at outer loop ramp; bicycle and pedestrian facilities included
P-23	Reduces lanes/capacity	Convert existing 4-lane section from Hancock Avenue to Pulaski Street to median divided for access management between signalized intersections and safety improvements at key intersections, including roundabout at Hancock and W. Broad; bicycle and pedestrian facilities are included.
P-24	Access Management	Install median and turn lanes at key intersections from SR 10 Loop to Lavendar Road
P-25	Interchange	Reconstruct the interchange to serve the principal traffic movement to remain on SR 10 Loop. Construct entrance and exit ramps to serve traffic onto and off of SR 10 Loop from US 29.
P-36	Interchange	Reconstruct existing interchange with extension of entrance ramps, add turn lanes to ramp intersections, and install traffic signal at outer loop ramp.
P-78	Interchange	Construct a connector road between Atlanta Hwy and SR 10 Loop and a partial interchange with the SR 10 Loop.
<b>Projects Serving Significant Freight Commodity Flows</b>		
0009011	Widening	Widen to 4 lanes and construct turn lanes as needed from the Hog Mountain Rd to US 441. Sidewalks and bicycle lanes are planned for this corridor.
0009012	Widening	Widen to 4 lanes and construct turn lanes from the U 441 / Watkinsville Bypass to US 441 Business in Watkinsville. Sidewalks and bicycles lanes are included



0012902	Widening	Widen US 29 to 3 or 4 standard travel lanes from CR 228/Doamond Hill-Colbert Rd. to CR 88/Irwin Kirk Rd. (North of Danielsville) Approximately 2.6 miles of this project in within the MACORTS area.
0012903	Widening	Widen US 29 to 4 standard travel lanes from SR 106 through Madison County to CR 288 Dimond Hill - Colbert Rd.
0015557	Bridge Replacement	SR 8/SR 174 @ HUDSON RIVER 8.8 MI N OF DANIELSVILLE
0016818	Passing lanes	Passing lanes - SR 15 FM N OF BOSWELL RD TO S OF ANTIOCH CHURCH RD @ 2 LOCS 1. SR 15 from north of Fishing Creek to south of Harris Creek in Greene County. 2. SR 15 from 1.2 miles north of Rose Creek to south of Antioch Church Road in Oconee County.
0017186	Roundabout	The project proposes to install a single lane roundabout and a mountable truck apron.
122600-	Widening and Ramp Reconstructions	Project STP-014-1(70), P.I. no. 122600- proposes to widen SR 10/US 78/Lexington Hwy from a 4-lane divided roadway to a 6-lane divided roadway with a 20 foot raised median and sidewalks. The project also reconstructs the northbound SR 10 Loop exit and entrance ramps by removing the northbound entrance loop ramp, adding a northbound exit loop ramp for westbound SR 10/US 78 and adding a northbound entrance ramp directly across from Barnett Shoals Road. Median openings and intersections will be modified/removed accordingly.
122890-	Interchange	This project is to construct a new loop ramp from Atlanta Highway westbound to SR 10 Loop southbound, realigning the existing loop ramp from Atlanta Highway eastbound to SR 10 Loop northbound, and widening Atlanta Highway by adding four lanes and lengthening several turn lanes. The project also includes improvements to the Huntington Road and Atlanta Highway intersection.
P-7	Bridge Replacement	Add turn lanes and safety improvements to the intersection.
P-8	Reduces lanes/capacity	Convert existing 5-lane section from Monroe Highway to Marilyn Farmer Way to median divided for access management between signalized intersections and safety improvements at key intersections; bicycle and pedestrian facilities included.
P-11	Interchange	Reconstruct the intersection to align Moons Grove Church Road & Azalea Lane intersections on US 29 and add turn lanes
P-19	Reduces lanes/capacity	Convert existing 5-lane section (4 travel lanes with center turn lane) from Winterville Rd to Whit Davis Rd to median divided for access management between signalized intersections and safety improvements at key intersections; bicycle and pedestrian facilities - multiuse path will be included
P-31	Interchange	Potential intersection improvement to include a signal or roundabout.
P-41	U-Turns	Install Median U-Turn (MUT) or Restricted Crossing U-Turn (RCUT)
P-47	Widening	Widen US 78, SR 10 to 4-lane divided highway with turn lanes at major intersections from Whit Davis Rd. to Oglethorpe County line
P-50	Interchange	Construct 1 or 2 lane roundabout



