2040 LONG RANGE TRANSPORTATION PLAN

TRANSPORTATION VISION 2040

Adopted on
September 2, 2015

PREPARED BY
AUGUSTA PLANNING AND DEVELOPMENT DEPARTMENT

TRANSPORTATION VISION 2040

Adopted on
September 2, 2015

Prepared By:
Augusta Planning and Development Department

AUTHORIZING RESOLUTION

AUGUSTA REGIONAL TRANSPORTATION STUDY

ENDORSEMENT OF ARTS

2040 LONG RANGE TRANSPORTATION PLAN

WHEREAS, federal regulations for urban transportation planning require that the Metropolitan Planning Organization, in cooperation with participants in the planning process, develop and update the 2040 Long Range Transportation Plan (LRTP); and

WHEREAS, the Augusta Planning and Development Department has been designated by the Governor as the Metropolitan Planning Organization for the Augusta urbanized area; and

WHEREAS, the Long Range Transportation Plan is consistent with all plans, goals, and objectives of the Augusta Regional Transportation Study, and shall be updated with revision to reflect changes in program emphasis and funding availability; and

WHEREAS, the urban transportation planing regulations require that the LRTP be a product of a planning process certified as in conformance with all applicable requirements of law and regulation; and

WHEREAS, the locally developed and adopted processes for private sector participation and public involvement have been followed in the development of the LRTP; and

WHEREAS, the Augusta Planning & Development Department, the Georgia Department of Transportation, and the South Carolina Department of Transportation have reviewed the organization and activities of the planning process and found them to be in conformance with the requirements of law and regulation; and

NOW, THEREFORE, BE IT RESOLVED that the Augusta Regional Transportation Study Policy Committee endorses the attached Transportation Vision 2040 Long Range Transportation Plan in Georgia and in South Carolina; and

BE IT FURTHER RESOLVED that the Augusta Regional Transportation Study Policy Committee finds that the requirements of applicable law and regulation regarding urban transportation planning have been met and its Chairman is authorized to execute a joint endorsement to this effect with the Georgia Department of Transportation and the South Carolina Department of Transportation.

September 2, 2015
Date

Ron Cross, Chairman
Augusta Regional Transportation Study
Policy Committee

Augusta
GEORGIA

Planning and Development Department

Melanie Wilson,
Director

ARTS Transportation Vision 2040 – Long Range Transportation Plan

A blueprint supporting Regional Population and Economic Growth

The Augusta Planning and Development Department (APDD) recently completed a 14-month transportation planning process – Transportation Vision 2040 updating the Long Range Transportation Plan (LRTP) for the Augusta Regional Transportation Study (ARTS). ARTS is the regional Metropolitan Planning Organization (MPO), serving Richmond and Columbia Counties in Georgia, and Aiken and Edgefield Counties in South Carolina. On September 2, 2015, local elected officials from Augusta-Richmond County, Columbia County, Blythe, Grovetown, Hephzibah in GA, City of Aiken, City of North Augusta, Burnettetown, New Ellenton and Aiken County in SC; along with the Georgia Department of Transportation and South Carolina Department of Transportation, as the ARTS Policy Committee, adopted this plan.

ARTS Transportation Vision 2040 LRTP, as a regional blueprint and policy guide for future transportation infrastructure, recommends multi-modal transportation capital improvements over the next twenty (20) years. With the relocation of National Cyber Command to Fort Gordon; UNISYS expansion in downtown Augusta; Medac Inc., headquarters moving to Aiken County; and the expected realization of Project Jackson in North Augusta, the Augusta-Richmond GA and Aiken, SC Metro Area is projected to grow 39% in population and 52% in employment opportunities over the next twenty years.

The region is estimated to receive over $1.8 billion in federal, state and local funds for transportation infrastructure over the next 20 years. Over $1.5 billion planned for transportation improvements in Richmond and Columbia Counties in Georgia, and Aiken and Edgefield Counties in South Carolina. The recommended transportation improvements include highways/roads, traffic safety and maintenance, traffic signal operations, bridge, freight and railroad, public transit, pedestrian and bike paths. During the planning process, APDD conducted a successful public participation process across the region reaching diverse groups of people, chambers of commerce, environmental, business, and non-profit organizations. A total of 1,987 persons participated in the transportation planning process.

The Augusta Planning and Development Department acknowledges the work of various departments within the City of Augusta, and participation of our regional partnerships with the U.S. Department of Transportation through the Federal Highway Administration, Federal Transit Administration, Georgia Department of Transportation, South Carolina Department of Transportation, Columbia County, Aiken County and Lower Savannah Council of Governments, the public and other agencies to develop this plan. This collaborate effort to ensure our regional transportation system provides safe and efficient mobility for all travelers, regional economic growth and enhance quality of life.

With Warmest Regards,

Melanie Wilson, ARTS MPO Director

535 Telfair Street, Suite 300,· Augusta, GA. 30901
706.821.1796 · Fax: 706.821.1806
www.augustaga.gov

Table of Contents

List of Tables

List of Figures

The preparation of this report was financed in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 [or Metropolitan Planning Program, Section 104(f) of Title 23, U.S. Code]. The contents of this report do not necessarily reflect the official views or policy of the Federal Highway Administration, Federal Transit Administration, Georgia Department of Transportation, and South Carolina Department of Transportation.

A Note to Readers

The geographic information system (GIS) maps are created as visual aids to spatially display regional transportation facilities in which we plan to invest and their relationship to the existing and future populations and jobs that the facilities are designed to serve to foster regional economic growth. However, the maps in this document are for illustrative purposes only and are subject to change and interpretation.

This version of the plan is a draft technical report designed to include transportation data compilation, analysis, and key findings that is the foundation of the final 2040 Long Range Transportation Plan Update. Some parts of the document, such as some of the appendices, will not be completed until the final draft. In addition, some of the graphics in this version of the document are drafts or lower-resolution images that will be upgraded in the final version.

Acknowledgements

The ARTS Transportation Vision 2040 LRTP was developed in collaboration with the following Metropolitan Planning Organization (MPO) committees, local, state, regional and federal entities:

ARTS MPO Policy Committee:

Voting Members

- Ron Cross, Chairman Columbia County Commission (Chairman)
- Hardie Davis, Mayor of Augusta (Vice-Chairman)
- Fred Cavanaugh, Mayor of Aiken
- Brent Weir, Mayor of Blythe
- Lark Jones, Mayor of North Augusta
- Robert Buchwitz, Chairman Hephzibah Commission
- George James, Mayor of Grovetown
- COL Samuel Anderson, Garrison Commander Fort Gordon
- Jonathan Dicks, Mayor of Burnettown
- Vernon Dunbar, Mayor of New Ellenton
- Ronnie Young, Chairman Aiken County Council
- Janet Oakley – Secretary of Transportation South Carolina Department of Transportation
- Russell McMurry, Commissioner, Georgia Department of Transportation
- Dana Luttrull, Lower Savannah Council of Governments, Best Friend's Express
- Patrick Stephens, Director, Augusta Public Transit Department
- John N. Hardee – 2nd Congressional District Commissioner (1/2 vote)
- Ben H. Davis Jr.– 3rd Congressional District Commissioner (1/2 vote)

Non-Voting Members:

- Don Grantham, Georgia State Transportation Board
- Rodney Barry, Division Administrator Federal Highways Administration – GA
- Les Morton, Chairman ARTS Citizens Advisory Committee
- Melanie Wilson, ARTS Project Director, Augusta Planning & Development Dept.

South Carolina ARTS Policy Subcommittee:

Voting Members:

- Fred Cavanaugh, Mayor of Aiken (Chairman)
- Lark Jones, Mayor of North Augusta (Vice-Chairman)

- Dick Dewar, Aiken City Council member
- Camilla Furgiuele, Aiken County Council member
- Ronnie Young, Chairman, Aiken County Council
- Ken McDowell, North Augusta Council member
- Jonathan Dicks, Mayor of Burnettown
- Noelle Shealy, Burnettown Town Council
- Vernon Dunbar, Mayor of New Ellenton

Non-Voting Members:

- John C. Klimm, City Administrator, Aiken
- Scott Sterling, Director Planning and Development Department, City of North Augusta
- Clay Killian, County Administrator, Aiken
- Stephen Strohminger, Director, Aiken Co Planning and Development (Secretary)
- Tommy Paradise, Planning & Development Director, City of Aiken
- B. Todd Glover, City Administrator of North Augusta
- Mike Sullivan, Planning Chief, SC DOT
- Ben H. Davis – 3rd Congressional District Commissioner
- Robert Lee, FHWA Division Administrator
- John N. Harde – 2nd Congressional District Commissioner

ARTS Technical Coordinating Committee

Voting Members:

- Abie Ladson, Director, Augusta Richmond County Engineering Department
- Patrick Stephens, Director, Augusta Public Transit Department
- Glenn Bollinger, Traffic Engineer, Augusta Richmond County
- Thomas Zeaser, City Engineer, City of North Augusta, SC
- Scott Sterling, Director, Planning and Development Department, North Augusta, SC
- Joe Berry, County Engineer, Aiken County, SC
- Stephen Strohminger, Director, Aiken County Planning & Development Dept.
- Connie Shade, Executive Director, LSCOG Aiken Co. Transit, Best Friend Express
- Melanie Wilson, Director, APDD; Project Director, ARTS
- Matt Schlachter, Director Columbia County Construction & Maintenance Div.
- Tommy Paradise, Director Planning & Development, Aiken, SC
- George Grinton, Director of Engineering & Utilities, City of Aiken
- Andrew Strickland, Director, Planning & Development Services, Columbia County
- Jimmy Smith, District 2 Engineer, Georgia DOT
- Michelle Shepherd, Pre-Construction, Program Manager, South Carolina DOT
- Roy Williams, Director, Augusta Regional Airport
- Les Morton, Chairman ARTS Citizens Advisory Committee
- Kyle Mote, Georgia DOT Planning Division

- Ronald Price, Chief of Engineering, Fort Gordon

Non-Voting Members:

- Yolanda Morris - FHWA Transportation Planner, SC
- Cynthia VanDyke, State Transportation Planning Administrator, GA
- Eileen Schwartz-Washington, Transit Planner, Section 5303 Program
- Ann-Marie Day, Community Planner, FHWA – GA
- Paul DeCamp, Deputy Director Augusta Planning & Development Department
- Carletta Singleton, Strategic Planning Manager, Augusta Planning & Development Department
- Oliver Page, Principal Transportation Planner, Augusta Planning & Development Department
- Andrew Uhlir, Planner I, Augusta Planning and Development Department
- Andy Crosson, Executive Director CSRA Regional Development Center
- Glenn Bowman, Environmental Location, GA DOT

South Carolina ARTS Technical Coordinating Committee

Members:

- Jonathan Dicks, Mayor of Burnettown
- Vernon Dunbar, Mayor of New Ellenton
- Tommy Paradise, Director, Planning & Development Department, City of Aiken
- Scott Sterling, Director, Planning and Development Department, City of North Augusta
- Stephen Strohminger, Director, Aiken County Planning and Development
- Gerald Jefferson, Transportation Planner, Aiken County Planning and Development
- Daniel Moore, City of North Augusta, Administrative Coordinator
- George Grinton, City of Aiken, Director of Engineering & Utilities

ARTS Citizen Advisory Committee:

Voting Members:

- Augusta-Richmond County
  Les Morton, Chairman
  Wilbert "Butch" Gallop, Jr., Vice Chairman
- Columbia County
  Frank Plumley
  Joe Collins
  Russell Foster
  Hafeez Chaudhry
- Aiken County
  Willie Bell, Aiken County
  Martin Cochran, City of North Augusta

List of Acronyms

AACOA	Aiken Area Council on Aging
AADI	Augusta Area Diversification Initiative
AARP	American Association of Retired Persons
ABRA	Augusta Bus Riders Association
ACPDD	Aiken County Planning & Development Department
ACS	American Community Survey
ADA	American with Disabilities Act of 1990
AHCDD	Augusta Housing and Community Development Department
APA	American Planning Association
APDD	Augusta Planning & Development Department
APT	Augusta Public Transit
ARC	Aiken Railway Company
ARPA	Archaeological Resources Protection Act
ARTS	Augusta Regional Transportation Study
ASDA	Augusta Sustainable Development Agenda
ATMS	Advanced Transportation Management System
BFE	Best Friend Express
BPAC	Bicycle and Pedestrian Advisory Committee
CAC	Citizens Advisory Committee
CCPD	Columbia County Planning Department
CCPT	Columbia County Public Transit
CEDS	CSRA Economic Development Strategy
CES	Cost Estimation System
CMP	Congestion Management Process
CMS	Congestion Management System
COA	City of Augusta, GA.
COOP	Continuity of Operations Plan
CSRA	Central Savannah River Area
CSRA-RC	Central Savannah River Area Regional Commission
CSX	CSX Transportation Inc.
DMS	Dynamic Messaging Systems
ECBPD	Edgefield County Building & Planning Department
EDA	Economic Development Administration
EJ	Environmental Justice

EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
FBO	Fixed Based Operator
FEMA	Federal Emergency Management Agency
FHWA	Federal Highways Administration
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
GA	Georgia
GAC	General Aviation Commission
GCIL	Georgia Center of Innovation and Logistics
GDOT	Georgia Department of Transportation
GHPD	Georgia Historic Preservation Division
GIS	Geographic Information Systems
GPBO	Georgia Planning and Budget Office
GPS	Global Positioning System
GRIP	Governors Road Improvement Program
GRU	Georgia Regents University
GSFIC	Georgia State Financing and Investment Commission
GTIB	Georgia Transportation Infrastructure Bank
HH	Households
HHS	Health and Human Services
ITS	Intelligent Transportation Systems
LBCS	Land Based Classification Standard
LEP	Limited English Proficiency
LMIG	Local Maintenance & Improvement Grant
LOS	Level of Service
LRTP	Long Range Transportation Plan
LSCOG	Lower Savannah Council of Governments
MAP-21	Moving Ahead for Progress in the 21st Century Act
MCG	Medical College of Georgia
MOU	Memorandum of Understanding
MPA	Metropolitan Planning Area
MPO	Metropolitan Planning Organization
MSA	Metropolitan Statistical Area
MTP	Metropolitan Transportation Plan
NAACP	National Association for the Advancement of Colored People
NAGPRA	Native American Graves Protection and Repatriation Act

NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NHS	National Highway System
NPC	Not Presently Congested
NPDES	National Pollutant Discharge Elimination System
NS	Norfolk Southern Railway Inc.
NSA	National Security Agency
NTD	National Transit Database
OFM	Office of Financial Management
PC	Policy Committee
PE	Preliminary Engineering
PL	Planning
PM	Particulate Matter
PPP	Public Participation Plan
RCTS	Richmond County Transit System
REMI	Regional Economic Models, Inc.
RIRP	Regionally Important Resources Plan
ROW	Right-of-Way
RUCEST	Right-of-Way Utility Cost Estimation Tool
SC	Seriously Congested
SC	South Carolina
SCDOT	South Carolina Department of Transportation
SCDPS	South Carolina Department of Public Safety
SPLOST	Special-Purpose Local-Option Sales Tax
SRS	Savannah River Site
SRTA	State Road and Tollway Authority
SRTS	Safe Routes to School
STIP	State Transportation Improvement Plan
STRAHNET	Strategic Highway Network
SWM	Statewide Model
TAC	Technical Advisory Committee
TAP	Transportation Alternatives Program
TAZ	Traffic Analysis Zone
TCAC	Transit Citizens Advisory Committee
TCC	Technical Coordinating Committee
TDM	Travel Demand Model
TDM	Travel Demand Management

TIA	Transportation Investment Act (Georgia)
TIP	Transportation Improvement Program
TMA	Transportation Management Area
TOD	Transit-Oriented Development
TSM	Transportation System Management
TSPLOST	Transportation Special-Purpose Local-Option Sales Tax
TTI	Travel Time Index
UPWP	Unified Planning Work Plan
USC-A	University of South Carolina Aiken
USDOT	U.S. Department of Transportation
WHO	World Health Organization
YOE	Year-of-Expenditure

1 Introduction

The Augusta Regional Transportation Study (ARTS), as the Metropolitan Planning Organization (MPO) is the designated bi-state regional planning entity responsible for long-range transportation planning and project selection for programming federal-aid funds in the Augusta GA – Aiken SC Metropolitan Area. ARTS is comprised of elected and appointed officials from four (4) counties; Richmond and Columbia Counties in Georgia (GA); and Aiken and Edgefield Counties in South Carolina (SC). Other key partners in ARTS include representatives from local, state, and federal agencies who are jointly responsible for long-range transportation planning in the region. The ARTS is the forum for regional cooperation and coordination in the discussion and decision-making process for programming federal aid funds for transportation investments in the ARTS planning area over the next 20 years.

ARTS is centrally located in the Central Savannah Regional Area (CSRA) in the principal jurisdiction of the City of Augusta. The region bisects the banks of the Savannah River bordering the States of Georgia and South Carolina. The region is home to the Augusta National Golf Course, which plays host to the Augusta Masters Golf Tournament each year. This historic world-renowned sporting event draws thousands of golfing fans and tourists to the region. The region is also home of the famed musician James Brown. President Woodrow Wilson's boyhood home is located in the Augusta Downtown Historic District.

According to the 2010 Decennial Census, the ARTS Metropolitan Statistical Area (MSA) is the second largest in the State of Georgia with a population of 511,686. Based on the 2013 American Community Survey, the population has grown to approximately 523,656 persons. Some of the leading employers in the region include national companies such as Starbucks, Kellogg's, Proctor & Gamble, and International Paper Company, as well as Fort Gordon Military Base and Savannah River Site (SRS). The ARTS planning area is projected to grow 39% in population and 52% in employment over the next 20 years. The relocation of National Cyber Command to Fort Gordon; UNISYS expansion in downtown Augusta; Medac Inc., headquarters moving to Aiken County; and the expected realization of Project Jackson in North Augusta are driving economic development in the region.

1.1 What is the Augusta Regional Transportation Study (ARTS)?

1.1.1 History of Metropolitan Planning Organizations

The 1974 Federal-Aid Highway Act further formalized the planning process by mandating the creation of Metropolitan Planning Organizations (MPOs). The Act also required governors of each state to formally designate local government entities to make up a MPO in each urbanized area with a population of 50,000 persons or more. The 1974 Act further reinforced the process by providing grants to the MPOs for transportation planning.

