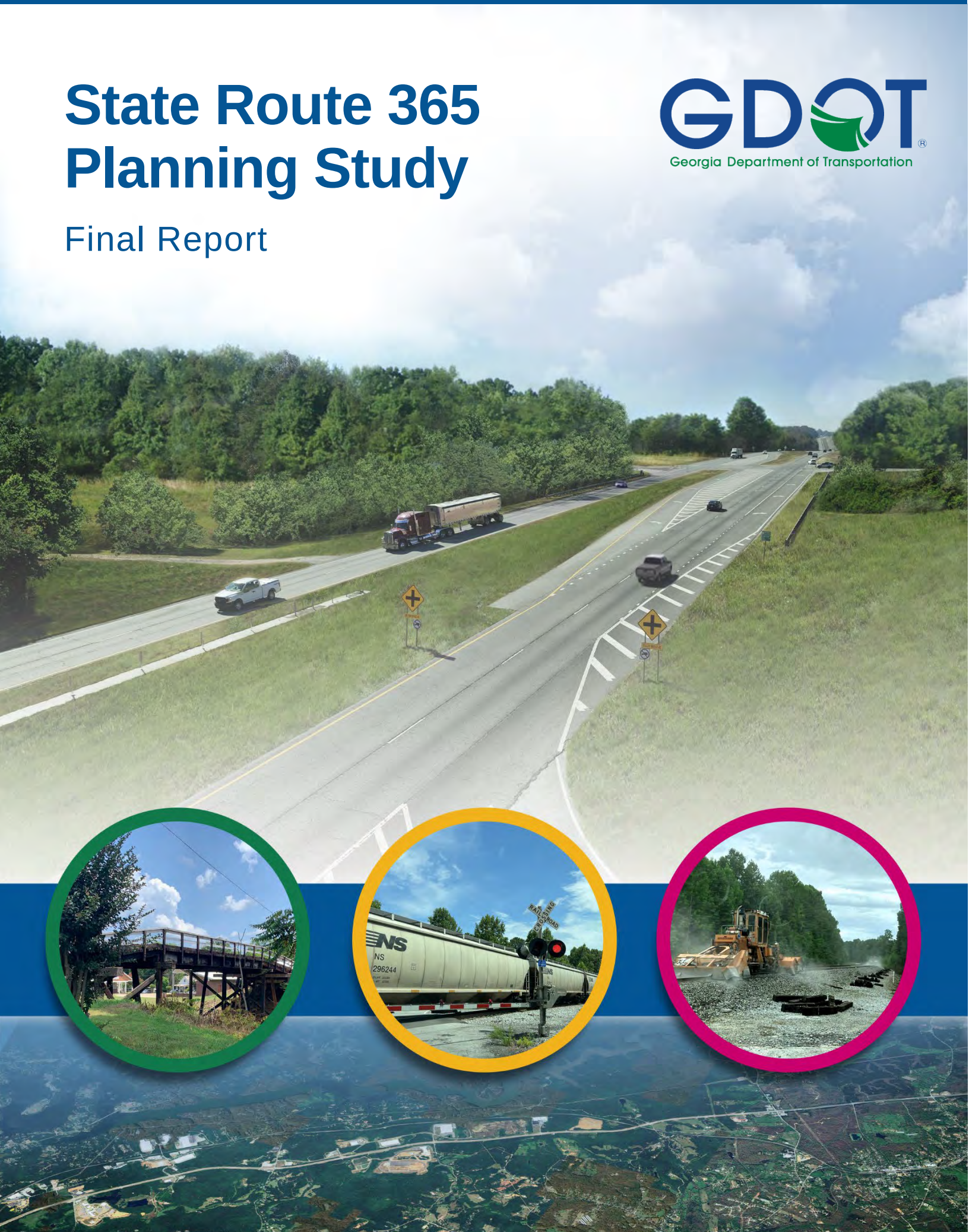
State Route 365 Planning Study

Final Report

Georgia Department of Transportation



State Route 365 Planning Study

Final Report

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Contents

Tables

Figures

Appendices

Acronyms and Abbreviations

AADT	Average Annual Daily Traffic
AASHTO	American Association of State Highway and Transportation Officials
ACS	American Community Survey
CAC	Citizens Advisory Committee
CDC	Centers for Disease Control
CID	Community Improvement District
CMF	Crash Modification Factor
COVID	Corona Virus Disease
DAC	Disadvantaged Community
DCA	Department of Community Affairs
DHV	Design Hourly Volume
DRI	Development of Regional Impact
EJ	Environmental Justice
EJScreen	Environmental Justice Screen
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FLPA	Forest Land Protection Act
FRA	Federal Railroad Administration
GDOT	Georgia Department of Transportation
GHMPO	Gainesville-Hall Metropolitan Planning Organization
GPA	Georgia Port Authority
GRAD	Georgia Ready for Accelerated Development
GTIB	Georgia Transportation Infrastructure Bank
HCS	Highway Capacity Software
HOT	High Occupancy Toll
I	Interstate
ICE	Intersection Control Evaluation
ITE	Institute of Transportation Engineers
ITS	Intelligent Transportation System
LEHD	Longitudinal Employer-Household Dynamics

LOS	Level of Service
NHS	National Highway System
NHTS	National Household Travel Survey
NHPP	National Highway Performance Program
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
RCUT	Restricted Crossing U-Turn
RIRO	Right In Right Out
RITIS	Regional Integrated Transportation Information System
RTP	Regional Transportation Plan
SPLOST	Special Purpose Local Option Sales Tax
SR	State Route
SSTP	Statewide Strategic Transportation Plan
STBG	Surface Transportation Block Grant
SVI	Social Vulnerability Indicator
SWA	Statewide Average
SWTP	Statewide Transportation Plan
SWTRP	Statewide Transit Plan
TADA	Traffic Analysis and Data Application
TAZ	Traffic Analysis Zone
TDM	Travel Demand Model
TMC	Turning Movement Count
TIP	Transportation Improvement Program
USDOT	United States Department of Transportation
USGS	United States Geological Survey
VHD	Vehicle Hours Delayed

Executive Summary

In recent years, the State Route (SR) 365 corridor in northeastern Georgia has experienced significant growth. Continual growth is expected with the anticipated 2026 opening of the new inland port - the Blue Ridge Connector, and many approved and planned residential, mixed-use, and industrial developments in the study area. Growth in the surrounding area has already impacted the operations on the SR 365 corridor. To address the impacts to SR 365 and the transportation network, the Georgia Department of Transportation (GDOT) initiated the SR 365 Planning Study.

The purpose of the SR 365 Planning Study is to analyze existing and future travel conditions within the study area, which includes 10.8 miles of SR 365 and adjacent roadways in Hall County from Interstate (I-)985 to Belton Bridge Road, and to develop recommendations for improving future travel conditions. The study also evaluates the impact of the Blue Ridge Connector on SR 365 and adjacent roadways.

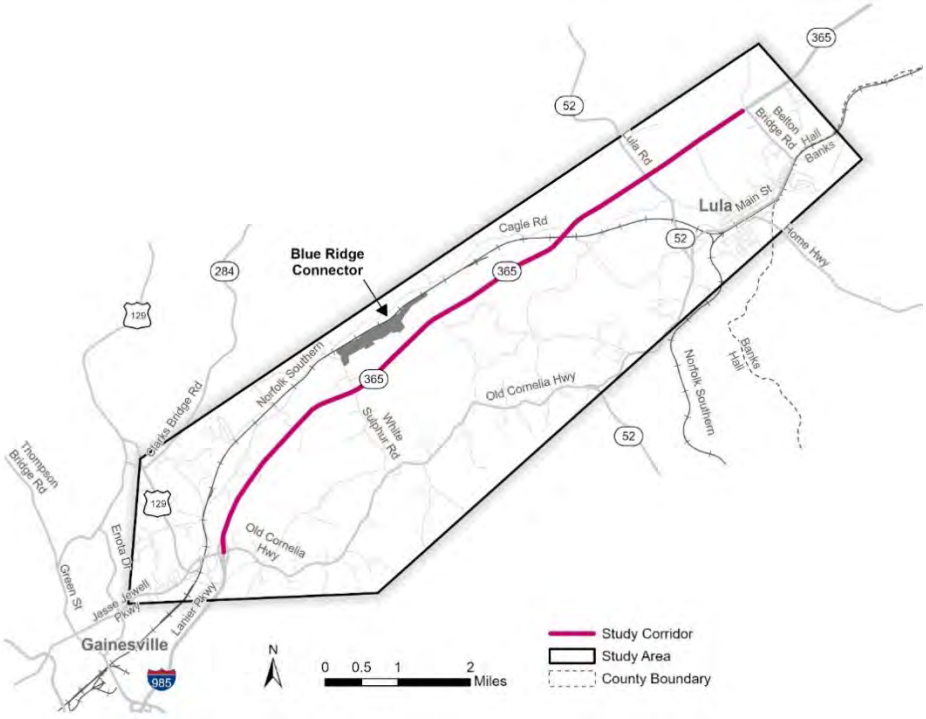


Figure ES-1 State Route 365 Planning Study – Study Area *Source: GDOT*

The study team, consisting of GDOT and consultants, reviewed projects programmed for construction in the area by 2026 and identified additional improvements. Existing and future conditions were reviewed to understand the major trip generators, bottlenecks, and trip patterns.

The baseline travel demand model (TDM) showed that in 2050, SR 365 will operate at a Level of Service (LOS) F for a majority its length in the study area if no improvements are made.

Stakeholders and the public provided input on the vision for the future of the corridor as well and suggested improvement ideas. Stakeholders included Gainesville-Hall Metropolitan Planning Organization (GHMPO), Hall County (Planning, Public Works, Schools, Transit, Emergency Services), Cities of Gainesville and Lula, Georgia

Ports Authority, Greater Hall County Chamber of Commerce, Lanier Technical College, and private businesses in the study area.

A total of 66 unique project ideas were generated. These project ideas were broken down into three categories for analysis and evaluation: capacity, intersection, and qualitative improvements:

- Capacity improvements included capacity-increasing projects on SR 365 and on other connecting streets.
- Intersection improvements included signalization and traffic operations projects.
- Qualitative improvements included road realignments, railroad crossing improvements, signage, and other improvements and policies.

A qualitative evaluation was applied for all projects that could not be evaluated with the TDM or an intersection control evaluation (ICE) analysis. The qualitative evaluation consisted of five criteria:

- Identified by a stakeholder and/or the public
- Promotes network resiliency
- Improves safety
- Reduces congestion
- Increases connectivity

Intersection improvements were analyzed using the ICE tool. Solutions included lane improvements to current signalized intersections, unsignalized intersections that warrant a signal, and general safety and operational improvements to minor intersections.

While these operational intersection improvements offer some benefits in delay and safety, the results indicate that the improvements are not a viable long-term solution. Larger capacity improvements are necessary to improve safety and mobility along SR 365.

Capacity improvements were modeled in the TDM. The study team modeled five capacity scenarios, shown in **Table ES-1**. Each alternative was evaluated for percent automobile vehicle hours delay (VHD) reduction, total automobile VHD reduction, percent truck VHD reductions, and total truck VHD reduction; LOS, which is the traffic-carrying ability of a roadway defined by levels ranging from LOS A to F; and benefit-cost ratio. Detailed descriptions of the scenarios are found in Section 6.

Table ES-1 Study Area Capacity Improvement Scenarios

Scenario	Description
1. SR 365 Widening	• Widening from four to six lanes between I-985 and Belton Bridge Road
2. SR 365 Widening + Limited Access	• Widening from four to six lanes between I-985 and Belton Bridge Road • Constructing grade-separated interchanges at Howard Road, White Sulphur Road, and SR 52 • Constructing overpass bridges at Kubota Way and Cagle Road

Scenario	Description
3. SR 365 Frontage Roads	• One-way, one-lane frontage roads between I-985 and Belton Bridge Road • No left-turn permitted, access ramps with U-turn locations at existing intersecting roadways
4. SR 365 Widening + Frontage Roads	• Widening from four to six lanes between I-985 and Belton Bridge Road • One-way, one-lane frontage roads between I-985 and Belton Bridge Road • No left-turn permitted, access ramps with U-turn locations at existing intersecting roadways
5. Surrounding Road Capacity Improvements	• Widening of SR 52, Limestone Parkway, Athens Street, Old Cornelia Highway • Extensions of SR 52, Old Cornelia Highway, Lanier Tech Drive, Belton Bridge Road

Scenario 2 is estimated to have the highest annual crash reduction. Because safety is GDOT's top priority, the study team recommended Scenario 2: SR 365 Widening + Limited Access. With the Scenario 2 improvements, the TDM forecasted SR 365 operating at LOS C or better in 2050. This scenario removes any existing intersections along SR 365, allowing for the free flow of traffic and only allows turning movements onto side streets at grade-separated interchanges.

The study team presented their findings to stakeholders, the public, and GDOT. Cost estimates were developed for capital projects. The result of the analysis and evaluation were three capacity (SR 365, SR 52, and Lanier Tech Extension), eight operational, and 24 qualitative projects for recommendation.

The SR 365 Planning Study provides recommendations to address regional safety and mobility and local traffic operations in the study area impacted by the rapid growth in population and development. It is advised that the project recommendations identified in this report be considered for inclusion in local, regional, or statewide plans. These projects must be included in one of these plans as a necessary step to receive funding for design, engineering, and construction activities.

1 Study Overview

The State Route (SR) 365 Planning Study is an initiative of the Georgia Department of Transportation (GDOT) to analyze existing and future travel conditions within the study area, which includes SR 365 and adjacent roadways in Hall County from I-985 to Belton Bridge Road. A map of the study area is shown in **Figure 1-1**. The purpose of the study is to analyze existing and future travel conditions within the study area to develop and evaluate transportation improvement recommendations and strategies to accommodate future travel. Additionally, this study shall evaluate the impact of the Blue Ridge Connector on SR 365 and adjacent roadways.

1.1 Background

Hall County, located in the northern area of metropolitan Atlanta, has experienced significant population growth over the past four decades, with more than 125,000 new residents relocating to the area since 1980. This growth trend is expected to continue as Hall County is estimated to grow from a population of 203,136 in 2020 to 380,000 by 2050.[1,2] Currently, within the study area, there are many commercial, residential, and industrial developments either planned or under construction, most notably the Georgia Port Authority's (GPA) inland port, the Blue Ridge Connector.

The 104-acre Blue Ridge Connector will be located northwest of SR 365 and will be accessible from White Sulphur Road. The Blue Ridge Connector, which is expected to be completed in early 2026, will provide a connection to the Port of Savannah via the existing Norfolk Southern railroad. Construction of the Blue Ridge Connector may result in changes to travel patterns within the study area; as such, the study focuses on the future travel of all vehicles while considering increases in freight-specific traffic along the corridor.

1.2 Study Process

The planning study was conducted from May 2022 to November 2024 and culminated in the development of 66 project ideas and multiple scenarios for the study area. The study was executed through several process steps, which are presented in this section and discussed in detail within this report.

The study began with the collection of existing data, including roadway characteristics, community and environmental attributes, and traffic data. The traffic data was used to project future conditions, including LOS and traffic volumes, for the year 2050–the horizon year for the study. Additionally, the study team conducted stakeholder and public engagement meetings to supplement the quantitative data collected. Stakeholders helped to identify planned developments and existing transportation challenges and provided input on a vision for the future of the study area. The study team also reviewed and built upon the recommendations from the Georgia Freight Plan, which was approved by FHWA in April 2023.

Future traffic projections and stakeholder and public input were used to identify locations that would benefit from future transportation improvements. From this process, 66 project ideas were identified. These project recommendations were combined into different scenarios, representing various complementary projects to be implemented as a package. The study team completed several analysis tasks to measure the effectiveness of the scenarios. Travel demand modeling was used to assess the improvement in LOS, intersection control modeling to assess operations, a benefit-cost analysis to assess the value of the investments, environmental screening to identify environmental features adjacent to the projects, and finally a funding analysis was used to determine

[1] United States Census Bureau. 2020 Decennial Census. *https://data.census.gov/profile/Hall_County,_Georgia?g=050XX00US13139*

[2] Gainesville-Hall Metropolitan Planning Organization. Regional Transportation Plan 2020, 2020. *https://www.ghmpo.org/planning-documents/regional-transportation-plan/gainesville-hall-regional-transportation-plan-2020/*

possible funding sources to implement the projects. The results of these analyses were used to evaluate and rank the scenarios based on their performance, leading to a recommendation of a single scenario.

The purpose of this *State Route 365 Planning Study Final Report* is to document the study process and its results, as well as to present a final recommendation for the study.

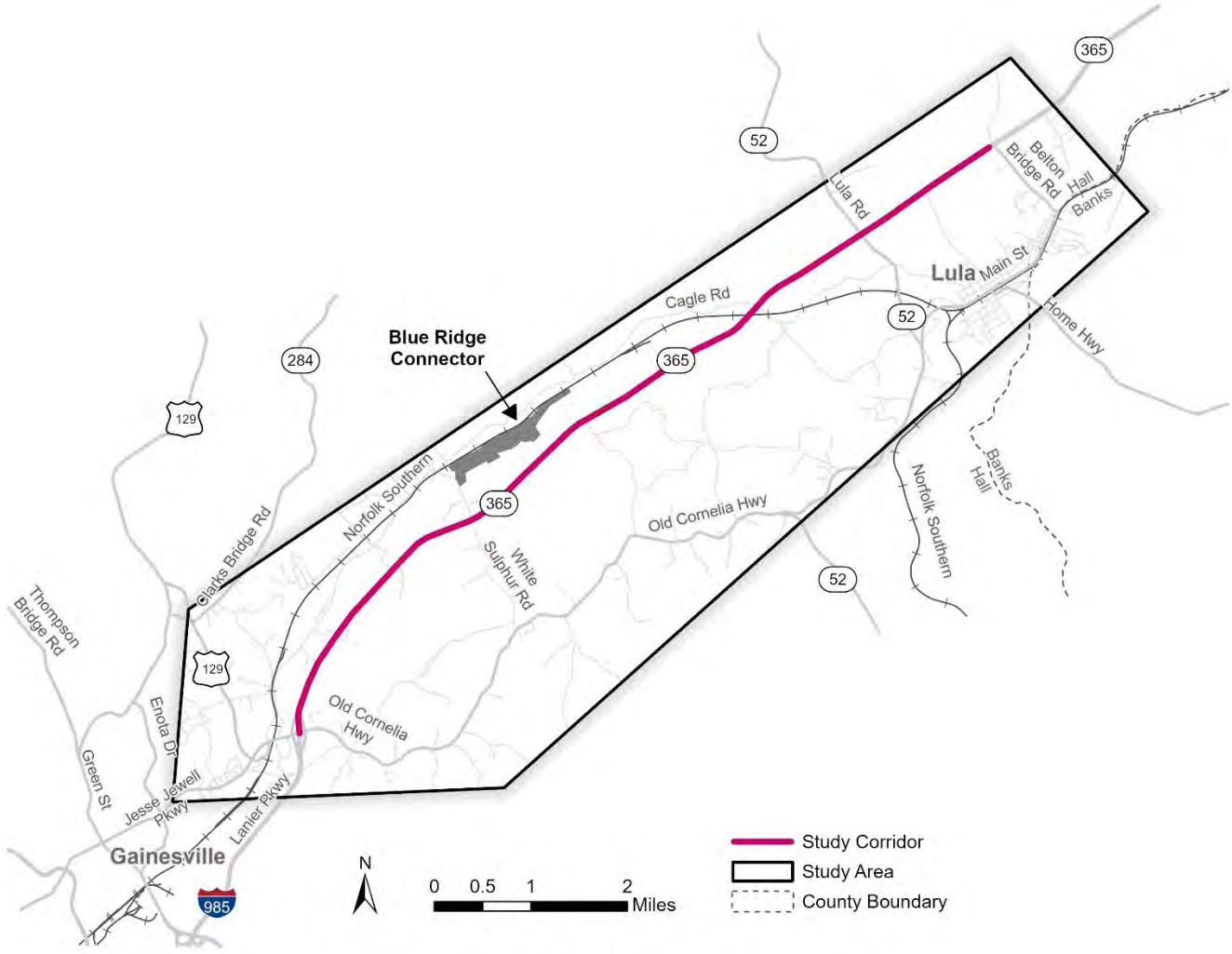


Figure 1-1 State Route 365 Planning Study – Study Area *Source: GDOT*

2 Existing Conditions

This section provides a summary of plans reviewed and data collected for the SR 365 Planning Study. The plan review process included a thorough examination of relevant local and state plans across a variety of topics including comprehensive planning documents, long-range planning documents, and corridor reports. The study team gathered several types of data, including roadway and infrastructure characteristics, community and environmental attributes, travel demand and traffic data via a combination of publicly accessible data sources and input from project stakeholders. These plans and data were reviewed to assess current characteristics and trends of the community along and adjacent to SR 365 in the study area. Observations from the existing conditions analysis informed development of the study recommendations.

Existing Condition Categories and Data

2.1 Previous Plan Review

As a first step in the existing condition identification process, plans for the past 10 years (2014-2024) were reviewed to understand the planning analyses and recommendations within the region relevant to SR 365.

2.1.1 Existing Local Plans

Local plans relevant to the study area, including those from Hall County, the City of Gainesville, the City of Lula, and the Gainesville-Hall Metropolitan Planning Organization (GHMPO), are summarized in the following subsections.

2.1.1.1 Hall County Comprehensive Plan (2022)

The *Hall County Comprehensive Plan* identifies the county's primary goals for achieving its long-range vision for growth and development in the unincorporated portions of Hall County.[3] The SR 365 corridor is designated as a "primary employment corridor" character area, as identified in the Hall County future development map shown in **Figure 2-1**, which guides decision-making related to physical location, scale, and intensity of development across the county. The primary intent of the character area designation is to "enhance and maintain well-functioning, attractive corridors that facilitate vehicular traffic flow and promote bicycle and pedestrian connectivity while preventing encroachment onto adjacent neighborhoods."[2] Appropriate employment corridor uses include industrial, business park, and technology-based operations. Apart from the primary employment corridor designation, much of the remaining land within the study area is classified as rural, with primary land uses including agricultural/forestry, low-density single-family residential, and civic benefits such as places of worship and parks.

[3] Hall County. Hall County Comprehensive Plan, 2022. https://www.hallcounty.org/153/Comprehensive-Plan

The comprehensive plan also includes the Community Work Program, which lists the programs, policies, and other initiatives the County intends to act upon during the first five-year planning period. Community Work Program projects within the study area that will commence by 2026 include:

- East-West Corridor Study from the planned Sardis Connector to SR 365 to relieve congestion along Dawsonville Highway; and
- Implementation of projects from the GHMPO *2014 Bicycle and Pedestrian Plan*.

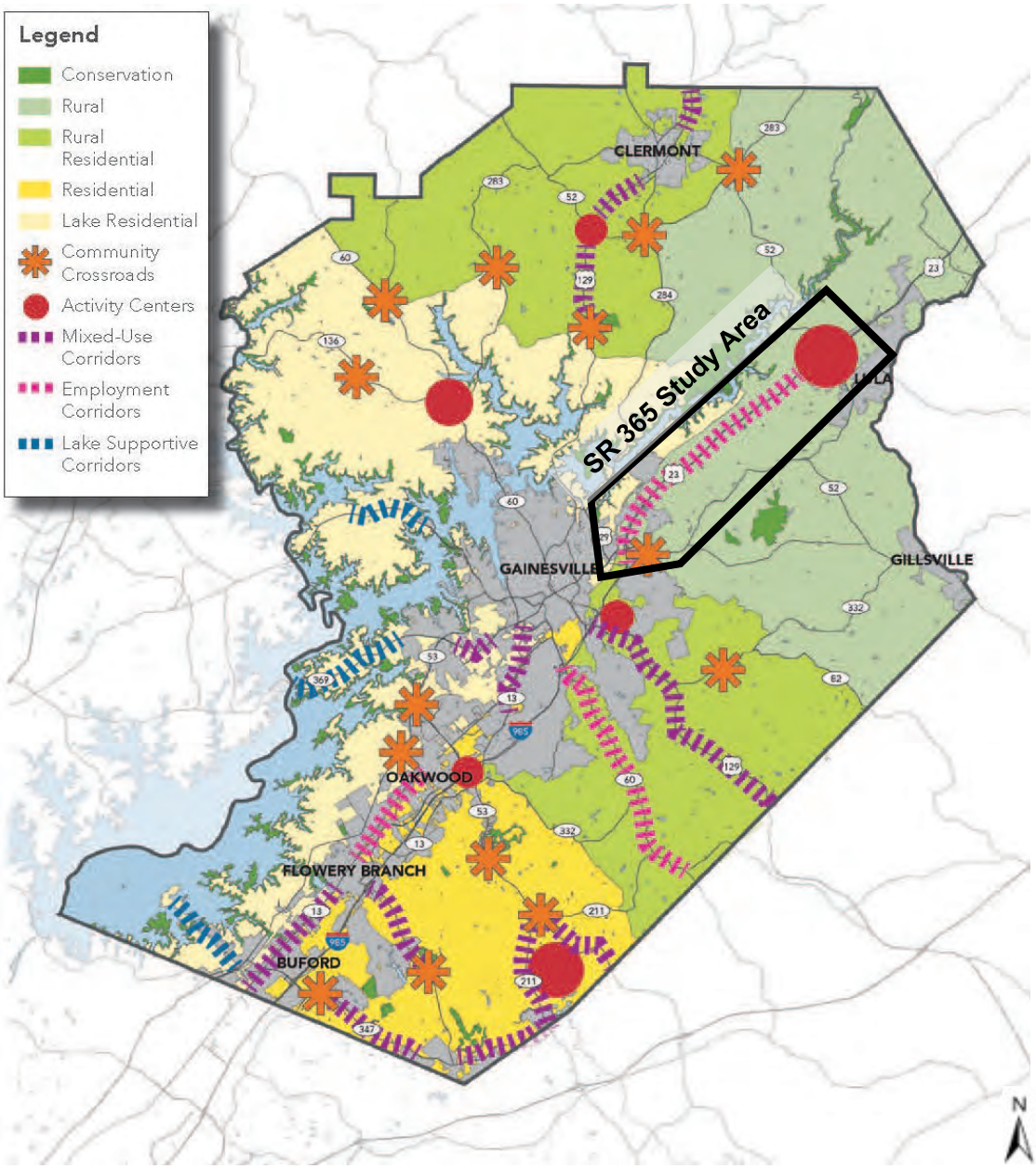


Figure 2-1 Hall County Future Development Map *Source: Hall County Comprehensive Plan, April 2022*

2.1.1.2 City of Gainesville Comprehensive Plan (2022)

The *Gainesville Comprehensive Plan* provides a vision for the long-term future of the city and necessary implementation steps and strategies to fulfill the identified goals.[4] Within city limits, SR 365 is primarily within the "economic development gateways" character area and is designated as industrial in the Future Land Use Map. The City's primary vision for the area is to continue supporting economic development while protecting natural resources and creating more prominent gateways to the city, particularly from I-985. The plan indicates a variety of appropriate uses for industrial areas, including office, business, light industrial, manufacturing, research, or other commercial uses. Expanded pedestrian, bicycle, and transit mobility options are identified as priorities for developments within the economic development gateway areas. The plan's Community Work Program provides a list of proposed projects and policies identified by the community to strive to implement between 2022 and 2026. There are two Community Work Program projects within the study area:

- Bicycle and pedestrian improvements along Limestone Parkway; and
- Expanded pedestrian and bicycle facilities where needed within industrial parks.

2.1.1.3 City of Lula Comprehensive Plan (2019)

Updated in 2019, the *City of Lula's Comprehensive Plan* provides a road map for the city's future and identifies key issues and opportunities for the long-range planning period.[5] Access and growth management along SR 365 are recognized as key economic development and transportation opportunities in the comprehensive plan. Additionally, the SR 365 corridor is noted as an area requiring special attention, with rapid development or greater anticipated change of land use. The City of Lula's targeted land uses and development outlined for the study area include regional commercial or office, light industrial, and institutional uses. The City of Lula's long-term objectives for the study area include working with Hall County to create a master development strategy around SR 365 and SR 52 as well as potential plans for annexation. Lula's Community Work Program projects planned within the study area include:

- SR 365 overlay district;
- SR 365 corridor study; and
- SR 365/52 development strategy.

2.1.1.4 GHMPO Regional Transportation Plan (2020)

GHMPO updated its *Regional Transportation Plan* (RTP) in 2020, which outlines the region's key transportation opportunities and anticipated projects.[6] The primary goals and objectives identified in the RTP include coordination and outreach; multimodal connectivity; safety and security; system preservation and maintenance; environment, mobility, and economic vitality; and land use integration. GHMPO's key policy recommendations to improve the overall transportation network include promoting and encouraging development of multimodal transportation options alongside existing and planned transportation projects, improving freight coordination and creating a freight working group, and providing enhanced coordination and maintenance of the transportation system.

The GHMPO 2050 Travel Demand Model (TDM) predicts that the LOS on SR 365 will decrease to LOS F from LOS C or better, meaning that roadway users will experience significant delays, with the roadway substantially

[4] City of Gainesville. City of Gainesville Comprehensive Plan, 2022. https://www.gainesville.org/680/2040-Comprehensive-Plan

[5] City of Lula. City of Lula Comprehensive Plan, 2019. https://dca.georgia.gov/hall-county-w-cities-clermont-lula-and-oakwood-comprehensive-plan

[6] GHMPO. GHMPO Regional Transportation Plan, 2020. https://www.ghmpo.org/planning-documents/regional-transportation-plan/gainesville-hall-regional-transportation-plan-2020/

exceeding capacity if no improvements are made to the existing network. Currently, the corridor experiences low crash and injury rates. While crash rates may be lower than the statewide average, there are still crashes along the corridor that cause safety concerns and should be addressed. A map of GHMPO RTP proposed projects that are anticipated to receive funding between 2031 and 2050 (referred to as Band 3 and 4 in the RTP) is shown in **Figure 2-2** on the following page.

There was one project identified in the fiscally constrained RTP project list (meaning project list reflects estimated budget) that is within the study area. The project (GH-131), included in the 2031-2040 project list, would widen I-985 from SR 53 to Howard Road and does not have a GDOT PI# as there is no funding identified for the project.

Project PI 0016074 adds a new interchange to SR 365 at Howard Road. The project is included in the 2031-2040 project list and is in the right of way (ROW) acquisition phase as of 2024. The utilities and construction phases are anticipated to begin in 2025. The second project did not have an identification number and called for a potential safety audit of the SR 365 corridor. It is included in the 2026-2030 project list.

2.1.1.5 GHMPO Transportation Improvement Program (2021-2024)

Also maintained by GHMPO, the *Transportation Improvement Program* (TIP) is the short-range program of transportation projects identified in the RTP that are scheduled for implementation within the next four years, also known as Tier I projects.[7] Projects within the study area that are currently included in the GHMPO TIP include:

- Cable barrier installation along SR 365 (PI 0016353, PI 0016354) – completed in 2022;
- Navigator intelligent transportation system (ITS) installation along I-985/SR 365 (PI 0015766) – completed in 2020; and
- Interchange SR 365 at Howard Road (PI 0016074) – in ROW as of 2024.

[7]GHMPO. GHMPO Transportation Improvement Program, 2021. https://www.ghmpo.org/planning-documents/transportation-improvement-program/

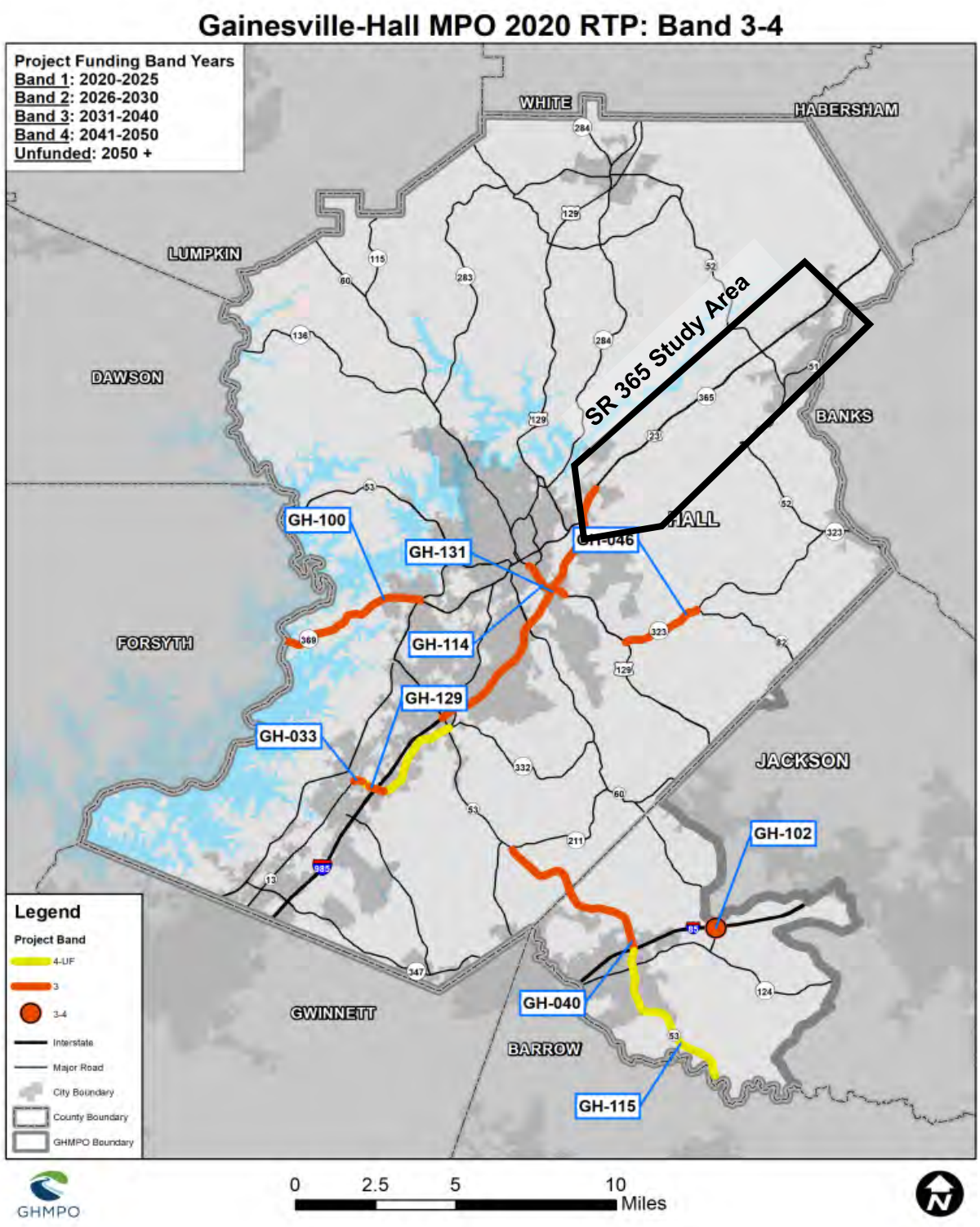


Figure 2-2 GHMPO RTP Projects: Band 3-4 *Source: GHMPO 2020 RTP*

2.1.1.6 GHMPO Regional Freight Study (2018)

The *Regional Freight Study* outlines the primary freight goals and objectives for GHMPO.[8] The key goals and objectives in the 2018 report include improving the safety, security, and resiliency of the Truck Route System, reducing congestion and bottlenecks, developing an efficient transportation system by integrating land use decisions and other planning tools or policies, and strengthening regional economic competitiveness. The proposed Tier 1 GHMPO freight network consists of the Federal Highway Administration (FHWA) National Primary Freight Network which are routes that are critical to freight movement. I-985 is the only Tier 1 freight network roadway within the study area, with SR 365 designated as a Tier 2 roadway, as illustrated in **Figure 2-3**. Additionally, many intersecting roadways, including Ramsey Road and White Sulphur Road, are considered Tier 3 freight network roadways. The *Regional Freight Study* also notes a high occurrence of commercial vehicle accidents along SR 365 with a cluster at SR 365 and Howard Road. The SR 365 and Jesse Jewell Parkway interchange is also identified as a regionwide freight bottleneck. Recommended projects from the *Regional Freight Study* that are located within the study area include:

- I-985 widening from SR 53 to Howard Road – planned;
- SR 365 corridor safety audit – in progress as of 2022;
- White Sulphur Road realignment – in design as of 2022; and
- Corridor study – Lula to Sardis Connector – planned.

[8] GHMPO. GHMPO Regional Freight Study, 2018. https://www.ghmpo.org/wp-content/uploads/2019/11/Gainesville-Hall-Regional-Freight-Study.pdf

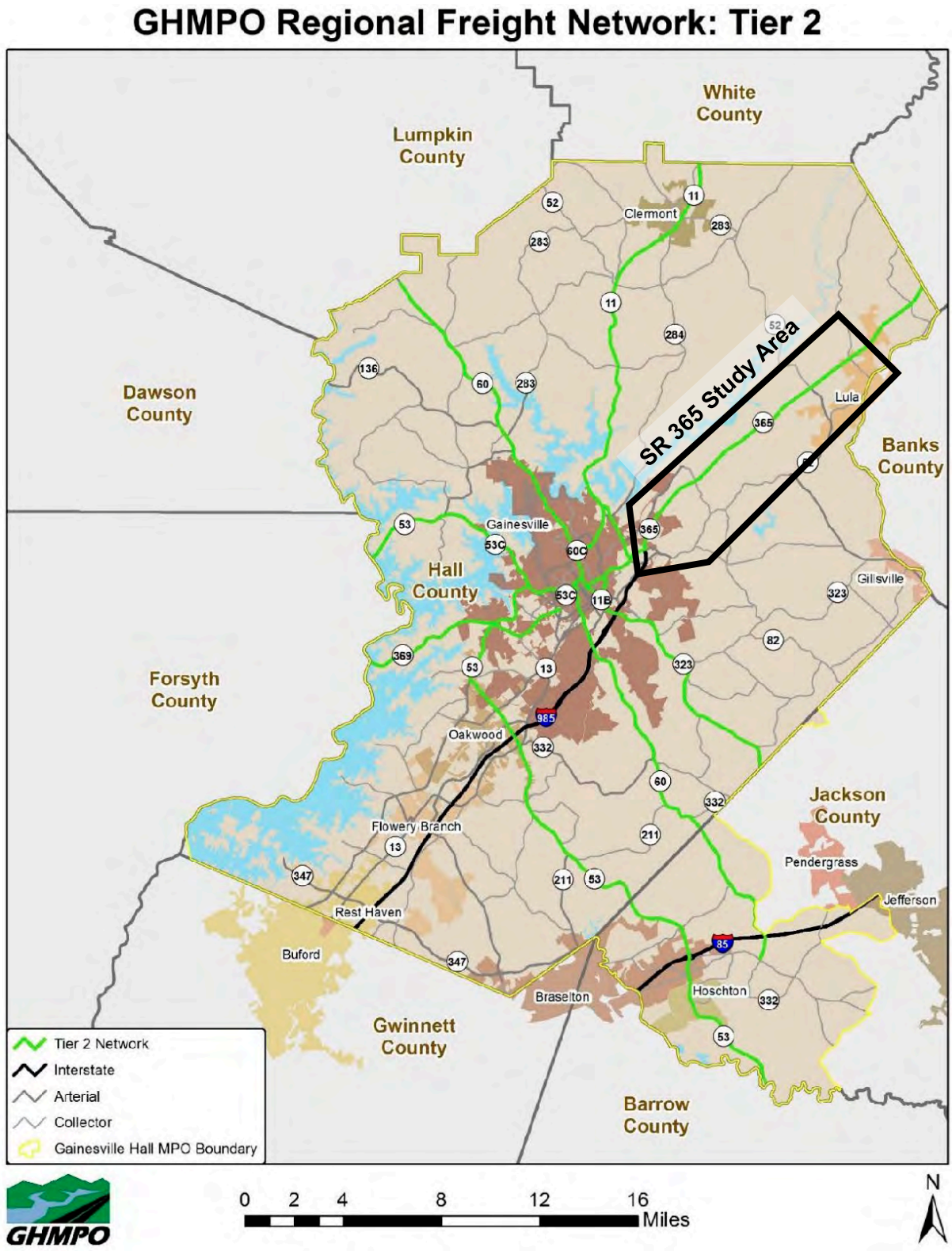


Figure 2-3 GHMPO Regional Freight Tier 2 Network *Source: Regional Freight Study, 2018*

2.1.1.7 GHMPO Bicycle and Pedestrian Plan (2014)

The GHMPO *Bicycle and Pedestrian Plan* provides a framework for the region's vision for alternate modes of transportation and future multimodal facilities.[9] The plan recognizes the GHMPO region's lack of multiuse trails and proposes a larger trail network that builds upon the existing trail system south of the study area. The system envisioned in the plan, illustrated in **Figure 2-4**, includes a primary linear trail that travels north-south along SR 55 with branching east-west trails across Hall County. Although SR 365 is not identified as a potential bicycle and pedestrian facility, Jesse Jewell Parkway is recommended as an east-west trail connection. Additionally, SR 52, which intersects SR 365 near Lula, is also recommended as part of the broader trail system with bicycle lanes.

2.1.1.8 GHMPO SR 365/Jesse Jewell Parkway Traffic Impact Study (2021)

In response to the growing development and traffic congestion in the eastern portion of Gainesville, the City of Gainesville and GHMPO conducted the 2021 *SR 365/Jesse Jewell Parkway Traffic Impact Study* to identify transportation opportunities at key intersections along Jesse Jewell Parkway and other major corridors in eastern Gainesville.[10] More than 100 crashes occurred at intersections on Jesse Jewell Parkway and SR 365, including SR 365 at Howard Road, between 2014 and 2018. Study stakeholders identified the intersection at SR 365 and Howard Road as the highest priority intersection within the study area. Due to intersection backups on SR 365, White Sulphur Road is noted as a desirable alternate route, resulting in more conflicts between freight vehicles and passenger vehicles in the area. Proposed intersection projects along SR 365 include:

- Restricted crossing U-turn (RCUT) intersection SR 365 at Ramsey Road – planned; and
- Grade separate SR 365 at Howard Road – in design as of 2022.