P-51	Widening	Widen road to a 4-lane cross-section from Hog Mountain Rd to Elder Rd.
P-67	Widening	Add additional travel lane on portion of Atlanta Hwy that is not currently 3 lanes
P-69	Interchange	Construct 1 or 2 lane roundabout
P-75	Interchange	Reconstruct the intersection to align Neese-Commerce Road & Diamond Hill-Neese Road intersection on US 29 and add turn lanes
<b>Projects Addressing Truck Bottlenecks and/or Crash Hot Spots</b>		
0013806	Bridge	This project proposes to replace the existing bridge on SR 10/ US 78 over the North Oconee River in the City of Athens, Georgia with a new bridge matching the existing grade with four 12-ft lanes, a northbound left turn lane to Williams Street, 2-ft gutters, a sidewalk along the north side of the bridge and a raised shared use path on the south side of the bridge.
0019833	Bridge Replacement	ACC Public Works North Avenue RAISE Grant
P-39	Signals	Upgrade and coordinate traffic signals; nine locations along Oconee Connector Corridor
P-87	Intersection	Construct a right turn bay for northbound right-turning traffic and extend the left turn bay for southbound left-turning traffic at the intersection of US 129/Jefferson Rd and Trinity Pl
P-88	Intersection	Construct a right turn bay for northbound right-turning traffic and extend the left turn bay for southbound left-turning traffic at the intersection of US 129/Jefferson Rd and Kathwood Dr. Adjust intersection heights to smooth out railroad crossing hump.
P-89	Intersection	Construct a right turn bay for northbound right-turning traffic at the intersection of US 129/Jefferson Rd and the connection to Old Jefferson Rd at the Kinder Morgan entrance. Adjust intersection heights to smooth out railroad crossing hump.
P-90	Intersection	Construct a right turn bay for westbound right-turning traffic at the intersection of US 129/Jefferson Rd and Camak Dr. Adjust intersection heights to smooth out railroad crossing hump.
P-91	Intersection	Construct a right turn bay for westbound right-turning traffic and a left turn bay for eastbound left-turning traffic at the intersection of US 129/Jefferson Rd and Jefferson River Rd. Adjust intersection heights to smooth out railroad crossing hump.
P-92	Intersection	Construct a right turn bay for westbound right-turning traffic and extend the left turn bay for eastbound left-turning traffic at the intersection of US 129/Jefferson Rd and Whitehead Rd. Adjust intersection heights to smooth out railroad crossing hump.
P-93	Intersection	Construct a right turn bay for eastbound right-turning traffic and extend the left turn bay for westbound left-turning traffic at the intersection of SR 72/Hull Rd and Chandler Ray Rd/Cornelia Dr
P-94	Intersection	Construct a right turn bay for eastbound right-turning traffic and extend the left turn bay for westbound left-turning traffic at the intersection of SR 72/Hull Colbert Rd and Old Elberton Rd



P-95	Intersection	Construct a right turn bay for eastbound right-turning traffic and extend the left turn bay for westbound left-turning traffic at the intersection of SR 72/3rd Ave and 4th St
	Interchange	Grade separation at railroad crossing on Athena Dr approximately 850 feet southeast of the Old Hull Rd intersection
	Interchange	Grade separation at railroad crossing on Voyles Rd approximately 500 feet southeast of the SR 72/Hull Rd intersection
<b>Additional Projects Serving Industrial Land Uses or Freight Generators</b>		
0010288	New Roadway	Construct a new 2 to 4-lane divided highway between Commerce Blvd. and SR 10 Loop with turn lanes at major intersections and bicycle and pedestrian facilities and a grade separated crossing of the SR 10 Loop.