A Memorandum of Understanding (MOU) established the local ARTS MPO in 1970 based on provisions in the Federal-Aid Highway Act of 1962. Since then, ARTS has grown and evolved to keep pace with federal transportation regulations and economic growth. The MOU was subsequently updated in 1972 and 1996. The first ARTS LRTP adopted in 1969, and maintained continuously through project amendments and periodic comprehensive updates.

1.1.2 ARTS

The ARTS is one of 16 Metropolitan Planning Organizations in the state of Georgia. ARTS was designated as a Metropolitan Planning Organization (MPO) in 1970 through the Federal-Aid Highway Act of 1962. MPO is defined as a transportation policy-making body made up of representatives from local government and transportation agencies with authority and responsibility in metropolitan planning areas. This Act requires the formation of a MPO for any urbanized area with a population greater than 50,000 persons. MPOs have several core functions, which are listed as:

- Program and allocate federal funds to transportation projects and infrastructure investments through identifying and evaluating alternative transportation improvement options.
- Create and coordinate policy that guides transportation planning in its area of jurisdiction. A key element of policy development is that is it data driven, goal focused and anticipated outputs are measureable.
- Establish and manage a fair and impartial setting for effective regional decision making in the metropolitan area. Transparent decision making through active public involvement is a key requirement. Successful existing and future transportation plans seek to incorporate and sustain a significant level of public input.
- Prepare and maintain a Long Range Transportation Plan (LRTP). Preparation of this document usually occurs once every 5 years and has a typical planning horizon between 20 to 30 years.

- Develop a Transportation Improvement Program (TIP) which is similar to the LRTP but with a much shorter planning horizon, e.g., four years. Transportation projects presented in the TIP are also included in the LRTP.

MPOs do not implement transportation projects but facilitate their construction or initiation through the allocation of federal funds or by the creation of a policy environment conducive to transportation planning, outcomes monitoring and/or land use development. MPOs assist local jurisdictions to access federal and state financial resources by ensuring their transportation planning efforts meet federal and state regulations.

ARTS works cooperatively with several regional, state and local agencies in order to fulfill its federal mandate. ARTS collaborate with the following agencies in addition to local stakeholder groups and planning authorities:

State:	Georgia Department of Transportation (GDOT)
	South Carolina Department of Transportation (SCDOT)
Regional:	Lower Savannah Council of Governments (LSCOG)
	Central Savannah River Area Regional Commission (CSRA-RC)
County:	Aiken County Planning & Development Department (ACPDD)
	Columbia County Planning Department (CCPD)
	Edgefield County Building & Planning Department (ECBPD)
City/County:	Augusta Planning & Development Department (APDD)
City	City of Aiken Planning Department
	City of North Augusta Planning and Development Department
	City of Blythe
	City of Burnettown
	City of Hephzibah
	City of Grovetown
	City of New Ellenton

Collaborating with state and/or county agencies, Augusta Regional MPO provides the public and interested stakeholders reasonable and meaningful opportunities to participate in the transportation planning process. Maintaining its federal mandate throughout the planning process, ARTS applies the '3-C' Planning Principles (Continuous, Cooperative and Comprehensive) to accomplish its work. The metropolitan transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects,

strategies, and services that will address the eight planning factors. The 3-C planning principals are defined as:

- Continuous: Planning as a continuous and iterative activity addressing short and long-term needs while making sure the best decisions made in the prevailing environment.
- Cooperative: Working in partnership with the public, interest and advocacy groups, or other stakeholders throughout the planning process. Genuine public participation and cooperation will include listening to all concerns and the consideration of all opinions before a decision is made.
- Comprehensive: The inclusion of all transportation modes such as, air, rail, road and maritime including non-motorized mobility options (e.g., walking, biking). The process considers not only immediate transportation planning impacts of these modes but to the broader socio-economic, political, financial, land use and environmental justice implications.

Applying the '3-C' Planning Principles ensures that transportation planning processes, plans, programs, and projects are greatly improved and reflect the planning needs, aspirations and values of constituents within ARTS jurisdiction. The eight (8) National Planning Factors are defined as:

- Economic Vitality: Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
- Safety: Increase the safety of the transportation system for motorized and non-motorized users.
- Security: Increase the security of the transportation system for motorized and non-motorized users.
- Access and Mobility: Increase the accessibility and mobility of people and for freight.
- Natural and Human Environment: Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
- Integration and Connectivity: Enhance the integration and connectivity of the transportation system, across and between modes, people and freight.
- Management and Operations: Promote efficient system management and operation.
- System Preservation: Emphasize the preservation of the existing transportation system.

1.2 Transportation Vision 2040

The catch phrase "Transportation Vision 2040" for this LRTP study represents what the regional transportation system in the ARTS aims to become by the year 2040. Recognizing the interconnection of multimodal transportation, land use and economic growth; collectively, citizens, elected officials, public agencies and interest groups, provided valuable input creating a shared vision for a prosperous, safe and healthy future. Therefore, the LRTP study catch phrase "Transportation Vision 2040" defines: what's possible, what the ARTS may become, and what needs to be done to realize the vision.

1.3 Addressing National Planning Factors

Developing a multimodal transportation plan that meets the needs and aspirations of ARTS citizens, Transportation Vision 2040 goals aim to mirror the national planning framework as defined by the Moving Ahead for Progress in the 21st Century Act (2012). Planning factors from this framework facilitate the development of measures that allows ARTS to gauge progress towards achieving the goals.

As we move closer to the year 2040, there will be a need to measure how efficiently the recommended transportation improvements align with the goals established at the beginning of the process. Such measures ensure decisions affecting transportation investments or infrastructure improvements are data driven, goal focused and anticipated outputs are quantifiable. MAP-21 Planning Factors and Transportation Vision 2040 goals, and suggested measures of effectiveness.

Augusta Regional MPO is one of three bi-state MPOs in Georgia and the only bi-state MPO in South Carolina. Augusta Regional MPO assists local counties to improve regional transportation in both Georgia and South Carolina as depicted in *Table 1* and illustrated in *Figure 1* (i.e., ARTS in a regional context). In this technical report the term 'four-county region' represents the entirety of Richmond, Columbia, Edgefield and Aiken counties; whereas the term 'ARTS' includes all of Richmond, and portions of Columbia counties in Georgia; and portions of Edgefield and Aiken counties in South Carolina that are exclusively within the Augusta Regional MPO boundary.

Table 1: *Four County Area*

County	Total Area (sq. mi)	ARTS (sq. mi)	ARTS %
Richmond	346	346	100%
Columbia	307	137	45%
Aiken	1080	298	28%
Edgefield	506	12	2%
Total	2239	793	35%

Source: ARTS

ARTS four-county region covers a total surface area of approximately 2,239 sq. miles of which the area within the Augusta Regional MPO boundary amounts to 793 sq. miles (35% of the four-county land area). Cities in the ARTS include; Augusta, Grovetown, Hephzibah, and Blythe in Georgia; and Aiken, North Augusta, New Ellenton and Burnettown in South Carolina, all illustrated in *Figure 2*.

The ARTS is situated along I-20 midway between two state capitals (Atlanta GA and Columbia SC), and is bisected by the Savannah River which serves as a common link merging the two states. The I-20 transects the study area in an east-west/west-east direction and provides connections to the I-75 and I-85 in Atlanta; I-26 and I-77 in Columbia, South Carolina; and I-95 in Florence, South Carolina.

Figure 1: *ARTS Planning Area*

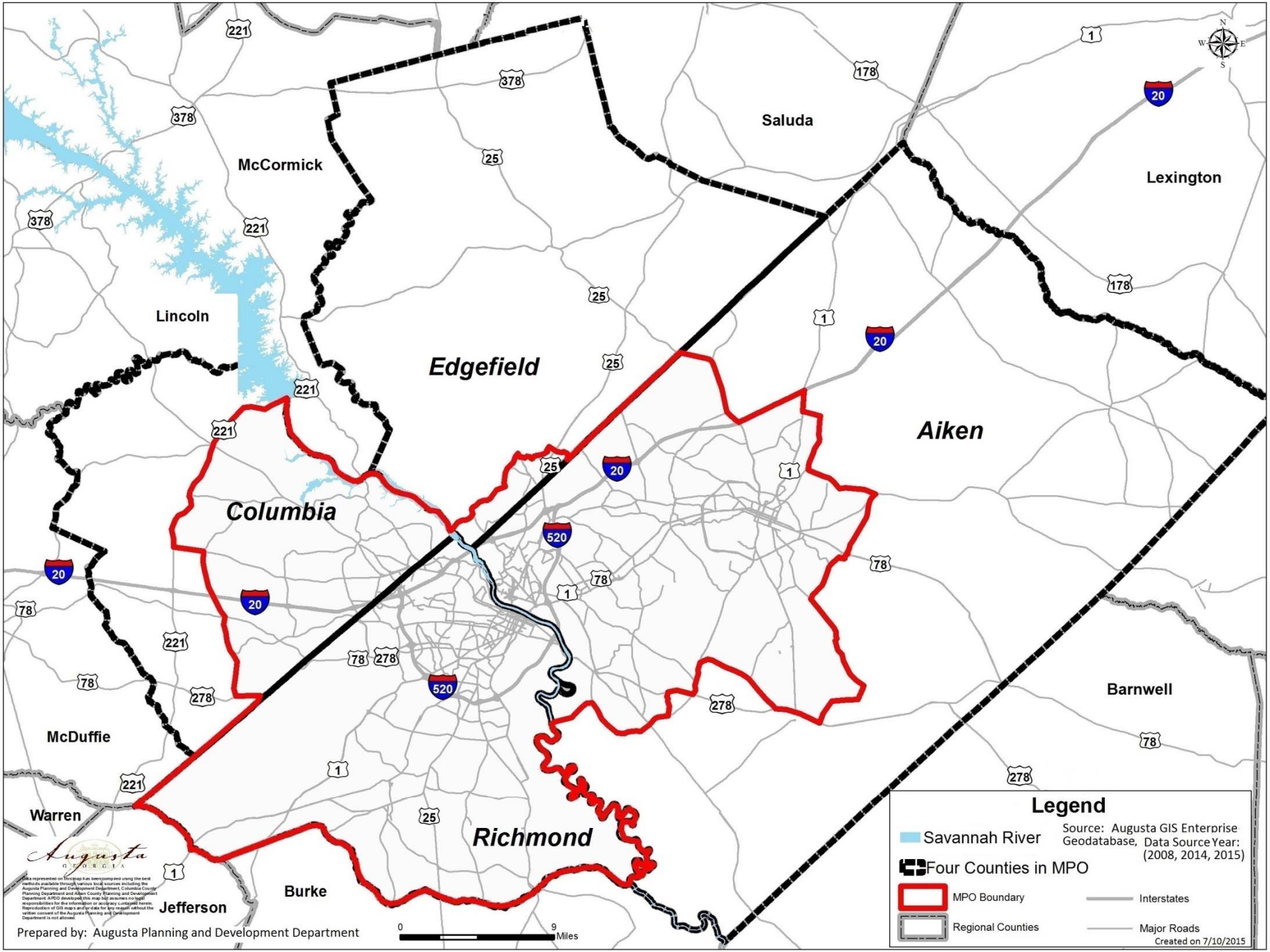
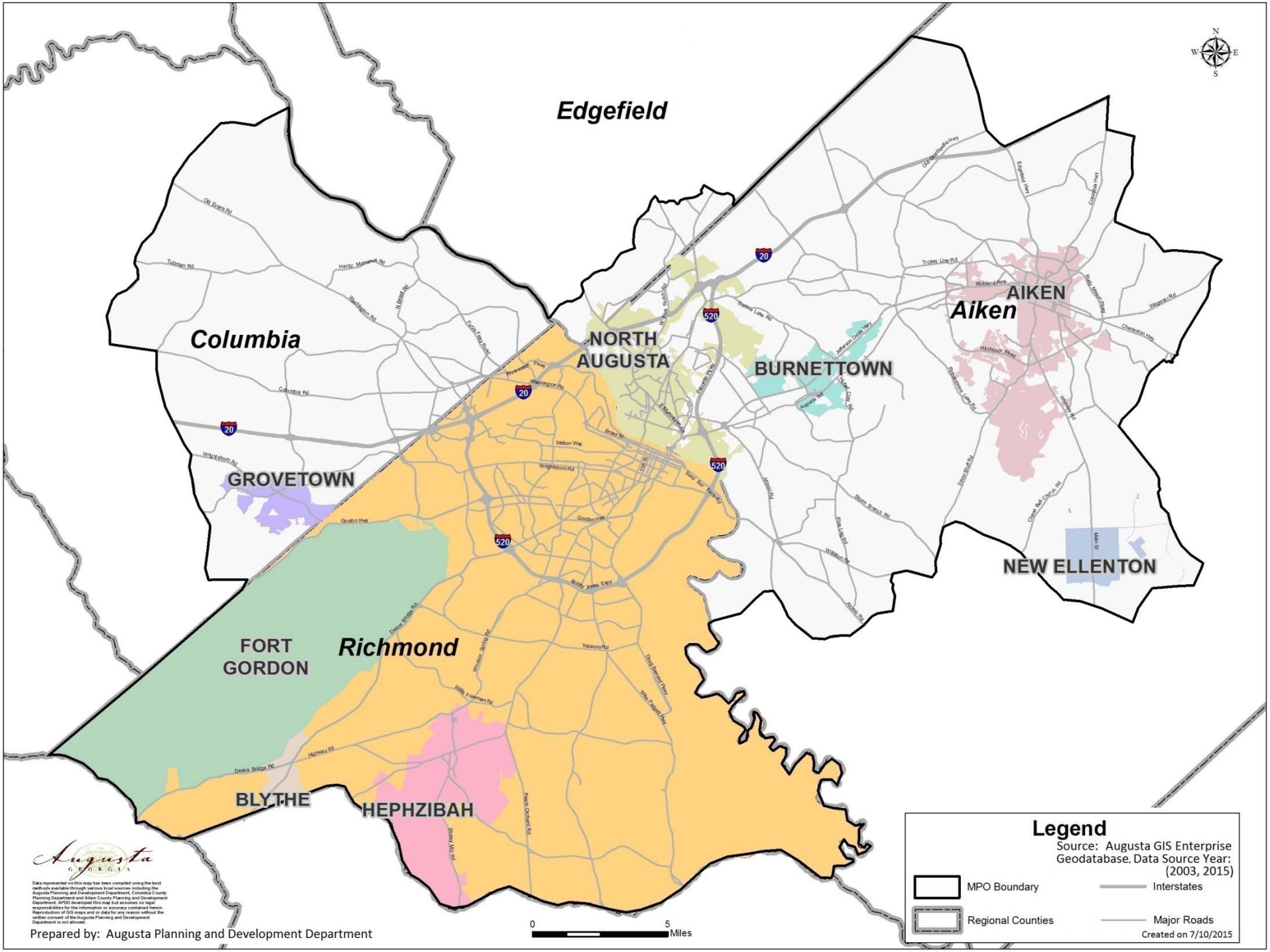


Figure 2: *ARTS Cities*



1.4 Augusta Regional MPO Structure

Augusta Regional MPO functions through a four committee structure: Policy Committee (PC); South Carolina Policy Subcommittee; Technical Coordinating Committee (TCC), and Citizens Advisory Committee (CAC). Each of these four committees convenes independently or jointly several times per year. The committee structure (or framework) of Augusta Regional MPO is presented in *Figure 3*.

Figure 3: *ARTS Committee Structure and Framework*

Source: ARTS

1.4.1 Policy Committee (PC)

PC has overall responsibility for review and approval of study goals, study objectives, plans, programs and resulting conclusions. PC makes sure that study deliverables are financially constrained, timely, and up-to-date allowing the public to be continually informed of study developments. Providing oversight to Augusta Regional MPO, PC ensures proposed plans are functionally sound and financially feasible; reflecting state, county and local planning goals and objectives. A program or project can be feasible but may be outside budget constraints.

1.4.2 Technical Coordinating Committee (TCC)

TCC is made of individuals possessing the technical capabilities and understanding to undertake in-depth analysis, evaluation, and project development. Possession of these skills is necessary in the preparation and review of studies and projects relating to the transportation systems in the ARTS. TCC also acts as a link between the PC and CAC in the timely provision of information and technical oversight and advice to these committees.

TCC as a committee of technically minded individuals serves in an advisory capacity to the PC and CAC. As Transportation Vision 2040 is a continuous study, recommendations for changes in any aspect of the plan are made to TCC. TCC provides the initial determination in the appropriateness of a recommendation. If a change is deemed appropriate, it is shared with the CAC then forwarded to the PC and legislative authorities.

1.4.3 Citizens Advisory Committee (CAC)

A key component of the Transportation Vision 2040 study process is public involvement. CAC was created to provide the study process with public input through the dissemination of information and review of public comment. CAC consists of a diverse group of nine (9) citizen volunteers from the ARTS, reflective of a broad spectrum of social, cultural, and economic backgrounds. The diverse membership base improves public awareness of the Transportation Vision 2040 LRTP as CAC members interact with their respective communities.

The role of CAC and other public involvement activities is significant in the Augusta Regional MPO planning process as consideration by CAC of the social, economic, environmental, and financial impacts of proposed plans. By facilitating and sustaining open and effective communication CAC ensures citizens' views, needs, values, and interests are reflected throughout the transportation planning process. The result is a balanced regional transportation study that is accepted by Augusta Regional MPO constituents, and citizens feel that their needs and issues have been adequately addressed.

1.4.4 The South Carolina Policy Subcommittee

The SC Policy Subcommittee was formed in 1995 and functions as an advisory committee to the PC. In fulfilling its advisory function the SC Policy Subcommittee ensures that the South Carolina portion of Augusta Regional MPO is kept up-to-date on information pertaining to plans, programs and projects. This information is disseminated in a timely fashion to interested stakeholders. The committee is comprised of federal and state representatives (non-voting) and locally elected officials (voting). Meetings of the SC Policy Subcommittee are held quarterly or on an as needed basis.

2 ARTS Planning Process

To set the framework for our regional communitywide discussion on regional growth, transportation issues, needs, and program infrastructure investments. ARTS selected ***Transportation Vision 2040*** as the central theme to drive our long range transportation planning and public participation process. Leading the ARTS metropolitan planning process is the Augusta Planning and Development Department (APDD), which serve as the technical MPO transportation planning staff funded by Augusta-Richmond County.