2.1.1.9 City of Gainesville Transportation Master Plan (2013)

The 2013 *City of Gainesville Transportation Master Plan* documents existing transportation challenges, opportunities for improvement and investment, and recommendations for implementable solutions to address the city's transportation challenges.[11] The primary goals identified in the plan include managing congestion, enhancing safety for users of all travel modes, increasing connectivity of the roadway network, supporting economic development, and increasing pedestrian and bicycle mobility. The plan includes recommendations to improve traffic operations and roadway connectivity and capacity, and to prioritize pedestrian and bicycle improvements within downtown Gainesville. Specific recommended projects from the Transportation Master Plan that are located within or near the study area include:

- I-985 interchange operations study – a study of the need for an additional interchange north of Athens Street;
- I-985 at Athens Highway interchange – implement capacity changes for widening/reconstruction of bridges and ramps;
- I-985 at Jesse Jewell Parkway interchange – implement operational improvements to existing intersections and on- and off-ramps, and extend or construct new turn lanes; and
- Jesse Jewell Parkway East – widen to six-lane roadway from Community Way to Miller Drive and install sidewalks.

[9] GHMPO. GHMPO Bicycle and Pedestrian Plan, 2014. http://www.ghmpo.org/wp-content/uploads/2019/11/GHMPO-Bicycle-and-Pedestrian-Plan-Update.pdf
[10] GHMPO. GHMPO SR 365/Jesse Jewell Parkway Traffic Impact Study, 2021. http://www.ghmpo.org/wp-content/uploads/2021/02/Jesse-Jewell-Report-Doc-2021-02-09.pdf
[11] City of Gainesville. City of Gainesville Transportation Master Plan, 2013. https://www.ghmpo.org/wp-content/uploads/2019/11/City-of-Gainesville-Transportation-Master-Plan.pdf

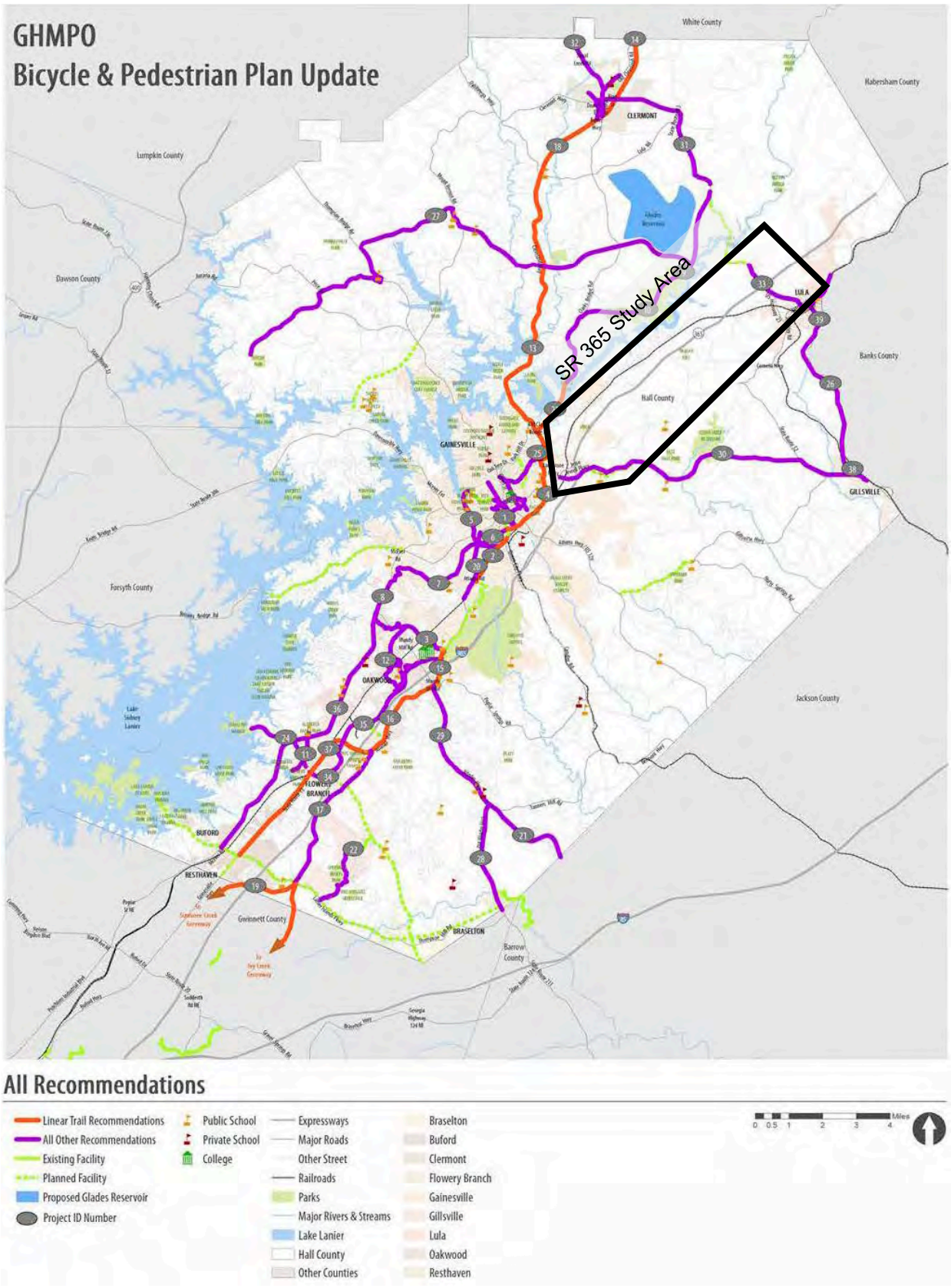


Figure 2-4 GHMPO Bicycle and Pedestrian Plan All Recommendations Source: GHMPO Bicycle and Pedestrian Plan Update, April 2014

2.1.1.10 Hall County SPLOST VIII (2019)

Reauthorized by voters in 2019, the *Hall County SPLOST VIII* program has provided millions in funding for infrastructure improvements and ongoing maintenance since 1985.[12] Special Purpose Local Option Sales Tax (SPLOST) VIII is projected to raise more than $200 million over six years in funding for road improvements, water and sewer system upgrades, and other municipal services. Roadway improvements are anticipated to receive approximately $73.5 million in funding allocation for the six-year SPLOST. The proposed roadway improvements include Spout Springs Phase II and the Sardis Road Connector, as well as several other intersection and traffic safety improvements. There are currently no planned projects outlined in the SPLOST program within the study area.

2.1.2 Statewide Plans

This section summarizes the current statewide plans relevant to the SR 365 Planning Study, including:

- 2050 Statewide Transportation Plan (SWTP)/ Statewide Strategic Transportation Plan (SSTP);
- Georgia Freight Plan (2023);
- Statewide Transit Plan (2020); and
- State Rail Plan (2021).

2.1.2.1 2050 Statewide Transportation Plan

The *Georgia 2050 SWTP* is GDOT's multimodal long-range transportation plan that assesses the current and future performance of major transportation modes (roads, bridges, railways, seaports, airports, transit services, and trails) in the state and the strategic business case for transportation investment.[13] The SWTP includes the GDOT *2021 SSTP* and serves as the state's official comprehensive, fiscally constrained, intermodal transportation plan, which includes programs and other activities to support implementation of the state's strategic transportation goals and policies.[14] This plan outlines the strategic goals, anticipated population growth, demographic changes, and continued economic development in Georgia that will guide the State in its investment into the transportation network. The *2050 SWTP* identifies how GDOT will invest in Georgia's transportation network and advance transportation planning efforts to enact the Governor's statewide strategic goals, as shown in **Table 2-1** and centers around three critical investment categories: Foundational, Catalytic, and Innovation.

Table 2-1 Governor's Strategic Goals and GDOT Priorities

Governor's Strategic Goals	GDOT Priorities
Make Georgia #1 for Small Business	• Expand Georgia's role as a world-renowned hub for global commerce • Develop a skilled workforce to meet current and future needs across the industry spectrum • Ensure taxpayers can easily navigate and find necessary information through government interfaces
Reform State Government	• Maximize taxpayer value with conservative budgeting

[12] Hall County. Hall County SPLOST VIII, 2019. https://www.hallcounty.org/398/SPLOST-Law
[13] GDOT. Statewide Transportation Plan, 2021. http://www.dot.ga.gov/InvestSmart/SSTP/GDOT_FINAL_2021SSTP-2050SWTP.pdf
[14] GDOT. Statewide Strategic Transportation Plan, 2021. http://www.dot.ga.gov/InvestSmart/SSTP/GDOT_FINAL_2021SSTP.pdf

Governor's Strategic Goals	GDOT Priorities
	• Expand public-private partnerships and leverage technology to best utilize limited state resources
Strengthen Rural Georgia	• Increase rural broadband access for economic growth • Deploy regional strike teams to areas with economic challenges or decreasing populations to collaborate with local leaders and seek opportunities for growth
Put Georgians First	• Improve transportation safety and security

2.1.2.2 Georgia Freight Plan (2023)

GDOT updated the *Georgia Freight Plan* in 2023 in coordination with other statewide plans and studies.[15] The *Georgia Freight Plan*, along with guidance from the SSTP, will determine the need for additional freight programs and partnerships, as well as investments and improvements needed to the railroad system in Georgia.

The previous *2018 Statewide Freight and Logistics Plan* provides several statewide recommendations including update the *State Rail Grade Crossing Safety Action Plan*, identify strategies for improving intermodal connectivity, continue evaluating options to improve freight movement in critical areas, and explore discretionary federal funding opportunities.[16] Items related to the study area include:

- Norfolk Southern rail line identified as a current bottleneck; and
- I-985 identified as a statewide freight corridor.

2.1.2.3 Statewide Transit Plan (2020)

The *Statewide Transit Plan* (SWTRP), completed in 2020, charts the future direction of transit programs through 2050 and aims to improve access and connectivity, with a particular focus on rural and small urban communities.[17] The plan notes that Georgia's demographic and economic trends highlight the need and opportunity for improving and expanding transit service in these communities. The SWTRP *Transit Needs Assessment Report* identifies key transit priorities for Hall County, which include addressing vehicle maintenance, service communications, and a variety of transit needs in both the City of Gainesville and rural Hall County. The areas projected to have the highest need for transit services include central Hall County, the City of Gainesville, and areas near SR 369. The SWTRP's regional assessment identifies a need for new commuter service between Hall County and Gwinnett County to accommodate the growing number of commuting trips between the two counties and the greater Atlanta metropolitan area.

2.1.2.4 State Rail Plan (2021)

The *State Rail Plan* was completed by GDOT in 2021 and provided updates on rail conditions and identified short- and long-term opportunities for investment.[18] These investment opportunities include upgrades to GDOT-owned rail lines to address the increasing demand for passenger and freight rail services, which ensures economic competitiveness as well as investments in operational improvements to maximize the efficiency of the rail network and multimodal connections. Within the study area, Norfolk Southern owns and operates a rail line to the

[15] GDOT. Georgia Freight Plan Update, 2022. https://www.dot.ga.gov/GDOT/Pages/Freight.aspx
[16] GDOT. Railroad Safety Program, 2022. https://www.dot.ga.gov/GDOT/Pages/RailroadSafety.aspx
[17] GDOT. Statewide Transit Plan, 2020. https://www.dot.ga.gov/GDOT/Pages/TransitPlan.aspx
[18] GDOT. State Rail Plan, 2021. https://www.dot.ga.gov/GDOT/pages/StateRailPlan.aspx

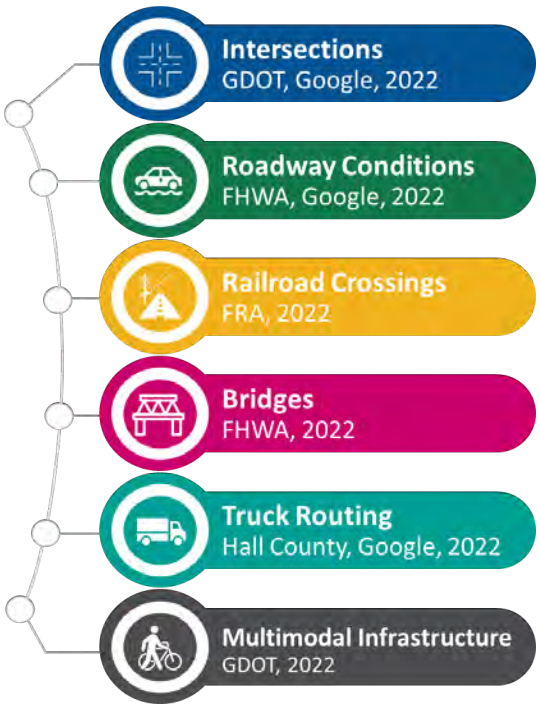
northwest of SR 365 from Jesse Jewell Parkway to SR 52/Lula Road. Within the study area, Amtrak's Crescent line provides passenger rail service utilizing the Norfolk Southern rail line to a station in Gainesville. The proposed Blue Ridge Connector is identified in the State Rail Plan as a future opportunity for providing an efficient freight connection between northeastern Georgia and the Port of Savannah.

2.1.3 Key Takeaways from Relevant Studies

As evident by the previously summarized studies, local jurisdictions have conducted several planning and design efforts in the past decade, resulting in transportation improvements, land use changes, and economic growth. Specifically, within the study area, several intersection and safety enhancements have been completed on SR 365. The following are the key takeaways from the previous plans and efforts:

- SR 365 is a critical travel corridor for commuting and freight in Hall County and northeastern Georgia.
- Previously identified projects surrounding the SR 365 corridor include intersection improvements, ITS and operational modifications, and upgrades to parallel roadway networks.
- The SR 365 corridor is identified as a key job growth corridor for business and industry development, including the proposed Blue Ridge Connector.
- Several identified projects have been completed or are currently underway with identified design and construction funding, indicating this corridor is a priority for safety and operational improvements.

2.2 Roadway Characteristics



This section presents SR 365's current roadway characteristics, including intersection types and pavement, and major infrastructure assets, such as railroad crossing locations, bridge locations and conditions, truck routes, and multimodal infrastructure such as sidewalks and bicycle lanes. This information highlights any deficiencies in the road network, providing insight into areas in need of potential infrastructure improvements. The information was gathered from a variety of sources including publicly available databases, such as the FHWA and Federal Railroad Administration (FRA) databases, and community stakeholders.

Within the study area, the majority of SR 365 is designed as a four-lane divided roadway with a grass median and intermittent turn lanes at intersections and has a speed limit of 65 miles per hour. Along with the state route designation, SR 365 is also designated as US 23. SR 365 is functionally classified as an Interstate Highway by FHWA from I-85 to the I-985 terminus at Jesse Jewell Parkway and as a Freeway or Expressway between the I-985 terminus at Jesse Jewell Parkway and Howard Road at the southern end of the study area. North of Howard Road, SR 365 is functionally classified as a Principal Arterial, or a roadway that provides a high degree of mobility while also including driveways to parcels and at-grade intersections.[19] These classifications are based on the limited-access nature of SR 365 south of Howard Road, which prevents at-grade roadway access, compared to SR 365 north of Howard Road, which has many at-grade intersections and crossings.

[19] FHWA. Highway Functional Classification, 2017. https://www.fhwa.dot.gov/planning/processes/statewide/related/highway_functional_classifications/section03.cfm#Toc336872980

Within the study area, the corridor is primarily surrounded by rural and low-density land uses, including agriculture, single-family residential, and warehousing. Given its proximity to industrial development, SR 365 serves as a major throughfare for truck freight traffic. The SR 365 corridor has no at-grade railroad crossings, although there are several adjacent roadways that intersect the Norfolk Southern line parallel to SR 365. Transit service within Hall County is provided through a microtransit, or demand response model, and therefore no fixed route bus services operate along the study corridor. There are no existing bicycle and pedestrian facilities on SR 365.

2.2.1 Intersections

There are 14 signalized intersections within the study area, including four signals along SR 365. The four signalized intersections along SR 365 include Howard Road, Ramsey Road, White Sulphur Road, and SR 52. All four signals are also included in GDOT's MaxTime for local traffic signal controlling firmware and MaxView for central traffic signal management software.[20] MaxTime and MaxView are software used to operate and monitor traffic control devices.

As seen in **Figure 2-5**, a majority of the signalized intersections are concentrated in the southern portion of the study area that is closer to Gainesville. A total of six intersections are designed as U-turn only locations with no side roads. There are eight unsignalized intersections within the study area, primarily concentrated in the northern portions of the corridor.

[20] GDOT. Statewide Traffic Operations and Response Management Program, 2019. https://tetcoalition.org/wp-content/uploads/2019/11/GDOT_STORM-Concept-of-Operations-Signal-Operations.pdf

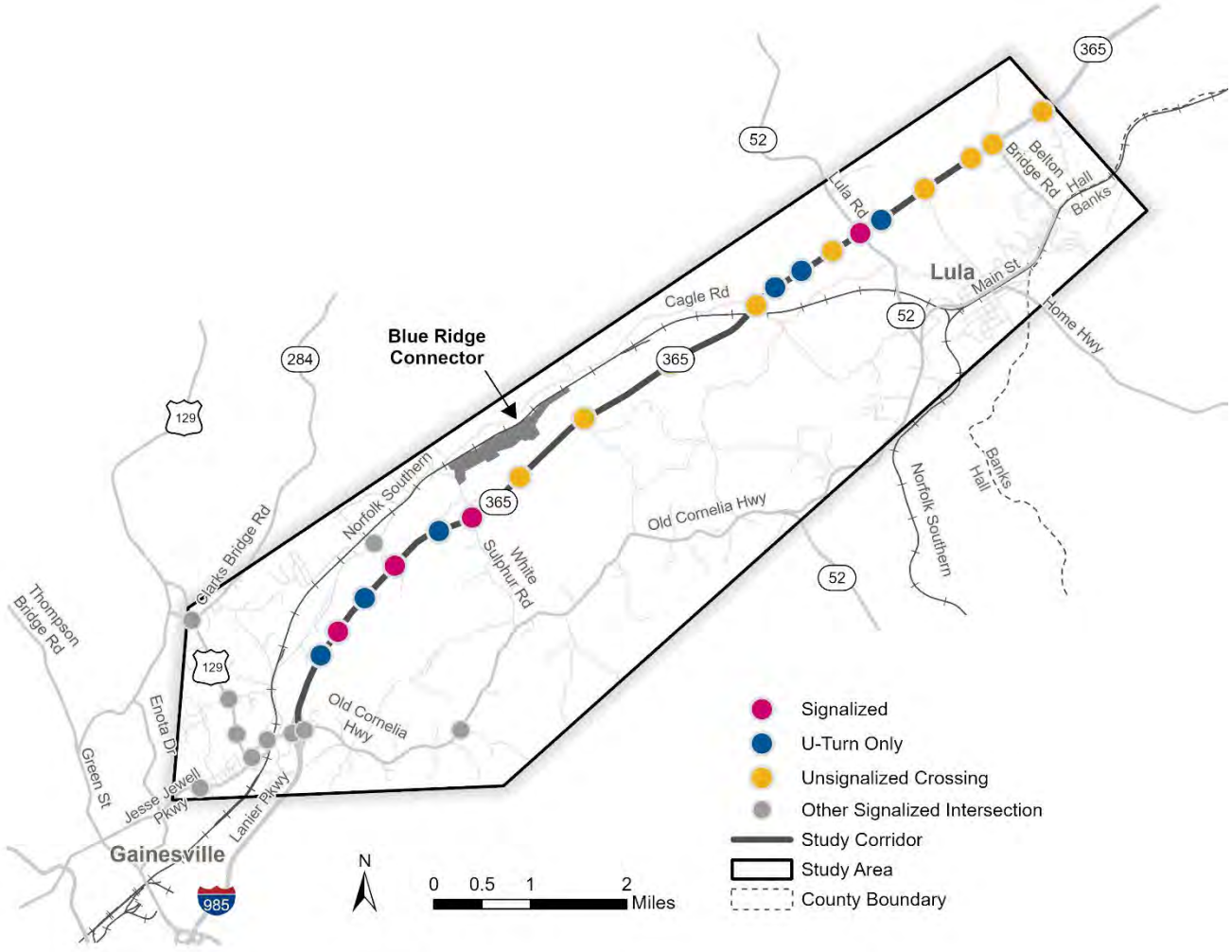


Figure 2-5 Intersections by Type in SR 365 Study Area *Data Source: GDOT, Google Streetview, 2022*

2.2.2 Roadway Conditions

Data regarding roadway conditions, including pavement status of public roadways, were also collected to illustrate the overall network connectivity and accessibility within the SR 365 study area. Based on data retrieved from FHWA and verified via Google Streetview, 93 percent of the roadway miles within the study area are paved. Most of the unpaved roads, shown in **Figure 2-6**, are primarily dead-ends or cul-de-sacs that provide local access to residential or agricultural uses. A few unpaved roadways offer through access and alternate connections, including unpaved portions of Cagle Road, Whitehall Road, and Cagle Mill Road.

While there are many adjacent and intersecting roadways in the area, few roads offer parallel routes to SR 365. Considering alternate and redundant route options for vehicles and trucks is critical to providing a resilient road network; particularly if SR 365 were to be obstructed during an emergency. Old Cornelia Highway is the primary parallel corridor to SR 365 within the study area connecting Gainesville to Lula, intersecting SR 365 at the Jesse Jewell Parkway and I-985 interchange. Multiple roads provide north-south connectivity between the two corridors; however, some remain unpaved and restricted to trucks. White Sulphur Road and Cagle Road also parallel SR 365 for approximately 7 miles. Cagle Road has

multiple at-grade railroad crossings. Further, sections of Cagle Road and Whitehall Road are unpaved, which could serve as alternate routes in the study area should they become paved in the future. Hall County currently has plans to realign White Sulphur Road to create approximately 0.75 miles of commercial roadway and to pave approximately 1.25 miles of Cagle Road to improve safety and driver experience. Both projects are expected to be completed and open to traffic by 2026.[21]

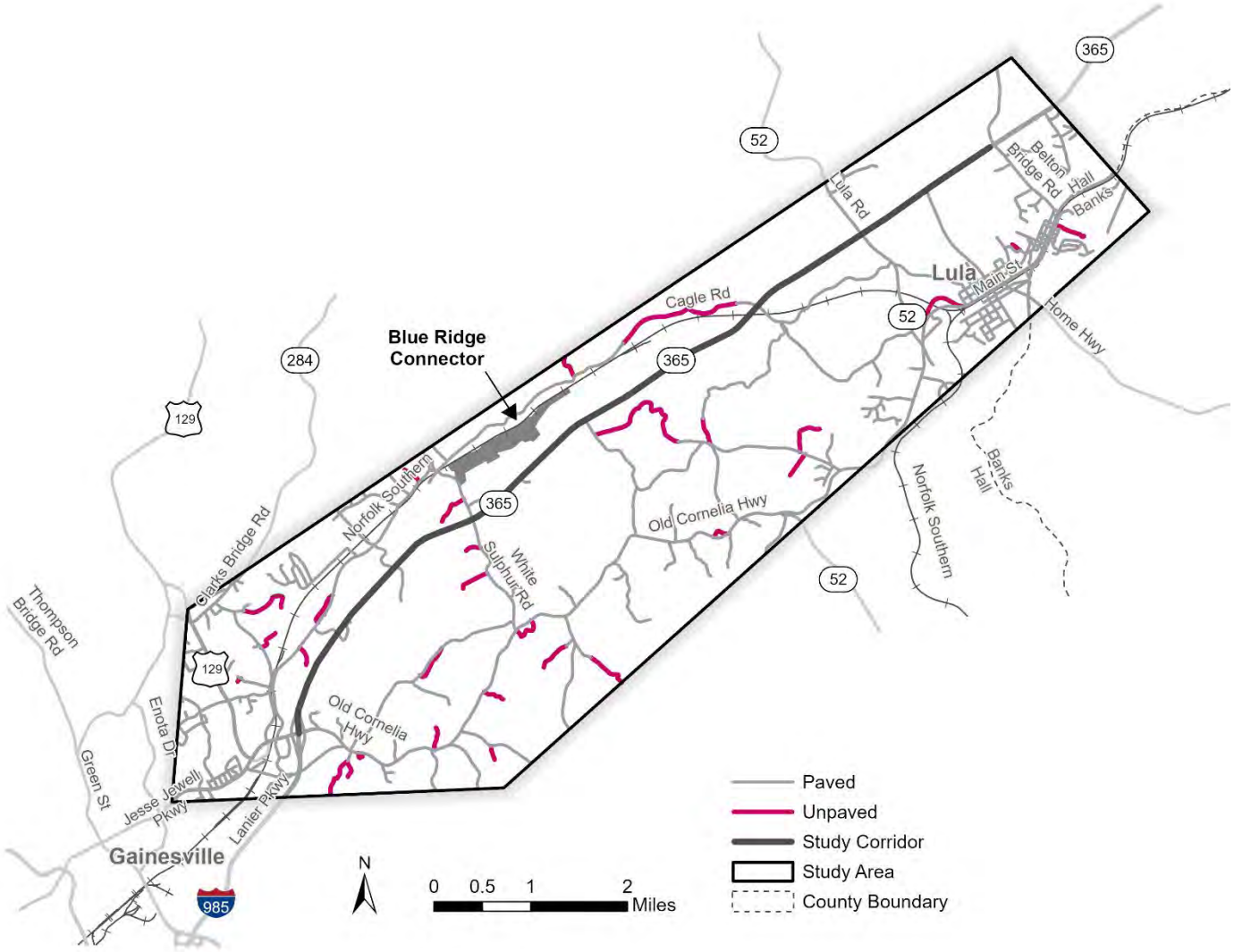


Figure 2-6 Roadway Surface Type Within SR 365 Study Area *Data Source: FHWA, Google Streetview, 2022*

2.2.3 At-Grade Railroad Crossings

There are 15 at-grade railroad crossings in the study area, as identified by FRA, nine of which are along publicly accessible roadways (shown in **Figure 2-7**). There are no at-grade railroad crossings along SR 365. Norfolk Southern is the owner and operator of the railroad within the study area. Based on 2021 FRA data, approximately 17 freight trains operate on the corridor: 11 during daytime hours (6:00 AM to 6:00 PM) and six during night hours (6:00 PM to 6:00 AM). The number of freight trains operating in the corridor will likely increase once the Blue Ridge Connector open as investments have been made to link the inland port to the Port of Savannah using

[21] Hall County. Inland Port (Blue Ridge Connector). https://www.hallcounty.org/1181/Inland-Port-Blue-Ridge-Connector

Norfolk Southern Railroad.[22] Amtrak Crescent also operates along the railroad with one train in each direction daily.

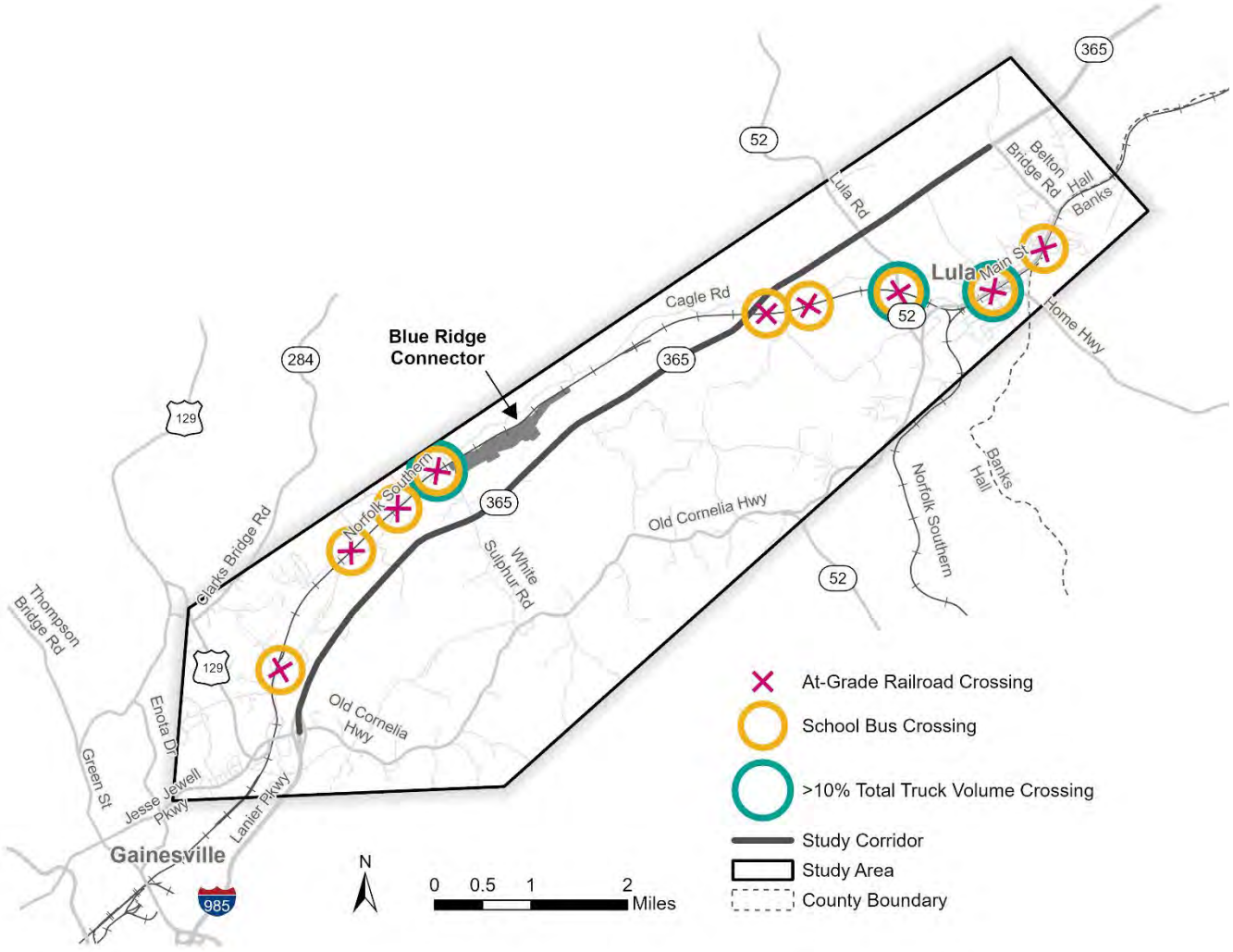


Figure 2-7 At-Grade Railroad Crossings Along Publicly Accessible Roads *Data Source: FRA 2021*

[22] Georgia Ports Authority. GPA invests in rail connections, terminal capacity, 2023. https://gaports.com/press-releases/gpa-invests-in-rail-connections-terminal-capacity/

The study area's nine at-grade railroad crossings along public roads have advanced warning systems, pavement markings, and mast-mounted flashing lights with gates that close when trains are approaching and crossing. Additionally, all at-grade public road crossings are equipped with train detection technology to allow a warning time of at least 20 seconds prior to train crossing, according to FRA regulations. The typical train speed when crossing all at-grade crossings within the study area ranges from 50 to 60 miles per hour. Five of these public at-grade crossings are single-track crossings, three are double-track crossings, and one is a three-track crossing in Lula. Two of the at-grade railroad crossings will be eliminated with a proposed Hall County project to realign White Sulphur Road. Additional details about this project are provided in Section 5.

All nine at-grade crossings were identified by FRA to be along school bus routes. The at-grade crossing at SR 52 has the highest number of school bus crossings per day, at an estimated 11 daily school bus crossings. It should be noted that Hall County Schools may be rerouting buses with a proposed new school. Based on the GHMPO TDM that was used for the SR 365 study (refer to Section 2.4 for information on modeling), the two at-grade railroad crossings with the highest total daily vehicle volumes are at White Sulphur Road near Gainesville and SR 52 near Lula, with each crossing averaging over 5,000 daily vehicles. **Figure 2-8** shows the crossing at White Sulphur Road.

Figure 2-8 At-Grade Railroad Crossing at White Sulphur Road

Based on data obtained through GDOT's Numetric crash database, 53 crashes located near at-grade railroad crossings were reported from 2017 to 2021 within the study area.[23] No crashes were reported directly along SR 365 as no at-grade railroad crossings are present on the corridor. Of the 53 reported crashes, there were no fatalities and two crashes involving minor injuries. 40 of the crashes were reported near the intersection of White Sulphur Road and Crescent Drive, which is adjacent to the at-grade railroad crossing in that area. An additional 11 crashes were reported near the intersection of Athens Street and Main Street in downtown Lula. The remaining two occurred on Cagle Road south of SR 365 and 8th Street in Lula. There were no indications that any of the crashes could be attributed to an active crossing.

[23] GDOT. Numetric Dashboard. https://support.numetric.com/en/articles/4606870-gdot-crash-data-dashboard-overview

2.2.4 Bridges

There are 16 bridges in the study area, as identified by FHWA in the National Bridge Inventory. Two of the 19 bridges are along the SR 365 corridor itself and provide above-grade crossings of the Norfolk Southern railroad tracks. All bridge locations are shown in **Figure 2-9**. Most bridges are in good condition, apart from two state owned bridges near Lula. The bridge in fair condition is owned by the State Road and Tollway Authority (SRTA) and the bridge in poor condition is owned by GDOT.

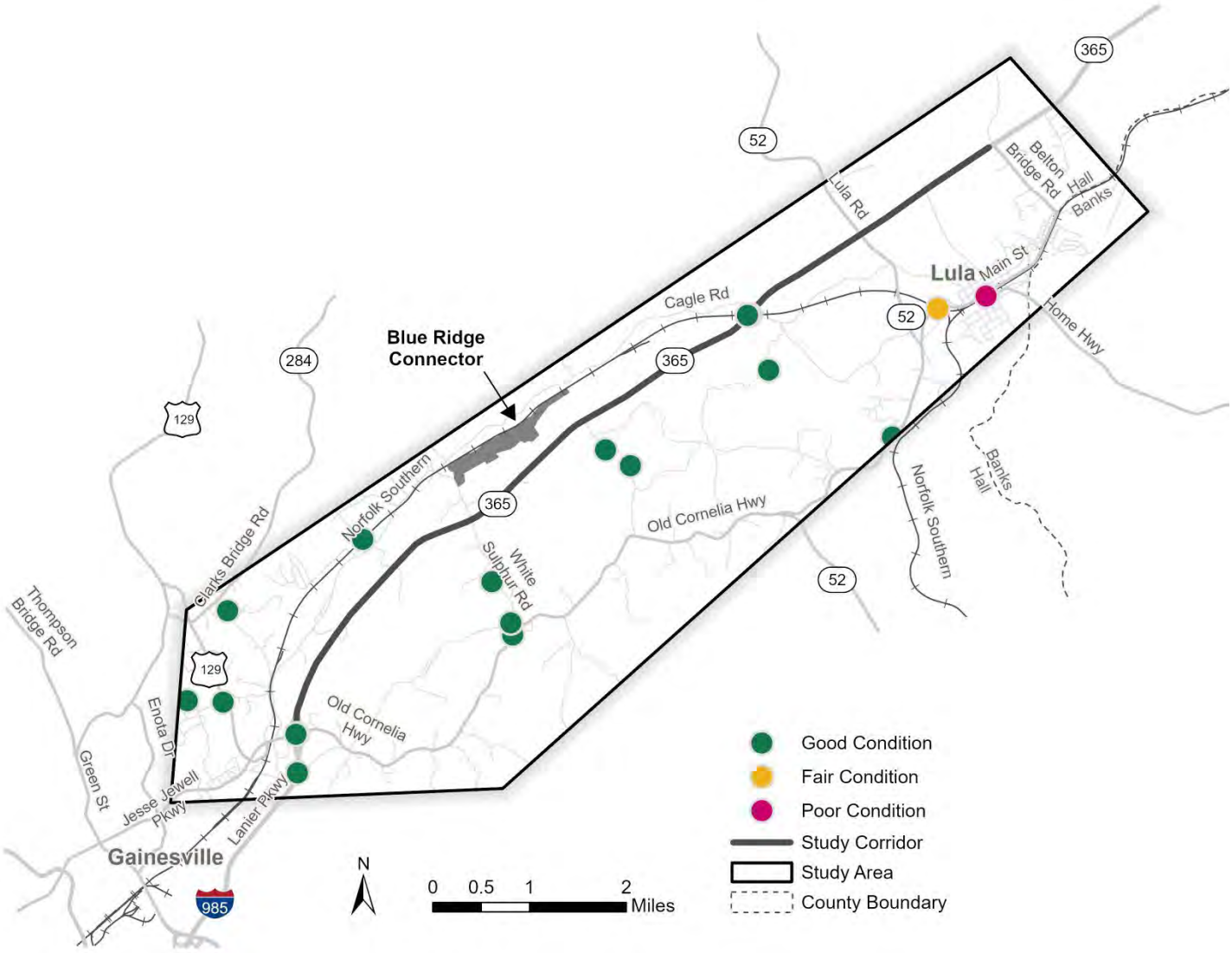


Figure 2-9 Bridge Locations Within the SR 365 Study Area *Data Source: FHWA 2022*

2.2.5 Truck Routing

Truck routing throughout the study area is a critical priority for many businesses and industrial uses scattered along SR 365. The GHMPO *Comprehensive Plan* illustrates character areas and land uses that support industrial development, which implies that more truck-related businesses will locate in the study area. Additional details regarding proposed developments are provided in Section 3.1.2. Given the presence of trucks, there are many truck restriction signs throughout the study area, some of which are located at roads intersecting SR 365.

Adopted in 2020, Hall County implemented a “No Through Truck” ordinance, which restricts trucks from using public roads within unincorporated Hall County except those authorized as truck routes. Restricted vehicles must remain on designated truck routes unless their destination is located on an unauthorized roadway, in which case trucks should progress on the most direct route available from the nearest designated truck route.[24]

Designated “No Through Truck” roads that intersect SR 365 within the study area include White Sulphur Road, Whitehall Road, portions of Cagle Road, and Athens Street. These “No Through Truck” roads will not impact the planned inland port. Restrictions along White Sulphur Road and Whitehall Road are on the southeastern side of SR 365, not the north, where the inland port is going. Cagle Road is a dirt road and is intended for residential use, not as an entrance/exit street for inland port traffic.

Figure 2-10 Truck Restriction Sign at SR 365 and Whitehall Road

Most signs restrict through trucks with 10 wheels or more. **Figure 2-10** shows an example of one such sign.

[24] Hall County. Code of Ordinances, 2022. https://library.municode.com/ga/hall_county/codes/code_of_ordinances?nodeId=PTIOFCO_TIT10VETR_CH10.20VESIWERE_10.20.030REVE

Figure 2-11 shows where additional signage restricting truck access can be found in the study area.

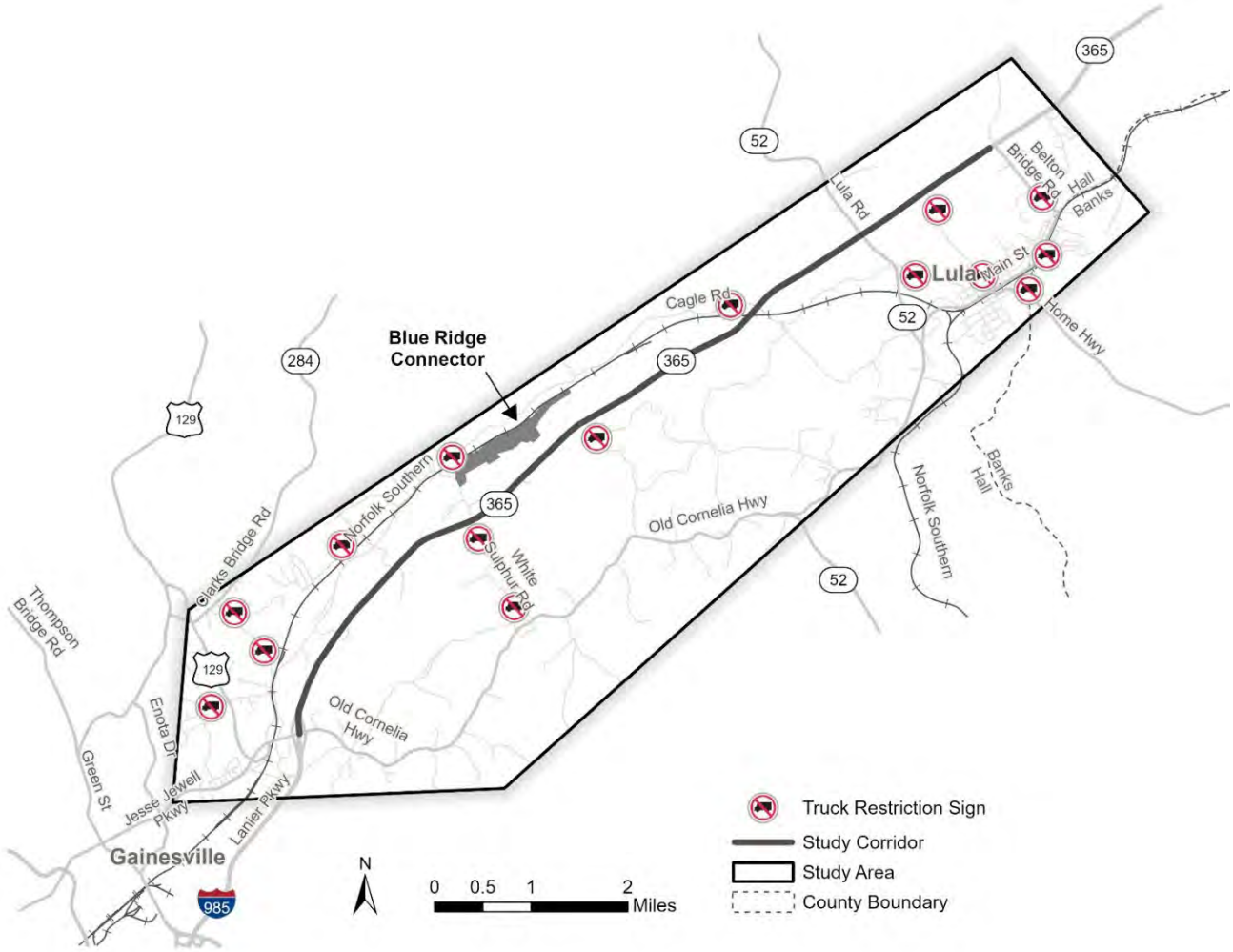


Figure 2-11 Truck Restriction Signage Within SR 365 Study Area *Data Source: Google Streetview, 2022*

2.2.6 Multimodal Infrastructure

SR 365 is a principal arterial with a speed limit of 65 miles per hour, which is not suitable for bicycle and pedestrian infrastructure; except for a few limited crosswalks at some signalized intersections including YMCA Drive/Lanier Tech Drive, Ramsey Road, and White Sulphur Road. However, there are no sidewalks leading to the existing crosswalks.