## Financially Constrained Freight Recommendations

The proposed recommended projects, considering financial constraints, are listed in Table 9. Projects within Band 1 are in the Transportation Improvement Program (TIP); this ensures that these projects are financially constrained and feasible to implement. Projected listed as Band 2 are not listed on a TIP nor have committed funding but are expected to be feasible to implement by 2050. The remaining projects that were not included in the final list of recommended projects are those not achievable under current financial projections.

Table 9 Financially Constrained Freight Recommendations

Project ID	Primary Work Type	Description	Funding Band
0013767	Interchange	Grade separation of SR 316 from Jimmy Daniel Road	Band 1
0017186	Roundabout	The project proposes to install a single lane roundabout and a mountable truck apron.	Band 1
0013769	Interchange	Grade separation of SR 316 from Oconee Connector	Band 1
0013806	Bridge	This project proposes to replace the existing bridge on SR 10/ US 78 over the North Oconee River in the City of Athens, Georgia with a new bridge matching the existing grade with four 12-ft lanes, a northbound left turn lane to Williams Street, 2-ft gutters, a sidewalk along the north side of the bridge and a raised shared use path on the south side of the bridge.	Band 1
0013806	Bridge Replacement	SR 10/US 78 Bridges at North Oconee River	Band 1
0019265	Bridge Replacement	SR 10 LOOP SB & NB @ NORTH OCONEE RIVER 1.4 MI S OF ATHENS	Band 1





0019266	Bridge Replacement	SR 10 LOOP SB & NB @ CSX RAILROAD 1.3 MI S OF ATHENS	Band 1
0019267	Bridge Replacement	Replace the existing bridges at SR10 Loop at CSX railroad 1.5 mi NW of Athens.	Band 1
0019268	Bridge Replacement	Replace the existing bridges at SR10 Loop at 1.5 mi NE of Athens.	Band 1
0019269	Bridge Replacement	SR 10 LOOP EB & WB @ MIDDLE OCONEE RIVER 3.5 MI S OF ATHENS	Band 1
0019614	Reconstruction/ Rehabilitation	SR 10 @ E. Broad Street and Foundry St	Band 1
0019833	Bridge Replacement	ACC Public Works North Avenue RAISE Grant	Band 1
0013768	Interchange	The project will construct a new bridge and approaches to create a grade separation on Virgil Langford Road over SR 316. The preferred alternate proposes to construct the bridge on shifted alignment. The bridge will consist of three (3) lanes including a left turn lane. Lanes will be 12 ft. wide, 2 ft lateral offset and 6ft-6in wide sidewalk. The reconstructed roadway will be two (2) lanes with appropriate turning lanes with urban shoulders 12ft wide including sidewalk. The approximate length of the project will be 2,000 ft. with a design speed of 35 mph. The existing posted speed limit is 45 mph, and this project is proposing to reduce it to 35 mph. This reduction in speed is being coordinated with the county and GDOT district. The project is located in northeast Oconee County, west of the City of Athens, Ga.	Band 2
0009011	Widening	Widen to 4 lanes and construct turn lanes as needed from the Hog Mountain Rd to US 441. Sidewalks and bicycle lanes are planned for this corridor.	Band 2
0013613	Widening	Widen from 2 and 3 lanes to 4 lanes with grass and flush median	Band 2
0013768	Bridge	The project will construct a new bridge and approaches to create a grade separation on Virgil Langford Road over SR 316. The preferred alternate proposes to construct the bridge on shifted alignment	Band 2
P-10	Access Management	Convert existing 7-lane section from the Middle Oconee River to Hancock Avenue to median divided for access management between signalized intersections and safety improvements at key intersections; bicycle and pedestrian facilities are included.	Band 2
P-19	Reduces lanes/capacity	Convert existing 5-lane section (4 travel lanes with center turn lane) from Winterville Rd to Whit Davis Rd to median divided for access management between signalized intersections and safety improvements at key intersections; bicycle and pedestrian facilities - multiuse path will be included	Band 2