The federal Metropolitan transportation planning regulations requires that the LRTP be updated once every four to five years. The regulations state that "The MPO shall review and update the transportation plan at least every four years in air quality non-attainment and maintenance areas and at least every five years in attainment areas." The ARTS 2035 LRTP was last updated in 2010. This update enables ARTS to gain a better understanding of community needs and priorities, and to plan accordingly.

The Transportation Vision 2040 Long Range Transportation Plan (LRTP) will serve as a regional blue print and policy guide for comprehensive, cooperative, and continuing metropolitan transportation planning process throughout the ARTS planning area. The purpose of the LRTP is to identify existing and anticipated transportation problems to devise solutions that are both financially feasible and supportive of regional vision, goals, and objectives. These regional transportation solutions will seek to enhance regional mobility, economic vitality, and livability.

The planning process guiding the development of the Transportation Vision 2040 LRTP update incorporates a multimodal approach to transportation planning. This includes planning for highways, intermodal and freight movement, public transportation, pedestrian and bike paths. This type of planning focuses on the users of motorized vehicles; in addition to pedestrians, bicyclists and other users of non-motorized transportation modes, such as the elderly, veterans and persons with disabilities. Transportation Vision 2040 sets out the improvements to the transportation system needed over a 20-year horizon for the mobility needs of all users across the region regardless of race, national origin, ethnicity, age, religion, or income.

This strategic planning approach encompass an examination of existing transportation conditions to identify deficiencies and other impediments to safe travel and transport of people goods/freight and services across the region; conducting a data analysis of existing and future socio-economic demographic trends in population, housing, employment, economic growth and location of land development; developing and conducting the regional travel demand model to

gauge existing and future traffic volumes across the system; and as well as conducting a transportation system needs assessment to determine both short and long – term improvements. Finally, the planning process will develop a financial plan to fund recommended transportation improvements proposed in the ARTS planning area.

Other planning considerations addressed through this planning process include land use and transportation linkages, community health, traffic safety and security.

2.1 Guiding Principles

The Transportation Vision 2040 Long Range Transportation Plan (LRTP) will serve as a regional blueprint and policy guide for comprehensive, cooperative, and continuing metropolitan transportation planning process throughout the ARTS planning area. The purpose of the LRTP is to identify existing and anticipated transportation problems and to devise solutions that are both financially feasible and supportive of the regional vision, goals, and objectives. These regional transportation solutions will seek to enhance regional mobility, economic vitality and livability. Guiding principles in the development of the Transportation Vision 2040 LRTP were founded on:

- MAP-21 National Goals (7 national goals)
- FHWA Planning Factors (8 planning factors)
- Georgia's Statewide Strategic Transportation Plan (4 statewide goals)
- South Carolina's 2040 Multimodal Transportation Plan (6 statewide goals)
- FHWA Livability Principles (6 livability principles)

Economic Vitality

Support the economic vitality of the ARTS planning area, especially by enabling regional and national competitiveness, productivity, and efficiency.

Safety

Increase the safety of the transportation system in the ARTS planning area for motorized and non-motorized users.

Security

Increase the security of the transportation system for motorized and non-motorized users.

Accessibility and Mobility

Increase accessibility and mobility of people and freight.

Environmental Stewardship

Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.

Connectivity

Enhance the integration and connectivity of the transportation system across and between modes, people and freight.

Operational Efficiency

Promote efficient system management and operation.

System Preservation

Emphasize the preservation of the existing transportation system.

2.2 Vision, Goals and Objectives

Recognizing the interconnection of multimodal transportation, land use and economic growth; collectively, citizens, elected officials, public agencies and interest groups, provided valuable input creating a shared vision for a prosperous, safe and healthy future. Therefore, the LRTP study catch phrase "Transportation Vision 2040" defines: what's possible, what the ARTS may become, and what needs to be done to realize the vision. The shared vision is defined as "sustain regional economic growth through a transportation system that reduces congestion, improves traffic safety; and provides road maintenance, public transit, sidewalks, bike and pedestrian paths; linking that provide access to jobs, education, healthcare, and recreational facilities for all citizens and tourists in ARTS region".

ARTS transportation goals and objectives contained in the Unified Planning Work Program (UPWP) have also influenced the strategic direction of Transportation Vision 2040 LRTP. Over the years UPWP goals and objectives emphasize safety, multimodalism, mobility, congestion reduction and economic vitality; all of which align with the FHWA planning factors. Goals and objectives enable greater focus on the strategies that need to be developed in order to achieve the desired end state. The seven (7) goals and supporting objectives of the Transportation Vision 2040 LRTP are described.

2.2.1.1 Congestion

Develop a multimodal transportation system that promotes strategies to reduce traffic congestion and delay.

Objectives:

- Promote street networks that reduce travel delays and congestion.
- Continue to implement and promote strategies and polices such as system preservation, access management, managed lanes, travel demand management, mass transit, complete streets, and alternative transportation to reduce congestion conditions
- Make the best use of existing transportation facilities by implementing measures that actively manage and integrate systems, improve traffic operations and safety, provide accurate real-time information and reduce the demand for single-occupant motor vehicle travel.

2.2.1.2 Mobility, Accessibility and Connectivity

Develop a multimodal transportation system that promotes strategies that improve mobility and accessibility for motorized and non-motorized users of the transportation network including freight and goods movement.

Objectives:

- Provide a plan which addresses the needs of the local freight industry and the intermodal movement of goods via rail and truck.
- Promote revitalization of the urban core through improved accessibility and connectivity.
- Provide a plan that positions public transportation as a viable alternative to single occupant vehicles, through routing and scheduling changes and other system improvements.
- Provide a plan that addresses the mobility considerations of non-motorized modes such as bicycles and pedestrians.

2.2.1.3 Safety and Security

Develop a multimodal transportation system that increases the security of the transportation system and promotes strategies to reduce traffic crashes and injury outcomes.

- Improve safety for all users of the transportation network including motorized vehicles, bicyclists, pedestrians and those with disabilities.
- Improve transportation network security benefitting all users.
- Develop a plan that coordinates safety improvements with planning initiatives.

2.2.1.4 Maintenance, System Preservation and Operational Efficiency

Develop a transportation system that will allow mobility throughout the region by improving the physical condition and maintenance of the transportation network, and provide efficient and safe movement of persons and goods/freight.

Objectives:

- Provide a plan that realizes the importance of maintaining and preserving the existing highway system and facilities.
- Provide a plan that strengthens the maintenance and preservation of existing bridges and facilities.
- Provide public transit service improvements as a viable option to meet daily travel needs.

2.2.1.5 Economic Vitality and Environmental Stewardship

Develop a transportation system that will enhance the economic, social, and environmental fabric of the region through coordinated transportation and planned land use.

Objectives:

- Provide a plan that increases job accessibility through improved transportation systems.
- Provide a plan that strives to minimize disruption or displacement of residential or commercial areas from restructured or new transportation facilities.
- Provide a plan that works to ensure that transportation facilities avoid historic areas and structures, and other environmentally sensitive areas, while providing access when desired.
- Provide a plan to enhance the appearance of transportation facilities whenever possible.
- Provide a plan that reduces mobile emissions and meets air quality standards.
- Provide a plan that promotes strategies to reduce mobile source emissions in an effort to improve air quality.

2.2.1.6 Land Use and Transportation Integration

Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs.

Objectives:

- Promote orderly development of the region by providing transportation services to those areas where growth is planned.
- Discourage development in conservation or preservation areas by limiting access to those areas.
- Promote redevelopment of the urban fringe through improved accessibility
- Promote the concentration of future employment and other activity centers along existing and planned major travel corridors.
- Protect adequate right-of-ways in newly developing and redeveloping areas for pedestrian, bicycle, transit, and roadway facilities.
- Promote new developments that provide efficient, balanced movement of pedestrian, bicyclists, busses and motor vehicles within, to and through the area.
- Preserve and enhance the natural and built environments through context sensitive solutions that exercise flexibility and creativity to shape effective transportation solutions.

2.2.1.7 Financial Feasibility

Develop a transportation system that is financially and politically feasible and has broad support by increasing the safety and security of the transportation system for all users.

Objectives:

- Provide a financially balanced plan based on realistic funding availability and opportunities.
- Provide a plan that works to preserve existing facilities and operate them more efficiently.
- Prepare a plan where total benefits exceed costs.
- Provide a plan that includes public participation from all groups, with special emphasis in reaching environmental justice populations.

2.3 Legislative Mandates

Providing and coordinating alternative transportation options (often initiated by federal legislation) has decreased the demand for fossil fuels and improved overall transportation efficiency. The local region has not been exempt from the effects of these developments. Recently there has been a small incremental shift in transportation focus away from land use patterns driven by the use of the private single-operated vehicles as people seek to live, work and play in close proximity. For example, the rejuvenation and densification of downtown Augusta, GA, and North Augusta, SC, are driven by the establishment of boutique retail stores and multi-family homes, condominiums, lofts etc. Simultaneously, in the ARTS a variety of multimodal transportation options are available; these include: public transit, paratransit, bicycling, multiuse trails and enhanced pedestrian facilities.

Creating an environment for sustained economic growth, efficient resource consumption, modal safety and multimodal transportation planning, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 6, 2012. Building on the legacy of the previous federal Acts governing surface transportation funding, MAP-21 reinforces the 3-C principles of planning, e.g., cooperative, continuous, and comprehensive. Federal transportation legislation has significantly influenced the transportation planning and policy environment for MPOs decision making.

The MAP-21 national goals are: Safety; Infrastructure Condition; Congestion Reduction; System Reliability; Freight Movement and Economic Vitality; Environmental Sustainability; and Reduced Project Delivery Delays.

- Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure Condition: To maintain the highway infrastructure asset system in a state of good repair.
- Congestion Reduction: To achieve a significant reduction in congestion on the National Highway System.
- System Reliability: To improve the efficiency of the surface transportation system.
- Freight Movement and Economic Vitality: To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.

- Environmental Sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduced Project Delivery Delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Transportation Vision 2040 LRTP seek to address all MAP-21 planning requirements as provided by the Federal Transit Administration (FTA) and Federal Highways Administration (FHWA).

2.3.1 Moving Ahead for Progress in the 21st Century

The Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law on July 6, 2012. MAP-21 ushered in performance and outcome-based programs that would support the ability of transportation improvements and address identified transportation needs. MAP-21 also strengthened the need for public involvement in the transportation planning process. Indeed, "Each metropolitan planning organization shall provide citizens, affected public agencies, representatives of public transportation employees, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with a reasonable opportunity to comment on the transportation plan."[1]

The primary reason for public involvement is to develop a transportation system that meets the needs of the communities it serves. ARTS residents rely on the transportation system to fulfill their travel needs, and by contributing to the transportation system in some way, e.g., through taxes, become direct stakeholders of the regional transportation system. In order for the transportation system to continue to meet current and future needs while enhancing livability and the environment; having direct input into the transportation planning process will result in the development of a transportation system that meets the needs and aspirations of the ARTS community. The ARTS Public Participation Plan sets out the strategies to achieve these efforts.

[1] Moving Ahead for Progress in the 21st Century Act, 2012

2.3.2 Involvement of Federal, State and Local Agencies

ARTS actively engaged federal, state and local agencies in the transportation planning and LRTP review process. Over several months ARTS committee meetings updated members and sought their input and review on the progression of the LRTP update. The progression of the Transportation Vision 2040 LRTP update through the ARTS committees, including, the Policy Committee (PC), Technical Coordinating Committee (TCC), Citizens Advisory Committee (CAC) and Test Network Subcommittee (TNS) are presented in *Table 2*.

Table 2: *ARTS Committee Meetings and LRTP Review Process*

Date	Committee/s	Agenda Item/Action
Thursday, June 5, 2014	PC	Members informed 2040 LRTP update start date
Thursday, July 10, 2014	PC, TCC & CAC	General Information
Wednesday, August 13, 2014	CAC & TCC	General Information
Thursday, September 4, 2014	PC	Current status of the ARTS LRTP update
Wednesday, December 17, 2014	PC, TCC & CAC	Current Status of the ARTS LRTP update
Wednesday February 11, 2015	PC, TCC & CAC	Current Status of the ARTS LRTP update
		Public Involvement initiatives for LRTP update
		Review and comment LRTP Performance Measures
Wednesday April 29, 2015	CAC	Current Status of the ARTS LRTP update
		Public Involvement initiatives for LRTP update
		Review & comment LRTP Performance Measures
Thursday, March 5, 2015	PC	Transportation Vision 2040 – Regional Travel Model Presentation by GDOT
		Review and adopt the 2040 Regional Travel Model Presentation by GDOT
		Public Involvement – Announcement of Community Meetings
Friday, May 1, 2015	TNS	Review Level of Service (LOS) of existing and future road networks
		Review regional travel demand model
		Identify new projects for Transportation Vision 2040
		Review LRTP 2035 projects
Wednesday, May 13, 2015	TCC	Review & comment Community Meetings Report – Executive Summary
		Review & comment Road Capacity Levels and Potential Projects
		Review and comment Congestion Management System Report – Executive Summary
Thursday, June 4, 2015	PC	Review & comment on draft Community Meetings Report – Executive Summary
		Review & comment on draft Road Capacity Levels and Potential Projects
		Demonstration of ARTS Interactive Project Mapping and Information Tool

Source: ARTS

Since June 2014 ARTS committee members have become aware of the Transportation Vision 2040 LRTP update process. From that time discussions and presentations have provided a forum for members to review, provide comment and adopt LRTP draft documents. All ARTS committee members have had ample opportunity to become involved in the LRTP delivery and update process.

In the development of the ARTS network models and recommended projects, ARTS staff members have developed two innovative online project review and comment methods.

GoToMeeting

GoToMeeting is an online meeting, desktop sharing, and video conferencing software tool that enable users to meet with other users online in real time. The GoToMeeting tool was used by TNS to review and accept the capacity needs for the 6th Network. TNS members work for various state and local agencies in the ARTS planning area and beyond. Using GoToMeeting allowed members who could not be physically present at the May 1, 2015 meeting to participate in the 'virtual' meeting discussions.

Interactive Project Mapping and Information Tool

ARTS together with the City of Augusta GIS Department developed an interactive project mapping and information tool. Users of the online tool can easily identify Transportation Improvement Program (TIP), Transportation Investment Act (TIA), or other LRTP projects, in the ARTS planning area. By clicking on a project, a new window opens giving further information about the project such as, estimated cost, project ID, type of project, e.g., widening, etc. The tool also allows the user to submit any comment or concern about a project directly to ARTS. This new tool will enable users to find out more about transportation improvement projects in their community or the ARTS planning area. Public outreach initiatives such as the Interactive Project Mapping and Information Tool will contribute to a greater involvement through discussion and consultation of the public in the transportation planning process.

2.4 Addressing National Planning Factors

Developing a multimodal transportation plan that meets the needs and aspirations of ARTS citizens, Transportation Vision 2040 goals aim to mirror the national planning framework as defined by the Moving Ahead for Progress in the 21st Century Act (2012). The eight (8) national planning factors[2] from this framework are presented in *Table 3.* This table illustrates the relationship between the eight (8) MAP-21 planning factors and the five (5) Transportation Vision 2040 goals. Consistency with the Transportation Vision 2040 goals and the MAP-21 planning factors helped guide the development of appropriate strategies and transportation improvements for the ARTS planning area. A selection of strategies and transportation improvements are presented in Table 3 and further discussed later in this plan. Critical success factors identify potential outcomes that confirm the effectiveness of the transportation improvement or strategy. The implementation of proposed strategies and or transportation improvements will contribute to achieving the Transportation Vision 2040 goals while supporting the eight (8) national planning factors.

Table 3: *ARTS Goal Matrix*

MAP-21 Goal	FHWA Planning Factor	Transportation Vision 2040 Goal	Suggested Transportation Strategy/Improvement*	Evaluation Criteria
Freight Movement and Economic Vitality	Economic Vitality	· Mobility, Accessibility and Connectivity	· Intermodal and Freight Planning	· Dedicated freight routes that may lessen travel delay to all roadway users.
Environmental Sustainability	Environmental Protection and Quality of Life	· Economic Vitality and Environment	· Context Sensitive Solutions	· Managing traffic flow and congestion while minimizing impacts on communities and land use.
Reduced Project Delivery Delays	Efficient System Management and Operations	· Financial Feasibility	· Positioning of transportation improvements with greatest positive impacts in Tier #1 of Transportation Improvement Program	· Continuous implementation of programmed projects achieving Transportation Vision 2040 goals
System Reliability	Transportation System Integration and Connectivity	· Land Use and Transportation Integration	· Land use and Transportation Integration	· Reduced conflicts between transportation improvements and land use plans.

[2] 23 CFR 450.206 - Scope of the statewide transportation planning process

Table 3: ARTS Goal Matrix (Continued)

MAP-21 Goal	FHWA Planning Factor	Transportation Vision 2040 Goal	Suggested Transportation Strategy/Improvement*	Evaluation Criteria
Safety	Safety of Transportation System	· Safety and Security	· Complete Streets · Age-Friendly Design · Traffic Calming · Capital investments in roadway safety	· Safer places to walk, ride and cross roadways (for all age cohorts), improves safety and decreases pedestrian/bicycle related crashes
Infrastructure Condition	System Preservation	· Maintenance	· Adequate resources for Roadway Maintenance	· Availability of maintenance funds permitting programmed maintenance regimen to be sustained
Congestion Reduction	Increased Access and Mobility	· Congestion	· Geometric, Widening or Capacity Improvement · Public Transit & Paratransit Service Expansion · Access Management · High Occupancy Vehicle Lanes · Bicycle and Pedestrian Facilities · Congestion Management	· Sustained reductions in roadway or intersection Level of Service post capacity improvements · Increasing use of Public Transit and non-motorized transportation alternatives · Increased use of High Occupancy Vehicle lanes, bicycle and pedestrian facilities.
System Reliability	Security of Transportation System	· Safety and Security	· Bridge Repair and Upgrade · Evolving Transportation Security Strategies	· Decreasing numbers of bridges classified in critical condition · Availability of funds permitting bridge maintenance and upgrade regimen to be sustained

* Presented in later sections of the LRTP

Source: ARTS

2.5 Public Participation

The ARTS MPO recognizes that continuous and active public participation by the entire region, in addition to the ARTS's Policy, Technical Coordinating, Test Network, Citizens Advisory Committee members, is paramount to good transportation planning. Public comments are valued because they shape the direction of a particular transportation study or planning activity, and may help to identify existing transportation deficiencies, travel needs, innovative strategies, and solutions to define new transportation projects that are important to citizens of the region. Additionally, ARTS relies on the Transit Citizens Advisory Committee (TCAC) for the Augusta Public Transit Department to assist with public outreach and engagement efforts on the LRTP and TIP. The Augusta-Richmond County Commission appoints the 10-member committee, which represent each district within the county. The TCAC has been very instrumental in increasing public participation during the LRTP planning process.