Beyond SR 365 within the study area, there are some isolated existing sidewalks in downtown Lula, around site developments such as gas stations and Lanier Technical College, and one state-designated bicycle route, the Appalachian Gateway Bike Route, which is shown in **Figure 2-12**. The Appalachian Gateway Bike Route crosses into the southwestern portion of the study area along Jesse Jewell Parkway, White Sulphur Road, Pine Valley Road, and Clarks Bridge Road. There are currently no designated bicycle facilities (e.g., bicycle path, bicycle lanes, bicycle crossings) on the designated bike route or signage within the study area to indicate the route.

As discussed in Section 2.1.1, the *2014 GHMPO Bicycle and Pedestrian Plan Update* proposes additional bicycle and pedestrian-related projects within the study area, including bicycle lanes along SR 52 to connect to a larger trail system, which intersects with SR 365, and an east-west corridor study to determine route and facility type

feasibility along Old Cornelia Highway. Some of these recommendations may no longer be applicable due to the changing landscape of the study area.

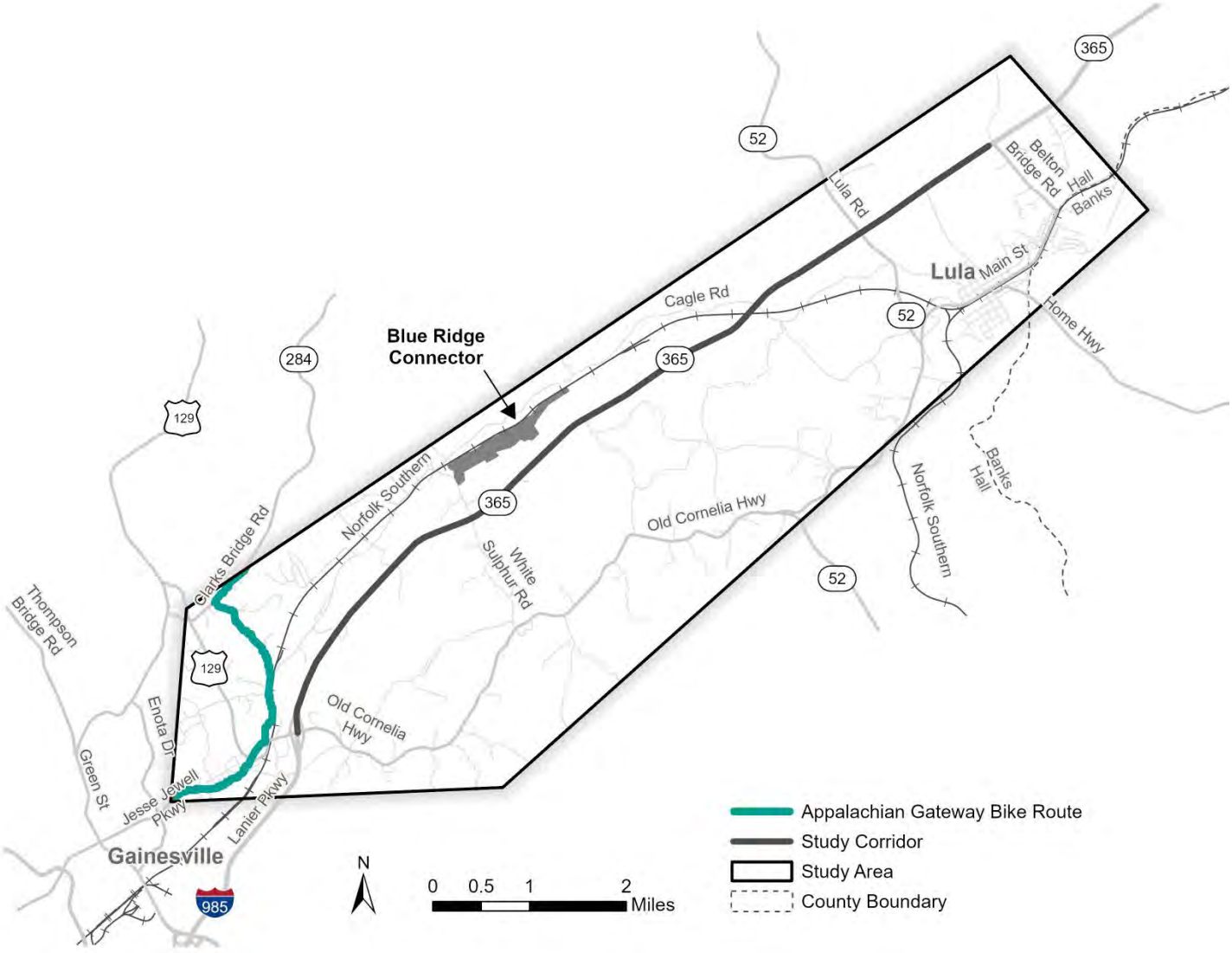


Figure 2-12 Designated Bicycle Routes Within the SR 365 Study Area *Data Source: GDOT 2022*

2.3 Community and Environmental Attributes

This section presents the community and environmental attributes within the SR 365 study area, including demographics, equity considerations, community facilities, and existing land use. The data presented was obtained from federal and local sources and contribute to an understanding of the climate of the community. Data can help determine whether the study area is a large employment area or mostly residential, if any special considerations are necessary for disadvantaged communities, if there are any environmental factors that could impact the feasibility of transportation projects, and identify destinations, such as parks, where connections should be enhanced.

The study found that the corridor is utilized by commuters and freight trucks, as well as those traveling to the area for recreation. The corridor also provides access to several commercial and industrial developments, including the Blue Ridge Connector. Additionally, the study area includes disadvantaged communities.

2.3.1 Demographics and Employment

The demographic data were obtained primarily from the U.S. Census Bureaus' 2020 American Community Survey (ACS) and 2019 Longitudinal Employer-Household Dynamics (LEHD). Based on 2020 ACS estimates, the study area has a population of 7,673 or approximately 3.8 percent of the total Hall County population. There are 4,036 employed residents and a total of 8,250 jobs – or 8.4 percent of Hall County's 97,860 jobs – within the study area. Demographic characteristics are summarized in **Figure 2-13**.

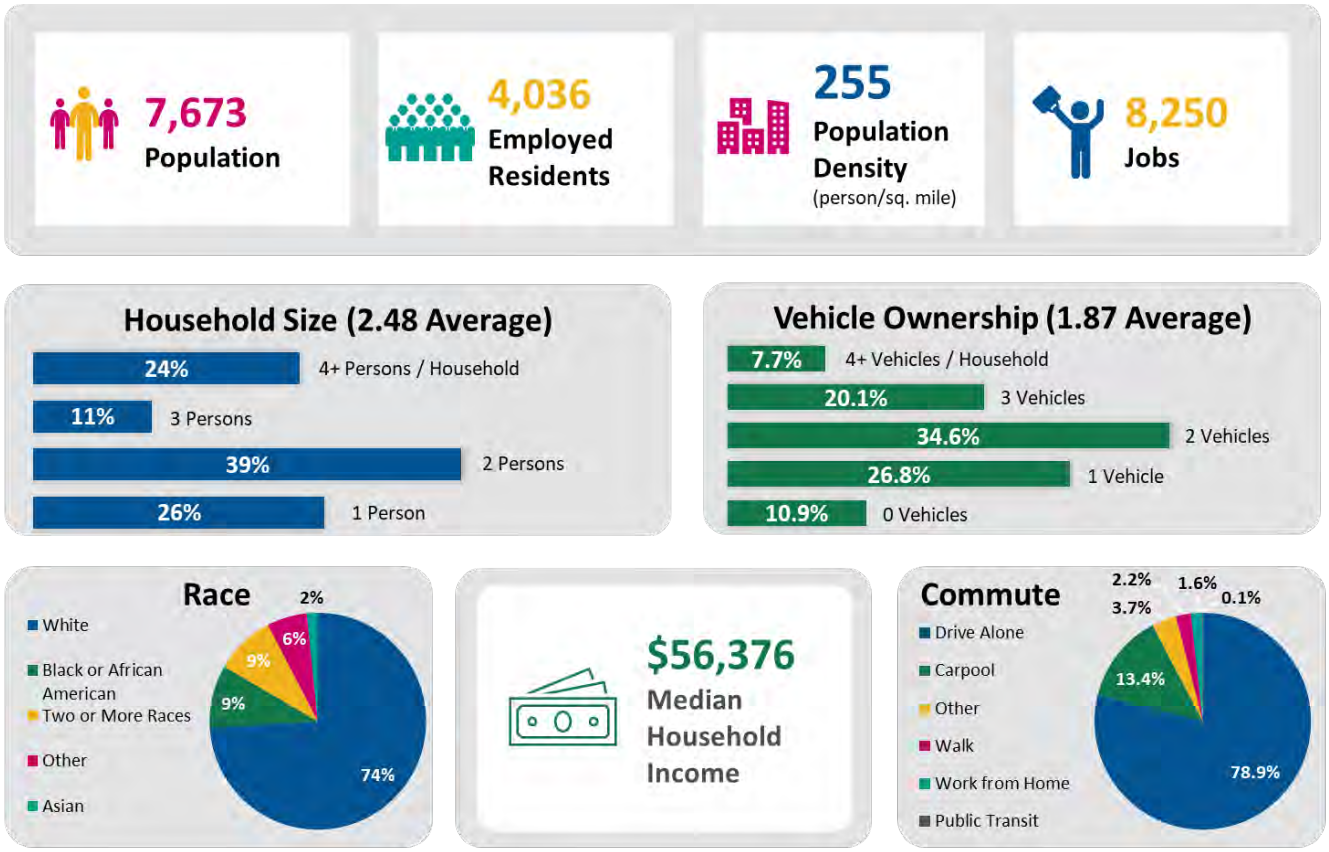


Figure 2-13 Study Area Demographic Characteristics *Data Source: ACS 2020; LEHD 2019*

In 2020, the southwestern portion of the study area, including northeastern portions of the City of Gainesville, had the greatest population density with more than 500 people per square mile.[25] The remaining portions of the study area were in a more industrial and agricultural portion of Hall County and thus were much less densely populated, averaging 255 people per square mile. Population density patterns of the study area are shown in **Figure 2-14**.

[25] US Census Bureau. American Community Survey Data, 2020. https://www.census.gov/programs-surveys/acs/data.html

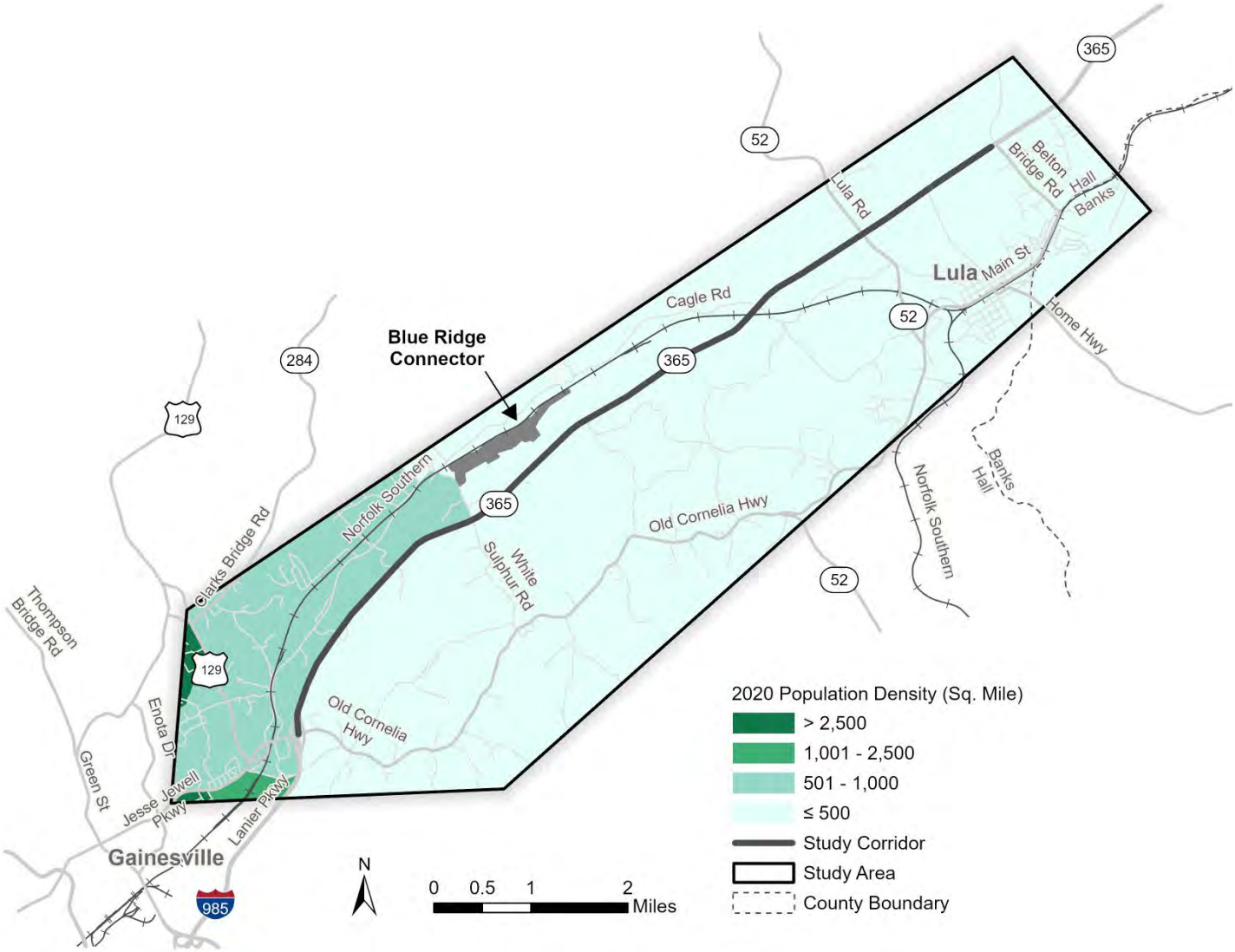


Figure 2-14 2020 Population Density *Data Source: ACS 2020*

Within the last 40 years, Hall County has experienced rapid population growth, with an average population increase of 28 percent each decade since 1980, as shown in **Figure 2-15**. Hall County's total population grew by 125,000 residents from 1980 through 2020 – a 169 percent growth over the 40-year period. GHMPO's 2020 *Regional Transportation Plan* projects the county's population to reach more than 380,000 by 2050.[26]

[26] GHMPO. Regional Transportation Plan 2020 Update, 2020. https://www.ghmpo.org/planning-documents/regional-transportation-plan/gainesville-hall-regional-transportation-plan-2020/

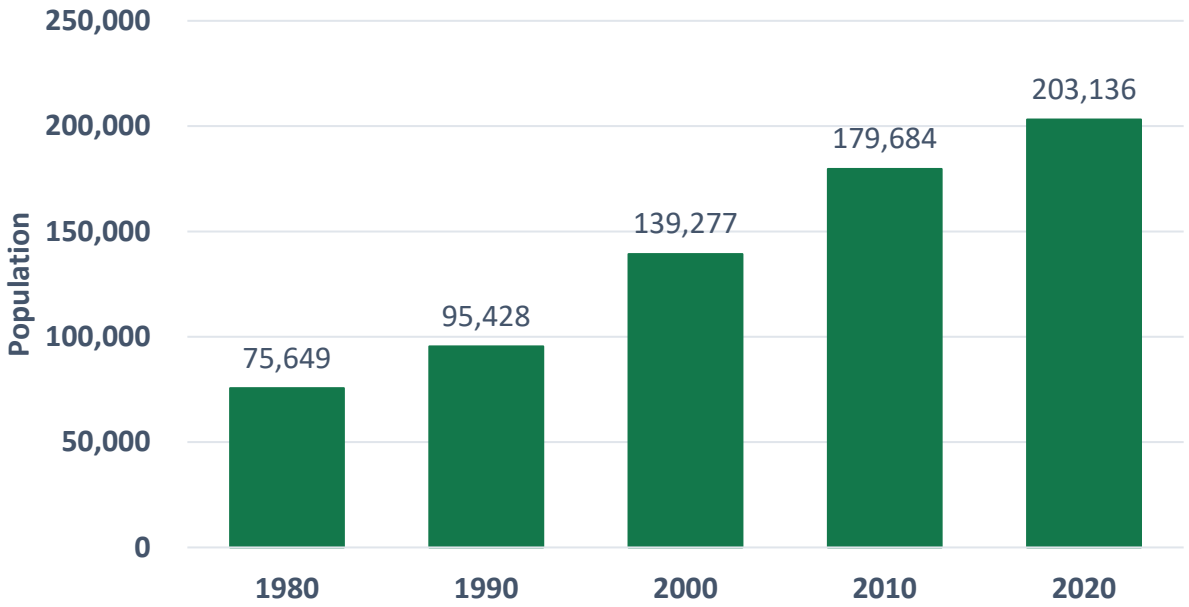


Figure 2-15 Hall County Historical Population Growth *Data Source: US Census 1980-2020*

The study area's employment characteristics were obtained for 2019 to provide an overview of conditions prior to the Corona Virus Disease (COVID) pandemic. The study area's employment concentration follows a similar trend as its population, as illustrated in **Figure 2-16**. Jobs are most concentrated in the southwestern portion of the study area and less concentrated in rural areas. These job densities can be attributed to major employers in the area, including Kubota Manufacturing of America, Lanier Technical College, and a retail shopping center along Jesse Jewell Parkway. The study area's top five employment types—comprising nearly 85 percent of the area's total employment—are as follows:

- Manufacturing (34 percent);
- Health Care and Social Assistance (19 percent);
- Administrative and Support and Waste Management and Remediation Services (13 percent);
- Educational Services (12 percent); and
- Transportation and Warehousing (7 percent).

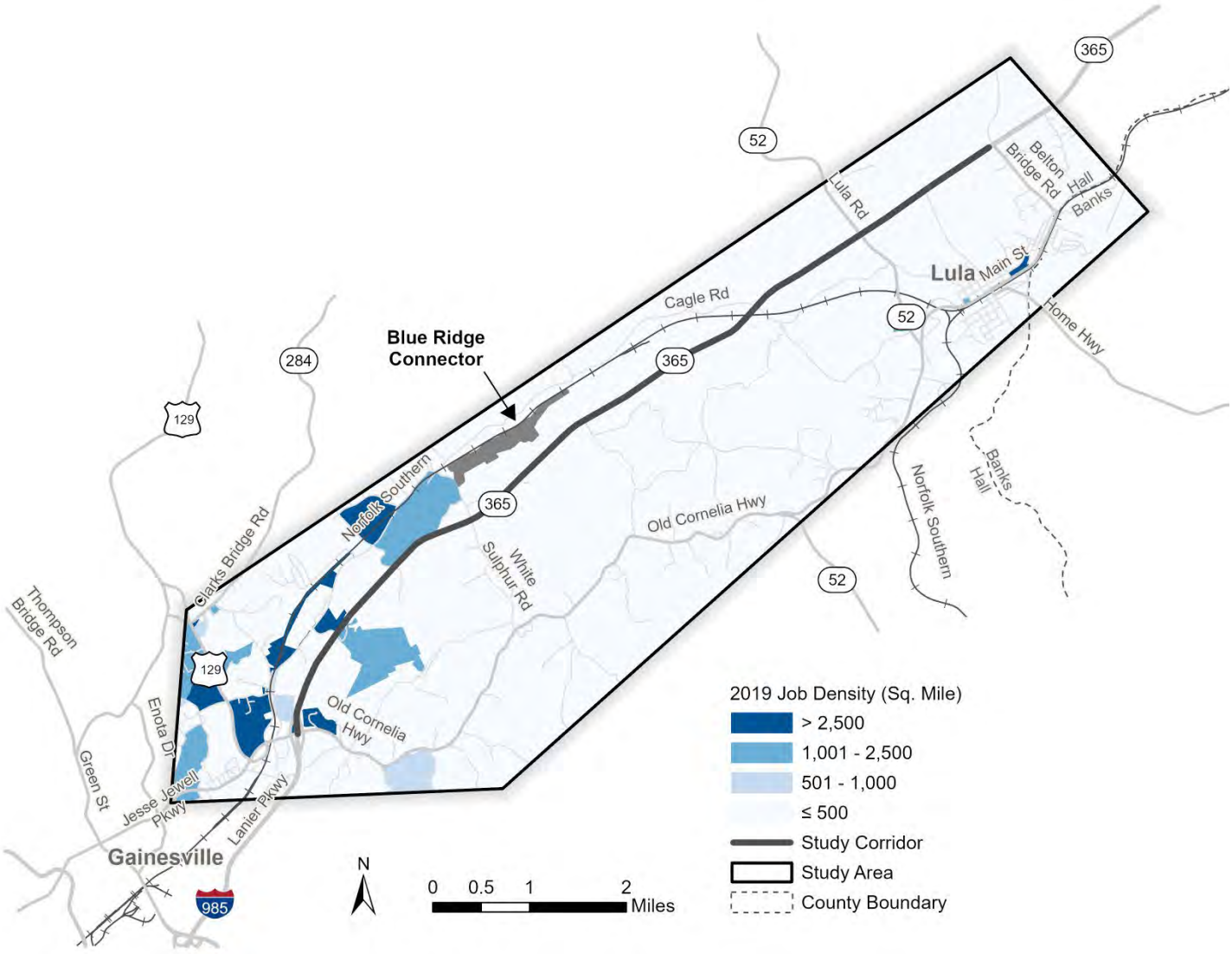


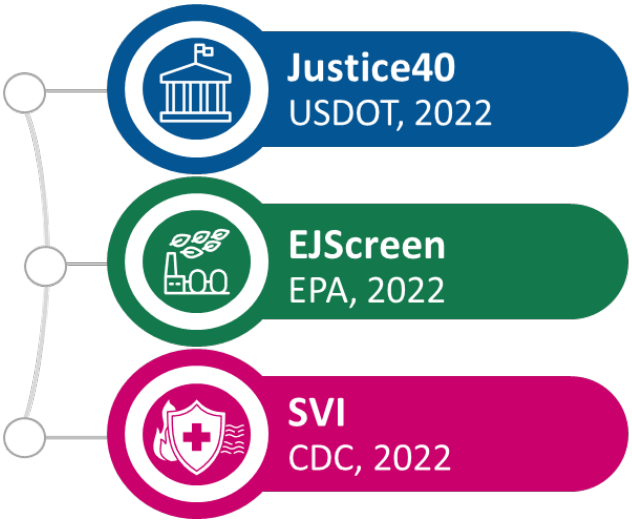
Figure 2-16 2019 Employment Density *Data Source: LEHD 2019*

2.3.2 Equity

The study area is demographically and socioeconomically diverse. This section presents information based on guidance from federal initiatives and tools including (1) the Justice40 Initiative, (2) Environmental Protection Agency's Environmental Justice Screen (EPA EJScreen), and (3) Centers for Disease Control Social Vulnerability Indicators (CDC SVIs). These initiatives and tools were used to identify vulnerable and underserved communities within the study area, and this information was used to inform the outreach efforts of the study and to identify areas that would be eligible for specific federal funding opportunities, such as funds associated with the Justice40 Initiative.

2.3.2.1 Justice40 Initiative

"The Biden-Harris Administration created the Justice40 Initiative to confront and address decades of underinvestment in disadvantaged communities."[27] The Justice40 Initiative, authorized under Executive Order 14008 and signed on January 27, 2021, aims to deliver 40 percent of all benefits of federal investments to climate and clean energy, including sustainable transportation and disadvantaged communities.[23] Following the Executive Order, in August 2022 the U.S. Department of Transportation (USDOT) developed and implemented interim guidance to define and identify disadvantaged communities (DACs) to be used in connection with certain criteria under Justice40-covered grant programs. The guidance utilizes 22 indicators, which are then grouped into six categories of transportation disadvantage as follows:



- Transportation Access;
- Health;
- Environmental;
- Economic;
- Resilience; and
- Equity.

These categories help to identify whether residents within census tracts experience longer travel times, greater risks to health and environmental exposures (such as air pollutants), higher poverty rates, lower education attainment, and higher rates of language barriers.

The DAC classification is assigned at the census tract level and a community is considered disadvantaged if it is in the 50th percentile (meaning 50 percent or more of the population meets the indicators) for four or more of the six categories. Five of the seven census tracts within the study area are classified as disadvantaged by the Justice40 initiative and are shown in **Figure 2-17**. All five DAC census tracts are considered disadvantaged based on the transportation, health, economic, and equity indicators. Meaning, residents within those census tracts may be subject to longer travel times to reach destinations, greater risk of adverse health outcomes and environmental exposure, higher poverty rates and lower educational attainment, and higher rates of linguistic isolation. Additionally, these factors may influence transportation decision-making. For example, families with lower income levels are much less likely to have reliable access to an automobile and may limit their trips to those deemed essential.[28] Furthermore, low-income, disabled, and limited-English proficiency households typically rely on public transit, or other means of travel other than a private automobile, at a much greater rate.[29]

[27] USDOT. Justice40 Initiative, 2021. https://www.transportation.gov/equity-Justice40
[28] Bureau of Transportation Statistics. Travel Patterns with Disabilities, 2024. https://www.bts.gov/travel-patterns-with-disabilities
[29] Transportation Research Board. Travel Patterns of the Low Income, 2018. https://onlinepubs.trb.org/onlinepubs/Conferences/2018/NHTS/BanerjeeTravelPatternsofLowIncomeHouseholds.pdf

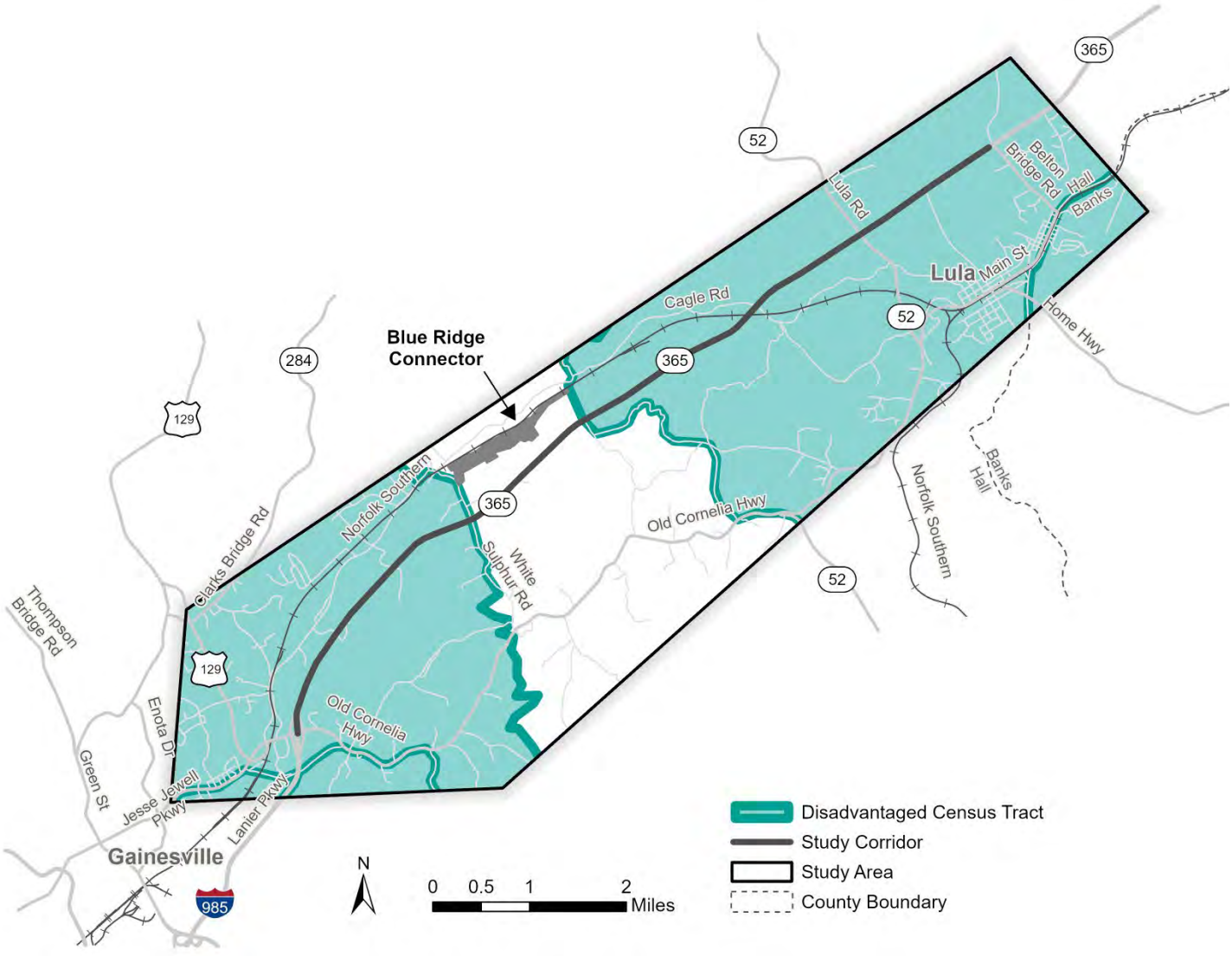


Figure 2-17 Disadvantaged Census Tracts Identified by Justice40 *Data Source: USDOT Interim Guidance, 2022*

2.3.2.2 EPA EJScreen

EPA's Environmental Justice (EJ) mapping and screening tool, EJScreen, identifies areas with EJ populations, which include people of color, people with low incomes, populations exposed to potential environmental quality issues, and other environmental and demographic indicators that may indicate environmental and health risks.[30] The tool uses percentiles or percent of the population that are affected by the indicators. The environmental and demographic indicators include:

[30] EPA. EJScreen. https://www.epa.gov/ejscreen/what-ejscreen

Environmental

- Particulate matter 2.5
- Ozone
- Diesel particulate matter
- Air toxics cancer risk
- Air toxics respiratory hazard index
- Traffic proximity and volume
- Lead paint
- Superfund proximity
- Risk management plan facility proximity
- Hazardous waste proximity
- Underground storage tanks and leaking underground storage tanks
- Wastewater discharge

Demographic

- People of color
- Low income
- Unemployment rate
- Limited English speaking
- Less than high school education
- Under age 5
- Over age 64

Key findings from the EJScreen of the study area are shown in **Figure 2-18**. Relative to Georgia, the southeastern EPA region, and the United States, the study area, on average, is less susceptible to identified environmental risks. Each value represented in the geography shown indicates the study area's percentile relative to Georgia, the EPA region, and the United States. Percentiles greater than 50 indicate the study area is more susceptible to the identified environmental risks relative to the larger geographic reference area. For example, the study area is ranked in the 56th percentile for risk management plan facilities—which are facilities that frequently handle or hold a large quantity of hazardous substances—indicating a higher risk in the study area relative to the state of Georgia. Furthermore, the study area is ranked in the 64th percentile relative to the larger EPA region and the United States. Many other environmental risks, such as for particulate matter 2.5 and diesel particulate matter, are relatively lower in the study area. These categories reflect the area's large industrial development presence and its impact on the surrounding communities.

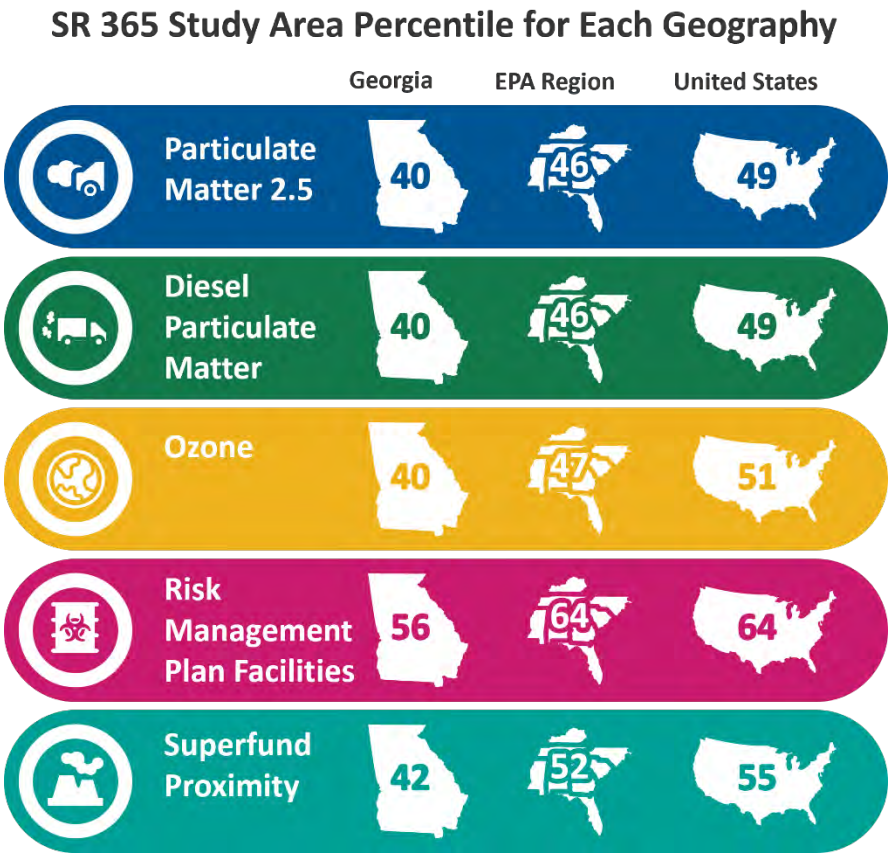


Figure 2-18 EJScreen Summary for SR 365 Study Area *Data Source: EPA's EJScreen Report, Created August 2022*

The EJScreen tool also identifies areas with a large concentration of low-income populations. EPA defines low-income populations as: "The percent of population in households where the household income is less than or equal to twice the Federal poverty level."[31] The study area's low-income distribution is shown in **Figure 2-19** where areas in darker shades of pink have a higher percentage of the population falling below the national poverty threshold. The areas with relatively higher percentages of low-income population compared to the national percentage are primarily in the southwestern portion of the study area near Gainesville.

[31] EPA,.2022. Overview of Socioeconomic Indicators in EJScreen, 2024. https://www.epa.gov/ejscreen/overview-socioeconomic-indicators-ejscreen#:~:text=Low%2Dincome%3A,the%20federal%20%22poverty%20level.%22

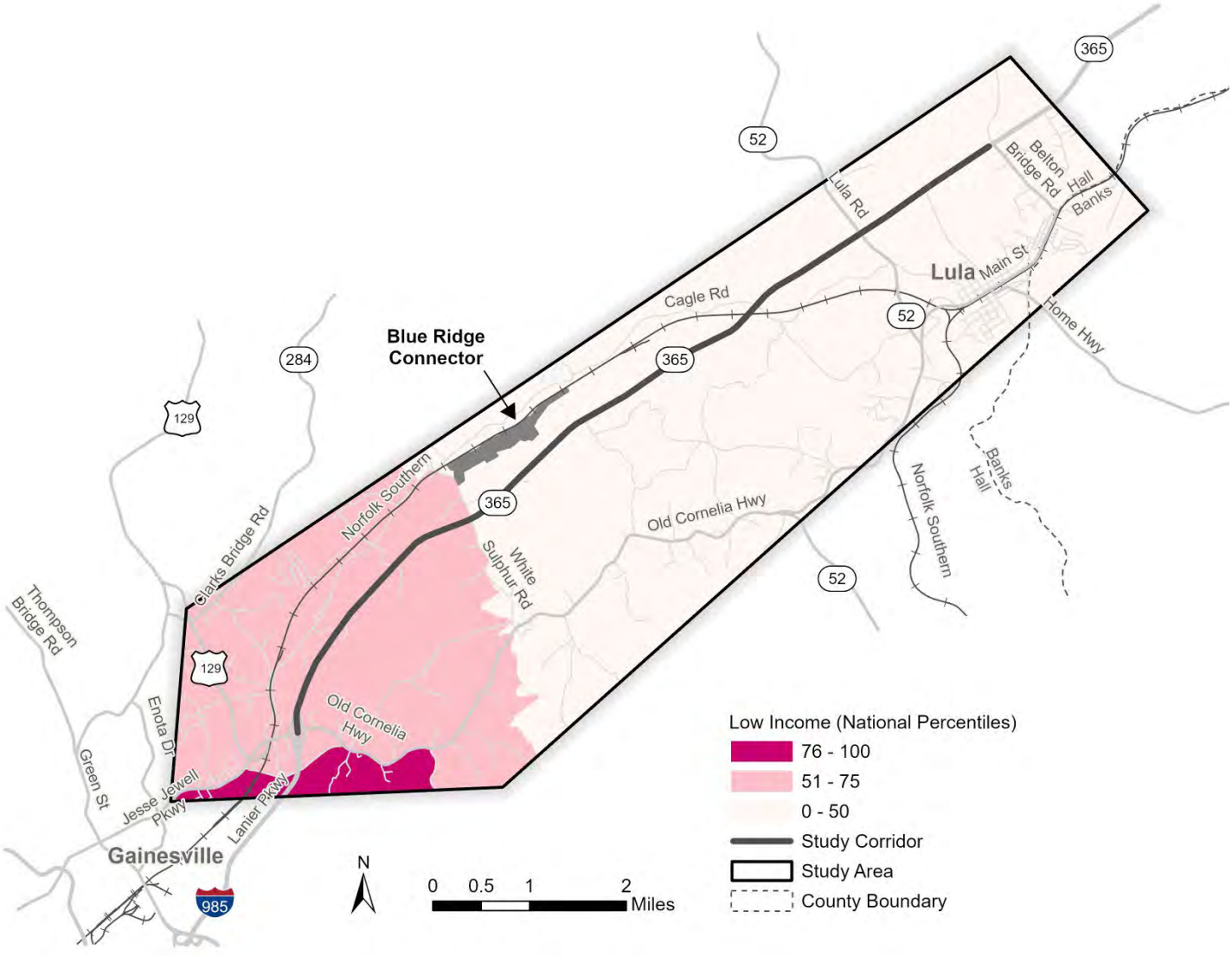


Figure 2-19 Environmental Justice Index Low-Income Percentile *Data Source: EPA EJScreen, 2021*

2.3.2.3 Social Vulnerability Indicators

The CDC provides data to assist planners and public officials with identifying and mapping communities that will most likely require support before, during, and after a hazardous event. This includes developing Social Vulnerability Indices (SVIs), which can be used to identify populations who are especially at risk in public health emergencies. [32] These populations are identified based on factors such as socioeconomic status, household composition, minority status, transportation, and other factors shown in **Figure 2-20**.

[32] CDC. SVI Fact Sheet. https://svi.cdc.gov/Documents/FactSheet/SVIFactSheet.pdf

The study area's SVI composition is illustrated in **Figure 2-21**. Census tracts in the southwestern portion of the study area near Gainesville have a higher social vulnerability relative to the rest of the United States and Georgia. Of the four overall vulnerability categories, census tracts in the study area reflect high vulnerability in Household Composition and Disability and Housing Type and Transportation categories. These findings indicate that these census tracts within the SR 365 study area should be prioritized for support before, during, and after hazardous events.