For ARTS transportation planning activities, the current Public Participation Plan sets the framework for the public involvement opportunities that will be available throughout the course of the LRTP planning process. This process is further explained in detail in the "Public Participation section of this plan.

2.5.1 Public Participation Process and Goal Setting

Developing and refining the Transportation Vision 2040 goals involved extensive public outreach and involvement. The goal setting process involved public input gained from community meetings, Speaker Bureaus, one-on-one discussions with various individuals, and online surveys. Overall, more than 1,000 persons provided direct and indirect input into the goal setting process. Goal setting methodology and outcomes are discussed in greater detail in section 5.8 of this plan.

3 Where Are We Now

3.1 Socio-Economic Overview

The ARTS planning area after suffering along with the nation from the bursting of the housing bubble in mid-2007 has recently commenced a sustained socio-economic comeback. The relatively low cost of living, maturing of the baby-boom population, military influence, and the natural beauty in the region continues to sustain population growth. The dominance of stable public sector jobs has been eclipsed by service sector job growth, primarily in the areas of health care, data management, information technology and educational services. The opening of a UNISYS Call Center in downtown Augusta, relocation of the National Cyber Command to Fort Gordon, construction of the Augusta Corporate Park and the establishment of supporting businesses and accommodations servicing these new employers will enhance the economic strengths of the ARTS planning area. However, with the increasing competition from other metropolitan areas to secure jobs, challenges remain for the ARTS planning area. A selection of opportunities, strengths and future socio-economic challenges in the study area are presented in *Table 4*.

Table 4: *Opportunities, Strengths, and Challenges*

Challenges	Opportunities and Strengths
Availability of workforce for new industries	Abundant and qualified workforce
Availability of sites for industrial location	Robust Transportation Infrastructure
Availability of supporting infrastructure	Concentration of health services and activity centers
Extent of Public Transportation System	Neighborhoods requesting public transit service
Continued diversity of economic base and jobs	Attraction of large employers
Generally persistent poverty and low income	Low Cost of Living
Retention of STEM graduates and young professionals	Stable economic base in Fort Gordon
Urban Sprawl	Age-Friendly Communities
Dominance of Masters in tourist appeal of area	Tourism based on history and environment

Source: ARTS

The availability of highly trained and a trainable workforce has been a major factor in the attraction of new industries such as UNISYS to the ARTS planning area. However, sustaining the workforce pool is dependent on the continued education and training opportunities. In 2014 the City of Augusta during 2014 was designated an 'Age-Friendly Community,' which recognizes 'Aging in Place' and community activities suitable for people of all ages. The low of cost of living in the ARTS planning area sustains its advantage as a place to live, work and play. Nevertheless, this advantage is tempered by persistent poverty levels and low incomes especially in the urban areas.

Through adopting the Transportation Vision 2040 goals ARTS seeks to sustain the economic vitality of the ARTS planning area. Transportation improvements, for example capacity widening, reduces congestion and improves freight logistics; sustaining the ARTS planning area's locational advantage. Encouraging the development of an efficient public transit system and non-motorized transportation modes, connects people to jobs, health care providers, workforce opportunities and other activity centers. Age-friendly Design, Traffic Calming and Complete Streets policies make the urban core safer and accessible for all users. Developing the Transportation Vision 2040 goals and objectives acknowledged the role of ARTS in enhancing opportunities and strengths while minimizing challenges within the ARTS planning area. This process was underscored by active public involvement during the public participation phase.

Through adopting the Transportation Vision 2040 goals ARTS seeks to sustain the economic vitality of the ARTS planning area. Transportation improvements such as capacity widening, reduces congestion and improves freight logistics; sustaining the ARTS planning area's locational advantage. Encouraging the development of an efficient public transit system and non-motorized transportation modes connects people to jobs, health care providers, workforce opportunities and other activity centers. Age-friendly Design, Traffic Calming and Complete Streets policies make the urban core safer and accessible for all users. Developing the Transportation Vision 2040 goals and objectives acknowledged the role of ARTS in enhancing opportunities and strengths while minimizing challenges within the ARTS planning area. This process was underscored by active public involvement during the public participation phase.

3.2 Population, Housing, and Employment

Planning for the future involves a thorough understanding of what is happening today in order to make informed choices that help craft the desired future vision. A region's population and employment characteristics are two key components that determine the demand for transportation services and usage of transportation infrastructure. Rapid expansion and development of population or employment in the ARTS planning area may lead to challenges in accommodating travel growth on the transportation system. Sprawl growth leads to issues of increased traffic congestion, vehicle operation cost increases, ineffectiveness in providing social services and delays in emergency vehicle response, along with many other issues negatively affecting daily living, economic development, and travel.

Understanding population and employment growth trends in the ARTS planning area are important for planning, modeling and programming of transportation projects. Population and employment are two primary inputs into the Travel Demand Model (TDM) that are used to identify deficiencies in the current transportation system and generate future travel demand scenarios. The following sections display historical growth in population and employment in the four-county region and projected growth towards 2040 planning horizon year. The methodology governing future year population and employment estimates are presented in *Appendix A*.

The 2010 base year and the plan year of 2040 (30 year horizon) were the chosen timeframes for the TDM that determines the needs of the current and future transportation systems. Using a base year of 2010 allows for the most accurate data available, which comes from the 2010 Decennial Census.

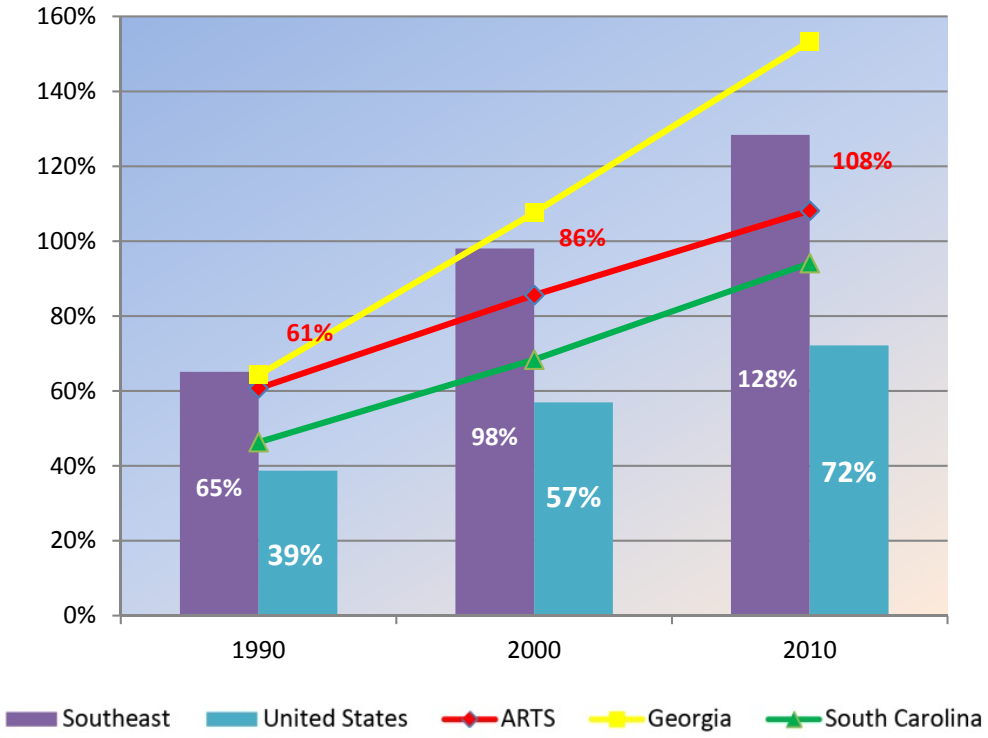
Although ARTS consists of Richmond County and portions of the remaining three counties, much of the following information involves the entire four-county region (i.e. 100% Aiken, Columbia, Edgefield and Richmond counties). The spread of the urbanized area within the four counties has led to the expansion of the ARTS boundary over the past few decades. This had led to differences in the physical land area of study covered in ARTS LRTP updates over the course of a few decades. A MPO boundary is continuously updated every ten years after the decennial census and, at a minimum, covers the urbanized and contiguous geographic areas likely to become urbanized over the next twenty years.

Analyzing the four counties as a whole provides an easier and more consistent understanding of trends affecting the ARTS planning area. Aiken, Columbia, Edgefield and Richmond county boundaries have remained relatively consistent over the past 50 years.

3.2.1 How has the population in the four-county region been growing?

Population in the southeastern portion of the United States has grown rapidly over the past few decades since 1990, as depicted in *Figure 4*. This graph shows the change in population from decade to decade relative to the year 1960. Although the four-county region during this time frame exhibited a slower increase in population growth compared to Georgia, the growth rate still exceeds that of South Carolina and the United States overall. As of 2010, the ARTS remain the second-most populous MPO in Georgia behind Atlanta and the fourth most populous MPO in South Carolina (behind Columbia, Charleston and Greenville).

Figure 4: *Population Change 1990-2010*



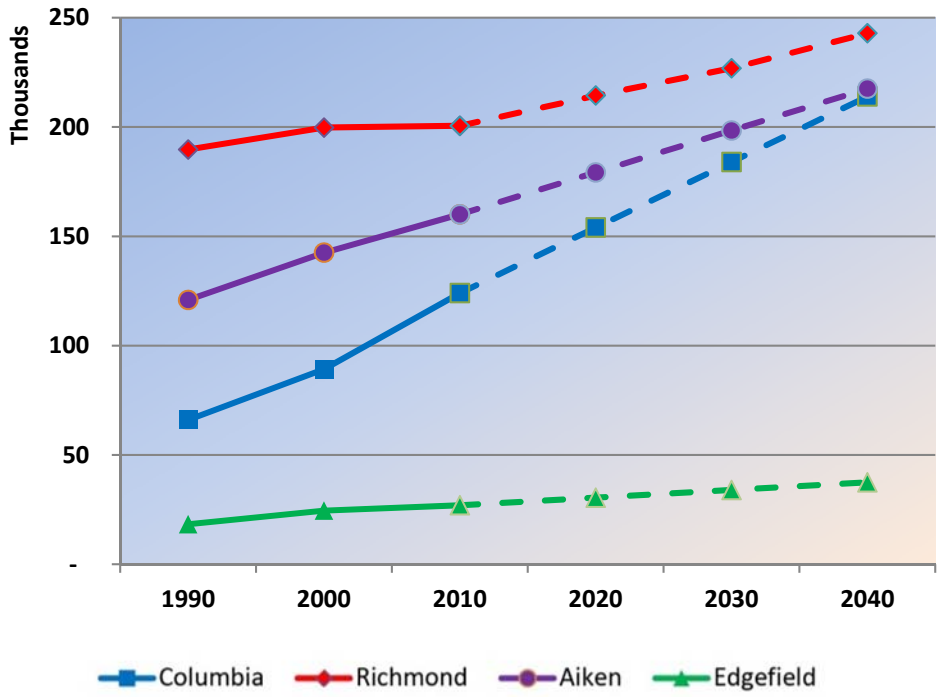
Source: US Census Bureau, 1990-2010

The four-county region has experienced steady population growth since 1960. This growth trend is expected to continue between 2010 and 2040. The four-county region is expected to grow in population from 511,686 residents in 2010 to approximately 712,986 in 2040, an additional 39% more residents.

3.2.2 Where is population growth occurring?

Although population growth from a regional outlook has been steady, the rate of growth at the county level has shifted. *Figure 5* illustrates that during the mid-20th century, the Richmond County population far exceeded that of the adjoining counties (i.e. Aiken or Columbia). However, as shown in *Figure 5,* over the past few decades there has been a slowdown in growth for the region's largest county, with both Aiken and Columbia counties having gained an increasing share of the four-county regional population.

Figure 5: *Four County Population Growth*

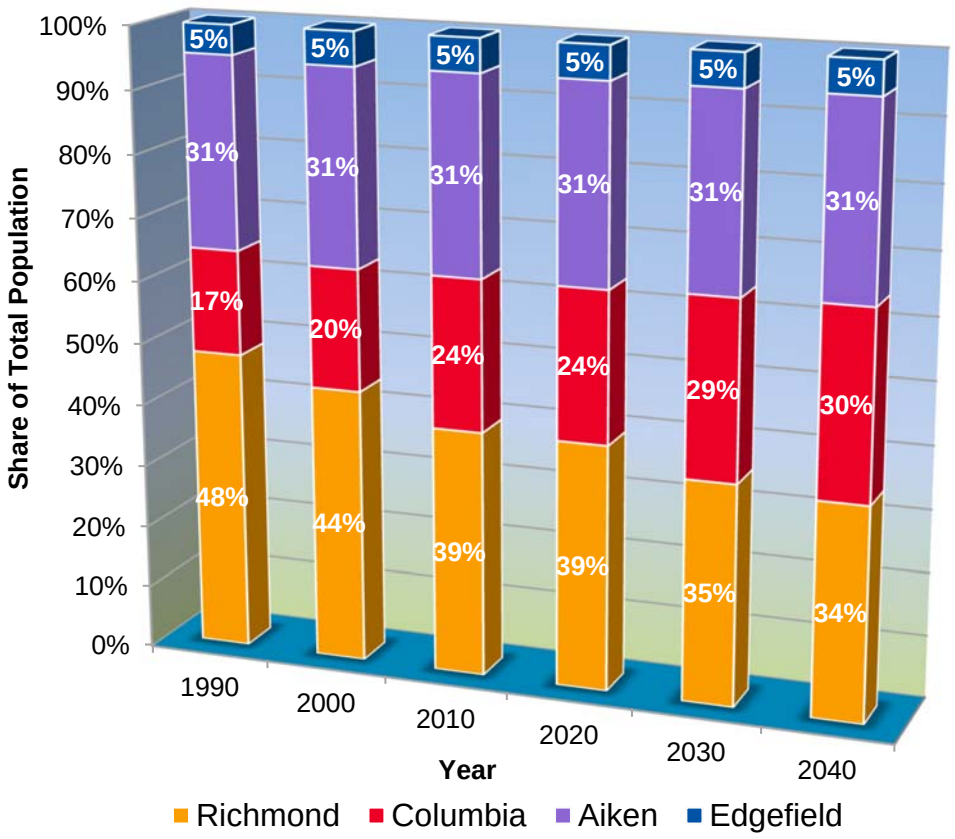


Source: US Census Bureau, 1990-2010 and ARTS Projections

Many residents in the ARTS planning area work, shop, and/or recreate in Richmond County while choosing to live in neighboring counties that potentially offer lower property development costs, quality education systems and various quality of life aspects not always found in Richmond County. Richmond County has some of the top-performing schools in the region. John S. Davidson Fine Arts Magnet School in Augusta, GA, over the years consistently ranks as one of the top high schools in Georgia by US News Best High Schools Rankings.

The shift in housing development in Columbia County is driving school choice. Population growth between counties is expected to continue into the coming decades, with Columbia County increasing the most in occupied households.

Figure 6: *Four County Population Share*



Source: US Census Bureau, 1990-2010 and ARTS Projections (2020-2040)

This current trend of population growth can be seen in *Figure 6*, which presents the population change from 2000 to 2010 by census tract. The majority of census tracts with high population growth occur in Columbia and Aiken counties, supporting the shift in population growth away from Richmond County as presented in *Figure 7*.

Findings regarding observed historical growth and existing population in the four-county region are presented as follows (*See Figure 8 for 2010 Population Density)*:

- The majority of higher density residential areas occur within Bobby Jones Expressway (I-520) corridor stretching from downtown Augusta towards the southwest, along and outwards from Wrightsboro Road.

- Historically, the majority of population growth in Richmond County occurred within the Bobby Jones Expressway (I- 520). However, in recent years population has spread south along Deans Bridge Road, Windsor Spring Road, Peach Orchard Road, and Tobacco Road, rapidly expanding the neighborhoods in South Augusta.
- Columbia County's population has grown near the Richmond County line along Columbia County and Washington Roads, significantly expanding the Grovetown, Martinez and Evans communities.
- Aiken County, SC continues to see large concentrations of population around the cities of North Augusta and Aiken. Population growth has occurred between these two cities, along and outward from US 1 and Augusta Road.

Findings regarding projected population growth in the four-county region are presented as follows (*See Figure 9 for 2040 Population Density)*:

- Richmond County will continue to grow in areas near I- 520 and towards South Augusta while adding infill to current high-density population areas near Georgia Regents University (GRU) and downtown Augusta.
- Columbia County's growth will continue its expansion at numerous nodes and along Washington Road and areas near the Fort Gordon military installation, Grovetown, Martinez, and Evans.
- Growth will continue in the City of Aiken as well as southeastern portions of Aiken County.