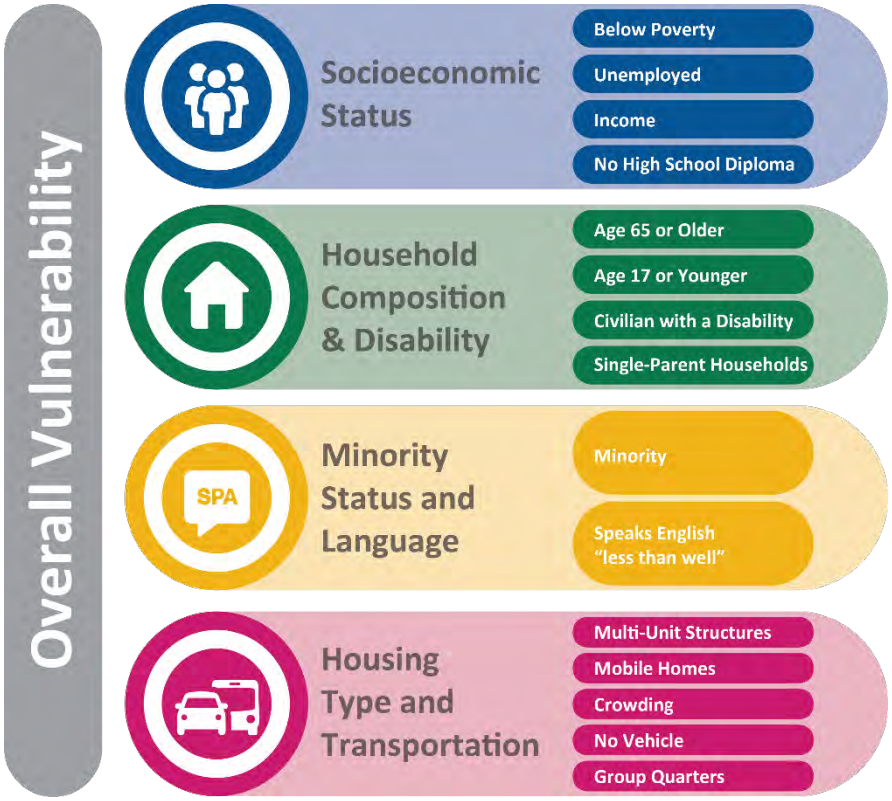


Figure 2-20 Social Vulnerability Indicators *Data Source: CDC SVI, 2022*

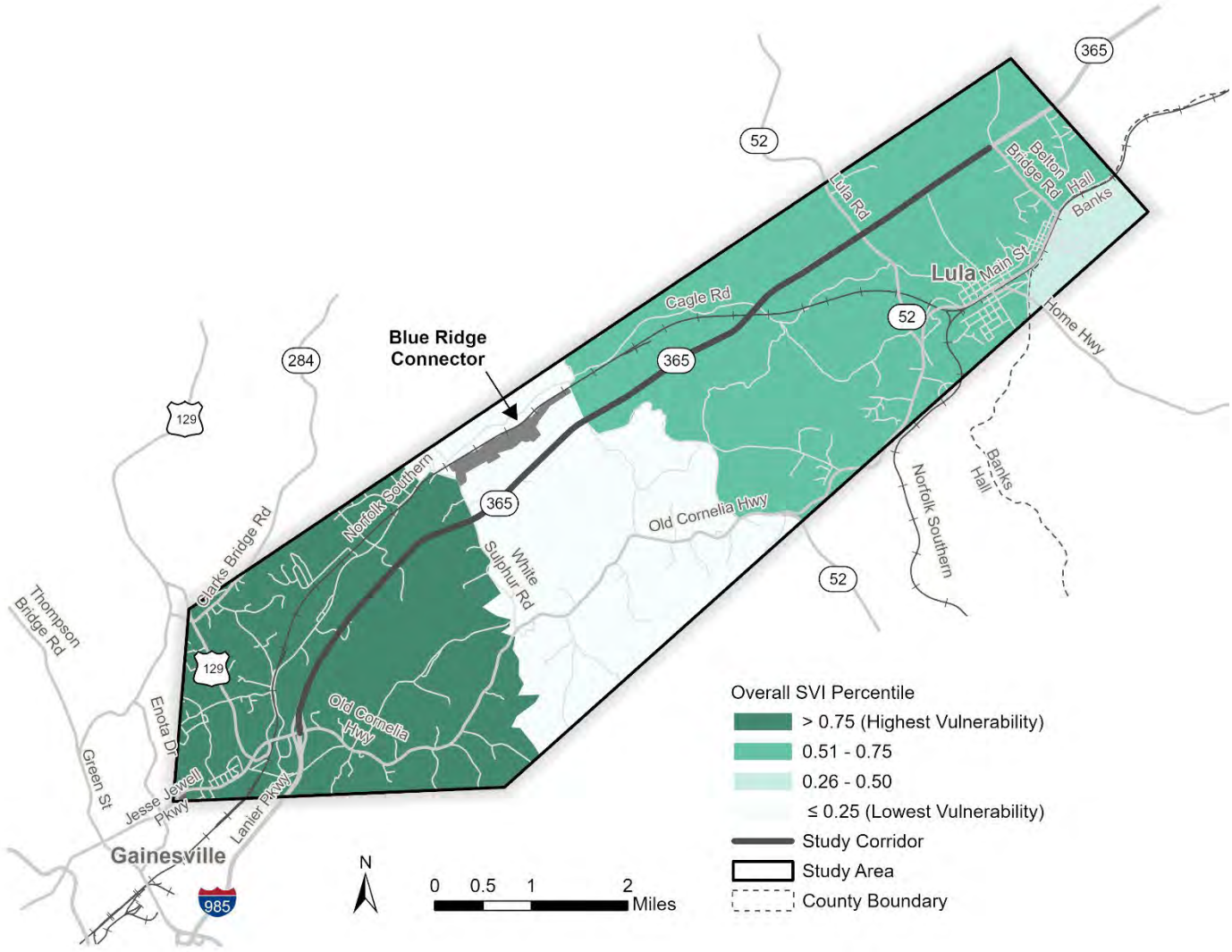


Figure 2-21 Social Vulnerability Indicator Percentiles *Data Source: CDC SVI Data, 2018*

2.3.3 Land Use

The study area is largely made up of low-density and low-intensity land uses – the proportion of each current land use based on parcel data provided by Hall County is presented in **Figure 2-22**. Residential land is the single largest land use in the study area and accounts for nearly 32 percent of the study area. Agricultural, Forest Land Protection Act (FLPA) land, and conservation land combined constitute roughly 45 percent of the total land use in the study area. Industrial and commercial land uses account for approximately another 10 percent and 6 percent, respectively. Exempt land uses, such as schools, churches, first responder and public safety, hospitals, and other government facilities, represent the remaining 7 percent.

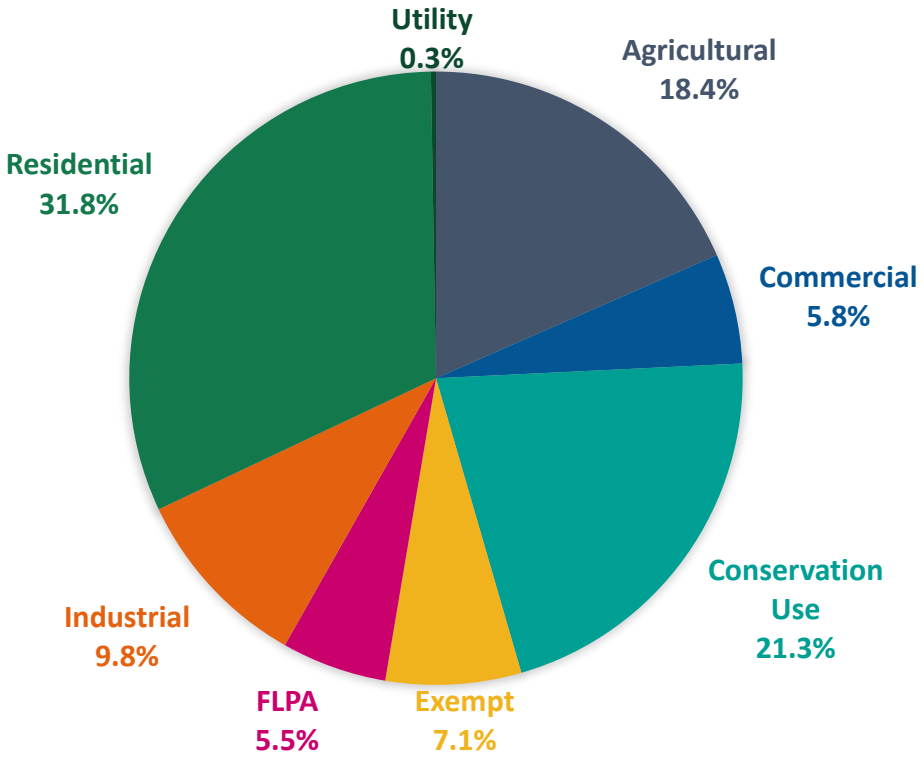


Figure 2-22 Current Land Use Mix of SR 365 Study Area *Data Source: Hall County 2022*

Existing land use patterns for the study area are illustrated in **Figure 2-23**. A significant portion of the commercial and industrial land uses is primarily located along Jesse Jewell Parkway in Gainesville and adjacent to the SR 365 corridor. Residential land uses are generally located beyond SR 365 along Cagle Road, Old Cornelia Highway, and other local roads. The remaining lower-intensity land uses, including agricultural, FLPA, and conservation uses, are scattered throughout the study area, generally between local roads and residential land uses.

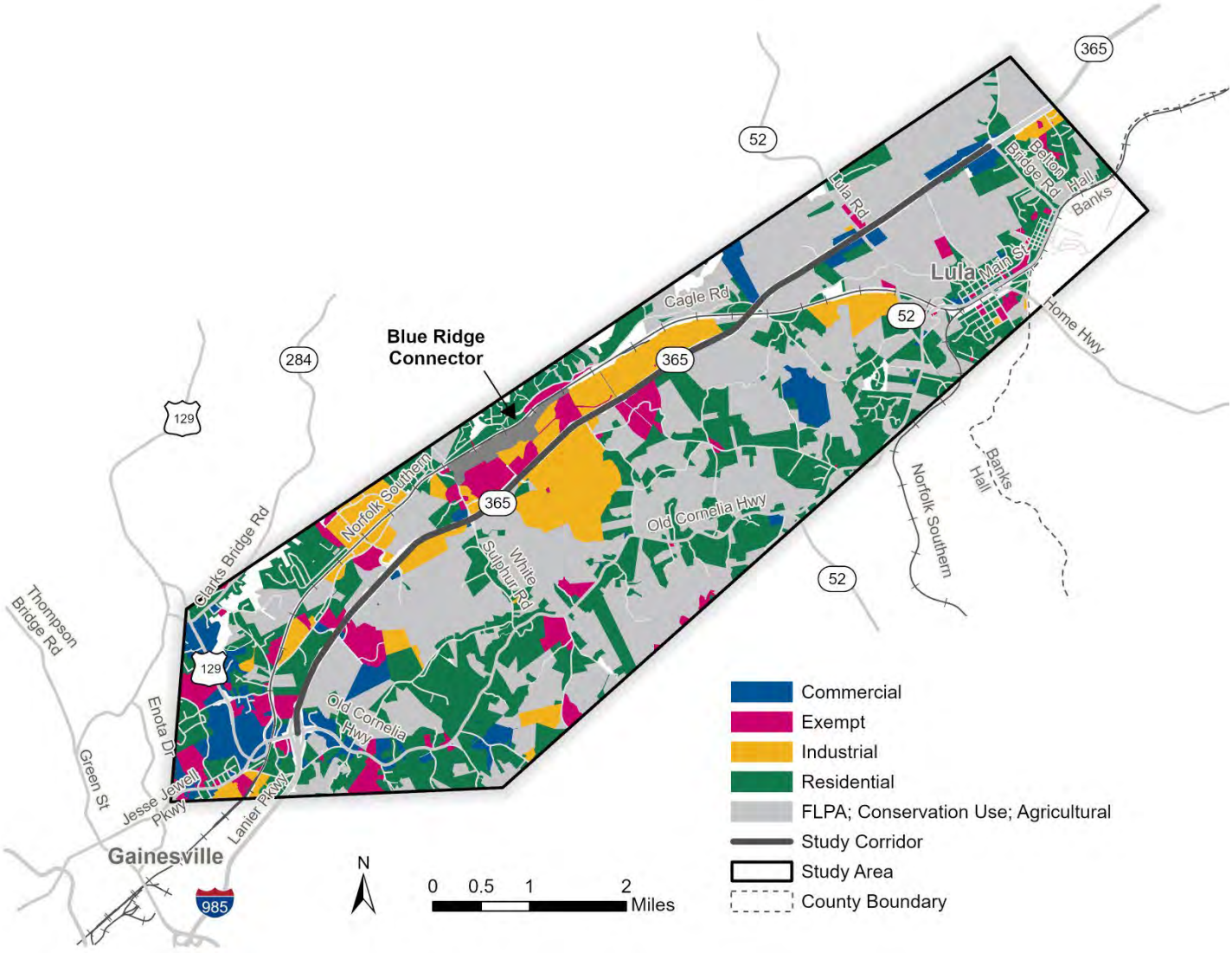


Figure 2-23 Current Land Use Map of Study Area *Data Source: Hall County 2022*

2.3.4 Topography

The study area is in the northeastern Georgia portion of the Piedmont Province and is at the foothills of the Blue Ridge Mountains.[33] The area is largely characterized by rolling hills, forested lands in undeveloped areas, and Lake Lanier north of the study area boundary. The SR 365 corridor has grade changes within the study area, as shown in **Figure 2-24**, with many intersections situated at the top or bottom of a hill. There are also several

[33] University of Georgia. Natural Resources Spatial Analysis Lab. http://narsal.uga.edu/gap/georgia/#piedmont

curves along SR 365. Many of the adjacent and intersecting roadways are also characterized by curving roads and steep grades.

Figure 2-24 Example of Grade Changes on SR 365

2.3.5 Environmental and Cultural Resources

The study team conducted a desktop screening to identify environmental and cultural resources within the study area. This information was used during the screening of project recommendations to understand potential impacts on these resources.

Note that field delineations of resources were not conducted as part of this environmental screening effort. An additional detailed field effort to identify and delineate environmental resources would need to be conducted once a project is identified for advancement into the conceptual or preliminary design phase.

2.3.5.1 Wetlands

Within the study area, National Wetlands Inventory (NWI) data identify approximately 403 acres of wetlands. The United States Geological Survey (USGS) identifies 166 unnamed and 35 named streams, including North Oconee River, Cedar Creek, Belton Creek, Chattahoochee River, and Limestone Creek, as shown in **Figure 2-25**.

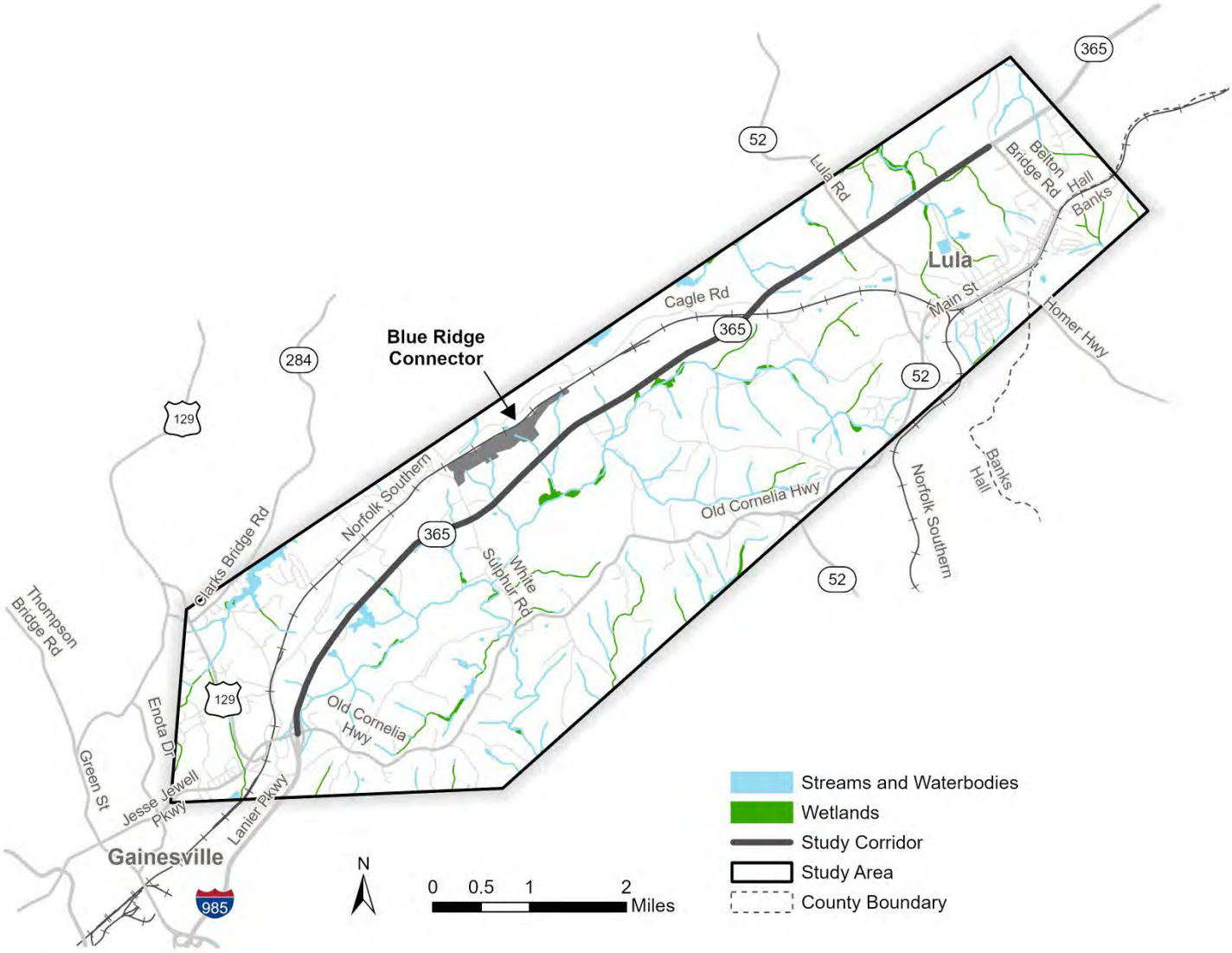


Figure 2-25 Wetlands and Waterbodies within Study Area *Data Source: NWI 2022*

2.3.5.2 Floodplains

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels, the study area contains three regulatory floodways. FEMA also designates areas into flood hazard zones. Much of the study area is classified as Zone X, which indicates areas of minimal flood hazard. The remaining areas are classified as either Zone A or Zone AE. Zone A floodplains are defined as areas with a one percent annual chance of flooding for which no depths or base flood elevations have been determined. Zone AE floodplains are defined as areas with a one percent annual chance of flooding for which base flood elevations have been determined. The flood hazard zones within the study area are shown in **Figure 2-26**.

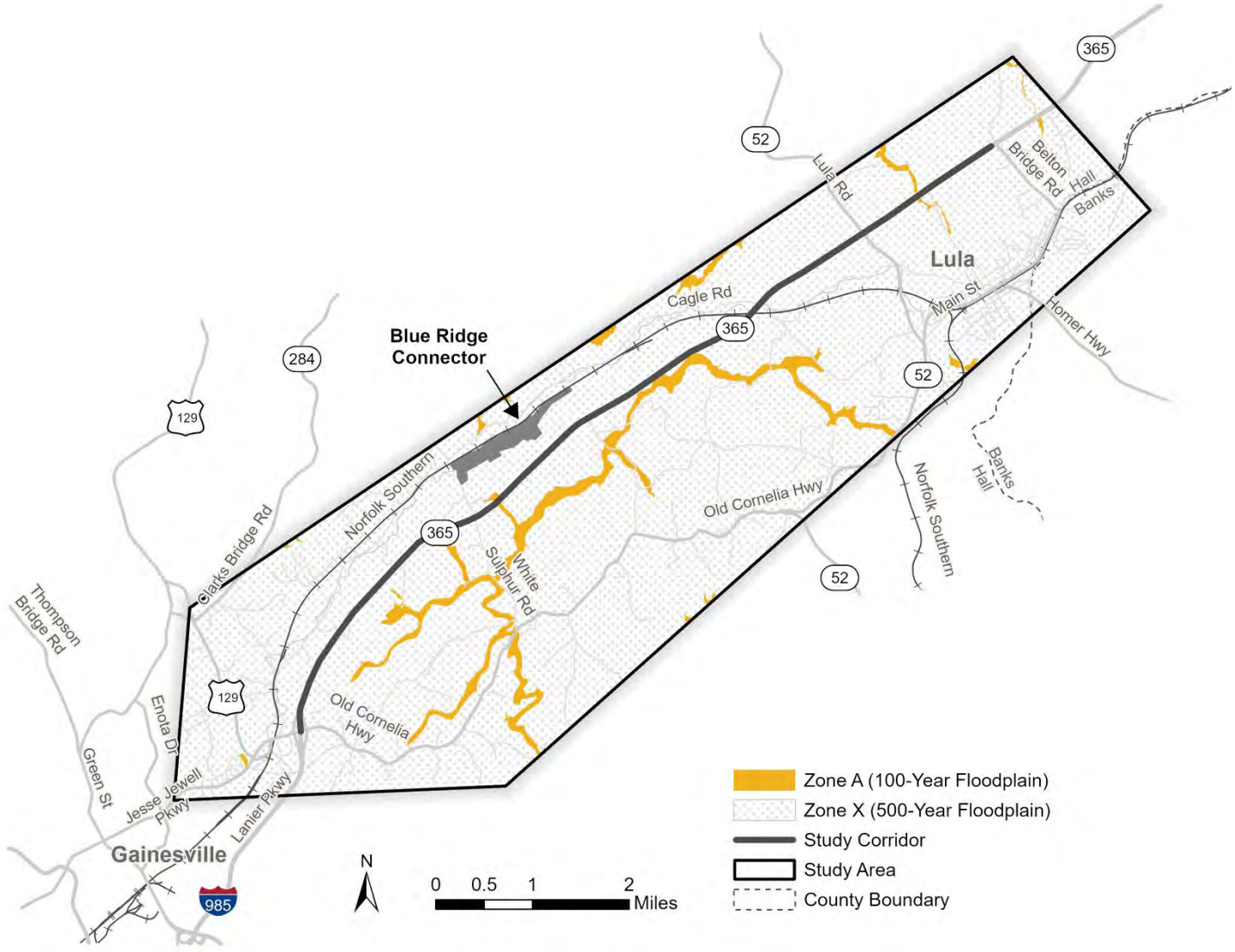


Figure 2-26 Flood Hazard Zones Within Study Area *Data Source: FEMA 2022*

2.3.5.3 Air Quality Status

Hall County is part of a 20-county area in metropolitan Atlanta designated as an 8-hour ozone maintenance area, as well as part of a 22-county particulate matter 2.5 maintenance area. Maintenance areas require that air quality conformity be modeled and monitored. Because Hall County is a small portion of the larger region under the maintenance designation, Hall County coordinates with the Atlanta Regional Commission to align transportation project reviews and approvals and to combine modeling efforts.[34]

2.3.5.4 Greenspace, Parks, Conservation Areas, and Historic Resources

Parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites are afforded special protection during transportation project development under Section 4(f) of the USDOT Act of 1966. Six public parks were identified within the study area. These parks are Sidney Lanier Recreation Area, Cedar Creek

[34] GHMPO. Air Quality Conformity. https://www.ghmpo.org/studies-resources/air-quality/

Reservoir, Hall County Greenspace, Rafe Banks Park, East Hall & Community Center, and Lula Veterans Park, and are shown in **Figure 2-27**.

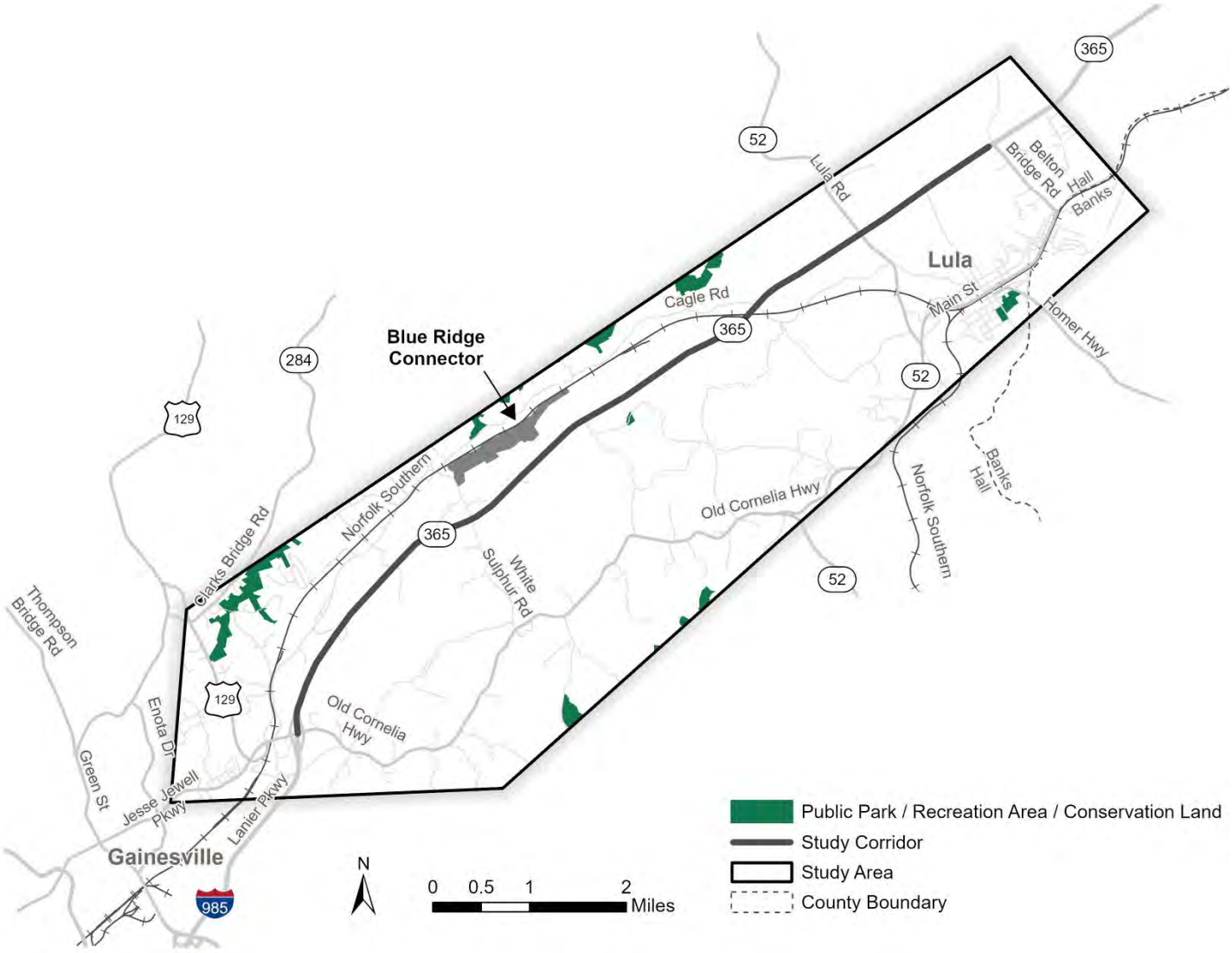


Figure 2-27 Parks within Study Area *Data Source: USGS 2022*

Figure 2-28 shows the eight cemeteries within the study area as well as the Lula Residential Historic District, which is listed in the National Register of Historic Places (NRHP).

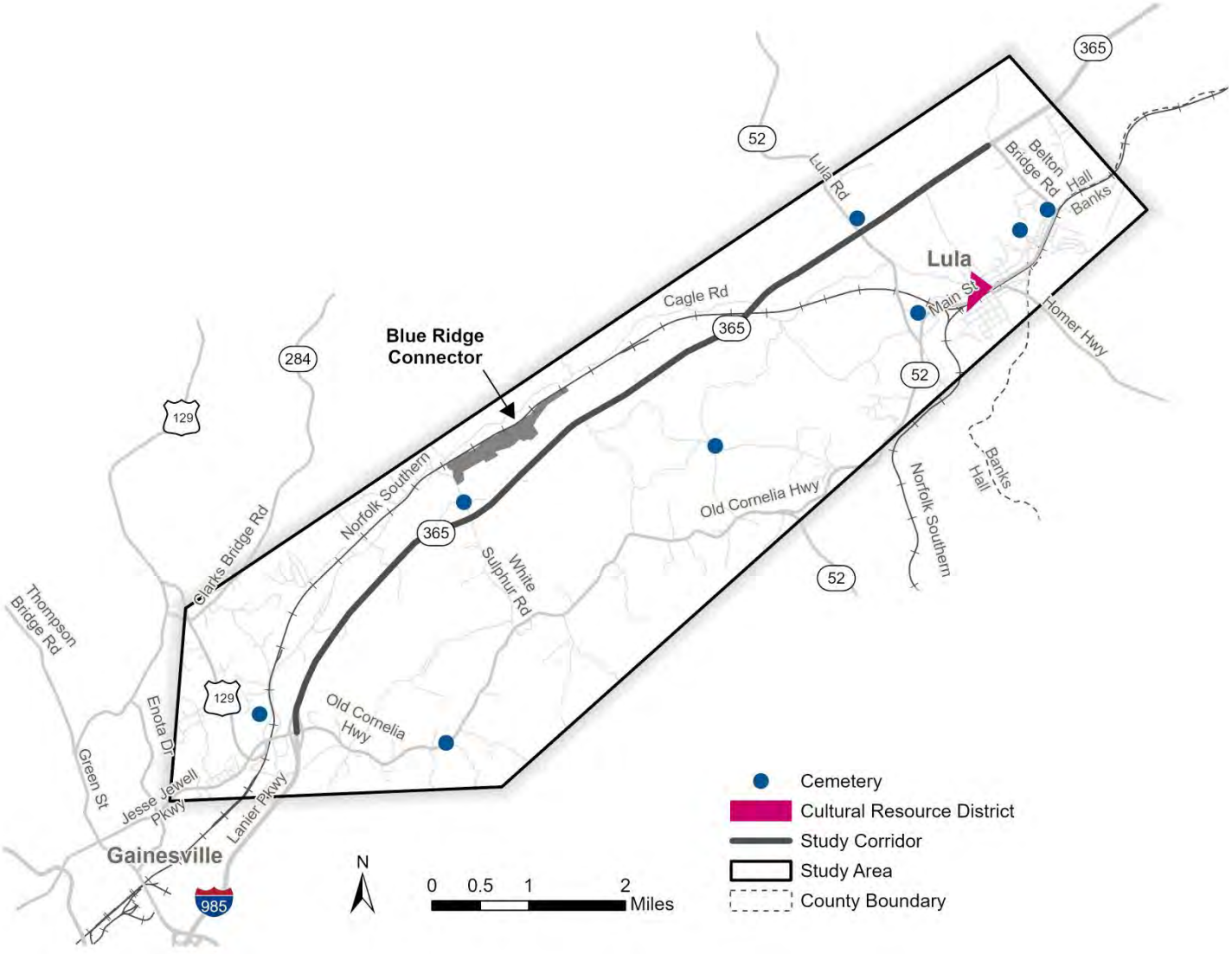


Figure 2-28 Historic Features and Cemeteries Within Environmental Screening Boundary *Source: NRHP 2022*

2.3.6 Community Facilities

The following community facilities were identified within the study area and are shown in **Figure 2-29**:

- Six schools – White Sulphur Elementary, East Hall High School, Lula Elementary, Lakeview Academy, Gainesville Middle School East, and the future Sandra Dunagan Deal Elementary School.
- One college – Lanier Technical College.
- Two medical facilities – HCG Family Health Center and NGMC Lanier Park.

- Three first responder facilities – Hall County Stations 6 and 7 and Hall County Fire Department.
- Four government facilities – Gainesville Post Office, Lula Post Office, Lula City Hall, and Hall County Agri-Services.
- Fifteen places of worship – New Holland Baptist Church, Gainesville Seventh-day Adventist Church, Spring Way Baptist Church, New Haven Congregational Holiness Church, Faith Baptist Church, Life Point Assembly of God, Glory Baptist Church, Victory Baptist Church, Jehovah's Witnesses, Air Line Baptist Church, First Baptist Church, Lula United Methodist Church, Lula Assembly of Praise, Lula Worship Center, and Springfield Baptist Church.

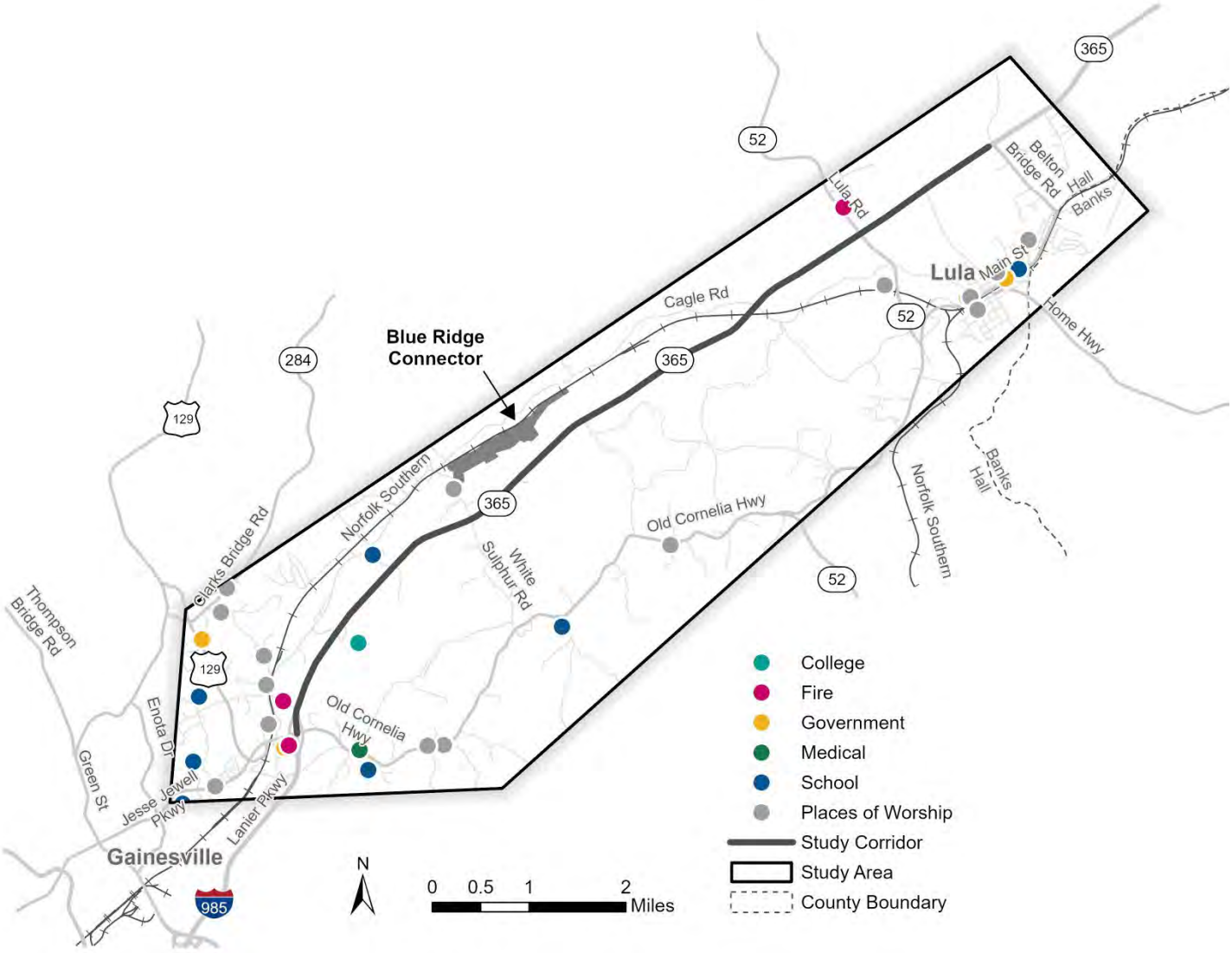


Figure 2-29 Community and Public Facilities Within Study Area *Data Source: Hall County 2022*

2.4 Travel Demand and Traffic Model Data

This section provides an overview of existing travel patterns, vehicular volumes, truck volumes, and crash locations and frequencies. This information provides insight into how the road network is used currently and where there are opportunities for enhancements or improvements to the network to increase mobility and accessibility across the study area.

2.4.1 Travel Patterns

The following section details the travel patterns and travel demands for both SR 365 and the surrounding roadway network. Data originates from the 2020 Census ACS, the National Household Travel Survey (NHTS), and the GHMPO TDM. These analyses identify daily commuting characteristics and the modeled travel experiences for roadway users in the study area.

The 2020 Census ACS provides “Means of Transportation to Work” data, which are obtained from surveys asking respondents who worked at the time of the survey to identify their primary means of transportation to work. Respondents were also asked to indicate their travel time to work and whether they drive alone or use public transportation. Most study area residents (92 percent) use a car, truck, or van to commute to work, 79 percent of whom drive to work alone. Less than one percent of commuters take public transportation. Additionally, 11 percent of households within the study area do not own a vehicle, which is slightly higher than the Georgia statewide average of six percent. Regarding travel time to work, Hall County residents experience an average commute travel time of 26.7 minutes from home to work each day, six percent lower than the Georgia statewide average (28.4 minutes).

NHTS provides travel behavior insights based on survey results, the most recent of which were collected in 2017. NHTS data provide input regarding the percent share and average trip time of each vehicle trip type. There are four trip types:

- Home-based work trips are commuting trips between home and workplaces.
- Home-based shopping trips are trips between home and retail, such as grocery stores.
- Home-based other trips are trips with one end at home, and the other end at any places except for workplaces or retail, such as golf courses.
- Non-home-based trips are trips with neither end at home, for example, a trip from grocery store to a golf course.

Table 2-2 provides the average percentage and time by trip type in Hall County and Georgia statewide. In Hall County, 38 percent of trips were non-home-based, the most frequent type of trip made. Hall County residents experienced an average home-based work trip duration of more than 36 minutes, higher than the statewide average (28.96 minutes). This 2017 NHTS commute trip is higher than the 2020 Census ACS estimates.

Table 2-2 Average Trip Percent and Trip Time by Trip Type in Hall County and Georgia

Trip Purpose	Hall County Average Trip Percent / Trip Time (minutes)	Georgia Statewide
Home-based Work	12% / 36.68	13% / 28.96
Home-based Shopping	24% / 20.62	21% / 18.43
Home-based Other	26% / 22.78	32% / 23.03
Non-Home-based	38% / 22.96	34% / 21.66

Data Source: NHTS. 2017. Georgia Add-on Data.

The GHMPO TDM, which encompasses the study area, was used to obtain analytical data associated with the benefits of transportation investments. A TDM is a state-of-the-art tool that can replicate the existing travel demand and forecast future travel demand. For this study, the base year TDM was updated from 2015 to 2020 to reflect a more recent transportation network and socioeconomic data within the model area. In addition to results from the updated TDM, updated traffic counts based on collections from August 2022 are presented in Section 2.4.4.

The 2020 TDM outputs for daily total volume in the study area are shown in **Figure 2-30**. Based on the 2020 TDM outputs, the daily total vehicle volume on SR 365 is more than 25,000, with some segments closer to I-985 experiencing volumes greater than 40,000. Other high-demand routes include Jesse Jewell Parkway/US 129 Business, Limestone Parkway/US 129, and Old Cornelia Highway, which are the intersecting corridors of SR 365 at Exit 24.

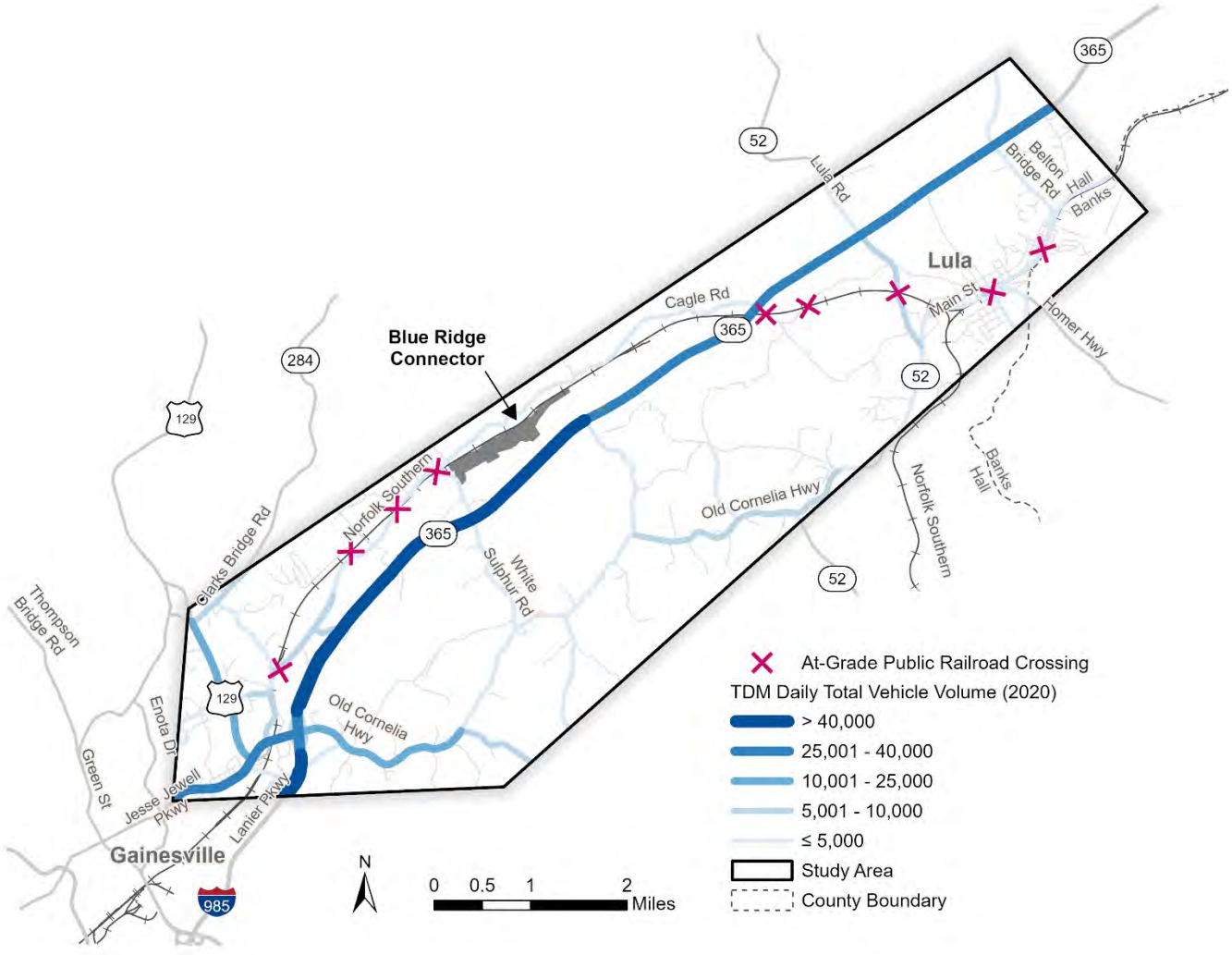


Figure 2-30 2020 TDM Daily Total Vehicle Volume *Data Source: SR 365 TDM, 2020*

Figure 2-31 shows that daily truck traffic patterns are similar to daily total vehicle patterns. Daily total truck volume surpassed 1,000 on SR 365 and corridors around Exit 24 of SR 365. The segment of SR 365 between the Hall County boundary and Lanier Tech Drive had a concentration of daily truck traffic exceeding 2,500, with segments of I-985 experiencing more than 5,000 trucks daily.