Figure 7: *Population Change*

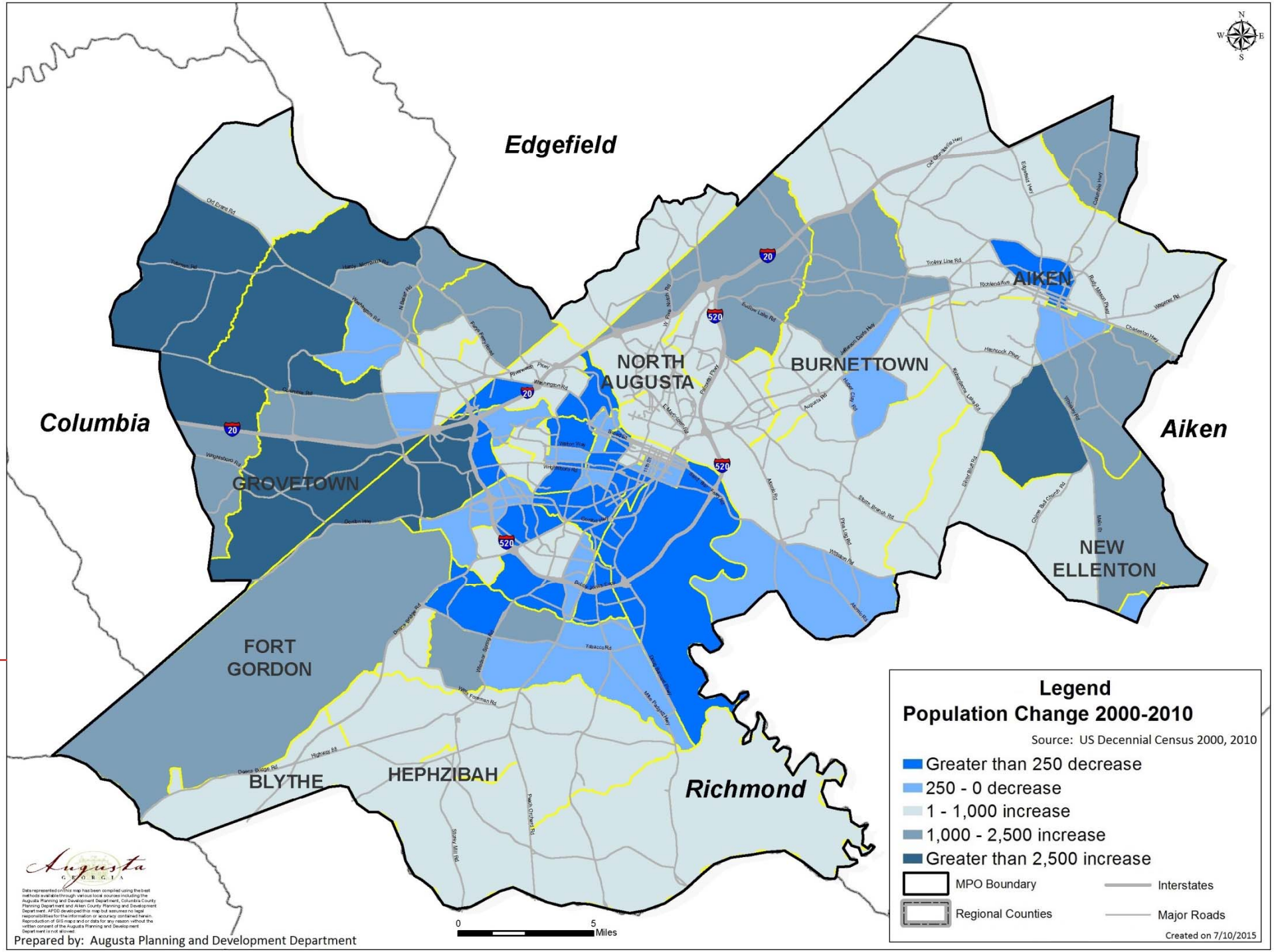


Figure 8: *Population 2010*

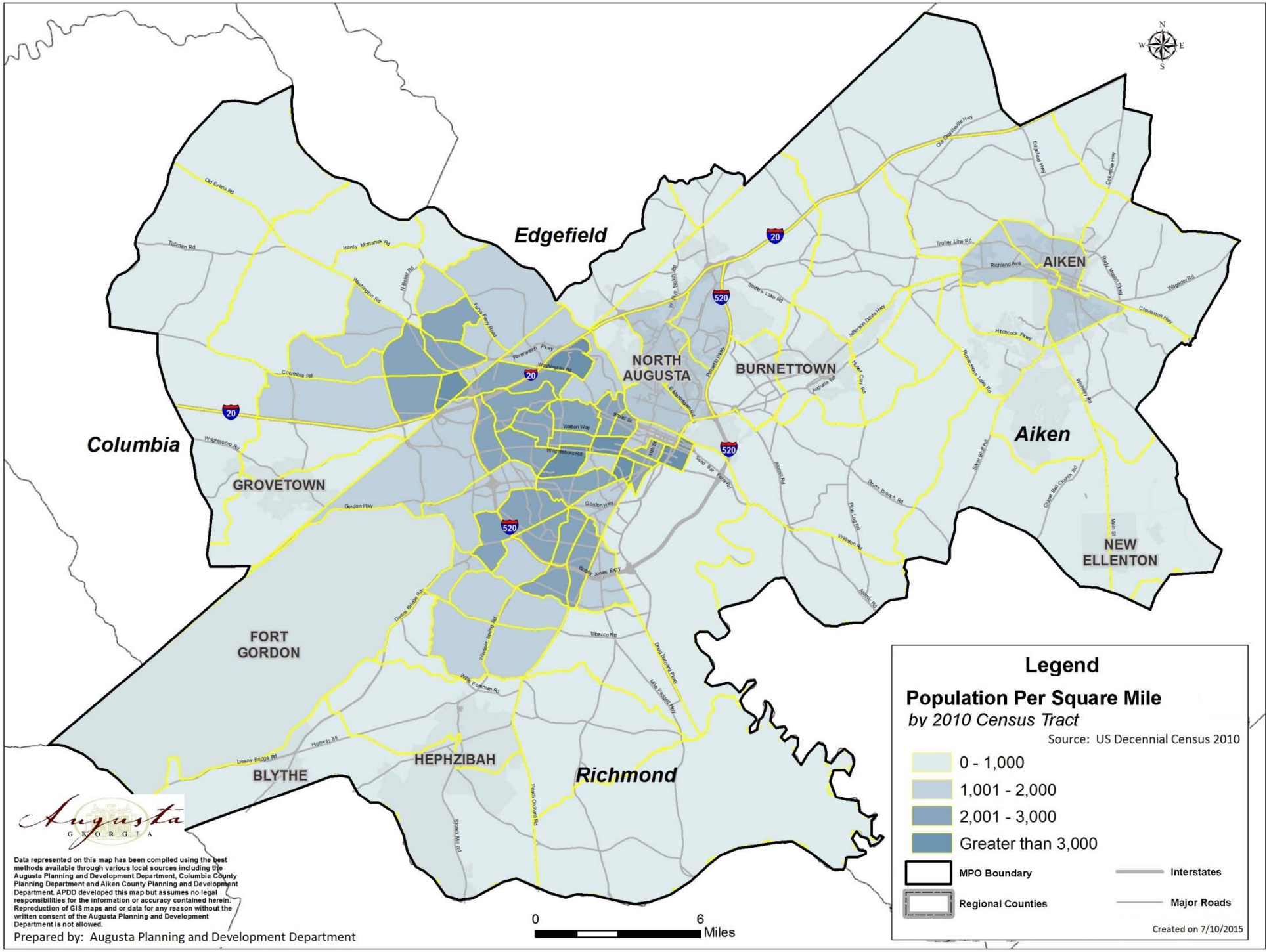
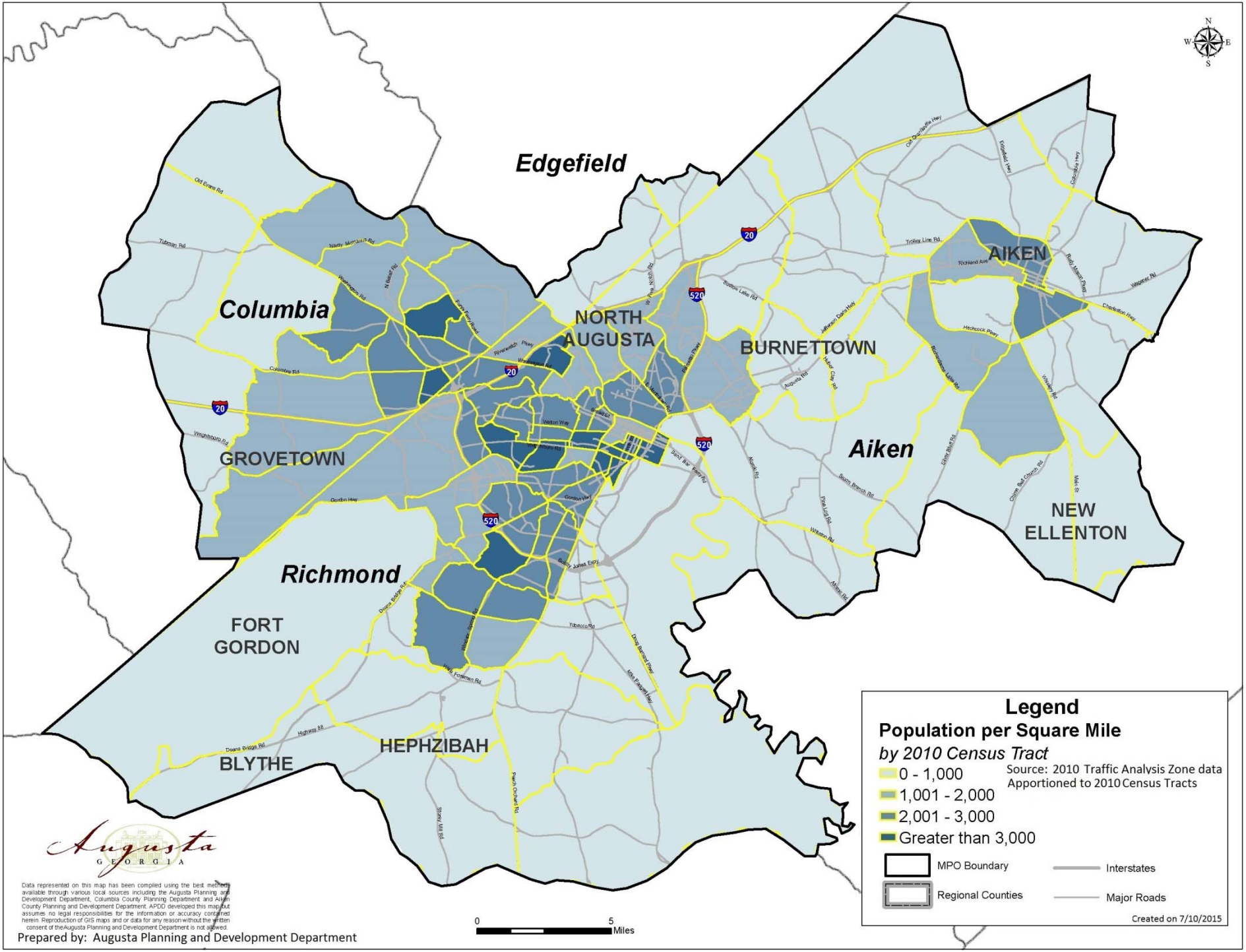


Figure 9: *Population 2040*



3.2.3 Age

Different age groups have varying transportation needs. It is important to plan for a multimodal transportation system that is able to provide an equitable, safe and accessible system for all citizens. Planning for multiple age groups includes complete streets, creating an age-friendly community (an AARP Livable Communities initiative), providing paratransit, and improving safety and access to schools for children. Understanding the age trends of the region will ensure proper planning for these varying needs.

A major demographic change expected over the course of the coming decades is the aging of the population, in particular the baby boomer generation (i.e., those born between 1946-1964). As seen in *Table 5,* a large share of the population (25%) is within this age range, indicated as 46-64 years old in 2010.

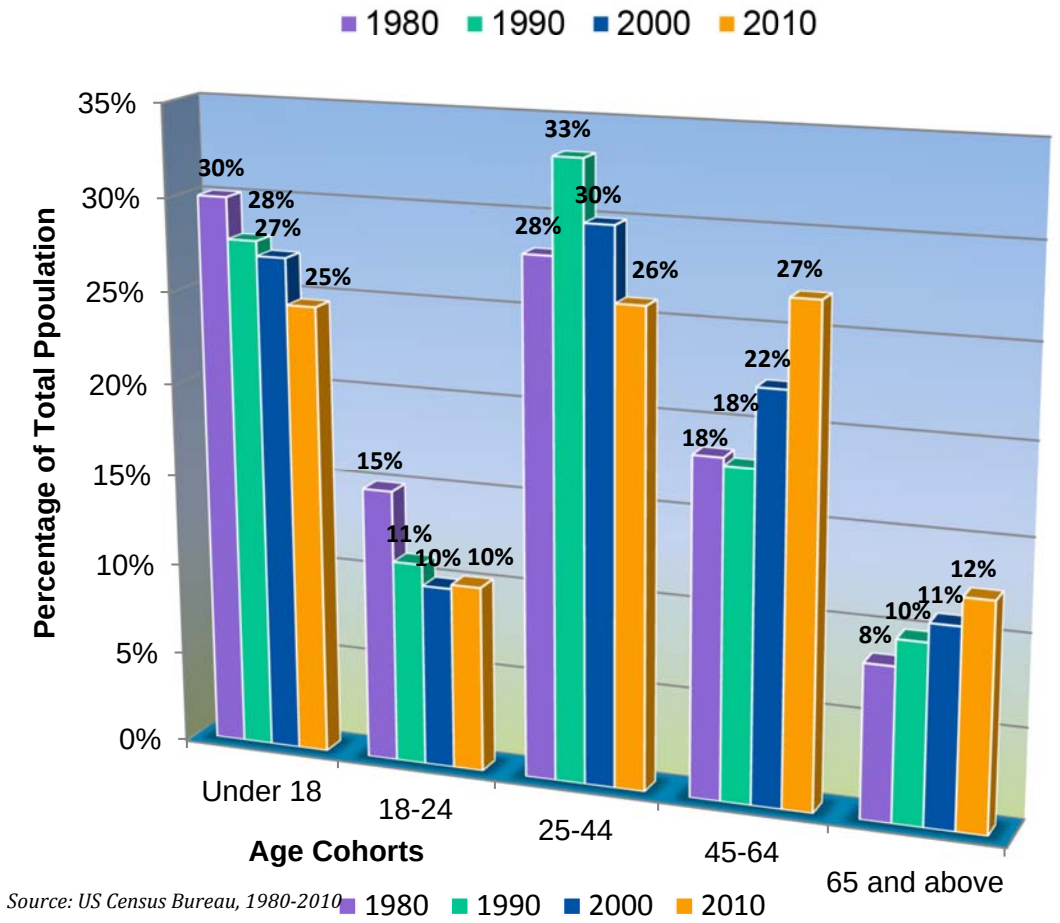
Table 5: *Four County Population 2010*

Cohort	Total	%
Under 18	125,714	25%
18 - 24 years	51,983	10%
25 - 45 years	140,249	27%
46 - 64 years	130,185	25%
65 and above	63,555	12%

Source: US Census Bureau 2010

Figure 10 illustrates the decade-to-decade change in population by cohorts based on the US Census Bureau. An important finding from this figure is that the proportion of persons 65 years and older residing in the four-county region has increased continually since 1980. The 45-64 age cohorts have also experienced increases in its share since 1990.

Figure 10: *Four County Population Cohorts*



Source: US Census Bureau, 1980-2010

According to *Figure 11*, a fair amount of the current elderly population live in Aiken County in the cities of Aiken and New Ellenton; Richmond County in neighborhoods near downtown Augusta and along I-520 Bobby Jones Expressway; and Martinez in Columbia County. However, large numbers of this cohort are also spread throughout the region. The growing numbers in this cohort combined with its wide spatial dispersion creates challenges in the region's ability to provide effective and efficient public transit for these residents. Transportation mobility, especially public transit serving urban and rural areas is critical for livability and wellbeing.

Another significant population cohort is that of young adults (persons aged 18-24 years). As seen in *Figure 12*, a large number of young adults in the ARTS planning area live in close proximity to Fort Gordon, GRU, Paine College, and the University of South Carolina-Aiken.

Figure 11: *Elderly Population*

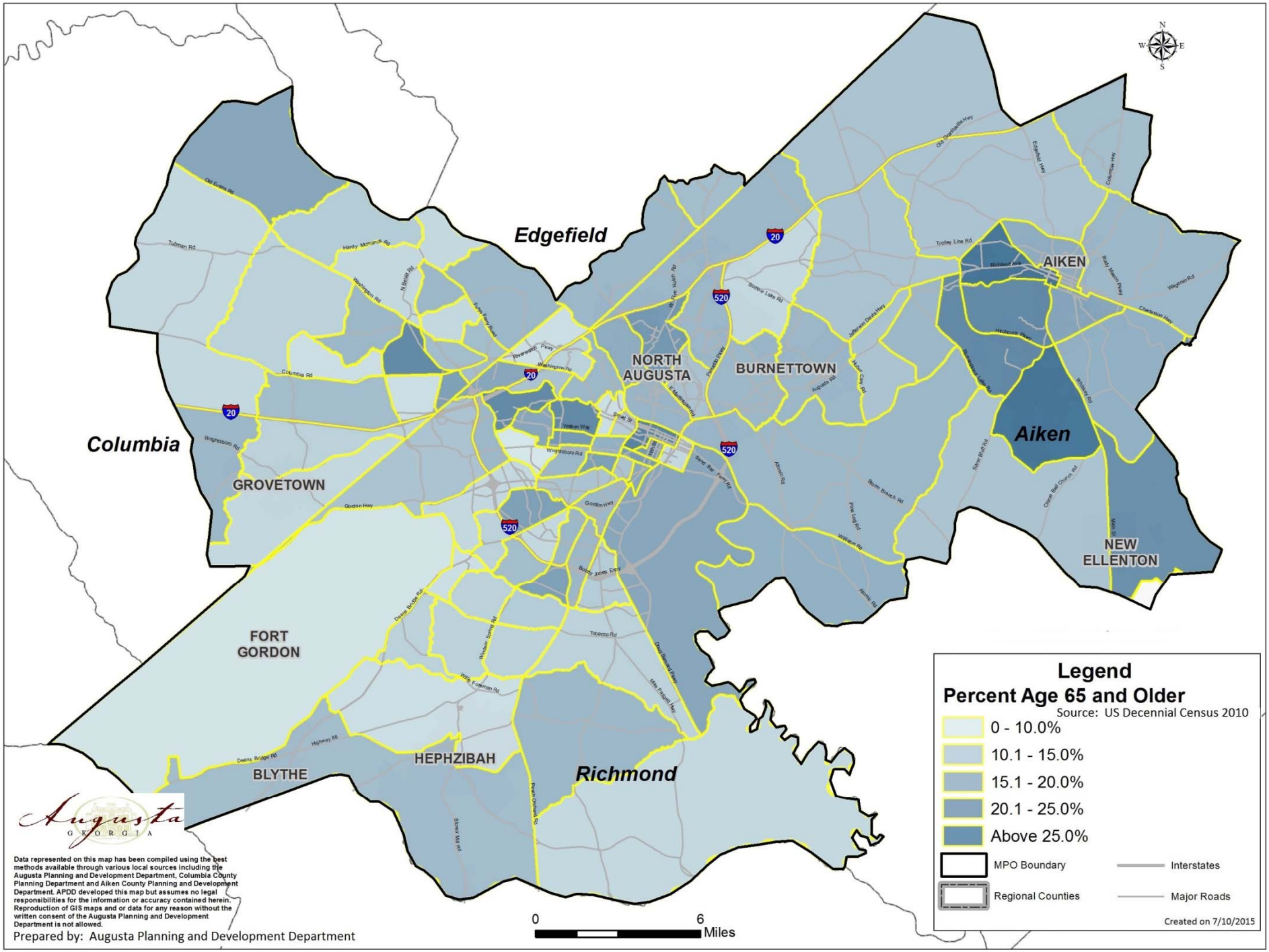
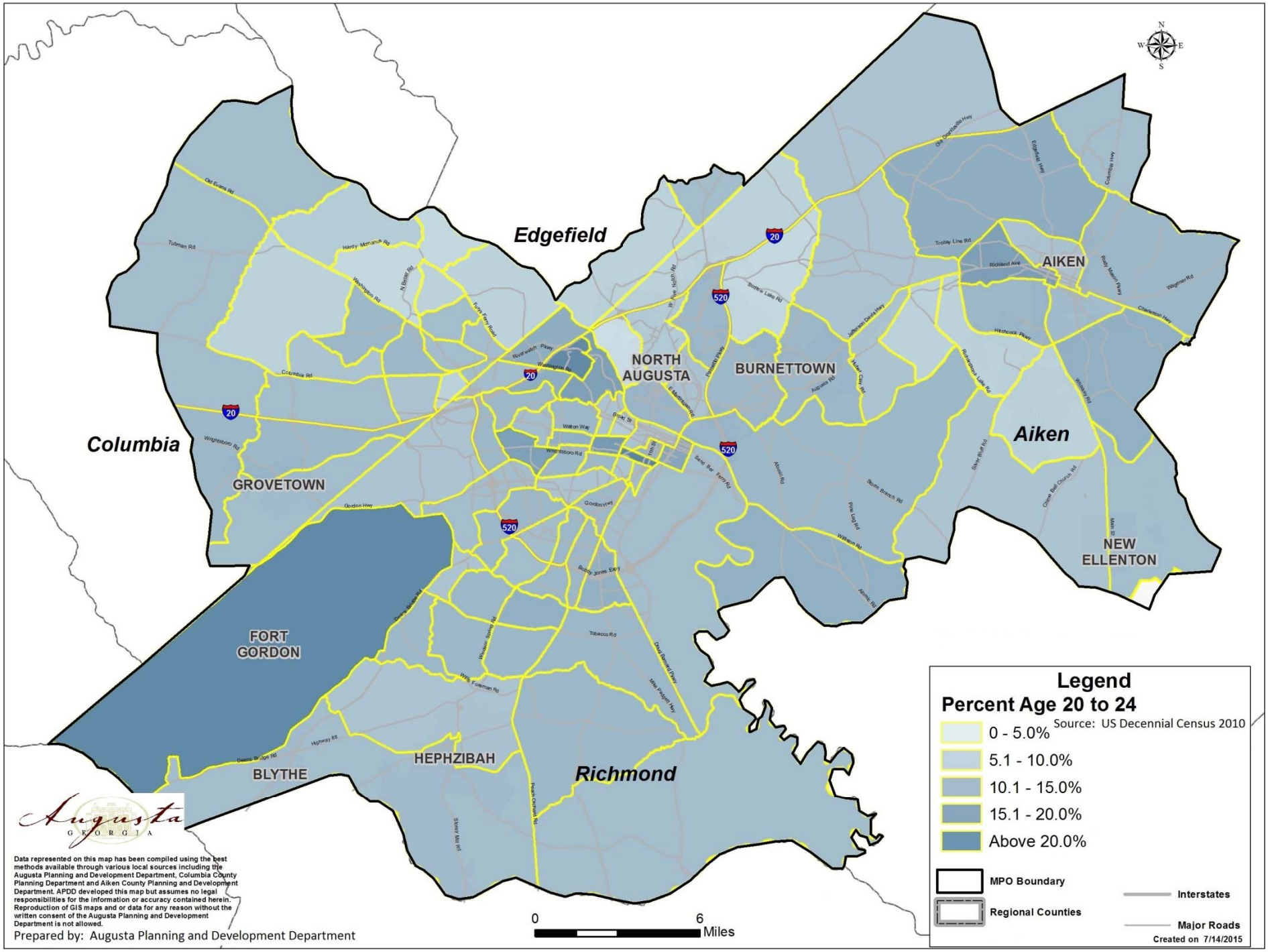


Figure 12: *Young Adult Population*



3.2.4 Housing Trends

Associated with population growth is the amount and type of housing stock. Changing household characteristics affect the transportation system in a way not completely captured by shifts in population. As defined by the Census Bureau, a household consists of all the people who occupy a housing unit (including a house, an apartment or other group rooms, a single room intended for separate living quarters). Although the region's population will grow in the coming decades, national trends suggest that the housing market may shift towards a demand for more single person and single parent households, resulting in a decrease in the average number of persons per household. The national trends are seen in the four-county region as well, shown in *Table 6.* From 2000 to 2010, there has been a decrease in average household size for the four counties, decreasing faster than the national average in this period.

Table 6: *Four County Household Size*

County/State/ Nation	2000	2010	% Change
Columbia	2.85	2.75	-0.035
Richmond	2.55	2.47	-0.031
Aiken	2.53	2.45	-0.032
Edgefield	2.66	2.56	-0.038
Georgia	2.65	2.63	-0.008
South Carolina	2.53	2.49	-0.016
United States	2.59	2.58	-0.004

Source: U.S. Decennial Census

Analysis of existing household density shows that the majority of the population is concentrated along I-20, along I-520, and within the urban areas of Augusta, GA. Columbia County's households shows a higher density of people living along major corridors such as Washington Road, Belair Road, Columbia Road and Fury's Ferry Road compared to other parts of the county. Aiken County high-density areas are within the City of Aiken and North Augusta as shown in *Figure 13*. *Figure 14* shows that these very same areas are projected to intensify in household density by 2040, from 1,927 units per square mile to 2,231 units per square mile. Surrounding census tracks are also expected to become even denser.

Key areas expected to become denser in 2040:

- South of Columbia and Washington Roads in Columbia County
- South of I-20 and I-520 as well as Walton Way in Richmond County
- Urban areas of North Augusta, SC. and Augusta, GA.

Figure 13: *Occupied Housing Unit Density 2010*

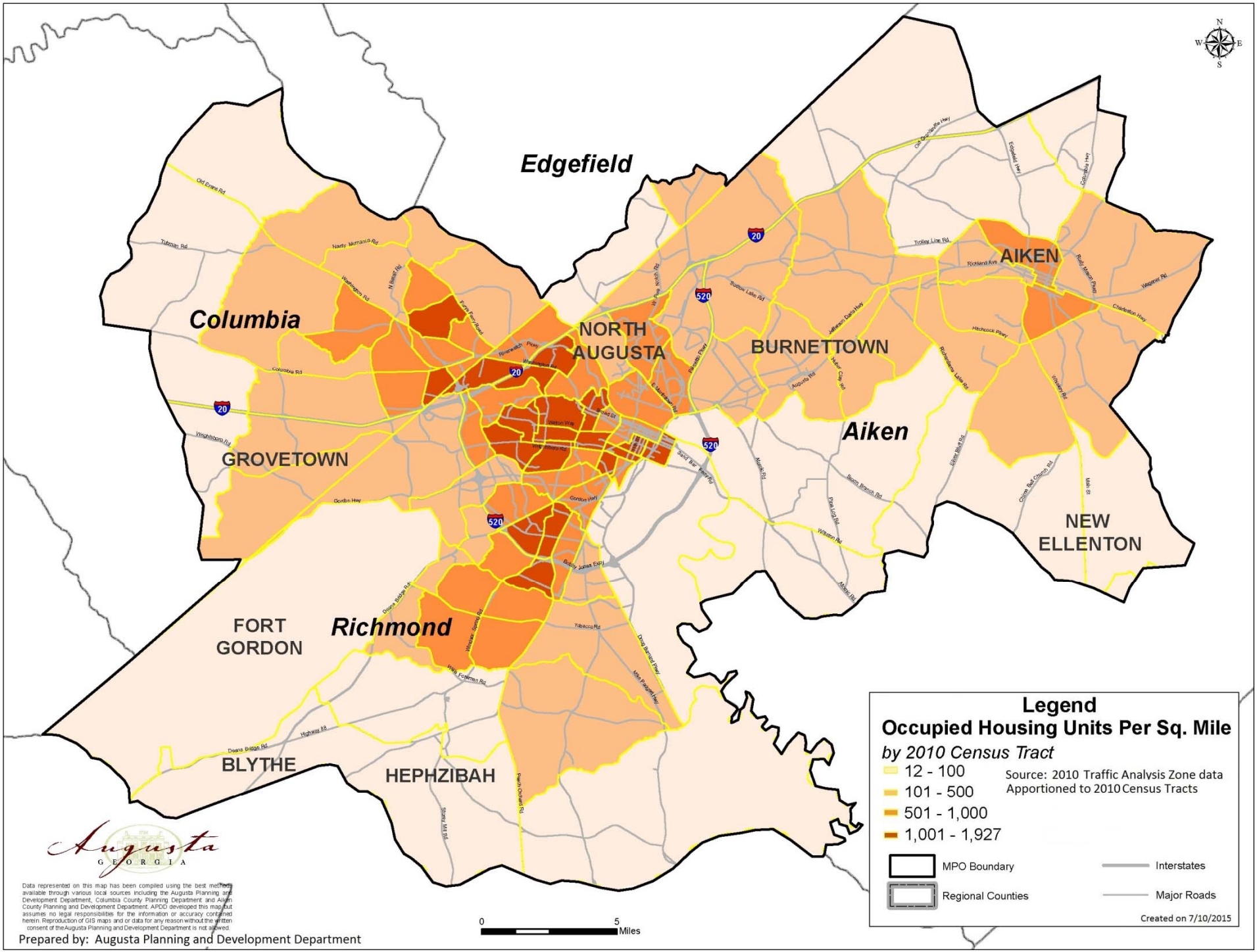
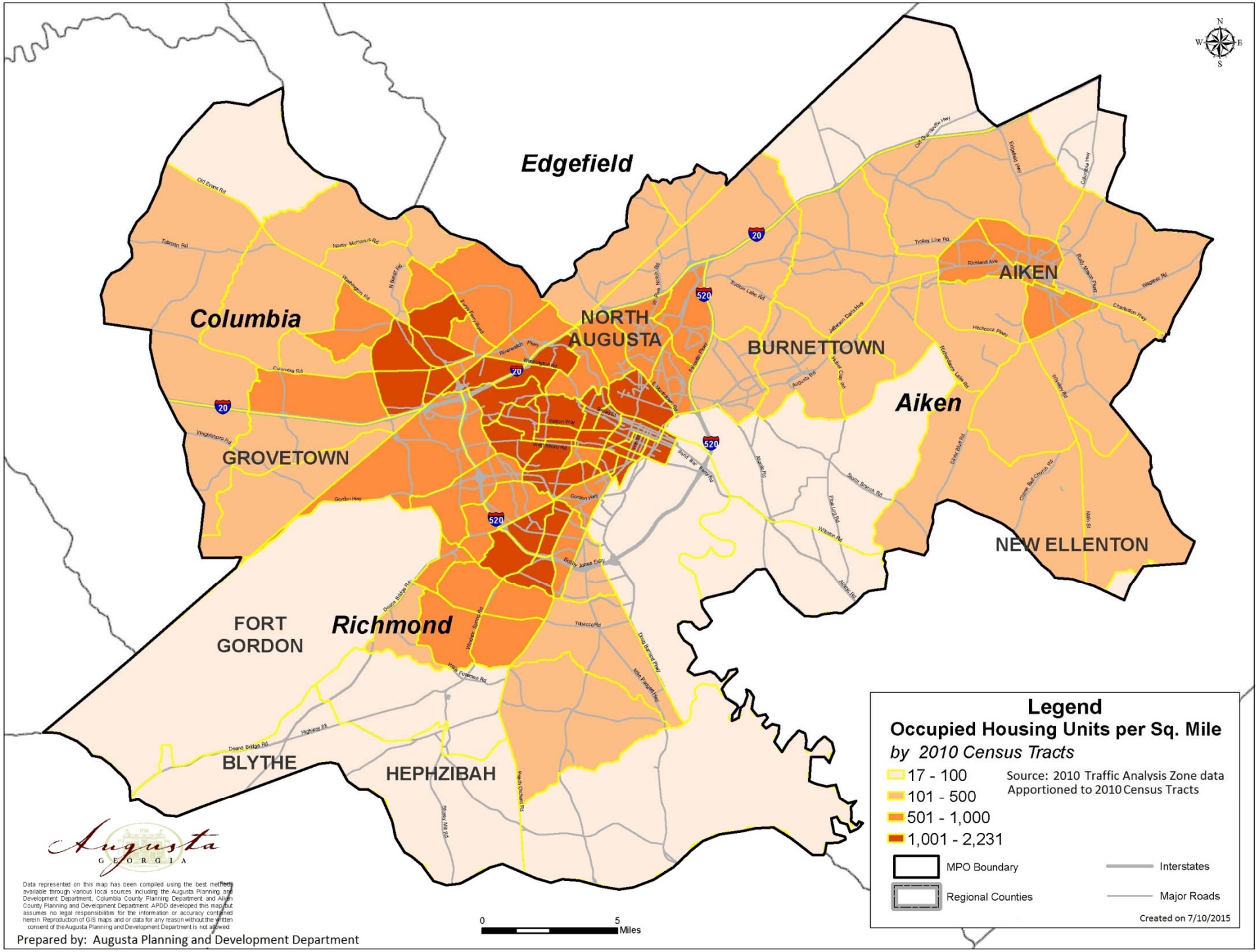


Figure 14: *Occupied Housing Unit Density 2040*



3.2.5 How has employment in the ARTS planning area been growing?

Following similar spatial patterns of economic development seen throughout the nation, the majority of new jobs created in recent years has continued to move away from downtown into less developed areas. Although downtown Augusta, GA, North Augusta, SC, and Aiken, SC, have traditionally remained as concentrations of high employment, there have been large increases in employment in and around Fort Gordon and the Georgia Regents University (GRU) and medical districts in Augusta. Strip commercial centers along major corridors (i.e., Washington Road, Whiskey Road and Gordon Highway also indicated in *Figure 15* have also grown due to lower development costs and their ability to meet the needs of a spatially dispersed residential population.

The majority of employment clusters in the ARTS generally providing service related jobs show the largest area of employment in *Figure 16* categorized as educational services, health care, and social assistance. Service related jobs are a dominant job category for many of the large employers in the ARTS planning area, e.g., Fort Gordon, GRU, University Hospital, Medical College of Georgia (MCG) Health, Savannah River Site, East Central Regional Hospital, and Doctors Hospital of Augusta.

Figure 15: *Employment Density and Cluster 2010*

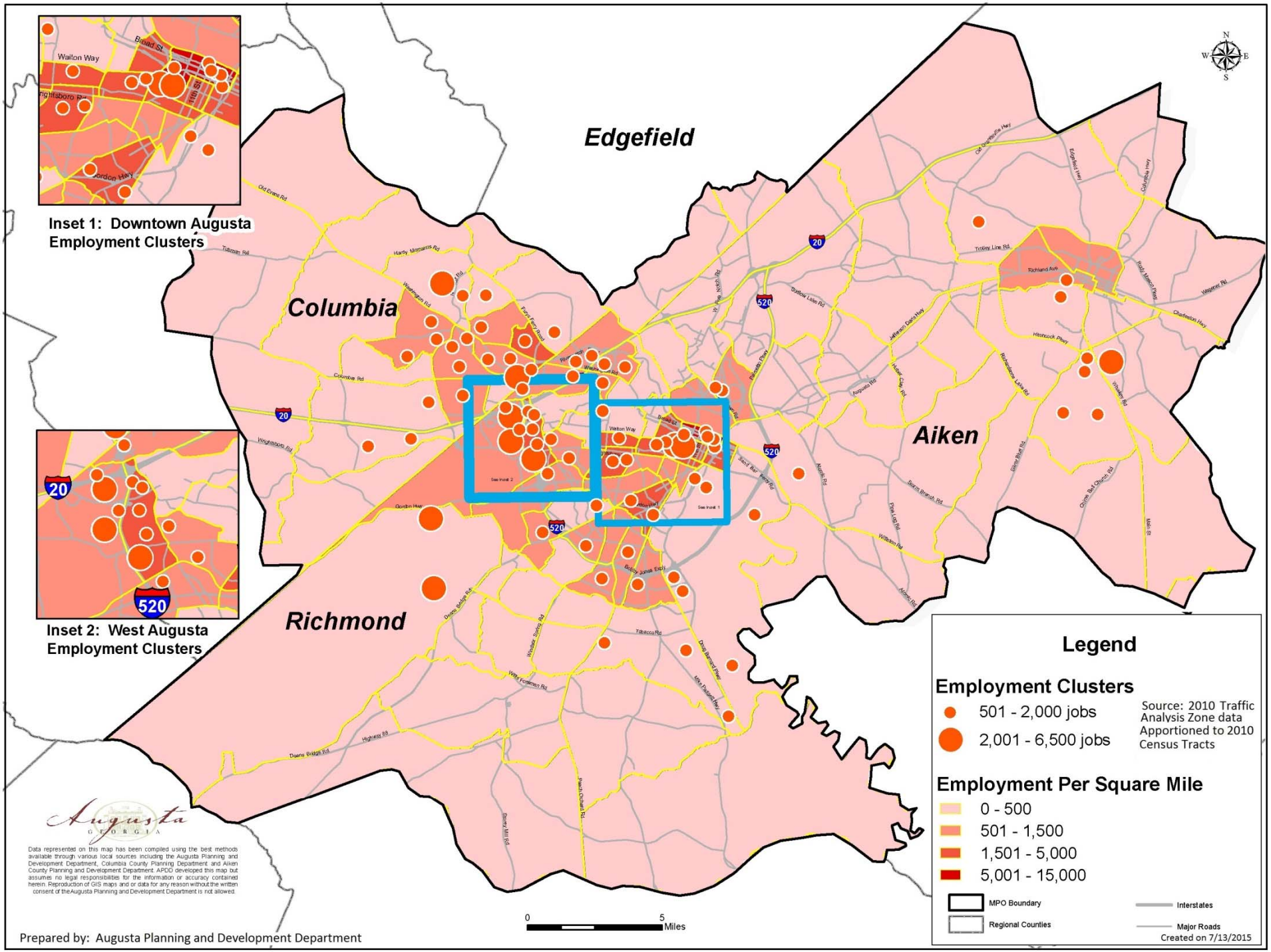
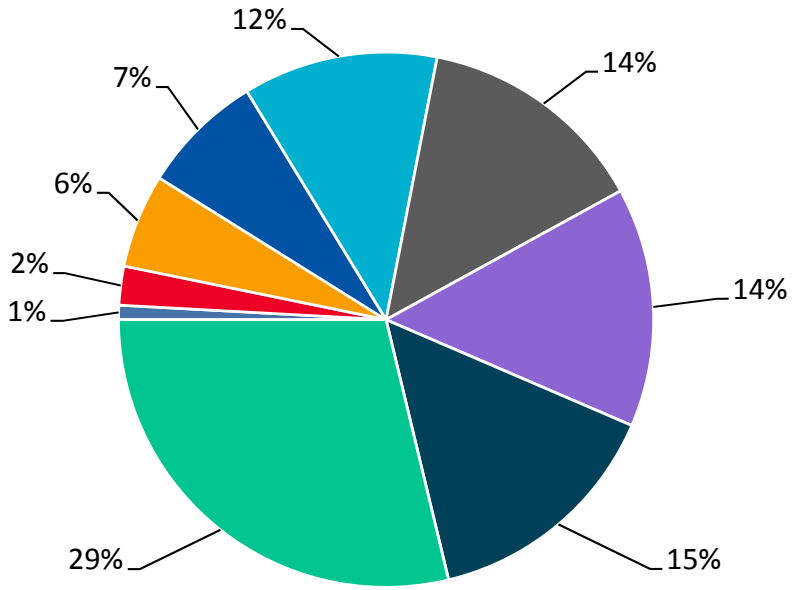