Both daily total vehicle volume and daily total truck volume patterns shown in the TDM suggest that SR 365 serves as the major corridor for through traffic in the study area, and that travelers use other major corridors around Exit 24 to redirect to their destinations in other parts of the county.

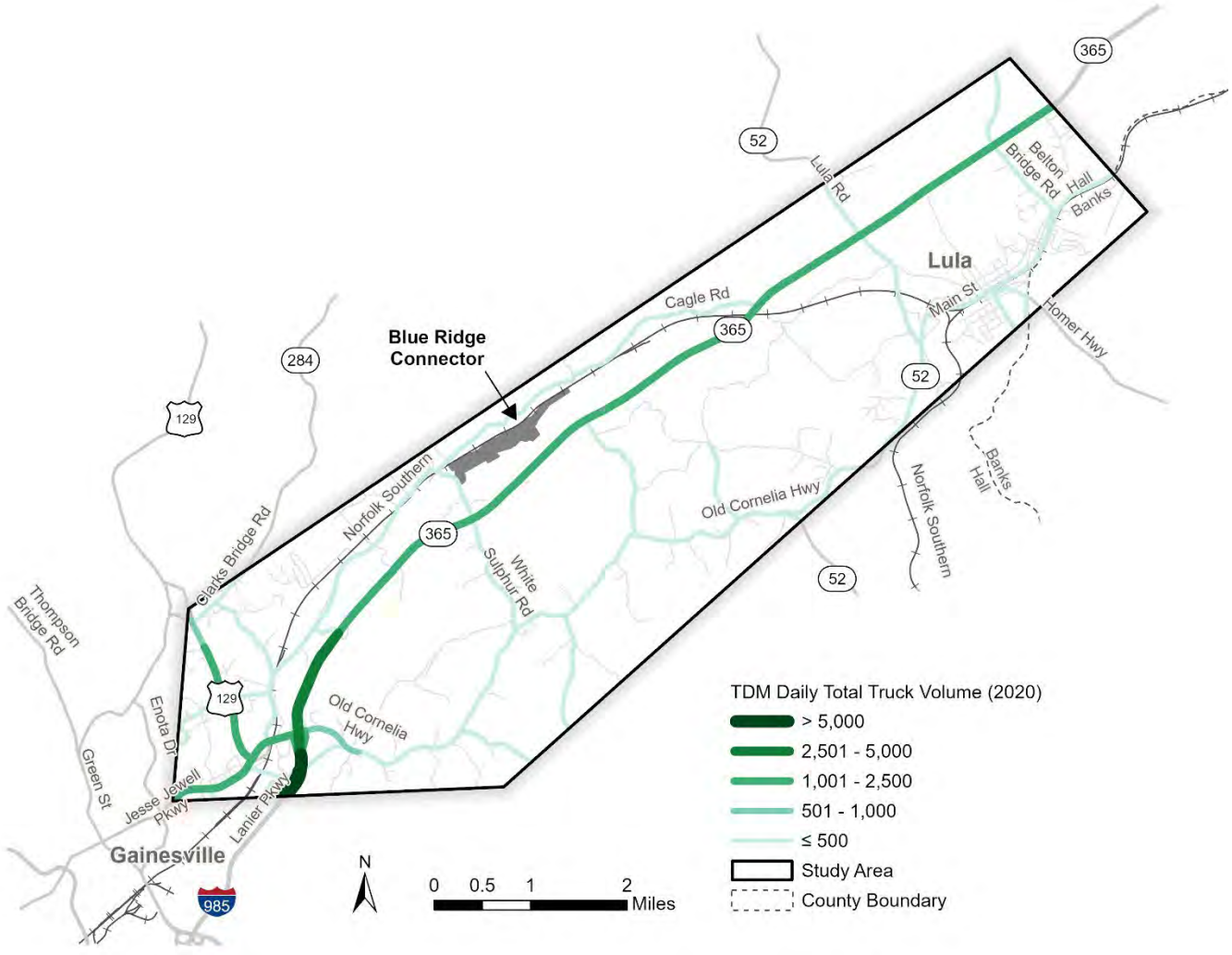


Figure 2-31 TDM Daily Total Truck Volume *Data Source: SR 365 TDM, 2020*

In addition to total vehicle volumes, the volume to capacity ratio, or LOS, was also calculated for roadways within the study area. LOS compares volumes along a roadway to the capacity of that roadway, with A representing free-flow conditions and F representing forced-flow conditions. As shown in **Figure 2-32**, SR 365 experienced a daily average LOS of D or E in 2020 based on the TDM outputs, indicating drivers experience high-density or unstable traffic flow within these road segments, and level of comfort and convenience decreases as the volume nears capacity. Old Cornelia Highway between Jesse Jewell Parkway and Joe Chandler Road operated at LOS F, indicating that volume on this road segment is over capacity.

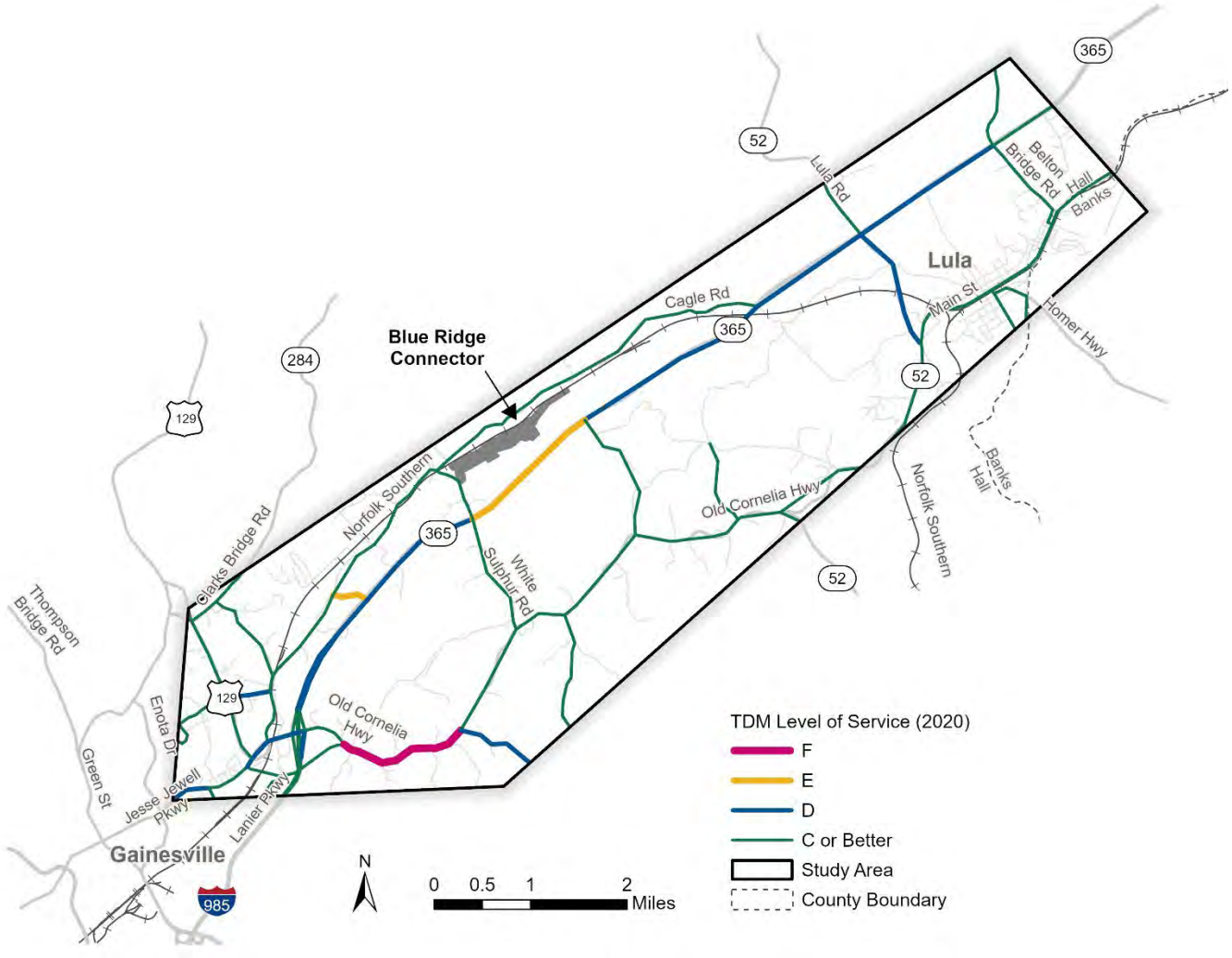


Figure 2-32 2020 TDM Daily LOS *Data Source: SR 365 TDM, 2020*

2.4.2 Origin-Destination

Origin-destination data for the study area was collected from the Regional Integrated Transportation Information System (RITIS), using the NextGen Trip Analytics tool. Data was collected for February 2022, which represents one of the most typical months for travel patterns; data was collected for daily 24-hour periods as well as the AM and PM peak hours (7:00 AM to 8:00 AM and 4:45 PM to 5:45 PM). Section 2.4.3 provides more information regarding the peak hours selected for the study. The initial origin-destination study boundary was set as the study area boundary, so that only trips that have at least a portion of the trip falling within the study area boundary would be included.

Then, to focus on the character of the SR 365 mainline, an additional spatial filter was added to the origin-destination analysis so that only trips using some portion of SR 365 (in the boundaries of the study area) would be included in the analysis; this allowed the study team to filter out any influence from other trips inside the geographical boundaries of the study area.

Trips using SR 365 within the study area boundary were then categorized into two types:

- **Pass-Through Trips** – Trips that start **and** end **outside** of the study area. For example:

  - A delivery truck headed northbound on I-985 that completely passes through the study area to get to Cornelia.
  - A commuter living on Homer Highway (SR 51) who works in Gainesville and uses SR 365 for a portion of their commute.
- **Local Trips** – Trips that start **and/or** end **inside** of the study area. For example:
  - A student living in a local neighborhood who uses SR 365 to travel to East Hall High School.
  - A truck coming from Greenville that uses SR 365 to make a delivery to the Kubota Plant.

Separate origin-destination analyses were performed for vehicles using SR 365 to travel from/to an origin/destination outside the study area, versus vehicles using SR 365 to access an origin or destination located within the study area. **Figure 2-33** depicts the difference between pass-through and local trips.

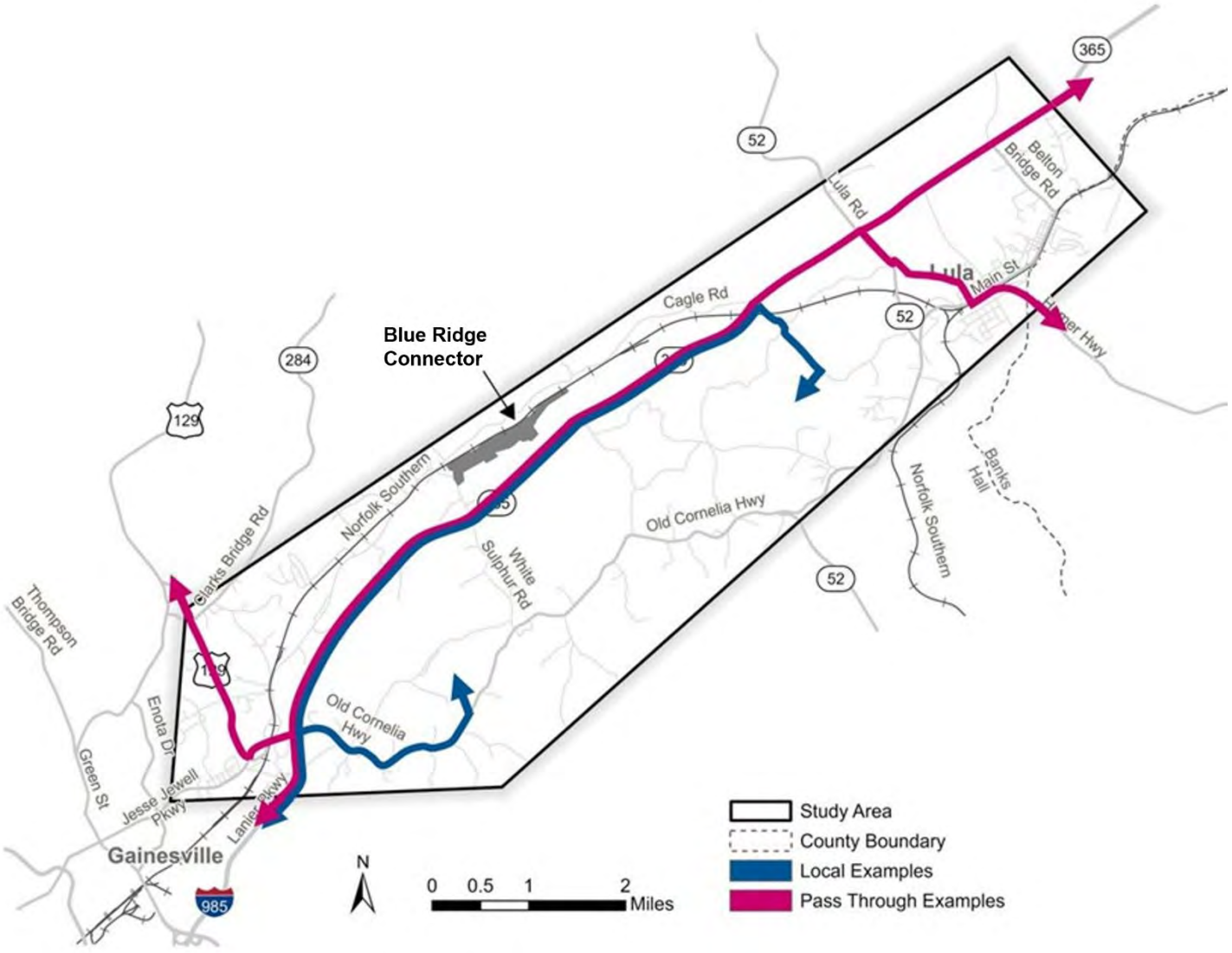


Figure 2-33 Pass-Through Versus Local Trip Examples *Source: RITIS NextGen Trip Analytics, 2022*

Figure 2-34 shows the split of pass-through versus local trips on SR 365 for the AM and PM peak hours for both passenger vehicles and trucks. A higher percentage of truck trips tend to be local (36 to 45 percent) in comparison to passenger vehicle trips (31 to 36 percent), especially during the AM peak hour.

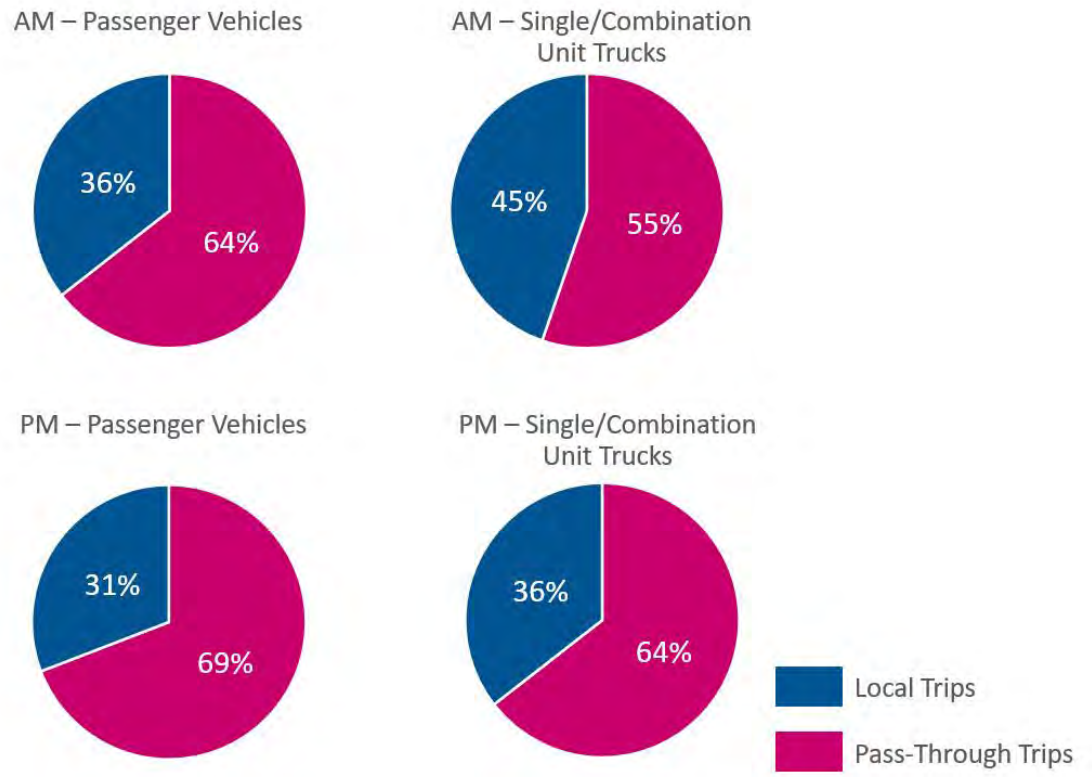


Figure 2-34 Pass-Through Versus Local Trip Splits *Data Source: RITIS NextGen Trip Analytics, 2022*

2.4.2.1 Pass-Through Trips

The high percentage of pass-through trips for passenger vehicles indicates that many passenger vehicles are using SR 365 as a commuter corridor. According to RITIS, of the pass-through trips, 19 percent of AM peak hour and 20 percent of PM peak hour trips completely pass through the study area on SR 365. In other words, these vehicles travel through the study area on SR 365 without stopping or using any other side roads.

Pass-through trips were further analyzed by considering daily truck trips on SR 365. The three most frequent pass-through truck trips on SR 365 were:

1. I-985 (southern limit) to/from SR 365 (northern limit);
2. I-985 (southern limit) to/from Lula Road/SR 52; and
3. SR 365 (northern limit) to/from Jesse Jewell Parkway.

The top trip (traveling directly through the study area on SR 365) carries volumes seven times greater than the volumes carried by the second and third top trip pairs. **Figure 2-35** illustrates the top three truck trip pairs as they pass through the study area.

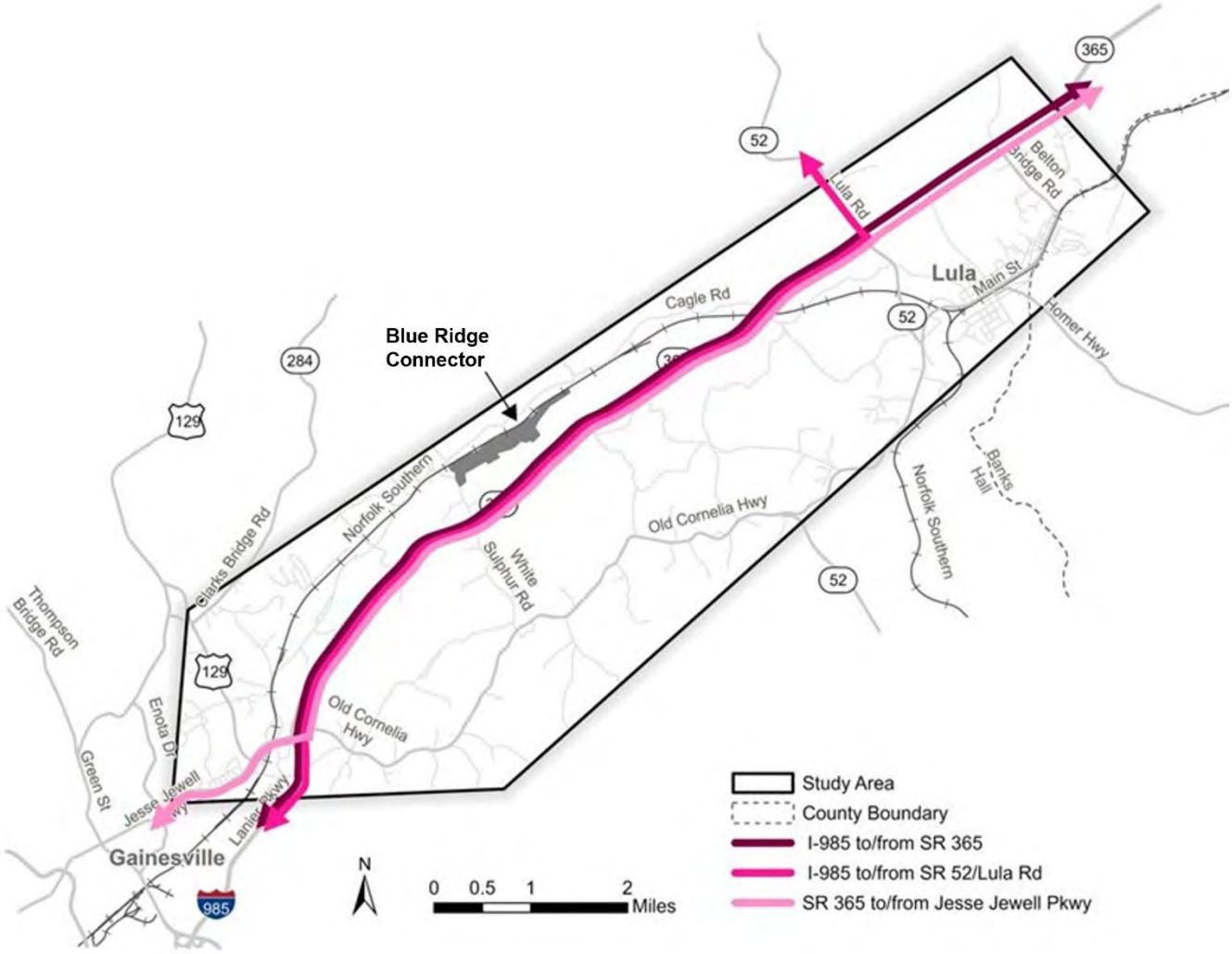


Figure 2-35 Top Three Pass-Through Truck Trips *Data Source: RITIS NextGen Trip Analytics, 2022*

2.4.2.2 Local Trips

In addition to pass-through trips, local trips were analyzed on a Traffic Analysis Zone (TAZ) level to gain a better understanding of the most common study area origins and destinations for trips using SR 365. Specifically, the study team analyzed daily truck trips on SR 365 that start and/or end inside the study area. **Figure 2-36** shows the distribution of these truck trips on a TAZ level. Truck trip patterns in the study area are correlated with areas with industrial and agricultural development. The two TAZs with the most truck trips are represented in dark blue and are also home to significant industrial development; these represent 42 percent of all local truck trips using SR 365.

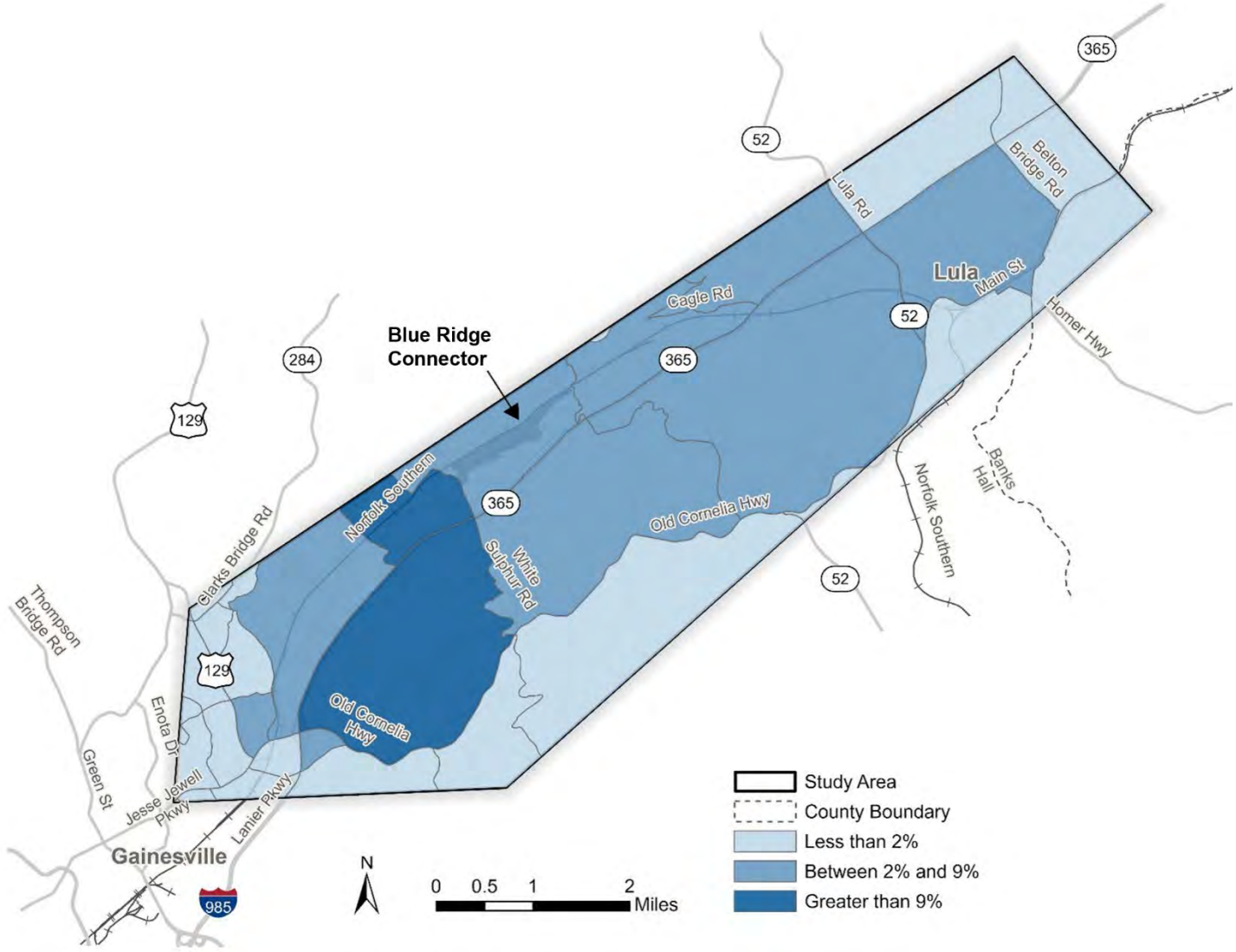


Figure 2-36 Local Trips by TAZ *Data Source: RITIS NextGen Trip Analytics, 2022; Georgia Statewide TAZ, 2011*

2.4.3 Existing Traffic Volumes (2022)

Traffic counts were collected on Tuesday, August 23 and Wednesday, August 24, 2022. The counts collected include the following:

- 48-hour bidirectional vehicle classification counts (four are unidirectional ramp counts) at 95 locations. These counts were used to estimate daily volumes, peak hours, and truck percentages in the study area.
- 6-hour turning movement counts (TMCs) (AM peak period 6:00 AM to 9:00 AM and PM peak period 3:00 PM to 6:00 PM) at 30 locations. These counts were used to estimate intersection-level turning movements in the study area.

Figure 2-37 shows the count location map, which identifies the locations where counts were collected throughout the study area.

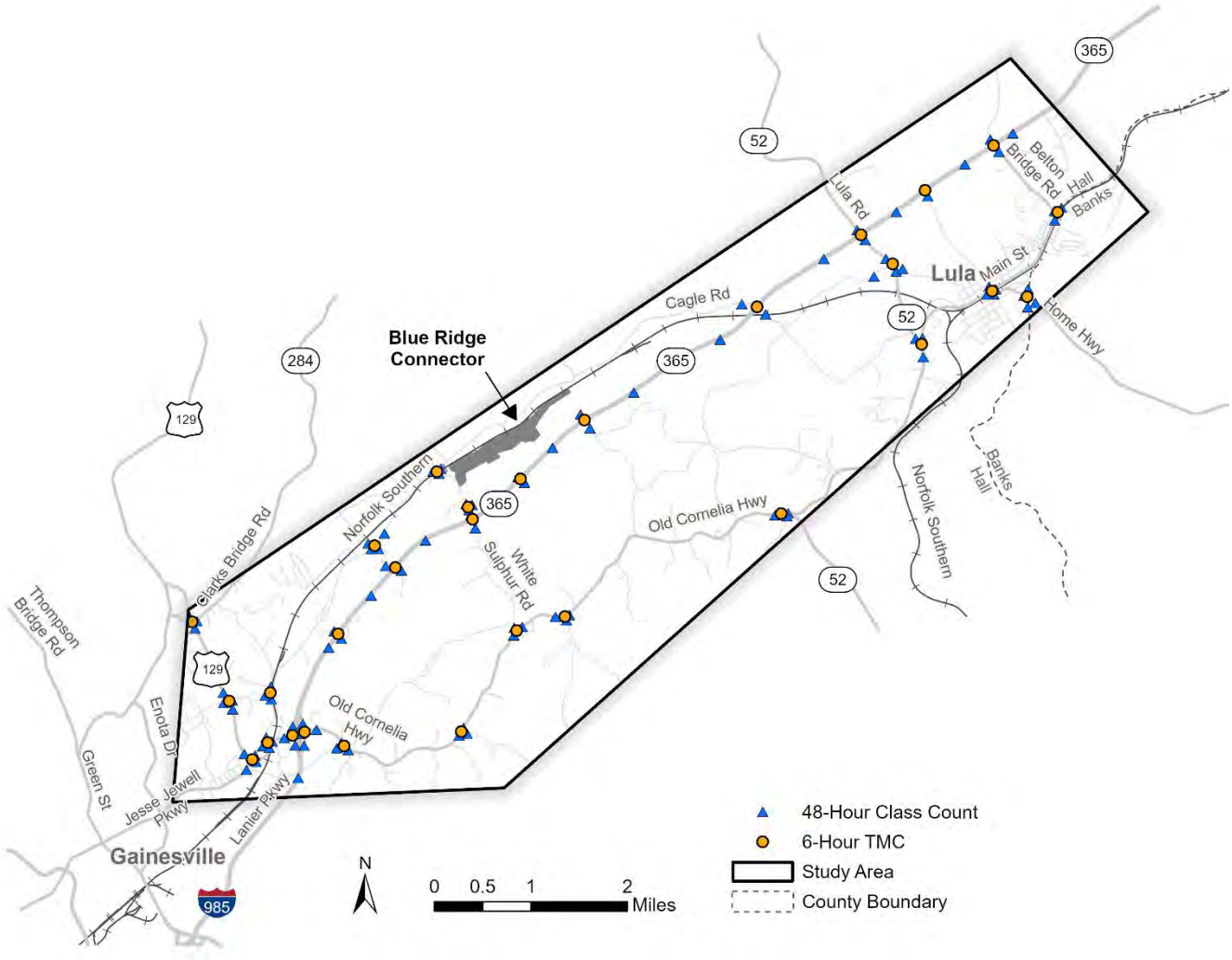


Figure 2-37 Traffic Count Collection Locations *Data Source: Raw Traffic Counts, 2022*

2.4.3.1 Peak Hour Selection

Peak hour is defined as the one-hour period in a day where traffic volumes are the highest; in a typical roadway network, there is an AM and PM peak hour, generally representative of the increase in traffic volumes from commuters traveling to and from work. This is different than the peak period, which is typically a three-hour period surrounding the peak hour that establishes how traffic volumes build up; for instance, the peak hour may be 7:00 AM to 8:00 AM, while the peak period is 6:00 AM to 9:00 AM.

The SR 365 mainline peak hour was calculated by summing all traffic counts collected on SR 365 (14 in total) and calculating cumulative averages for each hour by 15-minute intervals. The AM peak hour along the SR 365 mainline is 7:00 AM to 8:00 AM and the PM peak hour along the SR 365 mainline is 4:45 PM to 5:45 PM. Upon further analysis of additional side road peak hours, the SR 365 mainline peak hour was found to be an accurate representation of the remainder of the study area; thus, a study area-wide AM peak hour of 7:00 AM to 8:00 AM and a PM peak hour of 4:45 PM to 5:45 PM were selected.

On SR 365, the AM peak hour represents eight percent of the daily total traffic while the PM peak hour represents nine percent of the daily total traffic – altogether, 17 percent of the daily total traffic. The PM peak hour percentage being slightly higher than the AM peak hour percentage indicates that the PM peak hour includes other trip types in addition to commuters, while the AM peak hour typically includes just morning commuters. Additionally, morning commutes are more distributed throughout the full AM peak period in comparison to evening commutes.

2.4.3.2 Directional Split

The directional split represents the percentage of total volume traveling in the higher-weighted volume direction during a peak hour. On average in the AM peak hour, 31.5 percent of vehicles are traveling northbound on SR 365 and 68.5 percent are traveling southbound. On average in the PM peak hour, 65 percent of vehicles are headed northbound on the SR 365 corridor and 35 percent are headed southbound. This data is consistent with the conclusions drawn from the pass-through origin-destination trip data discussed in Section 2.4.2, indicating that SR 365 is a commuter-heavy corridor. The splits indicate that trips on SR 365 are centered around heading toward a southern location in the AM peak hour (Gainesville/metropolitan Atlanta) and returning northbound in the PM peak hour.

2.4.3.3 Truck Percentages

The count data indicates that 8.5 percent of the daily volume on SR 365 consists of truck traffic. In the AM peak hour, 6.5 percent of vehicles are trucks and, in the PM, peak hour, 4.0 percent of vehicles are trucks. Truck percentages on SR 365 slightly decrease moving north through the study area, as industrial facilities become less frequent.

2.4.3.4 Existing Year Annual Average Daily Traffic Volumes and Design Hourly Volumes

In accordance with standard GDOT Office of Planning volume development procedures, average annual daily traffic (AADT) volumes are calculated to obtain representative traffic volumes for an average day of the year, based on the collected traffic counts. The existing year AADT volumes were calculated by multiplying the raw, 48-hour bidirectional counts at each location by the GDOT monthly and daily traffic factors and rounding to the nearest 25 vehicles. Then, AADT volumes for each count location were distributed in the existing network based on percentage splits from the raw TMC data. Per the GDOT Office of Planning volume development process, after the AADT volumes were balanced, design hourly volumes (DHVs) for the peak hours were calculated by multiplying the AADT counts by the calculated peak hour and directional factors, balancing, and rounding to the nearest five vehicles.

Figure 2-38 shows the AADT volumes on the SR 365 corridor, segmented by count location. In general, the daily two-way volume tends to decrease heading northward along the corridor; this trend was also observed for DHVs.

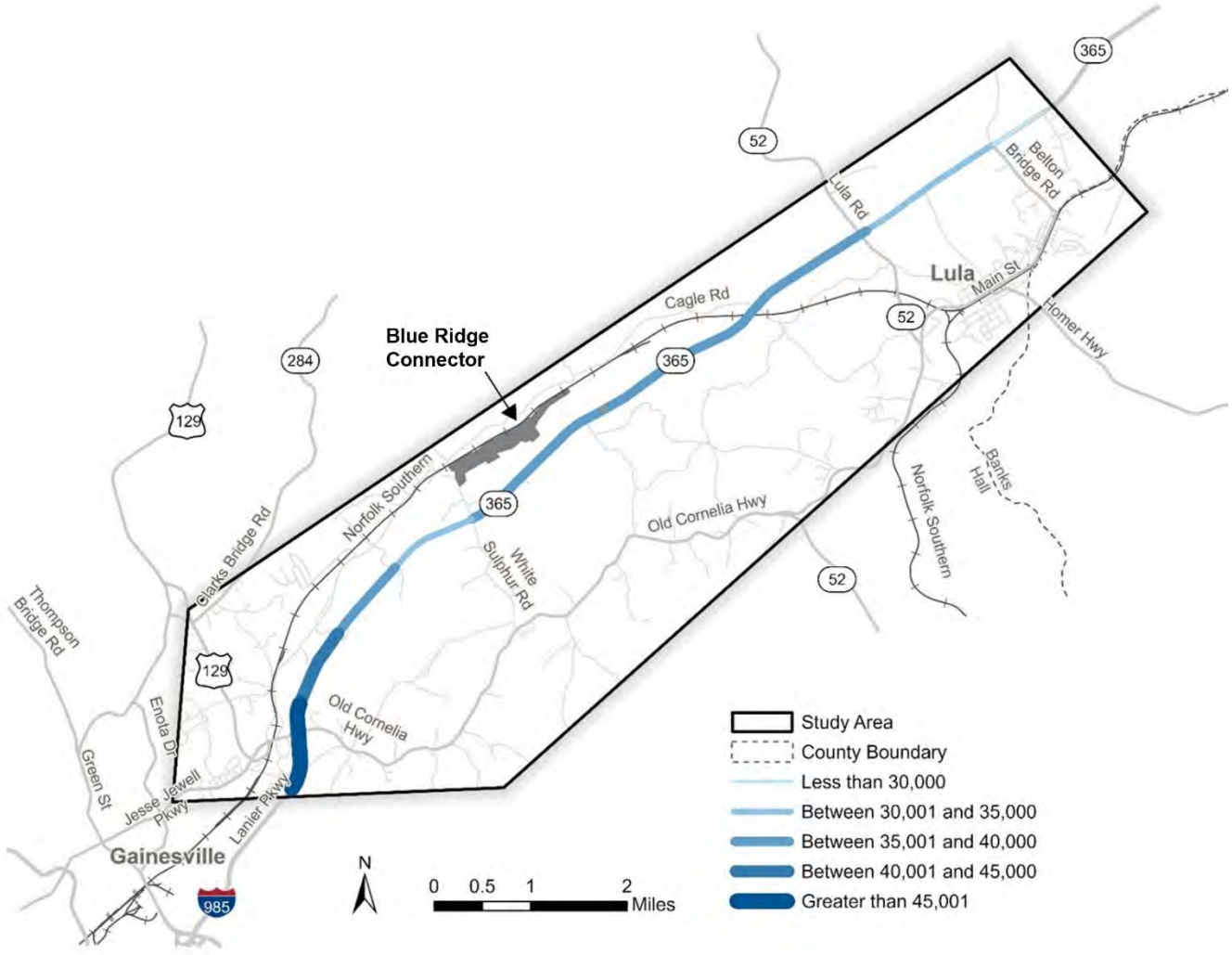


Figure 2-38 2022 AADT Volumes on SR 365 *Data Source: Raw Traffic Counts, 2022*

2.4.4 Traffic Operations

The existing year traffic operations were analyzed in terms of both congestion and delay. For congestion, several resources were analyzed to determine how vehicle speeds change throughout the day along the SR 365 corridor. For delay, intersections along SR 365 in the study area were analyzed based on LOS results from Synchro, a traffic analysis software that calculates numerous intersection-level traffic metrics.

2.4.4.1 Congestion

Congestion on SR 365 was calculated using speed data obtained from RITIS for 2021. Data from January 2021 through December 2021 was retrieved for weekdays with typical travel patterns (Tuesday, Wednesday, and Thursday). Due to the granularity of the RITIS data for SR 365 in the study area, vehicle speeds were analyzed for only one northbound and one southbound segment. These segments covered most of SR 365 within the boundaries of the study area. For these segments, a congestion ratio was calculated using the following equation,

where free-flow speed was set as the vehicle speed at 2:00 AM (a time when vehicles would travel without any expected congestion):

$$Congestion\ Ratio\ (\%) = \left(1 - \frac{Segment\ Speed\ during\ Peak\ Period}{Free - Flow\ Speed}\right) * 100\%$$

The AM peak period (6:00 AM to 9:00 AM) congestion ratio was calculated as 0.85 percent for vehicles traveling northbound and 0.03 percent for vehicles traveling southbound. The PM peak period (3:00 PM to 6:00 PM) congestion ratio was calculated as 2.88 percent for vehicles traveling northbound and 0.41 percent for vehicles traveling southbound. These ratios show that the existing congestion on SR 365 is very low, almost negligible.

Additionally, the congestion scan tool in RITIS was used to analyze congestion patterns along SR 365 from January 2021 through December 2021. Similar to the aforementioned scenario, the data available was of limited granularity because much of the SR 365 corridor is contained in a single segment on the RITIS platform. For the AM peak period, vehicle speeds consistently remained above 85 percent of free-flow speed (65 miles per hour) with a few minor localized reductions that had no impact on the larger network. Similarly, in the PM peak period, congestion remained above 85 percent of free-flow speed except for a few minor reductions. The minor, localized reductions did not drop below 60 percent of free-flow speed and did not carry through the network, further indicating that congestion on SR 365 is minimal.

As a final check for invariability, Google Maps was analyzed for typical traffic patterns along the SR 365 corridor, using the typical traffic visuals to check general traffic patterns on Tuesday through Thursday within the study area. Overall, the study area experienced minimal to no congestion based on the results from Google Maps, with only minor decreases in vehicle speeds when approaching traffic signals observed.

While congestion does occur during peak times, the analysis concluded that congestion is not a significant issue, on average, over a 24-hour daily period. Traffic speeds remained within a reasonable free-flow range throughout the day along the corridor.

2.4.4.2 Delay

The study area intersections along SR 365 were modeled in Synchro using the existing (2022) volumes and truck percentages and based on the existing configurations of the intersections. Signal timings were optimized where relevant. The Synchro results are reported for the AM peak hour of 7:00 AM to 8:00 AM and the PM peak hour of 4:45 PM to 5:45 PM. For signalized intersections in the study area, delay is reported as Synchro's weighted average delay experienced by all movements. For minor stop-controlled intersections and right-in right-out (RIRO) movements, delay is reported as maximum side street approach delay; this is because Synchro's weighted average delay would unfairly weight major street approaches that experience no delay. The results for each intersection along SR 365 in the study area are provided in **Table 2-3**. Three additional intersections – Cagle Road at White Sulphur Road, SR 51 at SR 52, and Main Street at Athens Street – that were screened for potential recommendations are also included in the table.