Figure 16: *Employment by Sector 2010*



Source: U.S. Census Bureau, LODES 2010 Work Area Characteristics

- Agriculture, forestry, fishing, hunting, and mining
- Transportation, warehousing, and utilities
- Information, finance, insurance, real estate, and leasing
- Public administration & other services
- Arts, entertainment, recreation, lodging & food services
- Professional, scientific, management, admin, & waste services
- Construction & Manufacturnig
- Wholesale & Retail Trade
- Educational services, health care, and social assistance

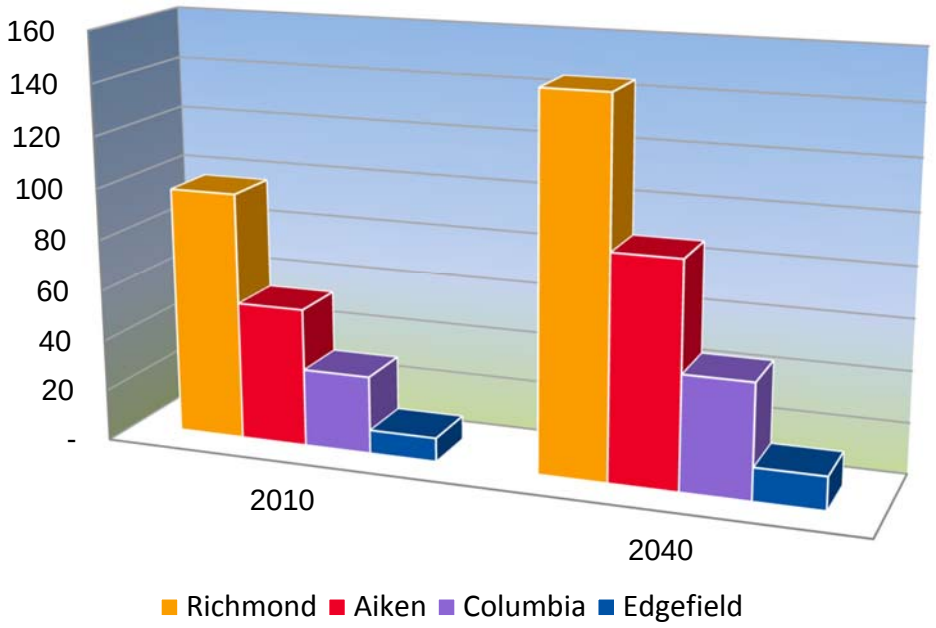
Various commercial strip developments in the study area also provide a large amount of service related jobs. Commercial strip developments and shopping centers as well as downtown often provide concentrations of retail employment. Manufacturing facilities are located in industrial parks near major railroad networks or waterways (e.g., Savannah River) and tend to be distant from major population concentrations.

Findings regarding the observed historical and existing employment in the four-county region are presented as follows (*Figure 17)*:

- High employment has been concentrated in Richmond County, e.g., downtown Augusta, GRU (i.e., Summerville and Health Sciences campuses) and the surrounding hospitals.
- A concentrated cluster of employment is seen in the Fort Gordon area, where many workers commute into a relatively small area. This high concentration of employment has influenced residential development along the Columbia County and Richmond County border.

- I- 520 and Washington Road corridors, i.e., between Columbia and Richmond Counties host large concentrations of employment.
- Aiken County's largest employment areas are North Augusta as well as the City of Aiken especially along Whiskey Road and Hitchcock Parkway.

Figure 17: *Four County Employment 2010-2040*

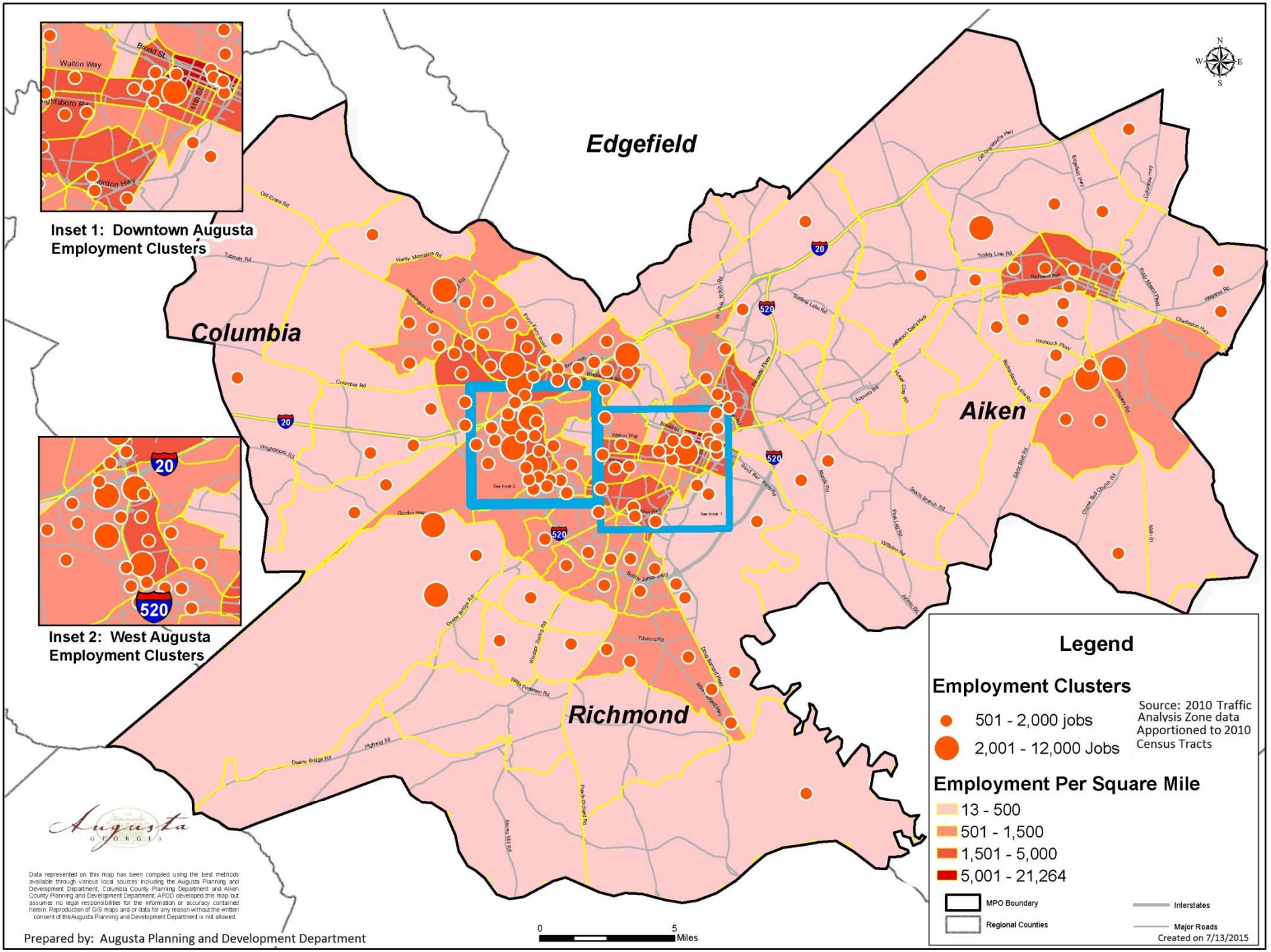


Source: ARTS Individual Counties provided estimates and forecasts

3.2.6 Future Employment in the Four County Region

Based on the projections provided from the various counties and seen in *Figure 18*, the four-county region is expected to gain around 56% more jobs between 2010 and 2040, growing from approximately 191,037 workers to 298,160 workers. Richmond County will continue to have the largest concentration of employment in the region. However, jobs will significantly increase in Aiken and Columbia counties due to the growth in the service sector serving the rapidly growing residential populations.

Figure 18: *Employment Density and Cluster 2040*



Findings regarding projected employment growth in the four-county region are presented as follows:

- High employment densities will continue to be concentrated in the region's downtowns, e.g., Augusta GA and City of Aiken and North Augusta SC.
- Strip developments along major corridors (e.g., Washington Road, Whiskey Road, Hitchcock Parkway, US 1/25/28, etc.,) will continue to expand, as they have historically.
- The major medical districts and hospitals (e.g., GRU, University, Doctors, etc.,) and Aiken County will remain a large center of employment.
- Fort Gordon will continue to attract jobs with both government personnel, contractors, and retail and service jobs spurred to meet the needs of the area.
- The relocation of the Cyber Command Center from the National Capital Region (expected completion in 2019) will create an estimated 1,500 new jobs at Fort Gordon.

3.3 Environmental Justice

Environmental Justice (EJ) is the fair dispersal of benefits and/or burdens in a community arising from the enforcement of regulations or the endorsement of a policy instrument.

Executive Order 12898 in 1994 – commonly referred to as Title VI – established EJ principles for Federal agencies and funding programs. This Executive Order came about due to the burdens many low-income and minority populations experienced from transportation projects, as well as noise and air pollution. All of which adversely affect personal health, wellbeing and economic opportunity of these population groups.

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies.'

-National Environmental Policy Act (NEPA)

ARTS transportation planning process ensures everyone's transportation needs are being meet, the benefits and burdens are distributed evenly, adverse effects are mitigated and there is no presence of discrimination at any level. The long range transportation planning process includes overall recommendations that support environmental justice principles for the ARTS planning practices. The ARTS environmental justice principles are used to promote a fair transportation planning process while meeting state and federal requirements.

EJ Principles:

- Avoid, minimize, or mitigate health, social, economic, and environmental effects on minority and low income populations.
- Ensure the full and fair participation by all communities in the transportation decision-making process.
- Prevent the denial of, reduction in, or delay in the receipt of benefits by minority and low-income populations.

EJ populations in the ARTS planning area analyzed at the census tract level. Two datasets were used; 1) 2010 Decennial Census to identify EJ population groups by ethnicity and age cohort; and, 2) 2008-2012 American Community Survey to identify low income population groups and persons with Limited English Proficiency (LEP).

3.4 Analysis Methodology

FHWA and FTA provides MPOs with the environmental Justice Planning Guidelines which defines specific terms and concepts for regional planning necessary to meet federal regulations. These terms and analytical concepts include:

Adverse effect – minority or low-income individuals within a given community or from the broader community; who experience a broad range of environmental, traffic, and economical disruptions and experience the denial of, reduction in, or significant delay in the receipt of benefits of FHWA/DOT programs, policies, or activities.

Disproportionately high and adverse – Adverse effects are those that are either currently or will be borne by minority and/or a low-income population; and/or more severe magnitude than the adverse effect that will be suffered by the nonminority and/or non-low-income population.

Low-income – person whose median household income is at or below the Department of Health and Human Services (HHS) poverty guidelines.

Minority – Race of people other than white, this includes: Black, Hispanic, Asian American-, American Indian and Alaskan Native or Native Hawaiian and Other Pacific Islander.

Populations – The people affected by a proposed FHWA/DOT program, policy, or activity. The primary focus is on low-income and minority people.

Elderly Population – people 65 years and older.

Hispanic – People of Spanish or Latin American origin, includes all races and genders.

Limited English Proficiency (LEP) – Persons 5 years and older speaking Spanish or Spanish Creole in the home, any other language, and speaking English "not well" according to the U.S. Census.

Zero Car – Household with no vehicles

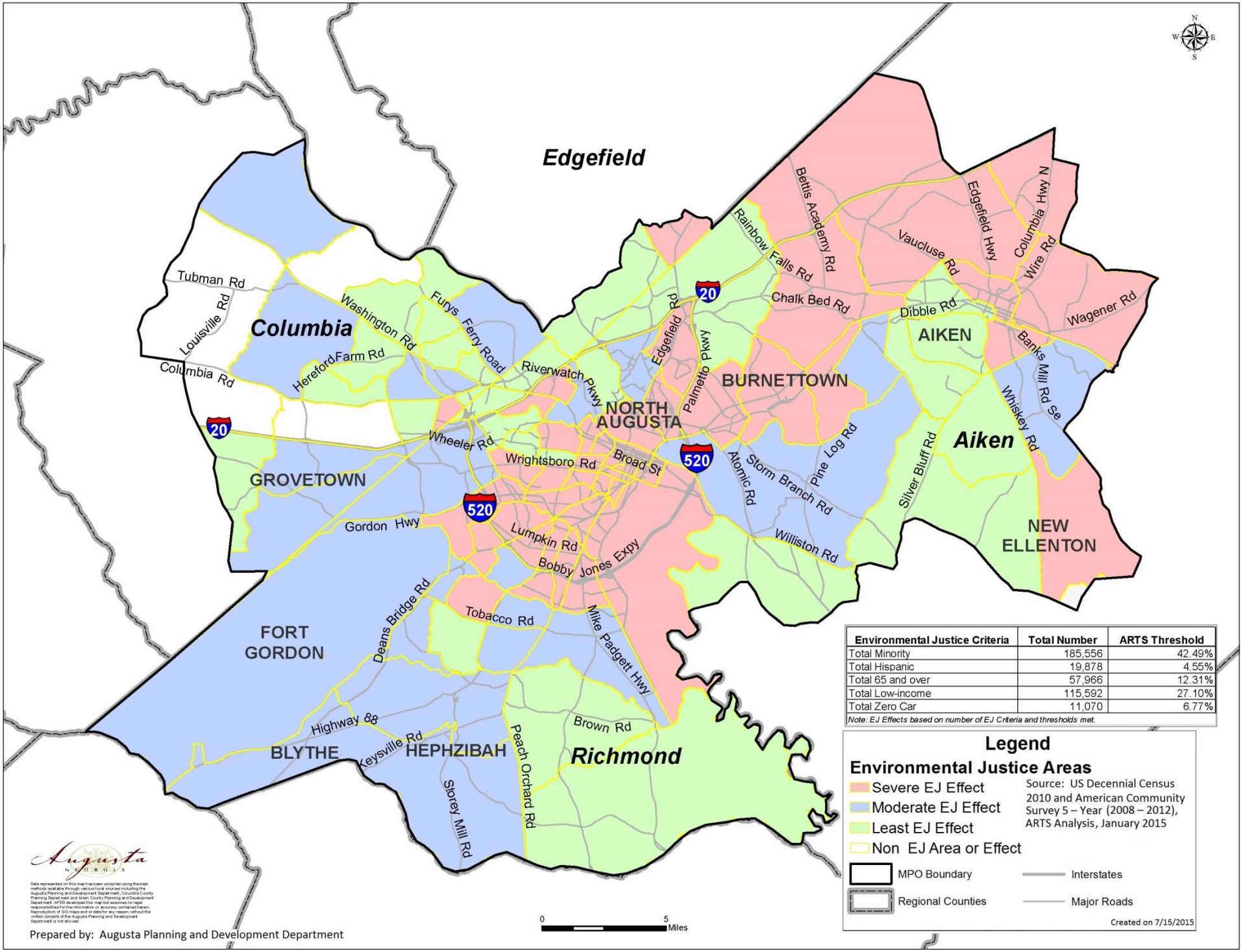
The Census tracts meeting multiple criteria are identified as being either least, moderately, or severely adversely affected, depending on the number of EJ demographic they meet. A breakdown of ARTS planning area according to the five EJ demographic and adverse effects is presented in *Table 7.* For example; Hispanic, elderly persons 65 and over, who do not have a car, will experience more adverse effects, than those persons who are only Hispanic or Hispanic and elderly.

Table 7: *Environmental Justice Demographics*

ARTS	MPO Total	Threshold
Total Population	436,719	
Total Households	174,276	
Total Minority	185,556	42%
Total Hispanic	19,878	5%
Total Elderly	57,966	12%
Total Low-Income	115,592	27%
Total Zero Car	11,070	7%

Source: U.S. Decennial Census, ACS 2008-2012

Figure 19: *Environmental Justice*



Environmental Justice Criteria	Total Number	ARTS Threshold
Total Minority	185,556	42.49%
Total Hispanic	19,878	4.55%
Total 65 and over	57,966	12.31%
Total Low-income	115,592	27.10%
Total Zero Car	11,070	6.77%

Note: EJ Effects based on number of EJ Criteria and thresholds met.