Table 2-3 Existing Year (2022) Intersection Delay Along SR 365 *Data Source: Synchro, 2022*

Intersection	Control Type	Delay (seconds/vehicle) / LOS	
		AM	PM
I-985 Southbound @ Jesse Jewell Parkway	Signal	14.1 / B	11.4 / B
I-985 Northbound @ Jesse Jewell Parkway	Signal	18.5 / B	17.5 / B
SR 365 @ Lanier Tech Drive/YMCA Drive	Signal	16.9 / B	19.1 / B
SR 365 @ RaceTrac Driveway	RIRO	9.9 / A	13.6 / B
SR 365 @ Ramsey Road	Signal	11.7 / B	10.3 / B
SR 365 @ QT Driveway	RIRO	14.4 / B	10.0 / B
SR 365 @ BP Driveway	RIRO	0.0 / A	0.0 / A
SR 365 @ White Sulphur Road	Signal	11.8 / B	33.4 / C
SR 365 @ Chiplan Drive/Abit Massey Way	Minor Stop	0.3 / A	20.0 / C
SR 365 @ Kubota Way/Whitehall Road	Minor Stop	198.0 / F	420.2 / F
SR 365 @ Americold Driveway	Minor Stop	31.8 / D	19.9 / C
SR 365 @ Cagle Road	Minor Stop	32.5 / D	80.2 / F
SR 365 @ Howard Brothers Driveway	Minor Stop	0.0 / A	26.1 / D
SR 365 @ Dollar General Driveway	RIRO	12.9 / B	9.2 / A
SR 365 @ Lula Road	Signal	24.0 / C	16.9 / B
SR 365 @ Exxon Driveway	RIRO	9.7 / A	10.8 / B
SR 365 @ Athens Street	Minor Stop	41.5 / E	89.7 / F
SR 365 @ Belton Bridge Road	Minor Stop	36.2 / E	52.5 / F
Cagle Rd @ White Sulphur Road	Minor Stop	9.6 / A	10.1 / B
SR 51 @ SR 52	Minor Stop	9.9 / A	9.1 / A
Main St @ Athens Street	All-Way Stop	14.6 / B	10.8 / B

All the six signalized intersections along SR 365 operate at LOS C or higher in both the AM and the PM peak hours for the existing year (2022) volumes. Four of the seven minor stop-controlled intersections along SR 365 have a minor approach that operates at LOS F in one or both peak hours: Kubota Way/Whitehall Road (AM and PM), Cagle Road (PM), Athens Street (PM), and Belton Bridge Road (PM). All five of the RIRO driveways operate at LOS B or better in the AM and PM peak hours.

2.4.5 Crashes

Crash data for the SR 365 corridor was available from the Numetric database for the period of January 2017 through December 2021. The crash data was separated into two categories: (1) crashes associated with an intersection on SR 365 and (2) crashes occurring on a mainline segment of SR 365.

2.4.5.1 2017-2021 Intersection Crashes

After the data was separated by intersection and segment crashes, the crashes associated with an intersection were analyzed further. None of the intersections with crashes within the study area appeared in GHMPO's list of the 10 intersections with the highest crash rates in the metropolitan planning organization region. The three intersections with the highest intersection crash rates within the study area were identified and analyzed. An intersection crash rate is defined as the number of crashes per million entering vehicles at an intersection. The three intersections and their associated crash rates are as follows:

1. SR 365 at Lula Road – 3.78 crashes per million entering vehicles;
2. Jesse Jewell Parkway at I-985 southbound ramps – 2.46 crashes per million entering vehicles; and
3. SR 365 at White Sulphur Road – 2.06 crashes per million entering vehicles.

The study area intersection crash data was analyzed according to the manner of collision, as summarized in **Figure 2-39**. The data displayed is for the past five years (2017 to 2021). When analyzing all crash data, rear-end crashes are the predominant crash type, accounting for 62.3 percent of crashes, followed by angle crashes, which account for 19.9 percent of all crashes. Head-on collisions accounted for 6.3 percent of all crashes from 2017 to 2021. Crashes only involving trucks tend to have a higher proportion of angle crashes (34.1 percent) and a lower proportion of rear-end crashes (41.2 percent); head-on collisions account for 9.4 percent of truck-related crashes, a higher proportion of all crashes.

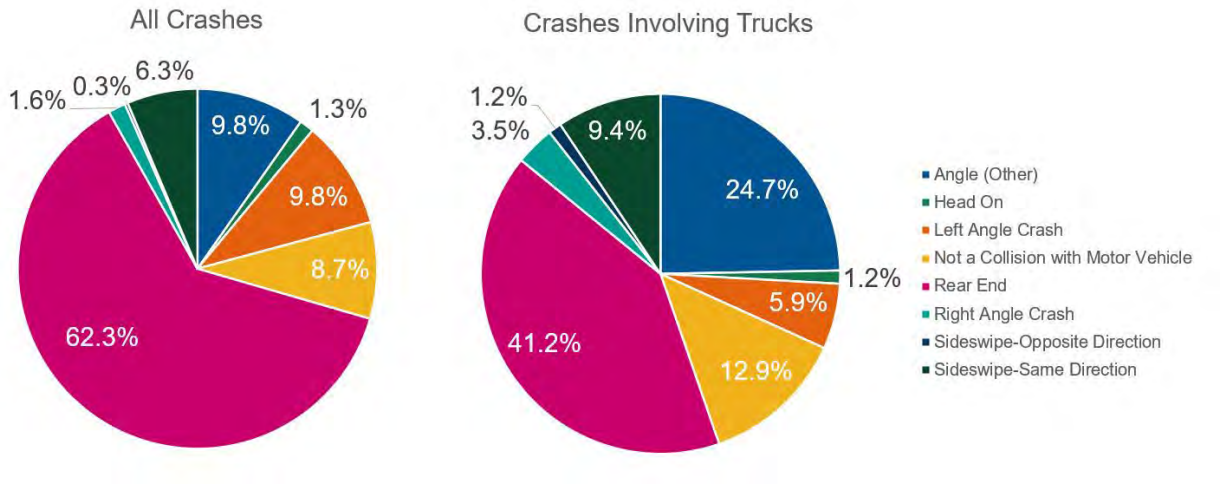


Figure 2-39 Crash Frequency by Manner of Collision *Data Source: Numetric, 2017 – 2021*

The study area intersection crash data was also analyzed according to crash severity for 2017 to 2021, as summarized in **Figure 2-40**. GDOT categorizes crash severity into five distinct groups: Fatal Injury (K), Suspected Serious Injury (A), Suspected Minor/Visible Injury (B), Possible Injury/Complaint (C), and No Injury (O). For all intersection crashes from 2017 to 2021, 0.3 percent of crashes resulted in a fatality while 27.3 percent of crashes resulted in some level of injury. Crashes only involving trucks had a slightly higher percentage of both fatal crashes (1.6 percent) and injury-related crashes (33.3 percent). A total of four fatal crashes occurred in the study area from 2017 to 2021 at the following locations:

- SR 365 at Belton Bridge Road (2019) – improper yielding;
- SR 365 at Athens Street (2018) – improper yielding;
- Old Cornelia Highway at Miller Drive (2018) – pedestrian; and
- SR 365 at Lanier Tech Drive (2017) – lost control of vehicle (rain).

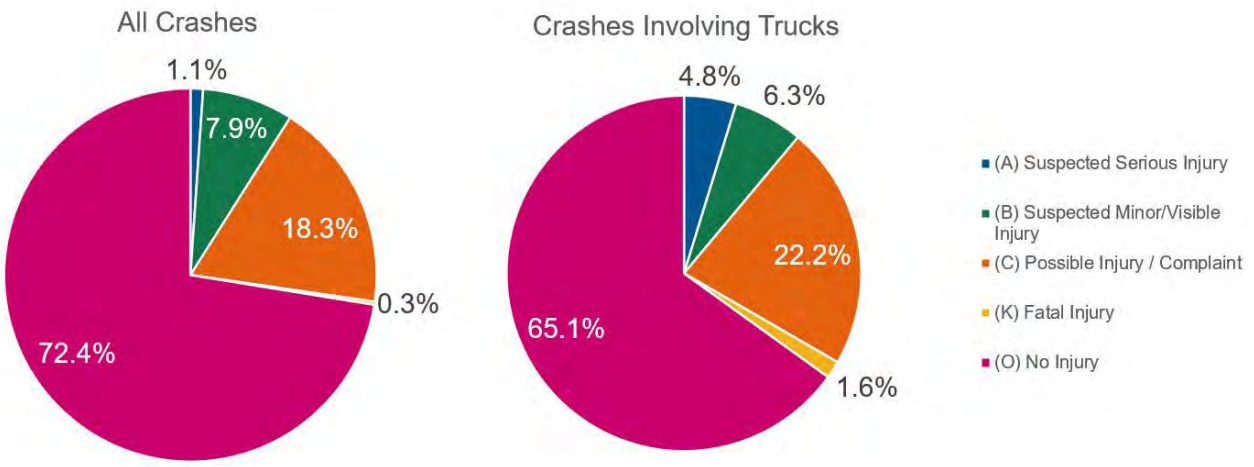


Figure 2-40 Crash Frequency by KABCO Severity *Data Source: Numetric, 2017 – 2021*

2.4.5.2 2017-2021 Mainline Segment Crash Rates

To analyze crashes along segments of SR 365 between intersections, segmented crash rates were compared to the GDOT statewide average (SWA) crash rates for similar functional classes for the years. Segments were defined as portions of SR 365 within the study area between the intersections of study. A segment crash rate is defined as the number of crashes per million vehicle miles (MVM) traveled along a road segment. The years 2017 – 2021 were used in this analysis to reflect the past five years of data available at the time of the traffic analysis in 2022. For each year, the calculated crash rate for each segment was compared to the total SWA crash rate per 100 MVM. The 2020 SWA accounts for COVID and thus does not skew the analysis.

There was one segment along SR 365 in the study area that had crash rates exceeding the SWA crash rate for the corresponding year. This was the short 0.18-mile segment just north of Lula Road; crash rates exceeded the SWA in 2017 (crash rate = 447, SWA crash rate = 160), 2018 (crash rate = 243, SWA crash rate = 162), and 2019 (crash rate = 476, SWA crash rate = 160).

Other than the above segment, there were no other segments along SR 365 in the study area that had a crash rate greater than the SWA. Some segments had crash rates between 50 and 100 percent of the SWA crash rate, but in general this was not consistent within every year in the five-year period – the average of the five years would generally produce a crash rate lower than 50 percent. The one segment that consistently had a crash rate between 50 and 100 percent of the SWA crash rate was the 0.29-mile segment just south of YMCA Drive/Lanier Tech Drive.

Figure 2-41 displays the average segmented crash rates (from 2017 – 2021) along SR 365 as a percentage of the average SWA crash rates (from 2017 – 2021).

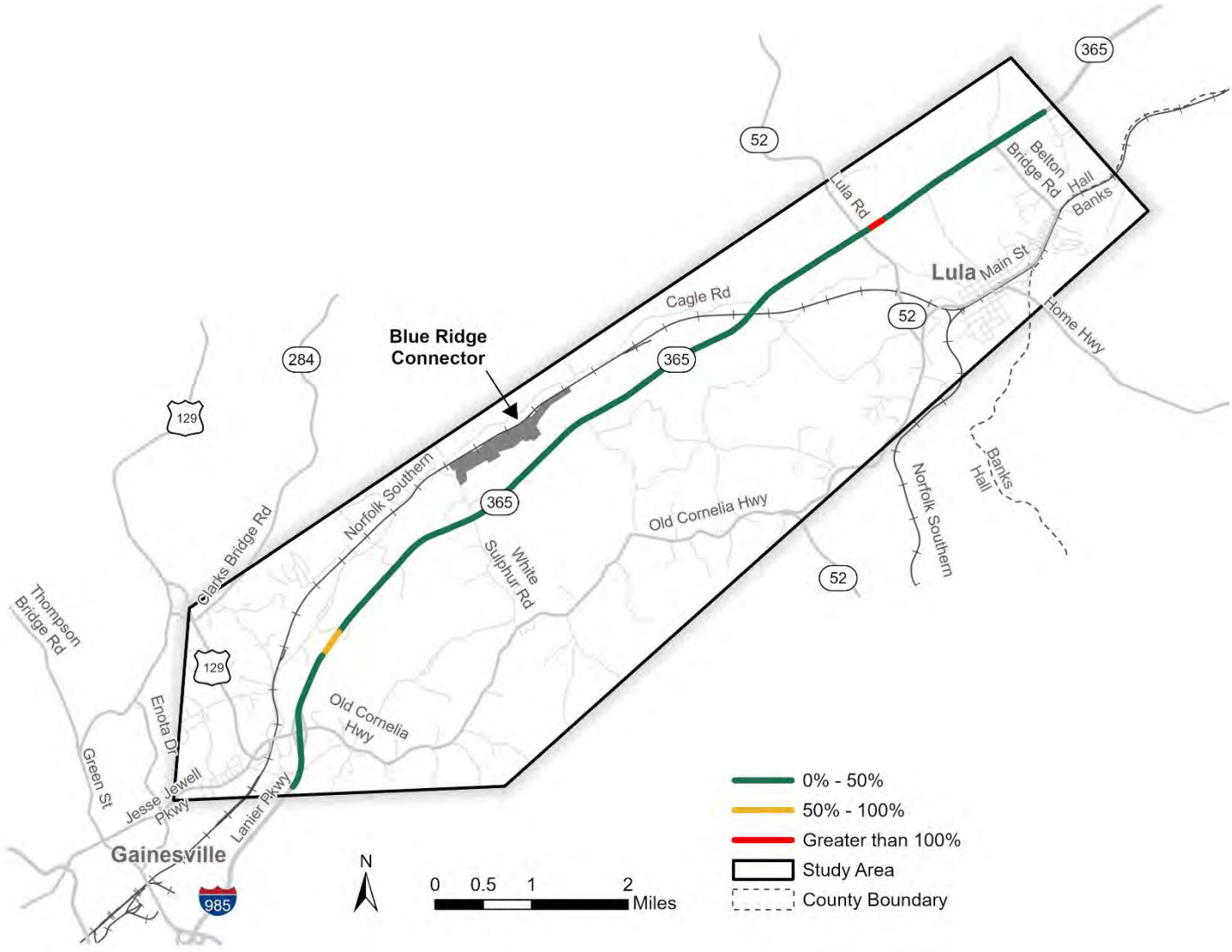


Figure 2-41 2017-2021 Segment Crash Rates Comparison to Statewide Averages *Data Source: Numetric, 2017-2021*

3 Future Conditions

This section provides an overview of the anticipated future conditions of the SR 365 corridor and study area. Planned community attributes such as land use and development along with future traffic conditions based on the anticipated population and employment growth for the area are discussed in this section. These conditions assume the future baseline, which only includes transportation improvements that are funded. Proposed improvements to the corridor and study area are then compared to this baseline to understand their impacts and benefits on the community. The list of funded improvements assumed is included in this section.

3.1 Community Attributes

This section summarizes future and planned community attributes for the SR 365 study area, including future land use, Developments of Regional Impact (DRI), planned developments, and programmed roadway improvements pertinent to future conditions. The data were collected from Hall County, the Georgia Department of Community Affairs, GDOT, and study stakeholders. This information ultimately informed the SR 365 study in understanding how the community anticipates areas will develop based on the adopted Comprehensive Plan along with identifying future trip generators that may increase travel demand and traffic in the study area.

3.1.1 Future Land Use

Adopted in June 2022**,** Hall County's newly adopted *2022 Comprehensive Plan* designates SR 365 as a Primary Employment Corridor, which is defined as a well-functioning corridor that facilitates vehicular traffic flow and promotes bicycle and pedestrian connectivity while preventing encroachment onto adjacent neighborhoods.[35] The plan defines the primary future land uses for this corridor, including industrial uses, business parks, technology-based operations, and an employment activity center identified at the intersection of SR 365 and SR 52 and shown in **Figure 3-1**. A community crossroad, an intersection characterized by clustered commercial development, was also identified in the study area at Old Cornelia Highway and Oconee Circle.

[35] Hall County. Hall County Comprehensive Plan, 2022. https://www.hallcounty.org/153/Comprehensive-Plan

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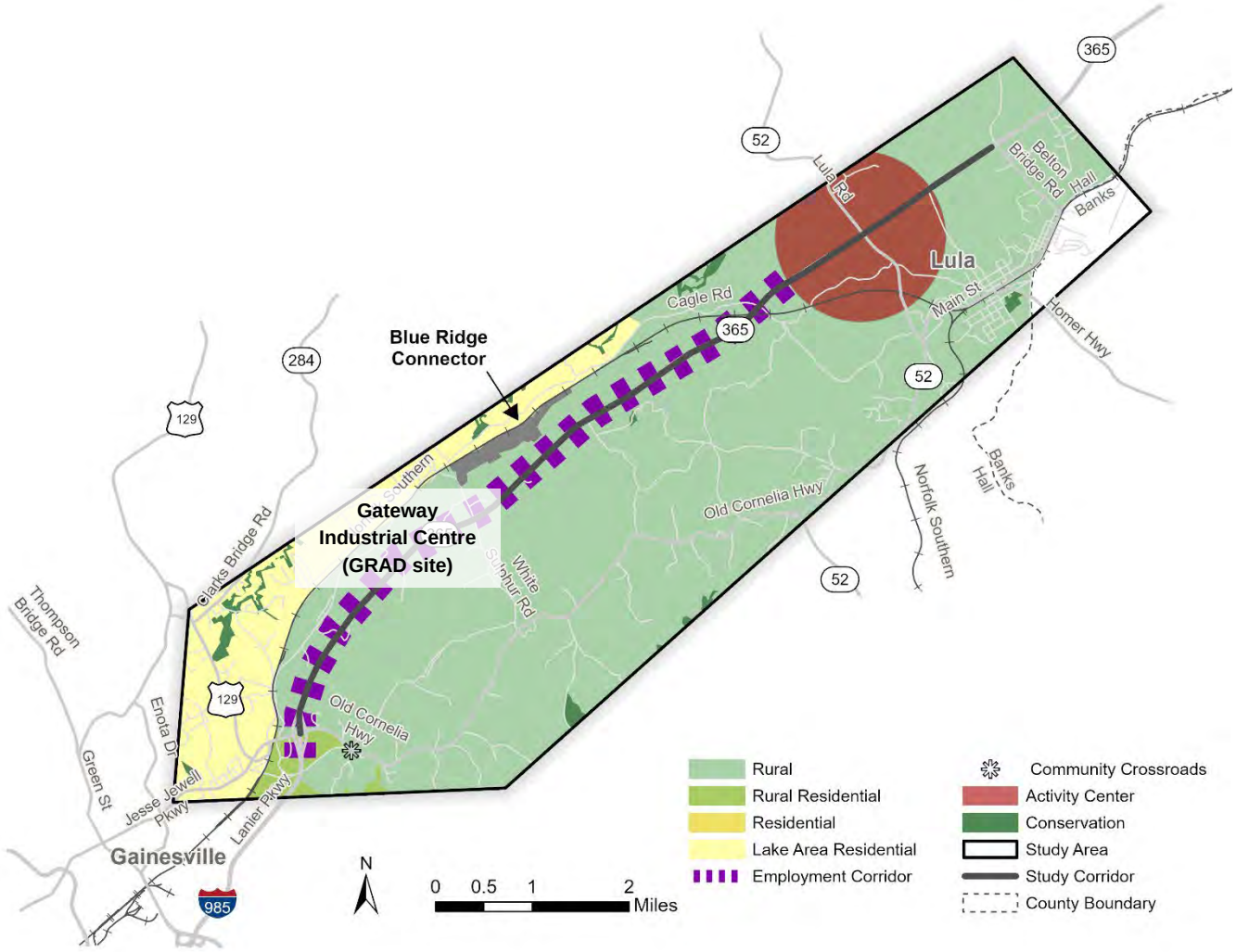

Figure 3-1 Hall County Future Land Use *Data Source: Hall County Comprehensive Plan, 2022*

3.1.2 Planned Development

In recent years, the study area has experienced significant growth with many ongoing and planned developments. Designated in 2017 as a Georgia Ready for Accelerated Development (GRAD) site, Gateway Industrial Centre's recent developments include the Georgia Ports Authority Blue Ridge Connector, Kubota Manufacturing of America, and other warehousing sites. This GRAD site is located near the Blue Ridge Connector, as seen in **Figure 3-1**. Furthermore, study stakeholders have identified several key planning developments throughout the study area, including an elementary school and a regional sports complex.

The GRAD site is a total of 483 acres, with certified parcels ranging from five to 67 acres. Additionally, the site is noted to have water, sewer, gas, and electric utilities, as well as access to the adjacent Norfolk Southern railroad, high-speed fiber access, and an existing industrial zoning designation.

The Blue Ridge Connector is a planned inland port intended to increase rail capacity and connectivity between the Port of Savannah and major manufacturing sites around the state. The Blue Ridge Connector is expected to open by 2026 with volumes of 60,000 containers per year and to alleviate approximately 36 million truck miles in

the first year of operation. The primary entrance to the Blue Ridge Connector is planned along White Sulphur Road, just north of SR 365.

Several DRIs have been identified as a result of the GRAD site. The Georgia Mountains Regional Commission approves developments that qualify for DRI review in Hall County and the SR 365 study area. Because DRIs are large-scale developments that may possibly have effects outside the jurisdiction in which they are located, the DRI review process is designed to inform neighboring jurisdictions and various state agencies to allow feedback and necessary preparation for any possible impacts. While qualifications vary based on the development type, common thresholds include:

- Office development greater than 400,000 gross square feet;
- Industrial development greater than 500,000 gross square feet, or employing more than 1,600 workers, or covering more than 400 acres; and
- Housing with greater than 400 new lots or units.

Table 3-1 presents the eight developments in the study area that have qualified for DRI review since 2017 as well as pertinent planned developments noted by stakeholders, also shown in **Figure 3-2**. The map ID from the table is indicated on the figure. Further, shaded rows on the table indicate that the development is a DRI. The planned developments were included in the traffic forecasting analysis, completed in 2022, and presented at working group meeting #3 in February 2023.

Table 3-1 Planned Developments Within Study Area

Map ID	Project Name	Development Type	Daily Trips	Projected Completion Date	DRI Review
1	Gainesville Township	Mixed Use	18,540	2035	Yes
2	J Melvin Cooper Youth Sports Complex	Government	(see Gainesville Township)	2025	No
3	Limestone Greenway	Mixed Use	13,980	2024	Yes
4	Inland 365 Business Center	Mixed Use	10,140	2032	Yes
5	Moss Farm	Residential	4,490	2025	Yes
6	Cagle 52 Business Park	Industrial	4,100	2033	Yes
7	Kubota Site Extension	Industrial	2,580	2030	No
8	Sandra Dunagan Deal Elementary School	Government	2,390	2024	No
9	Lanier Tech Apartments	Residential	2,020	2025	No
10	Belton Bridge Townhomes	Residential	1,810	2025	Yes
11	Lula Road Industrial	Industrial	1,660	2030	No
12	Highway 365 Industrial	Industrial	1,640	2028	Yes
13	White Sulphur Apartments	Industrial	1,630	2023	No

Map ID	Project Name	Development Type	Daily Trips	Projected Completion Date	DRI Review
14	Inland Port	Industrial	740	2026	No
15	Truck Parking	Industrial	150	2023	Yes

Source: GA Department of Community Affairs (DCA), SR 365 Working Group, 2017-2023

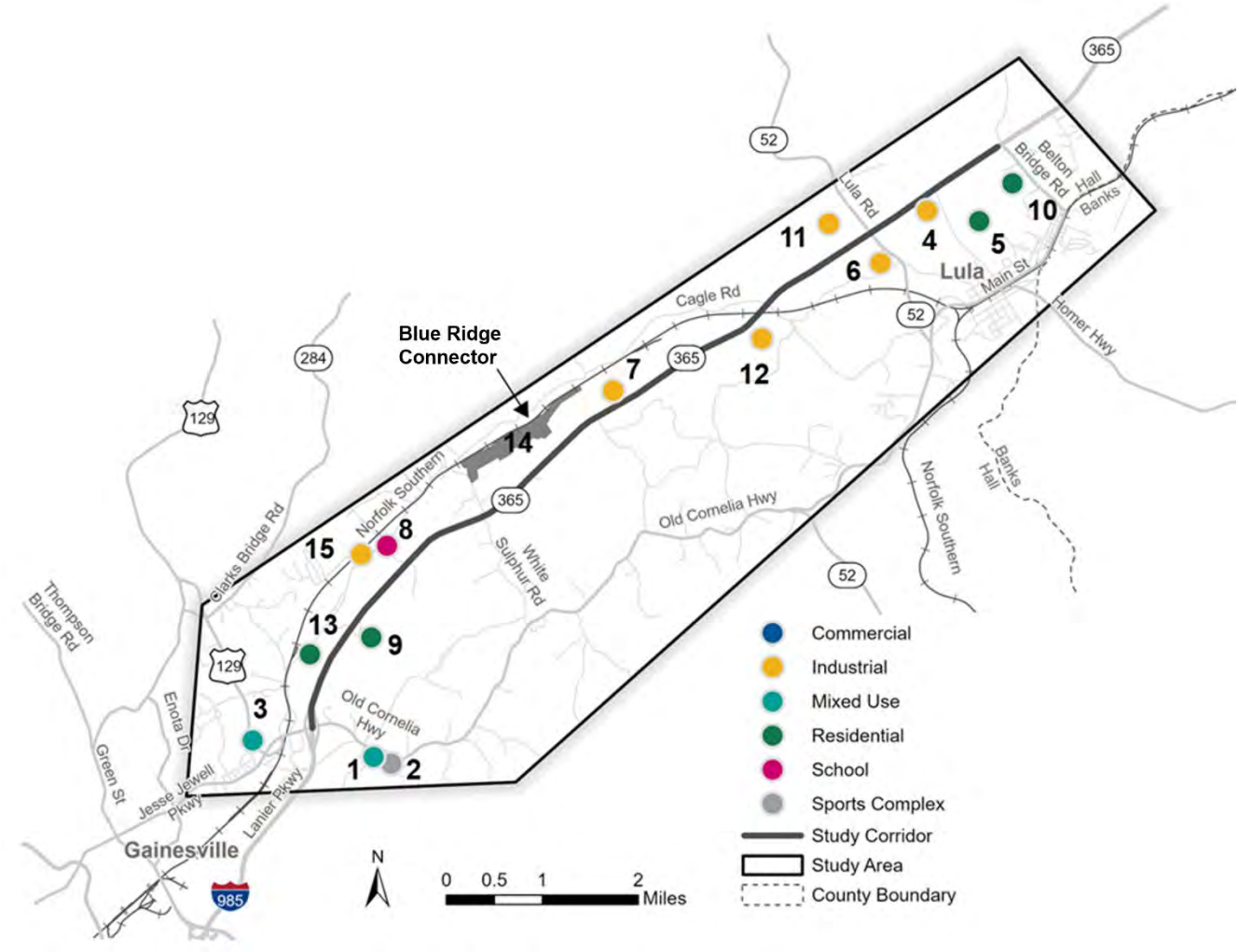

Figure 3-2 Planned Development Within Study Area *Data Source: GA DCA, SR 365 Working Group, 2017-2023*

Along with the total number of trips associated with planned developments in the study area, generators of industrial truck trips were identified to understand where additional truck demand may occur in the area. Projected daily truck trip data were collected for industrial planned developments within the study area and are presented in **Table 3-2**. Based on the proposed driveway locations for the planned developments, key intersections for the Blue Ridge Connector shown in **Figure 3-3** for anticipated industrial entry and exit include:

- SR 365 and White Sulphur Road;
- SR 365 and Cagle Road; and
- SR 365 and SR 52.

The map IDs on the table correspond with the numbers in the figure.

Table 3-2 Projected Daily Truck Trips for Planned Industrial Developments

Map ID	Project Name	Daily Truck Trips	Driveway Location(s)
1	Inland 365 Business Center	1,120	2 entrances – Lula Road
2	Blue Ridge Connector	700	1 entrance – White Sulphur Road
3	Highway 365 Industrial	540	1 entrance – Cagle Road 2 entrances – SR 365
4	Cagle 52 Business Park	450	1 entrance – Lula Road 1 entrance – Cagle Road 1 entrance – Howard Brothers
5	Kubota Site Extension	280	1 entrance – Kubota Way
6	Lula Road Industrial	180	1 entrance – Lula Road 1 entrance – SR 365
7	Truck Parking	150	1 entrance – White Sulphur Road

Source: GA DCA, SR 365 Working Group, 2017-2023

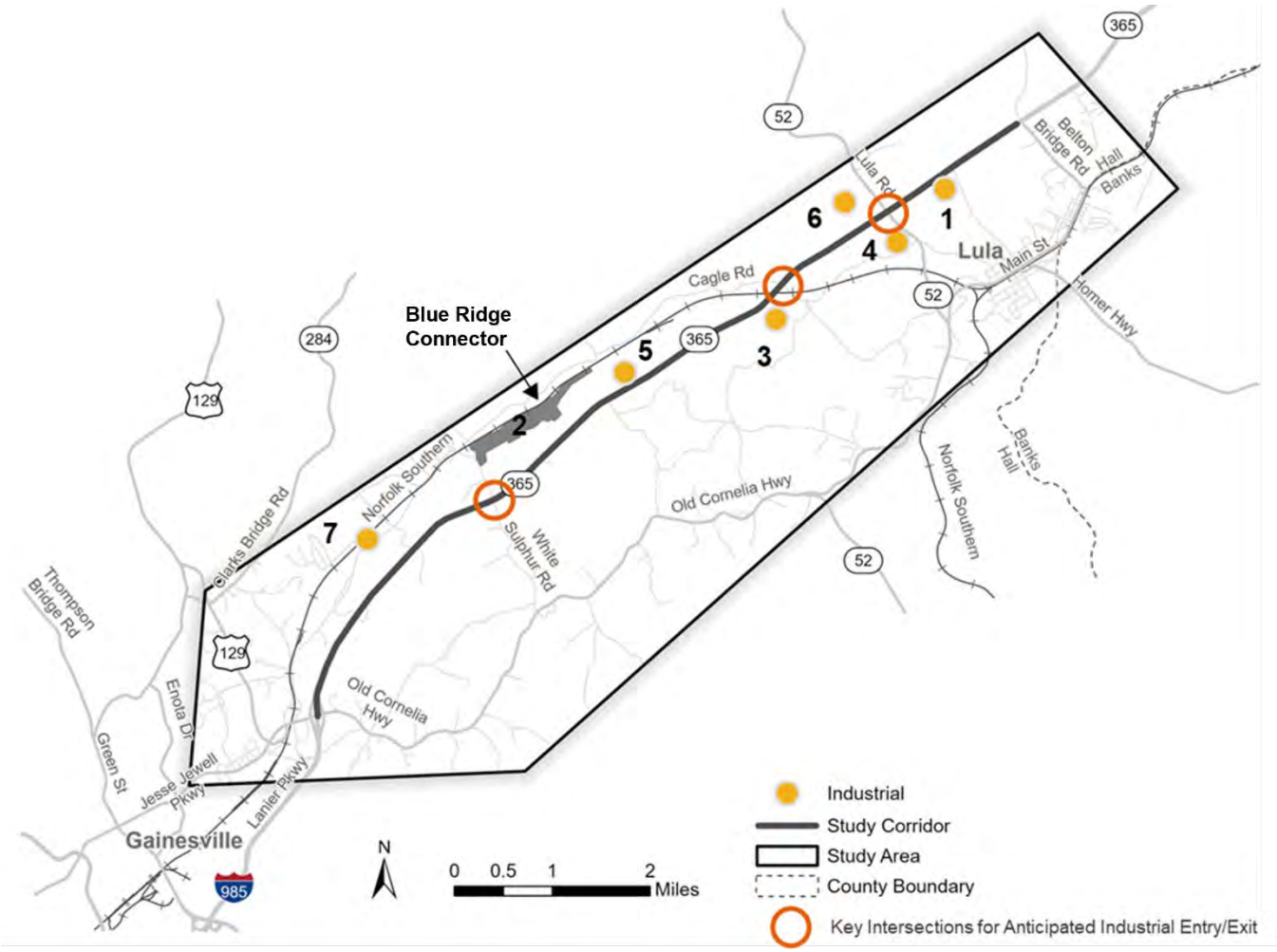

Figure 3-3 Planned Industrial Development Within Study Area *Data Source: GA DCA, SR 365 Working Group, 2017-2023*

3.1.3 Planned Transportation Projects

In addition to planned development, planned transportation projects were identified to understand where programmed improvements are expected to occur within the study area. Information regarding planned transportation projects was gathered from GDOT, GHMPO, and local jurisdictions including Hall County. Presented in **Table 3-3**, 14 planned projects, including many widening projects along major corridors such as US 129 and I-85, were identified. Furthermore, Hall County staff noted two roadway projects within the study area along White Sulphur Road and Cagle Road intended to improve existing roadway operations and connectivity. Improvements along White Sulphur Road include realigning the roadway to avoid two at-grade railroad crossings, which will facilitate truck flow in and out of the inland port and eliminate delays due to trains. Identified planned transportation projects were also used to support future year modeling scenarios and were included in the respective modeling years based on anticipated opening year to the public. These projects are indicated by checkmarks in the table.

Table 3-3 Planned Transportation Projects in SR 365 Study Area

Project ID	Project Description	Project Type	Location	Additional Lanes	Construction Year	2030 Model	2050 Model
0009679	Sprout Springs Road from I-985 to Union Circle – Phase I	Widening	Hall	2	2019	✓	✓
0013545	I-85 from North of SR 53 to North of SR 11/US 129	Widening	Jackson	2	2020	✓	✓
0015245	I-85 from SR 11 to SR 15	Widening	Banks, Jackson	2	2021	✓	✓
0015702	SR 53 from Ahaluna Drive to Shallowford Road	Widening	Hall	2	2025	✓	✓
0003626	Sardis Road Connector from SR 60 to Sardis Road near Chestatee Road	Widening	Hall	2	2025	✓	✓
0016074	SR 365 at Howard Road – New Interchange	New Construction	Hall		2025	✓	✓
N/A	White Sulphur Road Realignment	Reconstruction/ Rehabilitation	Hall	0	2023	✓	✓
N/A	Cagle Road Paving	Reconstruction/ Rehabilitation	Hall	0	2023	✓	✓
122060	SR 11/US 129 from Lakeview Street to South of Nopone Road – Phase I	Widening	Hall	2	2026	✓	✓
0016862	SR 11/US 129 from Limestone Parkway to north of Brittany Court – Phase II	Widening	Hall	2	2030		✓
0016863	SR 11/US 129 from Limestone Parkway to North of Brittany Court – Phase III	Widening	Hall	2	2030		✓
132610	SR 60 from South of SR 136 to North of Yellow Creek Road	Widening	Hall	2	2030		✓
0015246	I-85 from North of SR 82 to North of SR 98	Widening	Jackson	2	2034		✓
0015247	I-85 from North of SR 98 to North of SR 15	Widening	Jackson	2	2035		✓

3.2 Future Travel Patterns (2050)

This section details the travel patterns and travel demands along the study area corridor and the surrounding roadway network in 2050. Future travel patterns were forecasted using the GHMPO TDM, which is used for regional and corridor-level analyses across Hall and Jackson Counties.

TDM analysis results represent daily (24-hour) conditions that reflect an average experience a roadway user can expect throughout the day. Therefore, actual conditions may vary based on the time of day and fluctuations in peak and off-peak travel. Further traffic analysis results that account for the peak-hour period are presented in Section 3.3.

3.2.1 Methodology

Key data sources integrated into the development TDM future year scenarios included:

- Existing roadway network using GDOT 2020 Road Inventory Database;
- Socioeconomic data using census and GHMPO-adopted projection data;
- Programmed GDOT, GHMPO, and local roadway projects; and
- Blue Ridge Connector projected data from Georgia Ports Authority.

Further information on how data was used from each source is detailed below.

3.2.1.1 Socioeconomic Data

To forecast future year (2050) travel demand, the 2020 Base Year TDM was updated to reflect future year socioeconomic data for populations, households, and employment using the adopted forecasts from GHMPO. The adopted data illustrate growth rates based on the recent exponential growth in the area and reflect several planned developments as discussed in Section 3.1. A few minor adjustments were made to some areas within the 2050 model where there were inconsistencies in socioeconomic patterns from 2020. For example, an area that had a significant population in 2020 and showed a significant decline in population in 2050 was adjusted so that the population was at least equal to that of 2020.

The socioeconomic data was estimated based on the average annual growth rate between 2020 and 2050. The growth rate between 2020 and 2050 was checked for reasonableness against data from both REMI and the Georgia Governor's Office of Planning and Budget, which are established sources for population and employment projections.

3.2.1.2 External Station Counts

External stations are used to represent physical locations where vehicles can enter or exit the modeling area. The 2019 count information from the GDOT traffic count stations near the boundary of the modeling area was used to account for the base year. Historical traffic count growth and socioeconomic growth trends were evaluated for each location, and the annual growth rate was applied to estimate the traffic volumes at these locations for 2050.

3.2.1.3 Special Generators

To account for the Blue Ridge Connector in the TDM, a special generator, i.e., a facility that has different trip generation characteristics than other facilities in the model, was created for the site of the proposed Blue Ridge Connector location. For the future year models, Blue Ridge Connector trips were manually adjusted to reflect information received from the Georgia Ports Authority, indicating a total of 740 trips will enter or exit the port

facilities (700 trucks, 40 vehicles). It was assumed that 370 vehicles will enter (350 trucks, 20 vehicles) and 370 vehicles will exit daily. It was also assumed that 30 percent of the trucks either originate or end their trips within the study area and 70 percent originate or end outside of the study area. This distribution is based on observed origin and destination patterns using INRIX.

No other planned developments were treated as special generators in the model considering that the regional growth reflected in the socioeconomic data is relatively high and likely captured by the regional growth trends. However, the socioeconomic data for the planned development locations were manually reviewed to confirm that the growth reflected for those TAZs is reasonable given the type of development.

3.2.1.4 Roadway Network

The GDOT 2020 Road Inventory Database was used to determine the base roadway network for the future year TDM scenarios. The database includes the functional classification of roadways along with the number of through lanes. Furthermore, the future year model for 2050 is classified as Existing + Committed, which includes any recently constructed or soon to be constructed capacity projects (Existing) plus any planned projects noted in **Table 3-3** that are anticipated to be completed by 2050 (Committed). The future model represents how the transportation network will function if only the previously identified projects are completed. The data from the model helps to identify additional gaps or deficiencies in the network in which to focus the SR 365 Planning Study recommendations related to capacity and LOS for drivers. Fourteen planned projects are included in the 2050 model.

3.2.2 Future Year Travel Demand Model Results (2050)

The future year TDM includes existing and committed projects from **Table 3-3** for the year 2050. The model provides estimates of the level of congestion and amount of delay anticipated throughout the GHMPO region including Hall and Jackson Counties.

3.2.2.1 Level of Service

By 2050, congestion will increase significantly across the region, even when accounting for previously mentioned programmed transportation projects and improvements. **Figure 3-4** shows LOS will deteriorate to F along many roadways across the region, particularly along east-west connections between the study area and I-85.

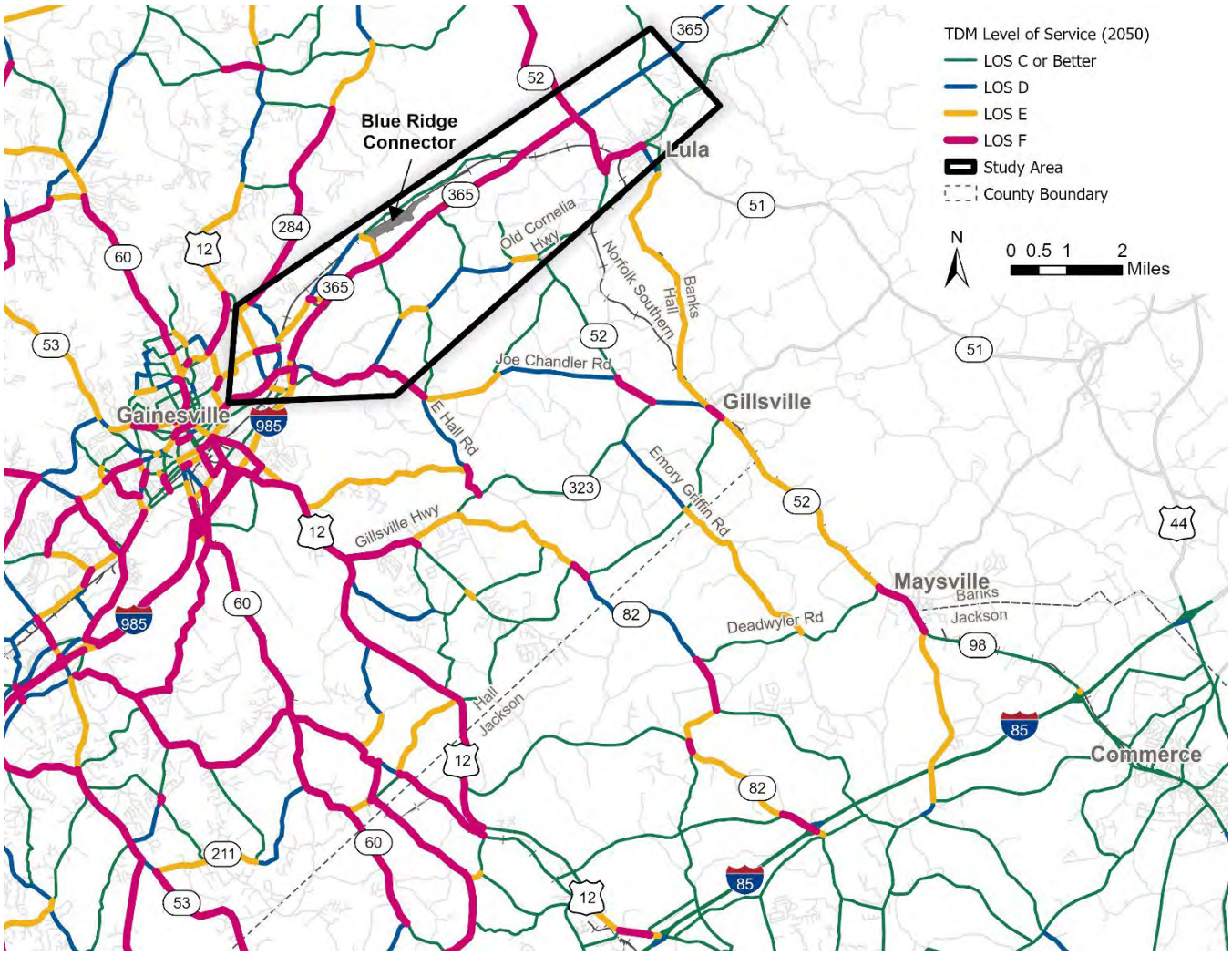

Figure 3-4 2050 Regional LOS

Within the study area, SR 365 will experience high levels of congestion as much of the corridor will operate at LOS F, and the portion north of SR 52 will operate at LOS D or E, indicating high levels of congestion. Several roads near Gainesville and Lula, as well as portions of Old Cornelia Highway and White Sulphur Road, will also experience increased congestion. **Figure 3-5** illustrates the LOS within the study area for 2050.

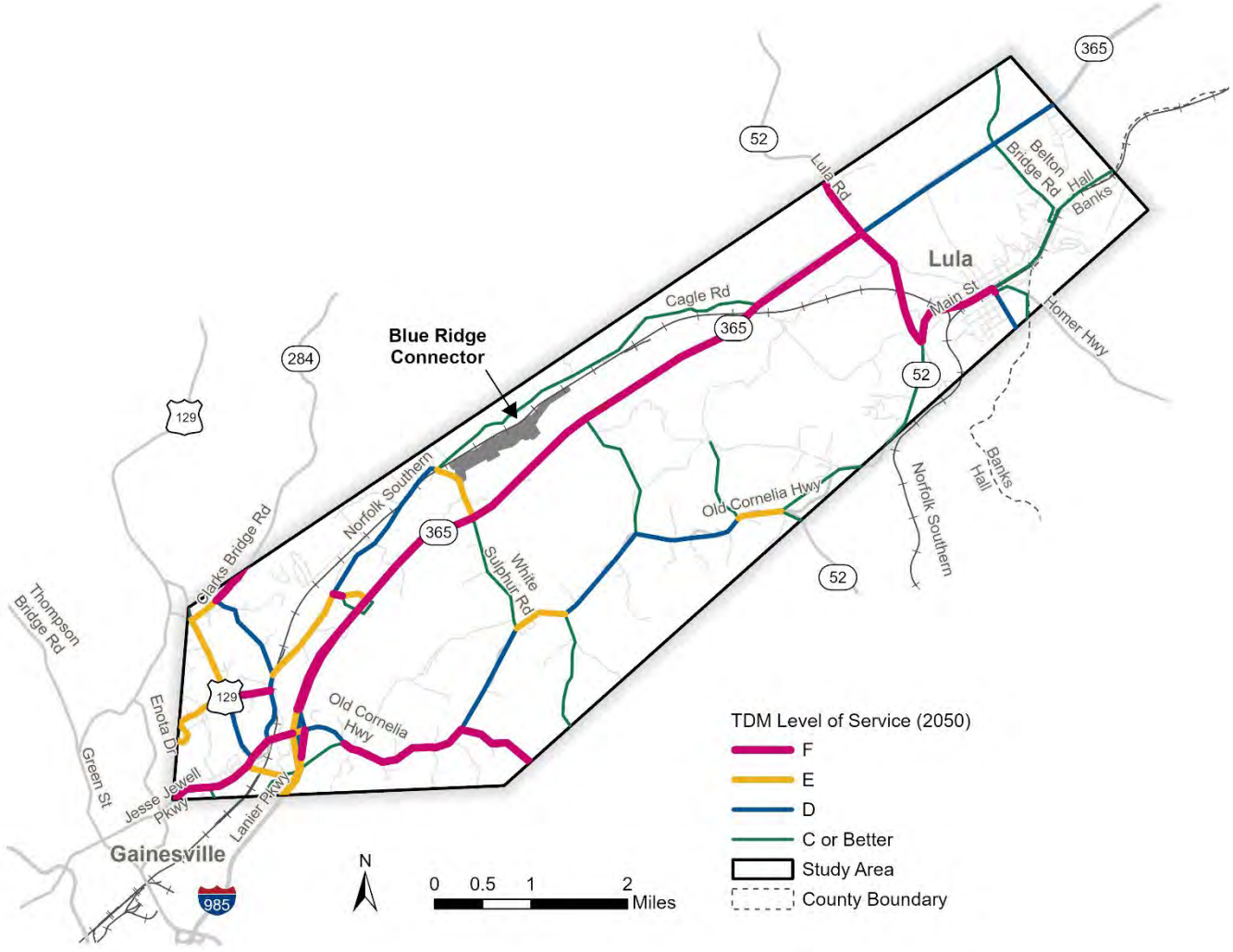

Figure 3-5 Study Area 2050 LOS

3.2.2.2 Truck Volumes

Truck volumes were gathered from the TDM. **Figure 3-6** shows that the TDM predicts that congestion, total number of vehicles, and truck volumes will all increase in the study area by 2050 as development and growth continue. Truck volumes on local roads will remain similar to those observed for 2020 in Lula with up to 500 trucks per day. Other local roads such as Old Cornelia Highway, White Sulphur Road, and Simpson Road will experience increases of 500 to 2,500 trucks per day. By 2050, the highest truck volumes on SR 365 will remain south of White Sulphur Road. There will also be an increase in truck volumes on the corridor north of White Sulphur Road compared to 2020.

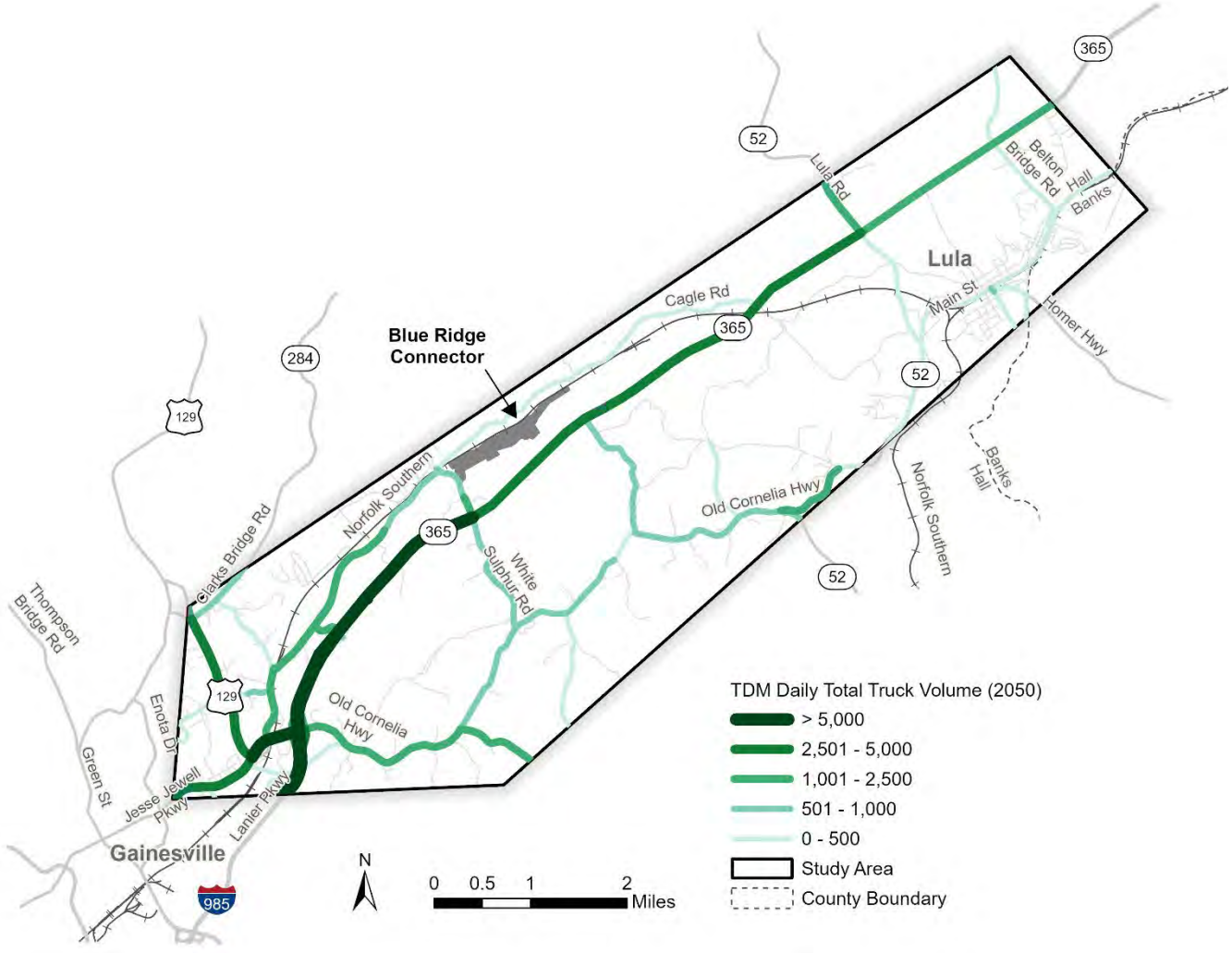

Figure 3-6 2050 Truck Volumes

3.2.2.3 Bottlenecks

Bottleneck reduction was identified as an objective of both the GHMPO Regional Freight study and the Georgia Freight Plan. The TDM predicts that by 2050, bottleneck areas will continue to expand across the study area and cover nearly the entire length of SR 365 from I-985 to Belton Bridge Road. **Figure 3-7** shows that widespread delay will be experienced along SR 365. Bottlenecks will occur around SR 52, US 129, and Jesse Jewell Parkway.

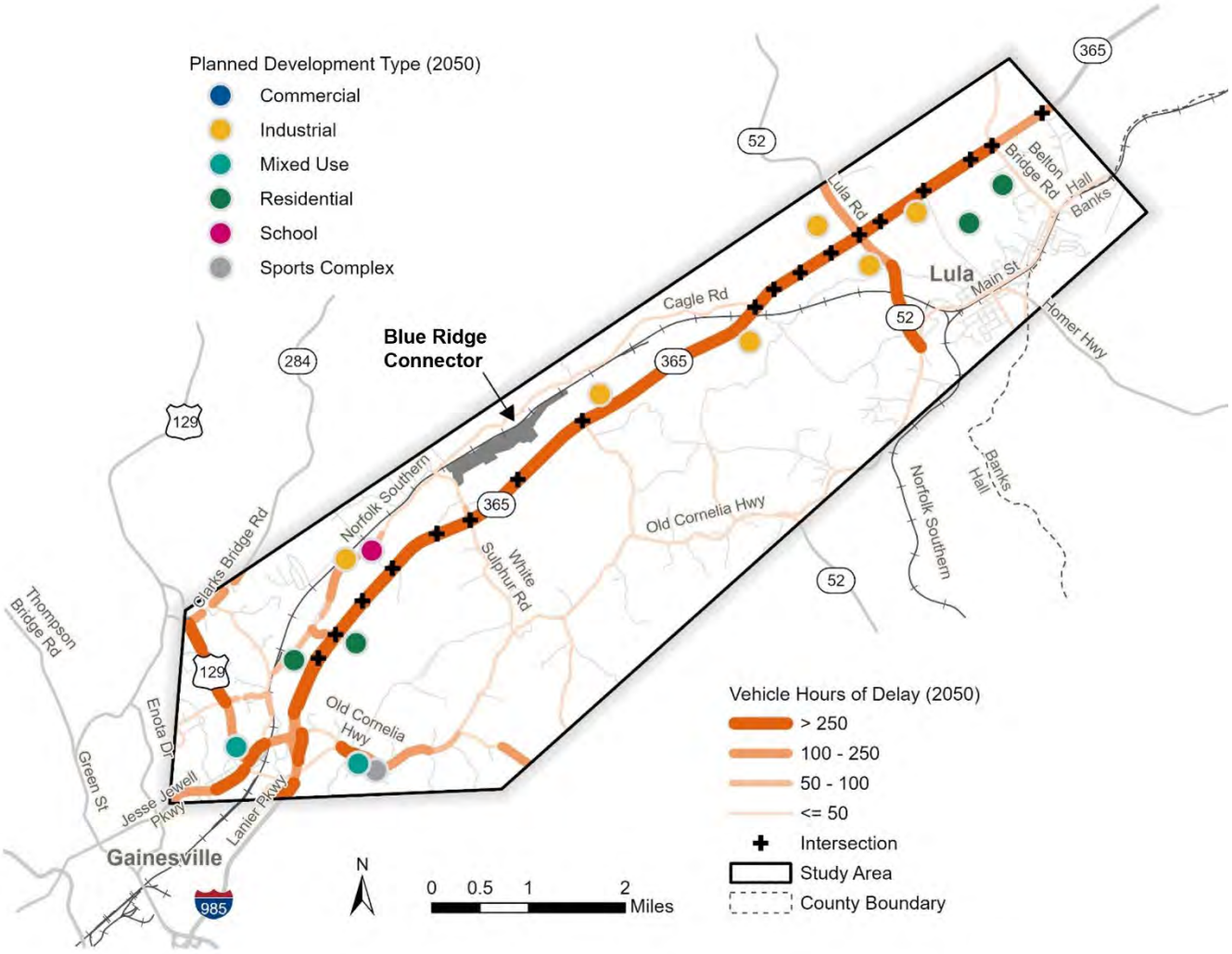

Figure 3-7 2050 Delay

3.2.2.4 Travel Demand Model Summary

The future year model for 2050 incorporates the anticipated population and employment growth, planned transportation projects, and the Blue Ridge Connector. All factors, particularly the overall growth in population and employment in the region, will likely have a significant impact to the current transportation network in terms of its effectiveness to provide mobility and access for residents and commuters. LOS will decrease in the study area and across the region, particularly on state routes such as SR 365. Furthermore, local roads are forecasted to experience deteriorating LOS as drivers identify alternate routes to avoid congestion along primary roadways. **Table 3-4** provides a summary of LOS for key roadways within the study area.

Table 3-4 LOS Forecast for Study Area Roads

Road Segment	2020 LOS	2050 LOS
SR 365 from I-985 to SR 52	D / E	F
White Sulphur Road from SR 365 to US 129/Jesse Jewell Parkway	C or Better	D / E
SR 52 from SR 365 to Main Street	D / E	F
Jesse Jewell Parkway from I-985 to SR 11 Connector	D / E	F

Anticipated travel times for key corridors in the study area were estimated and compared to free-flow travel times. Travel times for 2020 and 2050, shown in **Table 3-5**, were calculated from TDM outputs, with free-flow travel times obtained from Google Maps. Overall, travel times along many corridors are expected to double, with SR 365 travel from Old Cornelia Highway to Belton Bridge Road expected to increase from 18 minutes in 2020 to 41 minutes by 2050.

Table 3-5 Study Area Future Travel Times

Road Segment	Free-Flow Travel Time	2020 Travel Time	2050 Travel Time
SR 365 from Old Cornelia Highway to Belton Bridge Road	16 minutes	18 minutes	41 minutes
Old Cornelia Highway from I-985 interchange to SR 52	10 minutes	13 minutes	26 minutes
White Sulphur Road from SR 365 to US 129/Jesse Jewell Road	8 minutes	8 minutes	18 minutes

3.3 Future Traffic Operations

In addition to analyzing future capacity, the study team evaluated future traffic operations in 2030 and 2050 using projected future year traffic volumes. The projected background future volumes were calculated by multiplying the existing (2022) traffic volumes by an average annual growth rate (short term for 2030 and long term for 2050). Expected additional trips from the planned developments discussed in Section 3.1.2 were then overlaid on top of the background growth in the model to obtain projected future volumes on an intersection level for the study area; this process is explained in greater detail in Section 3.3.1. The methods for calculating expected traffic delay in 2030 and 2050 for intersections along SR 365 based on the future volumes are described in Section 3.3.2.

3.3.1 Volumes

This section outlines the methodology used to project future volumes in the study area. Traffic analysis used historical traffic counts.

3.3.1.1 Background Growth Rates

Study-wide growth rates were developed to project 2030 and 2050 traffic volumes. These growth rates were calculated using historical traffic count data from the GDOT Traffic Analysis and Data Application (TADA), historical U.S. Census population data for Hall County and surrounding counties, projected socioeconomic data from the 2050 GHMPO RTP, and projected future population data for Hall County and surrounding counties from the Governor's Office of Planning and Budget. Following is a summary of each of these sources:

- Historical GDOT TADA data was analyzed for 46 count stations within the study area. For each station, raw AADT count data were gathered for a 10-year period of 2012 to 2022 (excluding 2020-2021 due to COVID). For each year of available raw count data, the corresponding monthly and daily traffic factors were applied to adjust the raw count data. An average annual growth rate was developed for each station based on the adjusted AADT data for each year of available data. A weighted average growth rate based on volume for all of the stations was then calculated as 3.46 percent.
- Historical U.S. Census population data was gathered for years 2010 and 2020 for Hall, Habersham, Banks, and Jackson Counties. Counties surrounding Hall County were included to accurately capture regional growth trends. Growth rates for each county were combined into a single weighted average growth rate of 1.32 percent.
- As discussed in Section 3.2.1.1, socioeconomic data was gathered from the GHMPO TDM for future year 2050 and compared to existing census socioeconomic data for Hall and Jackson Counties. The 2020 and 2050 population and employment data was gathered and combined into a single weighted annual growth rate of 2.62 percent.
- Office of Planning and Budget population projections were obtained for the base year 2020 and future year 2050 for Hall, Habersham, Banks, and Jackson Counties. Growth rates for each county were combined into a single weighted average growth rate of 1.18 percent.

The historical TADA growth rates for the study area are significantly higher than the future projected growth rates from the other sources; this indicates that although there is a significant amount of development/growth in the region in the short term, the growth is not expected to be sustained for the long term within the study area. Therefore, the study team opted to develop a short-term growth rate to represent more immediate rapid growth and development anticipated for the period from existing year 2022 to 2030, and a long-term growth rate to represent more reasonable and conservative growth further in the future for the period of T to 2050. Each growth rate source was weighted differently for the short term and long term.

Table 3-6 Growth Rate Summary

Source	Growth Rate	Short-Term Weight	Long-Term Weight
Historical GDOT TADA Count Station Data	3.46%	30%	-
Historical U.S. Census Population Data	1.32%	30%	-
Socioeconomic Data	2.62%	20%	50%
Office of Planning and Budget Population Projections	1.18%	20%	50%

Source	Growth Rate	Short-Term Weight	Long-Term Weight
Final Growth Rate		**2.19%**	**1.90%**

The final short- and long-term growth rates presented in **Table 3-6** were used to develop projected future year volumes for the years 2030 and 2050, respectively. For example, a road segment in the study area with an existing peak hour volume of 1,000 vehicles in 2022 would have a projected 2030 volume of 1,189 (based on the 2.19 percent annual short-term growth rate) and a projected 2050 volume of 1,732 (based on the 1.90 percent annual long-term growth rate).

3.3.1.2 Growth From Additional Developments

In addition to the projected background 2030 and 2050 traffic volumes, volumes expected to be generated from the planned developments outlined in Section 3.1.2 were included. The expected number of trips generated by each of the 15 planned developments in the study area was determined using available DRI information, as well as findings of previously completed traffic impact analyses or traffic impact studies provided by GDOT District 1. In cases where no trip data were available from these sources, the study team used the procedures provided in the 10th Edition of the Institute of Transportation Engineers (ITE) Trip Generation Manual to estimate the number of daily, AM peak hour, and PM peak hour trips. The Trip Generation Manual stipulates the use of attributes such as site size to predict the number of expected trips.

To distribute the generated trip volumes for each planned development throughout the study area, the study team used the following approaches:

- For planned developments that were an industrial or warehousing land use type, the study team used existing RITIS NextGen Trip Analytics origin-destination data for TAZs in the study area with existing industrial facilities to determine reasonable origin-destination splits for industrial trips traveling in/out of the study area via major street routes.
- For all other planned developments, the study team distributed trip volumes throughout the study area based on the existing splits determined based on the TMC data collected in 2022.

Upon distributing the planned development trip volumes throughout the study area network, these volumes were then added to the projected background growth in the study area to determine the final projected future year no-build 2030 and 2050 traffic volumes.

3.3.2 Delay

As with the existing (2022) volumes, intersection-level delay for the future year no-build conditions in 2030 and 2050 was modeled using Synchro. The Synchro models for the no-build delay simulate intersection operations with the increased traffic volumes, as outlined in Section 3.3.1, and the assumption that only programmed improvements are incorporated. Thus, these models have the same existing geometry as 2022 with the only updates being the programmed transportation improvements (outlined in Section 3.1.3).

Intersection delay results for the year 2030 are provided in **Table 3-7**. Of the five signalized intersections along SR 365 in the study area, three operate at LOS F in one or both peak hours: Ramsey Road (AM), White Sulphur Road (PM), and Lula Road (AM and PM). Of the seven minor stop-controlled intersections along SR 365 in the study area, most tend to operate at LOS F in the AM and PM peak hours, except for intersections with low volumes on the minor approaches. Operations at the RIRO intersections in the study area vary from LOS A to LOS F.

Table 3-7 Future Year (2030) Intersection Delay Along SR 365 *Data Source: Synchro, 2022*

Intersection	Control Type	Delay (seconds/vehicle) / LOS	
		AM	PM
I-985 Southbound @ Jesse Jewell Parkway	Signal	25.4 / C	21.2 / C
I-985 Northbound @ Jesse Jewell Parkway	Signal	32.7 / C	22.2 / C
SR 365 @ Lanier Tech Drive/YMCA Drive	RIRO	0.0 / A	0.0 / A
SR 365 @ Ramsey Road	Signal	119.8 / F	58.4 / E
SR 365 @ QT Driveway	RIRO	50.6 / F	14.2 / B
SR 365 @ BP Driveway	RIRO	0.0 / A	0.0 / A
SR 365 @ White Sulphur Road	Signal	39.7 / D	111.1 / F
SR 365 @ Chiplan Drive/Abit Massey Way	Minor Stop	0.3 / A	56.6 / F
SR 365 @ Kubota Way/Whitehall Road	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Americold Driveway	Minor Stop	78.4 / F	40.1 / E
SR 365 @ Cagle Road	Minor Stop	180.2 / F	*300+ / F*
SR 365 @ Howard Brothers Driveway	Minor Stop	85.4 / F	*300+ / F*
SR 365 @ Dollar General Driveway	RIRO	13.8 / B	10.0 / B
SR 365 @ Lula Road	Signal	131.0 / F	205.9 / F
SR 365 @ Exxon Driveway	RIRO	9.9 / A	14.6 / B
SR 365 @ Athens Street	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Belton Bridge Road	Minor Stop	*300+ / F*	*300+ / F*
Cagle Road @ White Sulphur Road	Minor Stop	10.2 / B	10.7 / B
SR 51 @ SR 52	Minor Stop	10.7 / B	9.9 / A
Main Street @ Athens Street	All-Way Stop	72.7 / F	22.8 / C

300+ / F indicates that delay exceeds 300 seconds/vehicle.

Intersection delay results for the year 2050 are provided in **Table 3-8**. All five signalized intersections along SR 365 in the study area operate at LOS F in one or both peak hours; the Ramsey Road, White Sulphur Road, and Lula Road intersections operate at LOS F in both the AM and PM hours, some with delay exceeding 300 seconds per vehicle. These intersections do not have the ability to service the additional expected future volume in the study area. Six of the seven minor stop-controlled intersections along SR 365 in the study area operate at LOS F in the AM and PM peak hours; the exception is the Chiplan Drive intersection, which has zero volume in the AM peak hour. Chiplan Drive likely had vehicles entering during a different time of day outside of the AM peak hour selected. The AM and PM peak hours for the study were chosen based on traffic patterns on SR 365. Ultimately, the study peak hours were not shifted to more accurately capture Chiplan Drive traffic because the road accounts for only a very small portion of the total traffic volume of the study area.

The high delay at minor stop-controlled approaches indicates that vehicles on side streets are unable to make a movement onto the SR 365 mainline. Operations at the RIRO intersections in the study area vary from LOS A to LOS F but are significantly worse in comparison to the future year 2030.

Table 3-8 Future Year (2050) Intersection Delay Along SR 365 *Data Source: Synchro, 2022*

Intersection	Control Type	Delay (seconds/vehicle) / LOS	
		AM	PM
I-985 Southbound @ Jesse Jewell Parkway	Signal	141.1 / F	93.4 / F
I-985 Northbound @ Jesse Jewell Parkway	Signal	120.0 / F	78.2 / E
SR 365 @ Lanier Tech Drive/YMCA Drive	RIRO	0.0 / A	0.0 / A
SR 365 @ Ramsey Road	Signal	275.4 / F	219.6 / F
SR 365 @ QT Driveway	RIRO	94.6 / F	21.8 / C
SR 365 @ BP Driveway	RIRO	0.0 / A	0.0 / A
SR 365 @ White Sulphur Road	Signal	171.7 / F	*300+ / F*
SR 365 @ Chiplan Drive/Abit Massey Way	Minor Stop	2.2 / A	*300+ / F*
SR 365 @ Kubota Way/Whitehall Road	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Americold Driveway	Minor Stop	*300+ / F*	292.6 / F
SR 365 @ Cagle Road	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Howard Brothers Driveway	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Dollar General Driveway	RIRO	257.9 / F	12.8 / B
SR 365 @ Lula Road	Signal	*300+ / F*	*300+ / F*
SR 365 @ Exxon Driveway	RIRO	11.6 / B	63.0 / F
SR 365 @ Athens Street	Minor Stop	*300+ / F*	*300+ / F*
SR 365 @ Belton Bridge Road	Minor Stop	*300+ / F*	*300+ / F*
Cagle Road @ White Sulphur Road	Minor Stop	11.4 / B	12.7 / B
SR 51 @ SR 52	Minor Stop	12.5 / B	10.9 / B
Main Street @ Athens Street	All-Way Stop	*300+ / F*	158.7 / F

300+ / F indicates that delay exceeds 300 seconds/vehicle

4 Stakeholder and Public Engagement

Stakeholder and public engagement were a vital component of the SR 365 Planning Study. Stakeholders and the public were given opportunities to provide input on the vision for the study area and the existing challenges, as well as feedback regarding the study findings. To increase the opportunity for stakeholders and the public to provide feedback, the engagement process was divided into three distinct categories of engagement: Working Groups, Stakeholder Interviews, and Public Meetings.

4.1 Working Group Meetings

Working group meetings were held four times from the beginning to the conclusion of the study and included individuals from the following stakeholder groups:

- Gainesville-Hall Metropolitan Planning Organization
- City of Gainesville
- City of Lula
- GDOT District 1
- Hall County Planning Department
- Hall County Public Works
- Hall County Schools
- Hall County Transit
- Hall County Emergency Services
- Georgia Ports Authority
- Greater Hall County Chamber of Commerce
- Lanier Technical College
- Kubota Manufacturing of America
- Mar-Jac Poultry
- Candler Real Estate
- Syfan Logistics

The four working group meetings were designed to facilitate group discussions among stakeholders. The first and third meetings were held in person at the GDOT District 1 office on August 18, 2022, and April 13, 2023, respectively. The second and fourth meetings were held virtually on November 17, 2022, and March 6, 2024. Materials presented and a summary for each meeting are provided in **Appendix A**.

At the first working group meeting, stakeholders were provided with an overview of the study and were asked to rank the following challenges within the study area: resiliency, safety, congestion, and connectivity. Of the four challenges, safety and congestion were the top two priorities, with connectivity ranked third. These three challenges provided the study team with a framework for the study.

At the second working group meeting, stakeholders were provided with an overview of the preliminary study findings of the existing conditions within the study area. This included current community, environmental, and traffic model data. Stakeholders were asked to discuss these findings and provided additional information such as information regarding new county improvements on White Sulphur and Cagle Roads and data regarding projected increases in truck traffic due to the new Blue Ridge Connector.

At the third working group meeting, stakeholders were given an overview of future growth trends in the study area. Stakeholders were then spilt into small groups and discussed topics such as freight, operations, capacity, and safety. Based on these small group discussions, the study team developed a list of suggested road improvements. Finally, at the last working group meeting, stakeholders were given an overview of the potential capacity-related scenarios and operational improvements for SR 365.

4.2 Stakeholder Interviews

While the working group meetings provided opportunities for stakeholders to provide feedback in a group setting, stakeholder interviews were held to gather more detailed information and to identify concerns from individual stakeholders. The interviews were tailored with questions aimed at obtaining additional insight regarding how resiliency, safety, congestion, and connectivity impact specific stakeholder groups. The stakeholder interview questions and responses are provided in **Appendix A**.

The stakeholder groups that were interviewed included:

- Greater Hall County Chamber of Commerce Transportation Committee
- Hall County Schools
- Georgia Ports Authority
- GHMPO
- Hall County Planning and Public Works
- Lanier Technical College
- Syfan Logistics
- City of Lula

The interviews occurred virtually between October and November 2022. As described above, the interview questions were tailored to each specific stakeholder. For example, the questions for Hall County Schools asked when and where a potential new elementary school would be expected to open, what percentage of children are transported to school by bus, and if any additional administration buildings are planned. In contrast, questions at the GHMPO interview asked if there were any challenges GHMPO could foresee in terms of the planned development and transportation infrastructure along and around the SR 365 corridor, how projects in the RTP impact roadway networks in the study area, and what role the Citizens Advisory Committee (CAC) plays in the SR 365 Planning Study. The answers provided at these interviews gave the study team greater insight into the existing and future conditions of the study area.

4.3 Public Meetings

Public engagement is a vital part of a planning study by providing an opportunity for the public to offer feedback. The study team first informed the public of the study on November 3, 2022, when they presented the project at the Hall County CAC meeting. Committee members mentioned the desire for future traffic analysis to span the entirety of I-985 down to I-85.

Additionally, two public in-person meetings with an open house format were held at the GDOT District 1 office on March 1, 2023, and March 13, 2024 respectively. These meetings were advertised on GDOT's website, GDOT's social media (Facebook, Instagram, and X account), and through GDOT district communications, local government outreach, and citizen groups.

At the first public meeting, individuals were able to peruse boards showing data about the existing conditions of the study area and individuals were given an opportunity to ask questions directly to the study team. The public was also able to provide input regarding how they envisioned the future of the study area on large vision boards, an example of which is shown in **Figure 4-1**. There were over 70 attendees including representatives from Hall County, Gainesville, and Lula. Individuals also got the opportunity to analyze the project ideas for the study area at the second public meeting. **Figure 4-2** shows a resident discussing a project idea with a project team member at the second meeting.

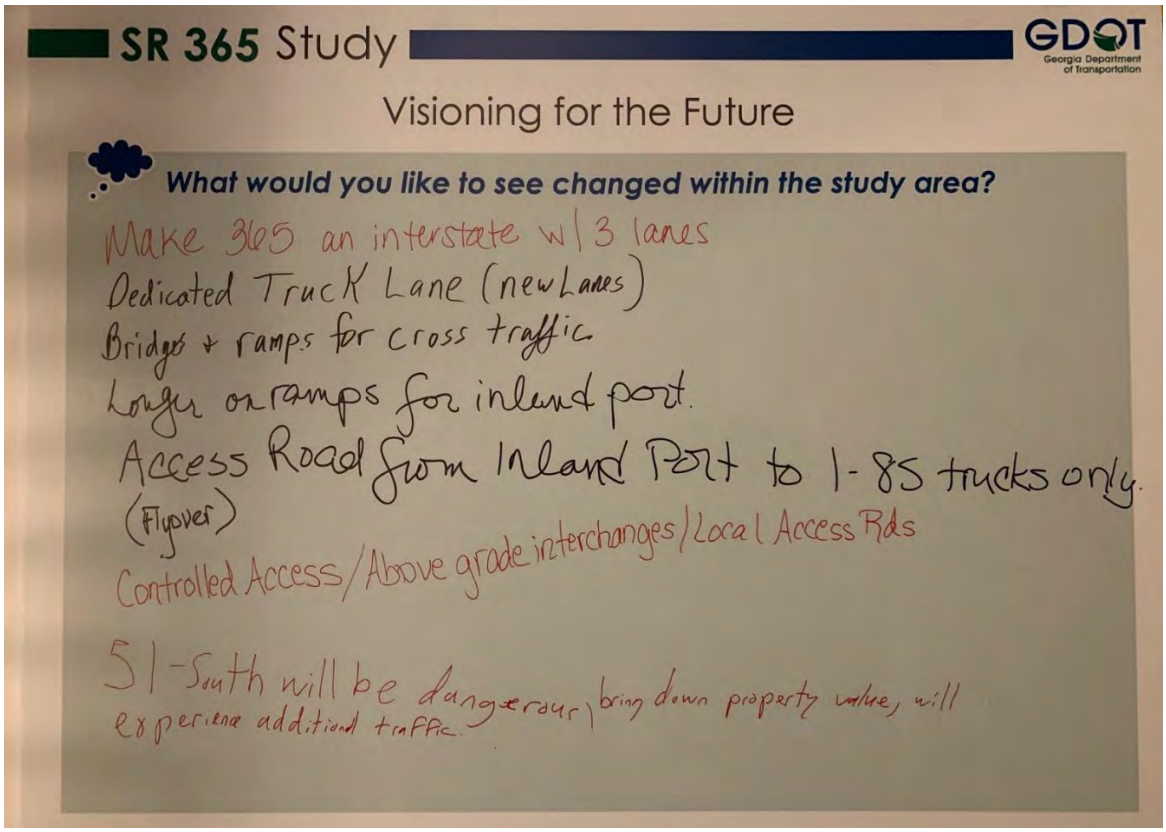

Figure 4-1 Visioning for the Future Board, Public Meeting #1 *Source: Project Team*

Figure 4-2 Resident Walked Through Public Meeting Boards, Public Meeting #1 *Source: Project Team*

Individuals had access to a feedback sheet at both meetings where they could provide any additional questions or comments. **Figure 4-3** shows the themes of public comments left at both meetings. At the first meeting, many comments pertained to operations, freight, safety, and capacity, while a few mentioned maintenance and railroads. At the second meeting, most comments were related to operations.

Appendix A includes the online survey responses, the public responses from both public meetings, and the materials presented at the meetings.

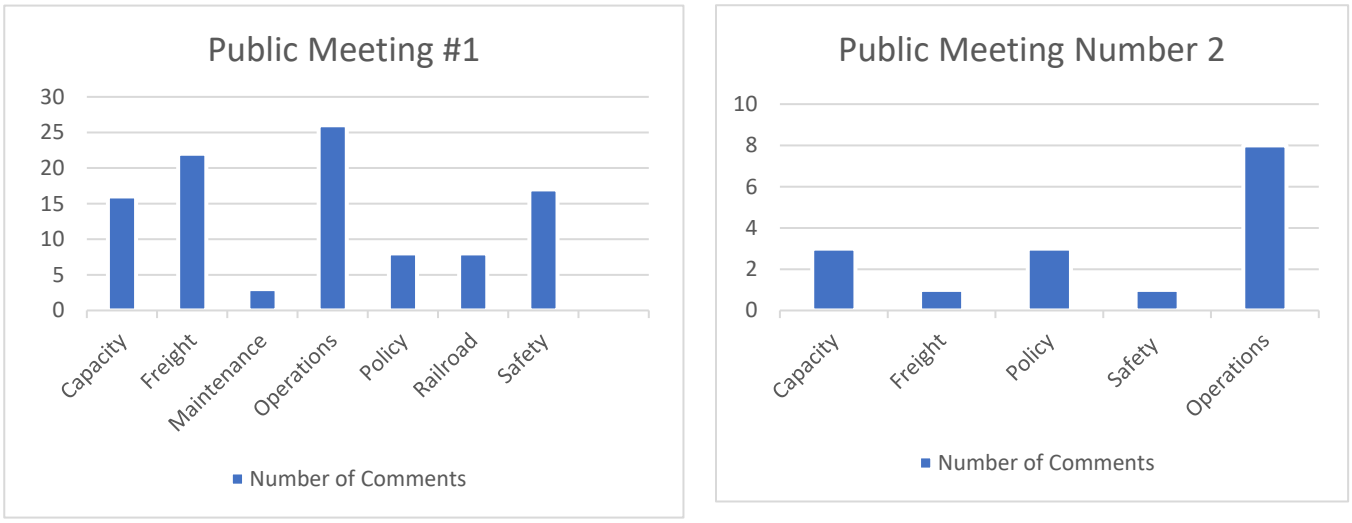

Figure 4-3 Public Meeting Comments by Topic

4.4 Public Online Survey

A public online survey was live on GDOT's website from February to May 2023 and included the following questions:

- What would you like to see changed within the study area?
- What would you like to see preserved within the study area?
- Please provide additional information or comment on the challenges experienced at the pinned locations.

The survey was shared with stakeholders in their third working group meeting invite. All survey questions were also asked on boards at the first public meeting. In total, over 50 survey responses were collected. Key themes included safety, speed, congestion, freight, and at-grade intersections along SR 365.

5 Project Identification

The study team compiled project ideas from the first public meeting in March 2023 and the third working group meeting in April 2023. The study team then held an internal working session to develop additional project ideas based on feedback and data related to existing and future conditions. Project ideas aimed to address specific challenges related to the SR 365 corridor and surrounding road network. A total of 66 project ideas were identified. Several projects were immediately screened out due to feasibility issues and inconsistency with local, regional, and state plans. Projects that were initially identified but removed from the project list for these reasons are indicated in **Table 5-1**.

Table 5-1 Initial Project Ideas Removed

Project Name	Project Description	Reason for Removal
High Occupancy Toll (HOT) Lanes on SR 365	One HOT lane in each direction.	HOT lanes should not be in isolated areas and should be built in phases from existing locations.
Reversible Lanes on SR 365	Reversible general-purpose lane (one lane). Includes ingress/egress to Blue Ridge Connector.	One additional general-purpose lane is not sufficient to address congestion issues along SR 365.
SR 365 Truck Only Lanes	Add truck only lanes (one in each direction)	Truck only lanes are not sufficient to address congestion issues along SR 365.
Parallel Route Map	Create a map to illustrate to drivers alternate routes to SR 365 and local roads in the study area.	This will not address safety and capacity issues and may only increase congestion on local, residential roads.
Norfolk Southern Coordination	Begin discussions with Norfolk Southern regarding opportunities for improvements related to grade separation at railroad crossings.	Coordination is already occurring between Georgia Ports Authority and Norfolk Southern. Any at-grade separation requires further analysis for feasibility before coordination can occur.

The remaining 61 potential projects are a combination of traffic operation improvements, capacity improvements (widenings and new roads), policies, and additional studies. The projects were separated into the three SSTP investment components listed in **Figure 5-1.**

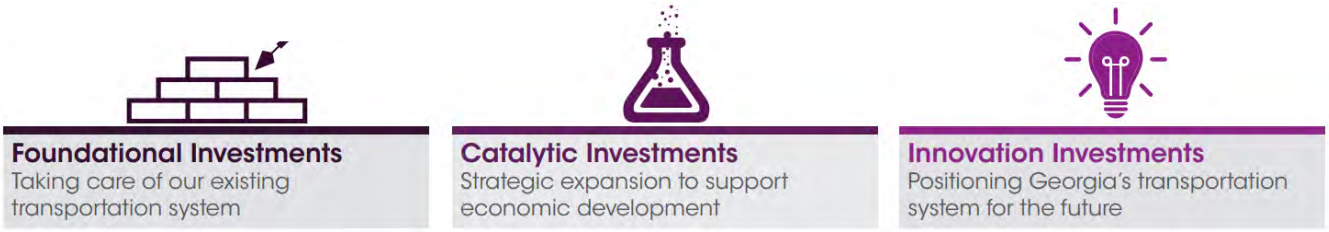

Figure 5-1 GDOT Statewide investment Components *Source: GDOT SWTP, 2022*

There are 34 Foundational project ideas, 19 Catalytic project ideas, and 8 Innovative project ideas. A full list of project ideas is provided in **Appendix B**.

5.1 Screening Process

The 61 projects identified were evaluated and screened using quantitative and qualitative measures. This process is illustrated in **Figure 5-2**. The subsequent sections provide additional detail on each analysis and project evaluation.

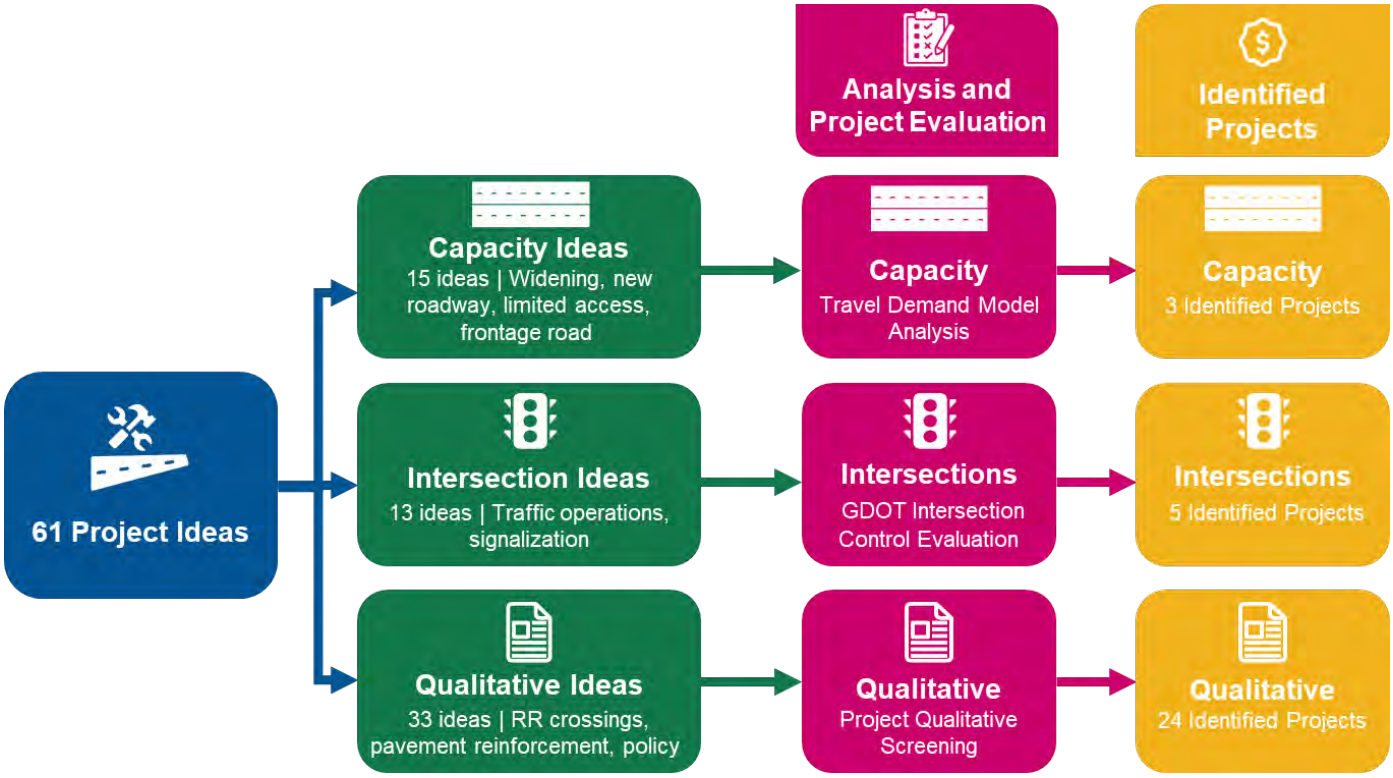

Figure 5-2 SR 365 Project Idea Screening Process

5.1.1 Traffic Demand Modeling Analysis

The study team used the GHMPO TDM to analyze and score the 15 capacity project ideas. It should be noted that four of the 15 capacity project ideas are improvements to SR 365 in which only one alternative will be considered for a final project. Additional information regarding the SR 365 alternatives analysis is provided in Section 6. The 15 capacity project ideas include widening and constructing new roads, limited-access facilities, and frontage roads and were coded and run as a package in the 2050 TDM. The study team then isolated the model outputs for each project to understand the project's impact on the road network related to vehicle delay. The scoring criteria included reduction of vehicle and truck hours delayed. Vehicle hours delayed (VHD) is the cumulative number of hours that vehicles and trucks are delayed on a daily or annual basis. The 2050 Baseline TDM was compared to the TDM that includes the project ideas, and the difference in VHD was used to determine the project's impacts to delay.

The scoring of projects was based on four criteria:

- Percent Automobile VHD Reduction;
- Total Automobile VHD Reduction;
- Percent Truck VHD Reduction; and
- Total Truck VHD Reduction.

Each criterion was worth up to 2.5 points for a total of 10 points. Each project was ranked for each criterion and points were assigned. Projects with a total score of at least 4.5 were moved forward. The 4.5-point threshold was based on natural breaks in the project scores. Eight projects did not score at least 4.5 out of 10 points and were not advanced, as indicated in **Table 5-2**.

Table 5-2 Capacity Projects Not Meeting Scoring Threshold

Project Name	Project Description	TDM Analysis Score
Athens Street Capacity Improvements	Widen from one to two lanes in each direction	1.5
Old Cornelia Highway Capacity Improvements	Widen from one to two lanes in each direction	4.0
Blue Ridge Connector Connection	A new road connection (one lane in each direction) from I-85 to the Blue Ridge Connector with grade separation over SR 365	0.0
Limestone Parkway Capacity Improvements	Widen from one to two lanes in each direction: intersection improvement at Clarks Bridge Road and Beverly Road	3.5
Extension of Belton Bridge Road	Extend one lane in each direction to SR 51	0.0
Extend SR 52 to SR 365	Extend one lane in each direction to SR 365 near the north end of the GRAD site	4.0
SR 52 Capacity Improvements to I-85	Widen SR 52 from two to four lanes from SR 365 east to I-85	0.0

Project Name	Project Description	TDM Analysis Score
Extend Lanier Tech to Old Cornelia	Extend road segment to Old Cornelia Highway	3.5

Note the following regarding these projects:

- There were two alternatives to extend Lanier Tech Drive, one to Old Cornelia Highway (listed above) and another to Oconee Circle (which passed the screening and moved forward).
- The two projects that received a score of 0 (Blue Ridge Connector Connection and SR 52 Capacity Improvement to I-85) did result in delay reductions for automobiles and trucks. However, these reductions occurred east of the study area in eastern Hall County towards I-85, and therefore, these projects did not pass the screening for the SR 365 Planning Study.

5.1.2 Intersection Analysis

The study team used GDOT's Intersection Control Evaluation (ICE) tool to determine the optimal configuration for operational improvement-related projects in the study area. Operational improvement-related projects were analyzed for the future year 2030 to represent projects that bridge the gap between short-term and longer-term capacity improvements suggested by the TDM. The GDOT ICE Tool evaluates a preferred alternative for an intersection using the following general methodology: First, the existing conditions, crash history, future year signal warrant criteria, and future projected traffic volumes are analyzed for the intersection. Then, a viable alternatives list is created based on the ICE Tool framework, and alternatives that would be applicable for the intersection are qualitatively screened. Once two to four viable alternatives for the intersection are determined, the proposed alternatives are modeled in traffic analysis software, such as Synchro (for signalized/unsignalized intersections), SIDRA (for roundabouts), and Highway Capacity Software (HCS) (for RIRO/RCUT intersections). Further, the expected crash reduction factor from the Crash Modification Factor (CMF) Clearinghouse, as well as an ICE Tool-level cost estimate (note this is different than a project cost estimate), are evaluated for each of the alternatives. Finally, a score is given to each alternative, and the alternative with the highest score is deemed the preferred alternative and advanced for further screening evaluation.

Of the intersection-related (traffic) projects, TMCs had been collected for 13 locations, which were deemed acceptable for an ICE analysis. These projects were analyzed using the 2030 volumes discussed in Section 3.3.1. These 13 preferred alternatives were analyzed with the ICE tool and then further screened using a scoring threshold to determine whether they should be moved forward into cost estimation. The preferred intersection alternatives were assigned a score from 0.0 to 10.0, where 0.0 indicates minimal improvements and 10.0 indicates the most improvements (in the context of the intersections analyzed); 5.0 of the 10.0 points were scored based on intersection delay, and the other 5.0 points were scored based on crash reduction. Scores were based on the goals of the study; thus half of the score was based on safety and the other half was based on mobility.

For the 5.0 points scored in terms of intersection delay, each intersection was ranked from 0.0 to 5.0 based on the AM and PM peak hour delay reduction, where delay reduction is defined as how much the relative delay decreases when comparing the Baseline 2030 scenario to the Preferred Alternative 2030 scenario. Therefore, intersections with a higher decrease in relative delay were given a higher score.

For the 5.0 points scored in terms of crash reduction, each intersection was ranked from 0.0 to 5.0 based on the number of crashes that would be expected to be reduced from implementation of the preferred alternative. This was done by applying the actual crash reduction factor to the number of fatality/injury and property damage only crashes at the intersection (from the 2017 to 2021 crash data); a higher weighting was given to reductions in

fatality/injury crashes. Therefore, intersections with a higher number of crashes reduced, based on severity, were given a higher score.

After aggregating the intersection delay and crash reduction scores, final weighting was applied based on the relative scores, and intersections that scored a 6.0 or higher were moved forward. Eight projects were moved forward. **Table 5-3** presents the five projects that did not move forward and their overall score.

Table 5-3 Operational Projects Not Meeting Scoring Threshold

Project Name	Project Description	Traffic Analysis Score
SR 365 at Ramsey Road Intersection Improvement	Signal operational improvements	0.5
Cagle Road at White Sulphur Road	Operational improvements to address safety and congestion	0.5
SR 365 at White Sulphur Road	Configuration or geometric improvements	3.5
SR 365 at Chiplan Drive	Operational improvements to address safety and congestion	4.0
I-985 at Jesse Jewell Parkway Interchange	Operational improvements to address safety and congestion	2.5

5.1.3 Qualitative Evaluation

A qualitative evaluation was performed for all projects that could not be evaluated with a TDM or traffic analysis. In total, 33 project ideas, including road realignments, road reinforcements, roadway enhancements such as lighting, policies, and further studies (e.g., grade separation at at-grade railroad crossings) were evaluated. The qualitative evaluation consisted of five criteria, of which projects and policies were required to meet at least three criteria to move forward. The criteria are outlined in **Figure 5-3**.

Figure 5-3 Qualitative Evaluation Criteria

Of the 33 projects, 24 projects moved through the screening and nine projects did not. The nine projects that were not advanced, along with the number of criteria met, are outlined in **Table 5-4**.

Table 5-4 Qualitative Projects Not Meeting Evaluation Criteria Threshold

Project Name	Project Description	Qualitative Score
Reinforce Crescent Drive	Reinforce road to accommodate truck weight including widening shoulders	2
Reinforce White Sulphur Road (south of SR 365)	Reinforce road to accommodate truck weight including widening shoulders	2
Reinforce Whitehall Road	Reinforce road to accommodate truck weight including widening shoulders	2
Cut Trees on SR 52 and Old Cornelia Highway	Cut tree limbs back to right-of-way boundary to improve sight distance	2
Improve Intersection at Business US 129	Improve intersection configuration at Business US 129 (note: no traffic counts were collected at this location to run traffic analysis)	2
SR 52 at Railroad Repaving	Level out at-grade crossing to smooth out transition across railroad tracks	1
Land Use Policy Coordination	Ensure that land use in the study area aligns with overall land use plans for the county and the region during the next Metropolitan Transportation Plan and Comprehensive Plan Updates by GHMPO and Hall County	1
School Bus Priority	Add signal priority roadside units at traffic signals on school bus routes	2
Coordination with Future Studies	Coordinate project recommendations that would be applicable to any future studies in the area	0

5.2 Cost Estimates

Planning-level cost estimates were developed for potential capital improvements that met the qualitative and quantitative criteria.

Estimated costs include those associated with the construction of anticipated major items, such as construction of new pavement or resurfacing of existing pavement (asphalt or concrete), maintenance of traffic during construction, prevention of erosion and stormwater pollution, earthworks (embankments and excavations), and installation of new drainage systems (open or closed systems).

Other costs include those associated with relocation, removal, and installation of utilities; right-of-way acquisition; reimbursements for impacted or displaced properties (residential or commercial); and anticipated costs for the design and preliminary engineering of each project. For each of the cost categories (construction, utilities, right-of-way, and preliminary engineering), a sample of pertinent pay items was identified and applied to the project at the engineer's discretion and based on a general analysis of probable work activities and their impacts on existing

conditions. Unit costs from GDOT's Item Mean Summary (2023) were adjusted for each pay item based on the engineer's analysis of the most recent market conditions and to reflect the limited amount of information available regarding existing and proposed conditions.

Contingencies were also applied to account for any unforeseen conditions, inflationary trends, and potential deficiencies associated with such broad, planning-level cost estimates. Low-cost projects such as maintenance were not estimated as the GDOT District Office's budget for maintenance is separate from larger capital investment.

Benefit-cost ratios were estimated for projects with benefits that can be accurately measured. Benefits include safety, travel time savings, and operational savings due to reduced vehicle delays. Therefore, only some of the projects have benefit-cost ratios due to the available data to calculate benefits.

Detailed cost estimates for projects can be found in **Appendix D**. Project benefit-cost ratios can be found in **Appendix B**.

5.3 Screened Project Ideas

As detailed in Section 5.1**,** 3 capacity, 8 operational, and 24 qualitative projects were screened through the quantitative and qualitative evaluation process. Cost estimates were developed for the 18 capital projects. Benefit-cost ratios were also calculated and reviewed, when appropriate. One of the 15 capacity projects and three of the eight operational projects were determined to be infeasible as they did not provide adequate benefits to justify the cost. **Table 5-5** lists these projects and their reason for infeasibility.

Table 5-5 Infeasible Operational Projects

Project Name	Project Description	Removal Justification
SR 52 Extension	Extension of road from Old Cornelia Highway to County Line Road	Benefit-cost ratio was only 0.11*
SR 365 at SR 52	Intersection configuration improvement to improve congestions and safety	LOS remains F in the AM and PM peak hours between baseline and build condition
SR 365 at Cagle Road	Intersection configuration improvement to improve congestion and safety	LOS remains F in the AM and PM peak hours between baseline and build condition
SR 365 at Howard Brothers Driveway	Intersection configuration improvement to improve congestion and safety	LOS remains F in the PM peak hour and improves to LOS D in the AM peak hour between baseline and build condition

**A benefit-cost ratio of 1.0 or greater indicates that the benefits of a project outweigh the costs.*

Table 5-6 lists each of the screened projects determined feasible and provides a project description, project idea origin, estimated cost (if one could be generated), and the calculated safety and operational benefit compared to the cost (benefit-cost ratio). A ratio of greater than 1.0 indicates the benefits outweigh the cost. Ideally, a benefit-cost ratio is greater than 1.2 to account for any increases in cost that could result in a low-performing project. Additional information regarding cost sources and estimated costs is provided in Section 5.2.

Operational projects were included in the final project list as optional since they could be implemented while the long-term widening and limited access project moves through the pre-construction process. These projects would provide some operational and safety improvements in the interim. Overall, while there are intersections that could be improved, the long-term solution for the corridor will be adding capacity and removing at-grade intersections.

The locations of the screened projects are shown in **Figure 5-4**.

Table 5-6 Screened Project Ideas

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
Capacity Projects				
SR 365 Improvements				
Scenario 1: SR 365 Widening	Widen SR 365 from two to three lanes in each direction. This project includes modifications to intersections. Specifics on widening into the median versus to the outside shoulders would be determined when engineering design occurs.	Project Team	$127,590,000	2.08
Scenario 2: SR 365 Widening + Limited Access	Widen SR 365 from two to three lanes in each direction. Convert three signalized intersections (SR 365 at Ramsey Road, SR 365 at White Sulphur Road, and SR 365 at SR 52) to interchanges adding ramps and a bridge over SR 365. This project would also create overpass bridges at Kubota Way/Whitehall Road and Cagle Road and remove the intersections at these locations.	Project Team	$237,870,000	1.28
Scenario 3: SR 365 Frontage Roads	Add a one-lane, one-way frontage road along SR 365 in both directions with entrance and exit slip ramps before and after each intersecting road to allow access to adjacent roads. Slip ramps would be similar to exit ramps, and intersections from ramps to adjacent roads would be stop controlled. Specifics on exact locations of frontage road and slip ramps would be determined when engineering design occurs.	Project Team	$90,210,000	2.17
Scenario 4: SR 365 Widening + Frontage Roads	Widen SR 365 from two to three lanes in each direction and add one-way frontage roads (one lane each direction) along SR 365 with entrance and exit slip ramps before and after each intersecting road to allow access to adjacent roads. Specifics on widening into the median versus to the outside shoulders,	Project Team	$196,280,000	1.62

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
	frontage roads, and slip ramps would be determined when engineering design occurs.			
SR 52 Widening	Widen from one to two lanes in each direction. This project includes modifications to intersections. Specifics on widening to the north or the south of the existing roadway would be determined when engineering design occurs.	Project Team	$59,350,000	2.21
Lanier Tech Extension	Extend Lanier Tech Drive from SR 365 to Oconee Circle. Exact alignment and location would be determined when engineering design occurs.	Stakeholders	$6,700,000	2.89
Operational Projects				
SR 365 at Belton Bridge Road	Reconfigure or make geometric improvements at the intersection. The current configuration is an unsignalized intersection with a stop sign on Belton Bridge Road. ICE indicated improvements such as signalization would benefit the intersection safety and performance. Final determination of intersection modifications would be determined when engineering design occurs.	Public Meeting	$1,130,000	N/A
SR 365 at Athens Street	Reconfigure or make geometric improvements at the intersection. The current configuration is an unsignalized intersection with a stop sign on Athens Street. The median provides space for vehicles making a left turn and includes an acceleration lane. ICE indicated improvements such as signalization and additional turn lanes would benefit the intersection safety and performance. Final determination of intersection modifications would be determined when engineering design occurs.	Project Team	$350,000	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
SR 365 at Kubota Way*	Reconfigure or make geometric improvements at the intersection to address safety and congestion. The current configuration is an unsignalized intersection with a stop sign on Kubota Way and Whitehall Road. ICE indicated restricting left turns from Kubota Way and Whitehall Road would improve the intersection safety and performance. Final determination of intersection modifications would be determined when engineering design occurs.	Public Meeting	$1,300,000	N/A
SR 51 at SR 52	Reconfigure or make geometric improvements at the intersection. The current configuration is an unsignalized intersection with a stop sign on SR 51. ICE indicated improvements such as a roundabout would benefit the intersection safety and performance. Final determination of intersection modifications would be determined when engineering design occurs.	Project Team	$3,270,000	N/A
Main Street at SR 51/Athens Street	Reconfigure or make geometric improvements at the intersection. The current configuration is a four-way stop intersection. ICE indicated improvements such as a roundabout would benefit the intersection safety and performance. Final determination of intersection modifications would be determined when engineering design occurs.	Project Team	$390,000	N/A
Other Identified Projects				
Freight Improvements				
Blue Ridge Connector Truck Only Ramp Study	This study would assess the feasibility of truck-only ramps from SR 365 to Blue Ridge Connector. The study would evaluate various alternatives for truck-only ramps including location, number of lanes, and alignment.	Public Meeting	N/A	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
Operational Improvements				
Realign White Sulphur Road (north of SR 365)	Hall County has a planned project to realign White Sulphur Road north of SR 365 to reduce the number of at-grade railroad crossings. Specific design of the realignment is under development. If the Hall County project does not straighten the curve, realign a portion of White Sulphur Road to straighten as best as possible to better accommodate trucks navigating turns, improving safety and throughput.	Stakeholders	$2,710,000	
Realign White Sulphur Road (south of SR 365)	Realign White Sulphur Road, south of SR 365, to reduce frequency and degree of curves. This will allow the road to better accommodate trucks and buses navigating, turns improving safety and throughput.	Public Meeting	$2,450,000	N/A
Realign Ramsey Road	Realign Ramsey Road to reduce frequency and degree of curves. This will allow the road to better accommodate trucks and buses navigating turns, improving safety and throughput.	Public Meeting	$6,360,000	N/A
White Sulphur Road at Railroad/Crescent Drive/Pine Valley Road Intersection Improvements	Reconfigure or make geometric improvements at these intersections. Operational improvements should include those to address safety, sight distance, and sharp turns. Further evaluation and analysis are needed to determine specific improvements.	Stakeholders	$1,050,000	N/A
Old Cornelia Highway Widening Under Railroad	Widen the tunnel under the railroad on Old Cornelia Highway between I-985 and Jesse Jewell Parkway to allow for alternate routing around the I-985 interchange.	Stakeholders	$1,940,000	N/A
Old Highway 51 Widening	If the grade separating Athens Street over the railroad is determined infeasible, widen the existing tunnel under the railroad on Old Highway 51 to accommodate vehicles.	Public Meeting	$1,630,000	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
Old Cornelia Highway at Oconee Circle Intersection Improvements	Realign intersection at Old Cornelia Highway at Oconee Circle to align better with Miller Drive.	Stakeholders	$5,160,000	N/A
Signage and Signal Improvements				
Vehicle Approaching Notification on SR 365	Add flashing vehicle approaching signs at unsignalized intersections including White Sulphur Road at Cagle Road and Howard Road at White Sulphur Road where approaching vehicles cannot be seen from stop bars. Signs are to alleviate sight distance issues and allow for safer turning decisions by drivers. Exact locations will be determined at a later date.	Project Team	N/A	N/A
Signal Notification on SR 365	Install flashing signal approaching signs on SR 365 approaching Ramsey Road, between Athens Street and SR 52, and approaching Cagle Road. These signs help notify drivers of an upcoming signal that cannot be seen due to grade changes along SR 365. Exact locations will be determined at a later date.	Project Team	N/A	N/A
SR 365 Adaptive Signal Timing	Convert signals on SR 365 to adaptive signal timing to accommodate peak hour traffic. Adaptive signal timing automatically adjusts signal cycles and duration of green and red lights based on the time of day and traffic volumes to allow for more throughput during times of congestion.	Project Team	N/A	N/A
Train Warning Improvements	Implement a communication system, including dynamic message signs, to notify drivers of approaching trains and estimated wait time duration. This system allows drivers to make decisions as to whether to wait for the train to pass or find alternate routes.	Project Team	N/A	N/A
Truck Signage Improvements	Install truck restriction signage along the SR 365 corridor to notify truck drivers of restrictions on side	Project Team	N/A	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
	roads. There should be strong enforcement of current signage, as well as evaluation of additional signage on local roads. Truck restrictions cannot be made on any state routes.			
Policy Improvements				
New Driveway Restrictions Along SR 365	Follow GDOT Policy 6755-11 – Special Encroachment Permits on Interstate and Limited Access Right of Way, even though SR 365 is not currently limited access, to restrict new driveways and allow for future use of frontage roads, auxiliary lanes, widenings, etc. Coordinate any permit requests with the State Access Management Supervisor.	Project Team	N/A	N/A
Coordinate with Developers	Coordinate with developers and property owners to include easements and right-of-way considerations in site plans for future capacity improvements.	Public Meeting	N/A	N/A
Blue Ridge Connector Operation Hours	Extend operating hours at the Blue Ridge Connector into the evening to accommodate truck drivers who prefer after hour deliveries and pickups. This helps to reduce congestion during peak hours.	Stakeholders	N/A	N/A
Right-of-Way Protection Along SR 365	Follow GDOT Policy 6755-11 – Special Encroachment Permits on Interstate and Limited Access Right of Way, even though SR 365 is not currently limited access, to allow for future use of frontage roads, auxiliary lanes, widenings, etc. Coordinate any permit requests with the State Access Management Supervisor.	Project Team	N/A	N/A
Grade Separation Improvement Studies/Assessments				
Athens Street Railroad Grade Separation Study	This study would assess the feasibility of grade separating Athens Street and the railroad to elevate	Stakeholders	N/A	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
	Athens Street over the railroad to eliminate vehicle/train conflicts.			
SR 52 Railroad Grade Separation Study	This study would assess the feasibility of grade separating SR 52 and the railroad to elevate SR 52 over the railroad to eliminate vehicle/train conflicts.	Project Team	N/A	N/A
White Sulphur Road Railroad Grade Separation Study	This study would assess the feasibility of grade separating White Sulphur Road and the railroad to elevate White Sulphur Road over the railroad to eliminate vehicle/train conflicts.	Project Team	N/A	N/A
ITS Improvements				
Freight Signal Priority	Add connected vehicle roadside units along SR 365 at signalized intersections and configure for truck signal priority during portions of daytime and during nighttime hours to move freight more efficiently along the corridor. Coordinate with logistics companies to integrate on-board units for trucks. Freight signal priority is not recommended during morning and afternoon peak travel hours.	Project Team	N/A	N/A
Maintenance Improvements				
Incident Areas/Crash Investigation Sites	Add pull-off areas along SR 365 to allow emergency responders and motorists to move incidents away from through lanes. These can also be used for crash investigations along SR 365 without requiring lane closures. Specific locations of the crash investigation sites would be determined at a later phase.	Stakeholders	N/A	N/A
SR 365 Striping and Reflector Maintenance	Inspect condition of striping and reflectors on a regular basis and re-stripe SR 365 to improve reflectivity and replace missing reflectors on an as-needed basis.	Stakeholders	N/A	N/A

Project Name	Project Description	Idea Source	Estimated Cost	Benefit-Cost Ratio
SR 365 Lighting	Assess whether the American Association of State Highway and Transportation Officials (AASHTO) lighting warrant is met and if so, follow the GDOT Lighting Design Process to install lighting along SR 365. Specific locations of lights would be determined during the lighting design process.	Project Team	N/A	N/A

** This operational improvement may not be necessary if certain capacity improvements are chosen.*

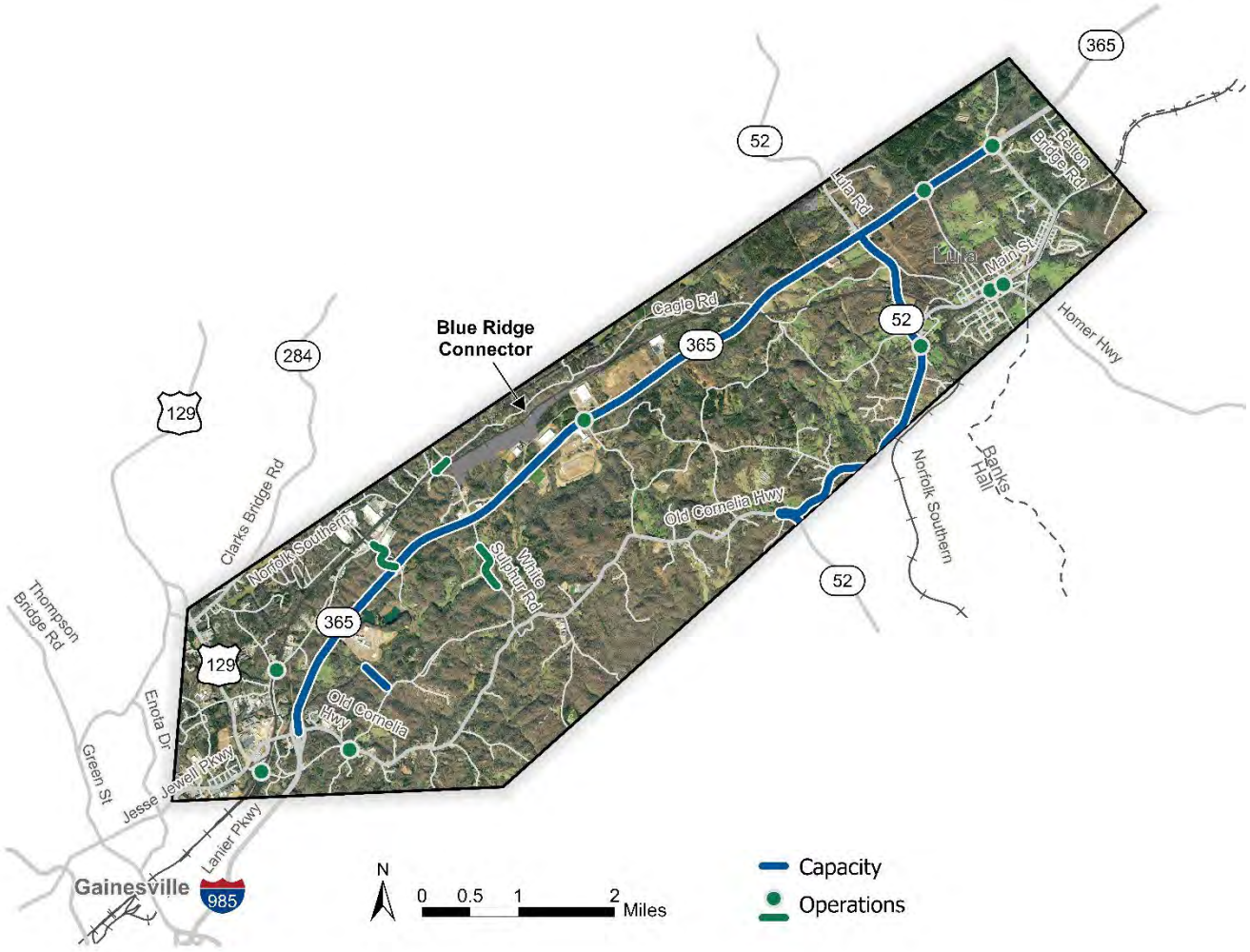

Figure 5-4 Screened Projects

A detailed list of all project ideas including screening methodology and screening scores is provided in **Appendix B**. Additionally, factsheets for each project are provided in **Appendix C**.

6 SR 365 Scenario Alternatives Analysis

As indicated in Section 5.2, four improvement scenarios were evaluated for SR 365. By 2050, SR 365 is anticipated to operate at LOS F daily without improvements. Safety improvements would also be of benefit to corridor operations. This section outlines the four scenarios identified to improve SR 365 between I-985 and Belton Bridge Road, a comparison of the scenarios, and the selected scenario recommended to move forward to implementation.

6.1 Identified SR 365 Scenarios

The scenarios were identified and developed to address two key opportunities: increased safety and decreased congestion in the future:

- **Scenario 1: SR 365 Widening:** This scenario widens SR 36 from four to six lanes between I-985 and Belton Bridge Road. The at-grade intersections at Ramsey Road, White Sulphur Road, Kubota Way, Cagle Road, SR 52, Athens Street, and Belton Bridge Road remain along SR 365.
- **Scenario 2: SR 365 Widening + Limited Access:** This scenario widens SR 365 from four to six lanes between I-985 and Belton Bridge Road and converts the road to a limited-access facility. This scenario eliminates all at-grade intersections along the corridor. Converting to limited access includes reconfiguring SR 365 at Ramsey Road, White Sulphur Road, and SR 52 to grade-separated interchanges (similar to Jesse Jewell Parkway), and reconfiguring Kubota Way and Cagle Road to overpass bridges across SR 365.
- **Scenario 3: SR 365 Frontage Roads:** This scenario keeps the road to four lanes and adds a one-way, one-lane frontage road in each direction between I-985 and Belton Bridge Road. There are off-ramps from SR 365 to the frontage road before each side road, and an on-ramp from the frontage road to SR 365 after each side road. Access to side roads is removed from SR 365 travel lanes and moved to the frontage road. To make a “left turn” onto SR 365 from a side road (e.g., White Sulphur Road), the vehicle would have to turn right onto the frontage road on-ramp and make a U-turn on SR 365 to travel in the desired direction.
- **Scenario 4: SR 365 Frontage Roads + Widening:** This scenario is similar to Scenario 3 as it creates a frontage road system. But, it also widens the main travel lanes for SR 365 from four to six lanes between I-985 and Belton Bridge Road.

6.2 Scenario Evaluation

The four scenarios were first evaluated based on their benefit-cost ratio and their impact on LOS compared to the 2050 baseline conditions and to one another. Benefits were calculated using TDM outputs and FHWA’s crash modification factors for improvements. The benefit analysis follows USDOT’s Benefit Cost Analysis Guidance 2024 Update.[36] Benefit categories include:

- Travel Time Savings;
- Operational Savings;
- Emission Savings; and

[36] USDOT. Benefit-Cost Analysis Guidance for Discretionary Grant Programs, 2023. https://www.transportation.gov/mission/office-secretary/office-policy/transportation-policy/benefit-cost-analysis-guidance

- Crash Reductions.

After benefits are calculated, they are then monetized based on monetary units in the USDOT Guidance and summed to determine a total benefit value. This benefit value is divided by the total estimated cost of the project to result in a ratio. Benefit-cost ratios greater than 1.0 indicate the benefits outweigh the cost. Ideally, a benefit-cost ratio is greater than 1.2 to account for any increases in cost that could result in a low-performing project. **Table 6-1** provides the LOS and benefit-cost ratio for the 2050 baseline conditions and each of the four scenarios.

Table 6-1 Baseline and Scenario LOS and Benefit-Cost Ratio

Scenario	LOS (I-985→SR 52/SR 52→Belton Bridge Road)	Total Estimated Benefits	Total Estimated Cost	Benefit-Cost Ratio
2050 Baseline	LOS F/D	N/A	N/A	N/A
Scenario 1: SR 365 Widening	LOS E&D/C	$264,800,000	$127,590,000	2.08
Scenario 2: SR 365 Widening + Limited Access	LOS D&C/C	$303,300,000	$237,970,000	1.28
Scenario 3: SR 365 Frontage Roads	LOS F&E/C	$196,090,000	$90,210,000	2.17
Scenario 4: SR 365 Widening + Frontage Roads	LOS D&C/C	$317,940,000	$196,280,000	1.62

While Scenarios 1 and 3 have the highest benefit-cost ratios, they do not perform as well in terms of LOS, with LOS only improving from F/D to E&D/C (Scenario 1) and to F&E/C (Scenario 3). These scenarios are also the lowest-cost improvements, resulting in increased benefit-cost ratios. Based on these considerations, the scenarios were narrowed down, with Scenario 2 and Scenario 4 determined to be the two top-performing scenarios, providing adequate benefit-cost ratios and improving LOS more significantly.

To determine a preferred alternative, benefits were analyzed further for Scenarios 2 and 4. **Table 6-2** provides an overview of the benefits of each scenario including reductions in delay, crash frequency, and emissions.

Table 6-2 Scenario 2 and 4 Performance Comparison

Performance Metric	Scenario 2	Scenario 4
Annual VHD Reduction (Automobile and Truck)	7,105,257	7,495,875
Annual Crash Reduction	58	33
Level of Service (I-985 to SR 52/SR 52 to Belton Bridge Road)	D&C/C	D&C/C
Volume/Capacity Ratio* (I-985 to SR 52/SR 52 to Belton Bridge Road)	0.72 & 0.64/0.53	0.72 & 0.48/0.65

Performance Metric	Scenario 2	Scenario 4
Annual Emission Reduction in Kilograms (nitrogen oxide, particulate matter 2.5, carbon dioxide)	24,481,522	26,203,444
Total Monetized Benefits	$303,300,000	$317,940,000
Total Capital Cost	$237,970,000	$196,280,000
Benefit Cost-Ratio	1.28	1.62

** A volume/capacity ratio less than 0.70 indicates LOS C or better.*

Safety is GDOT's number one priority. Of the two scenarios, Scenario 2 is estimated to have a higher annual crash reduction of 58 less crashes compared to Scenario 4 at 33 less crashes. The other performance measures such as delay, congestion, and emission reductions are comparable. Based on this additional information, the preferred scenario is Scenario 2: SR 365 Widening + Limited Access.

In summary, Scenario 2 includes the following components:

- Widening SR 365 from four to six lanes from I-985 to Belton Bridge Road.
- Constructing grade-separated interchanges at Ramsey Road, White Sulphur Road, and SR 52.
- Constructing overpass bridges at Kubota Way and Cagle Road.

Ultimately, this scenario removes any existing intersections along SR 365, allowing for the free flow of traffic and eliminating any turning movements onto side streets at a grade-separated interchange. Operational improvements along SR 365 were not advanced because they would no longer be necessary with the large investment in the capacity project.

7 Implementation and Funding Opportunities

The SR 365 Planning Study resulted in recommended local operational improvements and regional capacity improvements for the study area. Operational improvements can be implemented in the short or medium term to provide benefits; however, more extensive capacity improvements are needed in the long term for the mobility and safety of users of the SR 365 corridor. The SR 365 widening and limited-access improvements could be implemented in phases, which may be determined during the concept phase. The preliminary engineering phase of the SR 365 widening is currently underway. Recommendations can move forward as improvement projects once funding is secured for that improvement.

7.1 Opportunities for Federal Funding

In November 2022, the Bipartisan Infrastructure Law was passed and authorized dozens of formula and discretionary transportation funding programs for fiscal years 2022 through 2026. USDOT oversees the distribution of transportation funding across all modes, including FHWA and Federal Transit Administration funding, among others.

The recommended improvements provided by this study were assessed to determine their eligibility for formula and discretionary funding. However, it should be noted that funding programs and their selection criteria may change with future administrations and future infrastructure funding authorizations; therefore, funding sources should be reviewed periodically to determine applicability to projects.

7.1.1 Federal Formula Funding

Projects intended for formula funds are often required to be programmed into the Statewide Transportation Improvement Program (STIP) and the GHMPO TIP, in which funds are allocated, or another statewide long-range plan. Because the whole study area lies within the GHMPO boundary, all projects included in the GHMPO TIP will also be included in the STIP by reference. Each formula program has its own purpose and eligibility criteria, and therefore, some projects are more applicable to certain programs than others. A description of each formula funding opportunity is provided below:

7.1.1.1 Local Access Road Program

The Appalachian Regional Commission created this grant program using funds from the Appalachian Development Highway System, which were allocated to USDOT through the Bipartisan Infrastructure Law. The Appalachian Regional Commission's Local Access Road Program offers a financing mechanism to support a variety of economic development opportunities, including local road projects that serve industrial and commercial areas, residential developments, recreational areas, and educational areas.[37] Local Access Road funds are available for preliminary engineering, right-of-way, and construction.[38]

[37] Appalachian Regional Commission. Local Access Road Program. https://www.arc.gov/local-access-road-program/
[38] Appalachian Regional Commission. ARC Local Access Road Project Guidelines, 2023. https://www.arc.gov/wp-content/uploads/2023/07/Guidelines-for-Local-Access-Roads-2023-06.pdf

7.1.1.2 Surface Transportation Block Grant Program

The Surface Transportation Block Grant Program promotes flexibility in State and local transportation decisions and provides flexible funding to best address future State and local transportation patterns.[39]

7.1.1.3 National Highway Performance Program

The purposes of this program are to provide support for the condition and performance of the National Highway System (NHS); to provide support for the construction of new facilities on the NHS; to ensure that investments of federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a state's asset management plan for the NHS; and to provide support for activities to increase the resiliency of the NHS to mitigate the cost of damages from sea level rise, extreme weather events, flooding, wildfires, or other natural disasters.[40]

7.1.2 Discretionary Funding

Discretionary grant funding is federal funding that is awarded to projects based on a competitive call for projects, typically referred to as a Notice of Funding Opportunity. Projects are in competition with other projects across the United States for funding. These programs have become increasingly popular since the passage of the Bipartisan Infrastructure Law, as more discretionary programs were created and funded by Congress. The following is a list of discretionary programs that are applicable to the study recommendations:

7.1.2.1 RAISE Grant

The Rebuilding American Infrastructure with Sustainability and Equity, or RAISE Discretionary Grant program, provides funds to state departments of transportation to invest in road projects that will have a significant local or regional impact. The eligibility requirements of the RAISE program allow project sponsors at the state and local levels to obtain funding for multimodal, multi-jurisdictional projects that are more difficult to support through traditional department of transportation programs. The RAISE program can provide funding directly to any public entity, including municipalities and counties.[41]

7.2 Opportunities for Local Funding

Additional funding channels in addition to federal funding may be required to implement many study recommendations. Two potential local funding sources to be leveraged for the study area are discussed below.

7.2.1 Community Improvement District (CID)

Community improvement districts are an increasingly popular economic development tool utilized throughout Georgia, across the nation, and even internationally. The districts are composed of contiguous non-residential parcels where a majority of the owners agree to pay an extra tax or fee (e.g., property tax) to fund public services. In Georgia, CIDs are quasi-governmental and can provide street and road construction and maintenance services

[39] FHWA. Surface Transportation Block Grant (STBG) Fact Sheet, 2022. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/stbg.cfm
[40] FHWA. Highway Performance Program (NHPP) Fact Sheet, 2022. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/nhpp.cfm
[41] USDOT. About RAISE Grants, 2023. https://www.transportation.gov/RAISEgrants/about

among other things.[42] A CID created in the study area can leverage its funding to build transportation and beautification improvements included in the study recommendations. The CID is also eligible for many grant programs and can apply for grants to use to fund future projects.

7.2.2 Georgia Transportation Infrastructure Bank (GTIB)

GTIB is a SRTA program that provides grant and low interest loan funding for local, regional, and state governments, as well as CIDs to help jumpstart or complete transportation infrastructure improvement projects in Georgia. The investment fund has been around since 2010 and has awarded at least $200 million dollars in grants and loans for transportation infrastructure projects since its inception.[43] GTIB funds are used for capital expenses related to road and bridge infrastructure work. Applications are evaluated on transportation merit, economic merit and project specifics. The application window for this program typically lands between late fall and early winter.[44]

[42] GSU. What You Need to Know About Georgia's Community Improvement Districts, 2016. https://cslf.gsu.edu/2016/11/28/key-facts-about-community-improvement-districts-in-georgia/
[43] Council for Quality Growth. SRTA Georgia Transportation Infrastructure Bank (GTIB) Program Accepting Grant Applications through January 20, 2023, 2022. https://www.councilforqualitygrowth.org/srta-georgia-transportation-infrastructure-bank-gtib-program-accepting-grant-applications-through-january-20-2023/
[44] Office of Governor Brian P. Kemp. Gov. Kemp Announces $16.9 Million to Fund Transportation Infrastructure Projects, 2024. https://gov.georgia.gov/press-releases/2024-06-06/gov-kemp-announces-169-million-fund-transportation-infrastructure

8 Conclusion and Next Steps

The SR 365 Planning Study is a GDOT initiative intended to analyze existing and future travel conditions within the study area to develop and evaluate transportation improvement recommendations and strategies to accommodate future travel. This study also evaluates the impact of the Blue Ridge Connector on SR 365 and adjacent roadways.

Sixty-six unique project ideas were generated through a combination of public input, stakeholder engagement, and a future traffic demand analysis. Using a combination of qualitative and quantitative assessments, three capacity (SR 365, SR 52, and Lanier Tech Extension), 8 operational, and 24 qualitative projects were identified as feasible and recommended for implementation. The SR 365 Planning Study recommendations address regional safety and mobility and local traffic operations in the study area impacted by the rapid growth in population and development.

For SR 365 specifically, four project scenarios or packages were created and then evaluated on efficacy in improving safety and reducing congestion in the corridor. The study team completed several analysis tasks to recommend a single scenario. The chosen scenario widens SR 365 from four to six lanes from I-985 to Belton Bridge Road, constructs grade-separated interchanges at Ramsey Road, White Sulphur Road, and SR 52, and constructs overpass bridges at Kubota Way and Cagle Road. Preliminary Engineering is currently underway for the SR 365 widening project. Presently, GDOT has not committed to any other project recommendations identified in this study. Continued discussion among GDOT, Hall County, and GHMPO will be needed to implement any of the remaining recommendations.

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