Legend

Environmental Justice Areas

- Severe EJ Effect
- Moderate EJ Effect
- Least EJ Effect
- Non EJ Area or Effect

Source: US Decennial Census 2010 and American Community Survey 5 – Year (2008 – 2012), ARTS Analysis, January 2015

- MPO Boundary
- Regional Counties
- Interstates
- Major Roads

Unit of Geographic Analysis

Figure 19 illustrates how the Environmental Justice demographic is present in the ARTS planning area. The ARTS planning area includes 95 census tracts all with data provided by the U.S. Census and based on their TIGER/Line Data files. The primary data used for all Environmental Justice analysis is the 5 Year 2008-2012 American Community Survey and 2010 Decennial Census data.

Environmental Justice Criteria and Measurement

Each individual census track is analyzed based on five specific criteria and in relation to the total population within that specific census tract. These Criteria include:

- Minority
- Hispanic
- Elderly (65 and over)
- Low-Income (150% HHS Poverty Guidelines)
- Household with no vehicle

3.4.1 Determine Disproportionate High and Adverse Effect

Socioeconomic data is distributed throughout the ARTS boundary. The Environmental Justice analysis identifies any adverse impacts on the community and economic vitality based on five thresholds – minority, hispanics, elderly, low-income households, and households with no vehicle. These five criteria and their relationship to one another also help determine if there are any adverse effects within the ARTS MPO planning area.

3.4.2 Effect Analysis

Environmental Justice Criteria are also studied in conjunction with one another. Individual census tracts may meet multiple criteria; it is these particular census tracts that are considered highly and adversely affected. A second analysis of each individual census tract based on unique thresholds for each category is conducted to determine which census tracts are adversely effected and to what extent. This analysis is presented in the overall Environmental Justice Map illustrating which census tracts meet single or multiple criteria based on the following classifications of adverse effects.

- Not adversely effected
- Least adversely effected (1 criteria)
- Moderate adversely effected (2 criteria)
- Severe adversely effected (3 or more)

3.4.3 Needs Assessment

ARTS EJ Transportation needs include

1. Public Transit in ARTS has developed incrementally and expanded upon with very little visionary planning, leaving some areas distant from any access or availability.

    - Bus stops are located at inconvenient spots along major arterial and collector roads away from neighborhood, commercial, or residential centers.
    - Recreation centers, parks, shopping venues, and employment centers are outside any transit stops.
    - Transit ridership has declined due to improved traffic management, moreover, lack of awareness of transit availability.

2. Employers, Neighborhood Organizations, Civic Leaders, and others require incentives to assist in transportation improvements.

    - Presenting to local speaker bureaus, civic leagues, neighborhood organizations and churches while gathering information from them.
    - Publicizing all research, documents, plans, and projects through city webpage as well as independent transportation planning web portal.
    - Creating public and private partnerships with local stakeholders, organizations, and communities.

3. Alternative transportation is available in the ARTS region but coverage is limited

    - Pedestrian safety improvements continues to expand throughout the area but many neighborhoods lack walkability

3.4.3.1 Highway and Freeway Analysis

New construction and future improvements to both the I-20 and I-520 will help all residents within the MPO area as well as those outside. Enhancements to I-520 with the assistance of Federal funds will assist in developing a stronger link to minorities and low-income people living in southern portions of Richmond County. Future High Occupancy Vehicle lanes, additional lanes and access points to the highways and freeways will help improve vehicular circulation and make local roads safer for pedestrians and non-commuting travelers. This will also reduce travel time through improved traffic conditions along Federal highways for distance commuters between Columbia, SC and Atlanta, GA while simultaneously refining linkages between Aiken and Richmond Counties, and improving access to major employers and healthcare in the region.

3.4.3.2 Local Roads Analysis

Maintenance, expansion, and creation of new local roads will benefit minorities and low-income residents throughout the ARTS area providing better access to alternative travel routes, improved traffic conditions, and reduced travel time. People living in west Columbia County outside the MPO boundary will be able to drive into the urban areas of Columbia County, GA in less time than before improvements were made to local roads. Currently, people living outside Columbia County's portion of ARTS must travel fifteen miles to access government facilities, central business district, and other urban amenities. People living in Aiken County, SC outside the ARTS must travel even further – an average of 20 miles – to access the government and business facilities of North Augusta, SC and Augusta, GA. People in Richmond County are able to access a variety of alternative and improved local routes and reduced congestion within the County while also accessing surrounding counties in less time. Improvements to local roads in these counties will facilitate better access for minorities and low-income people who live outside the ARTS. Both Environmental Justice and non-Environmental Justice Area within the ARTS will benefit from improved local roads while the burden to enhance them is distributed evenly throughout the four counties.

3.4.3.3 Pedestrian Analysis

ARTS Bicycle and Pedestrian Plan as part of the Long Range Transportation Plan documents the various pedestrian oriented transportation developments occurring throughout the area. Many residents of all races, age, income, and ability now have access to greater avenues for walking, cycling, and recreation. Aiken County, GA continues to promote Safety Routes to School by expanding it to other schools throughout the County while Augusta, GA promotes its Age-Friendly designation by GA AARP through walkability surveys in neighborhoods throughout the County. Columbia County, GA is ensuring pedestrian safety by insisting on sidewalks in any new construction and road improvement projects.

3.4.3.4 Public Transit Analysis

Best Friends Express in Aiken County, South Carolina and Augusta Public Transit in Richmond County, Georgia continue to provide public transportation for residents throughout their service areas. Both transit operators constantly seek new opportunities to expand their service to other minority and low-income neighborhoods so even more people may have access to public transportation. Columbia County continues to promote their non-fixed route service through marketing, where people of all income levels can make reservations from the comfort of their home and be delivered to the destination of their choosing. Refer to the Augusta Public Transportation Title VI Program for more detail information on the local public transportation.

3.4.4 Findings

ARTS continued efforts to ensure environmental justice within its planning area are based on some of the findings based on the analysis presented. Transportation projects that accomplish the following two criteria ensure that environmental justice population needs and challenges are addressed. The Long Range Transportation Plan various modes are documented below.

1. The highway system consisting of I-520 and I-20 which bisect the counties in the region primarily between Columbia and Richmond County in Georgia and Aiken County in South Carolina, benefits all four county environmental justice areas.

   Minority and low-income populations are located outside each of the four county urban cores but all within the ARTS planning area. Age and racial demographics are equally distributed throughout the metropolitan planning area. Constant road maintenance, improvements and expansion of the two highways are critical for the ARTS MPO area. Each of the counties are anticipating population and employment growth while more and more commuters continue to travel along these two highways. Planned HOV lanes, expansion of existing system, installation of additional access point, and other necessary improvements to the highway network will provide greater safety for elderly and slow drivers while allowing others to travel more freely.

2. Public transportation focuses primarily on the environmental justice areas and is always attempting to expand into other minority and low-income neighborhoods.

   Public Transit fiscal costs accounted for only 7% in the ARTS LRTP 2035 Plan. Richmond County's 10 fixed bus routes and Aiken County's 3 fixed-bus routes continue to provide minority and low-income residents with the public transit needs while seeking to expand into other neighborhoods. Columbia County's rural transportation on-demand route currently is not assisted by the ARTS, it is a self-sustaining system implemented by the county as an independent means to addressing their environmental justice population. Public transportation providers are planning to expand their marketing initiatives in an effort to increase ridership and will eventually be linked to park and ride facilities throughout the ARTS area.

3.5 Land Use Patterns, Growth & Development

In planning, land uses are generally categorized as residential, commercial and industrial. As development becomes more systematic, various degrees of land uses can be observed. Zoning is a land management tool adopted by cities and counties to impose restrictions or limitations on the placement of proposed land uses. The ARTS planning area hosts three (3) counties, one (1) city/county consolidated, and several municipal planning authorities as presented in *Table 9.* Each agency listed in *Table 8* adheres to its own land use and zoning regulations.

One of the most traditional planning practices in the United States today (as in the ARTS planning area) is single use zoning codes (i.e., Euclidean zoning), which separate and isolate land uses into distinct districts characterized by a single land use. Best planning practice has revealed that: 1) land uses are shaped by planning and the transportation linkages that serve them; and, 2) single use zoning practices disrupts the natural synergy between land uses and encourages urban sprawl.

A consolidated land use map for the ARTS planning area was produced for the Transportation Vision 2040 LRTP. Creating a composite land use map representing the ARTS enabled: 1) assessment of current land uses in the ARTS planning area; 2) visual understanding of land uses identifying development trends, and, 3) identification of the linkages between development patterns, travel trends and transportation corridors. *Figure 20* presents existing land use in the study area according to the American Planning Association (APA) Land Based Classification. The methodology of consolidating the four county land use maps into one aggregate map representing current land uses is presented in *Appendix B*.

Table 8: *Planning Organizations in ARTS*

Jurisdiction	County/City	Organization
County	Aiken County	Aiken County Planning and Development
	Columbia County	Columbia Planning Department
	Edgefield County	Building & Planning Department
City	Aiken	City of Aiken Planning Department
	Blythe	Blythe Planning Commission
	Burnettown	Aiken County Planning and Development
	Evans	Columbia Planning Department
	Grovetown	Grovetown Planning and Zoning
	Hephzibah	City Clerk
	New Ellenton	New Ellenton Planning Commission
	North Augusta	Planning & Development
City/County	Augusta-Richmond County	Augusta Planning and Development

Source: ARTS

The existing composite land use map (*Figure 20*) is current as of May 2015. It consists of nine (9) standard land use classifications described as follows:

1. Residential: All types of residential categories and densities.
2. Commercial: General business uses such as retail sales, services, and entertainment facilities.
3. Office: Exclusively for professional office uses.
4. Industrial: Industrial business uses such as warehousing and wholesale trade facilities, manufacturing facilities, processing plants, factories, and other similar uses.
5. Public Institutional: Government and institutional land uses, including city halls and government building complexes, police and fire stations, libraries, post offices, schools, prisons, etc. Examples of institutional land uses include college campuses, hospitals, churches, and cemeteries, etc.
6. Transportation/Communication/Utility: includes transportation routes, airports, public transit stations, power generation plants, railroad facilities, cell towers, and other similar uses.
7. Parks, Recreation, and Conservation: includes both active and passive recreation land uses. Examples include city parks and recreational facilities.
8. Agriculture: includes land use exclusively related to agriculture and farming.
9. Forestry: includes land use exclusively used for commercial timber or pulpwood harvesting or similar uses such as woodlands not in commercial use.

The land use map contains nine categories based on data collected from each of the four counties[3]. Two uses, commercial and office, are quite similar but portrayed differently on the map and land use planning in general. Commercial is a more wide-ranging category that includes office, retail sales and services and repair-oriented uses. The office category is particularly directed to office uses. For example, it is common to find office uses in areas designated for commercial, but many commercial uses such as retail sales (i.e. general sales, personal, entertainment and repair-oriented services) are largely prohibited in areas designated for office. In addition, an analysis of the map reveals slight discrepancies on how the various jurisdictions classify commercial and office uses. It appears that Columbia County makes one of the clearest delineations between the two categories. Conversely, the highly populated Richmond County is almost entirely designated central business districts for commercial, with the highest concentration of office in an established medical park, south of the I-20 / I-520 interchange.

[3] Aiken, Columbia, and Edgefield Counties provided Zoning Data, not Land Use. Land Use map based on Richmond County Land Use and APA Land Base Classification Standards.

The ARTS planning area is primarily urban, suburban, and rural in terms of development patterns. Unlike the traditional growth patterns that in the past radiated from the urban core (e.g., downtown Augusta, Aiken and North Augusta), in recent decades land development has occurred sporadically without continuity, or form. This development can be observed in parts of Aiken and Columbia Counties.

Residential development is the dominant land use in the study area, 32% overall (*Tables 9 and 10*). Another top land use is forestry and agriculture. However, established patterns of commercial development are generally located in the historic urban cores (e.g., downtown Augusta, Aiken and North Augusta) and nearby major regional thoroughfares. For example, Bobby Jones Expressway, Gordon Highway and Washington Road in Richmond County; Belair Road, Washington Road and Evans to Locks Road in Columbia County; and, Jefferson Davis Highway, York Street and west Buena Vista in Aiken County have become significant centers for commercial development.

Figure 20: *Land Use*

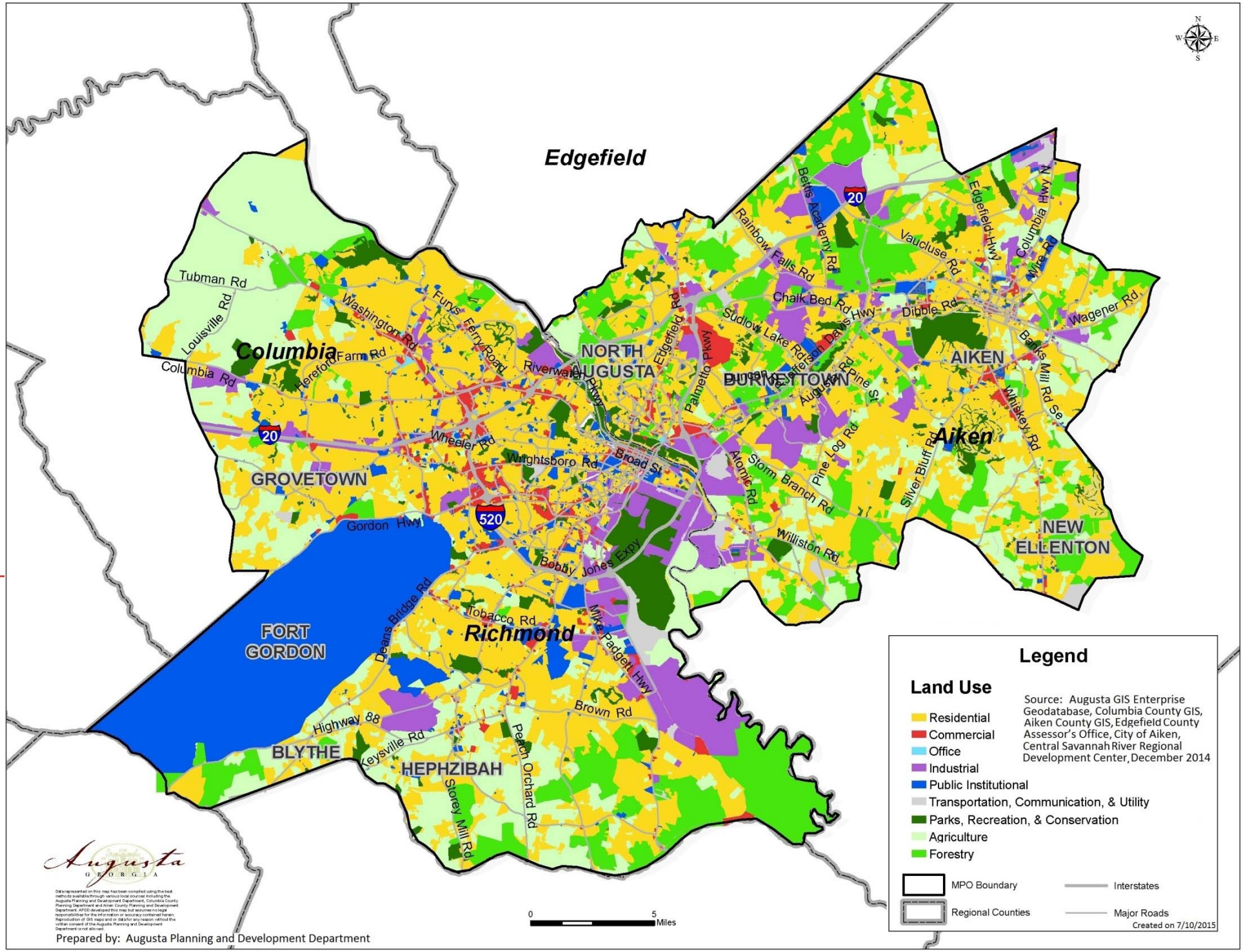


Table 9: *Total Land Use*

Land Use	Sq. Mi.*	%
Residential	282.2	36%
Agriculture	161.3	20%
Forestry	108.8	14%
Public Institutional	95.3	12%
Industrial	59	7%
Parks, Recreation, & Conservation	40.7	5%
Commercial	25.5	3%
Transportation/Communication/Utility	14.6	2%
Municipal Specific Land Use zone	4.8	1%
Office	1.4	0%
Total	793.6	100%

Source: ARTS
** Does not include roads*

Table 10: *Land Use by County*

Land Use	Richmond		Columbia		Aiken		Edgefield	
	Sq. Mi.	%	Sq. Mi.	%	Sq. Mi.	%	Sq. Mi.	%
Agriculture	57.1	17%	51.3	37%	50.4	17%	2.8	23%
Commercial	14.2	4%	3.6	3%	7.8	3%	0.1	1%
Forestry	43.2	13%	5.7	4%	57	19%	3	25%
Industrial	27	8%	5.4	5%	25	8%	0.4	3%
Office	0.4	0%	0.5	0%	0.5	0%	0.7	6%
Parks & Conservation	19.7	6%	6.8	4%	15	5%	0.2	2%
Public Institutional	83	24%	3.6	3%	8.6	3%	4.7	39%
Residential	94.2	27%	59.2	41%	127.7	43%	0	0%
Transportation/Utility	6.9	2%	0.8	40%	7.1	2%	0	0%
Total Area	345.7	100%	136.9	100%	299.1	100%	11.9	100%

Source: ARTS

Proximity to major arterials provides convenient access and accommodates greater traffic volumes that traffic intensive land uses tend to generate. The land use of the central business district of Augusta GA or Aiken SC is almost entirely commercial and/or public institutional. Larger urban areas, particularly in Richmond and Columbia Counties, contain more commercial land uses than their rural counterparts. Many of the industrial areas in the ARTS exist east and south of Downtown Augusta, GA, north of the City of Aiken, SC, and northern areas of Columbia County. In the western portion of Columbia County, as well as in other areas, the aggregate mining field in Columbia County is broadly coded as industrial. Clusters of industrial development are also associated with industrial parks and airports. Industrial uses tend to comprise larger tracts of land in comparison to commercial tracts.

Agricultural land uses, i.e., areas for crops and poultry, are generally situated along the periphery and less populated sections of the study area. This is particularly true along the western portion of Columbia County, southern Richmond County, and northern parts of Aiken County, SC. Recreational parks are spread throughout in smaller sections of the study area. For example, Phinizy Swamp Nature Park, located south of Augusta, is one of the largest contiguous parks in the region. Following the Savannah River even further south, there is a large area of forestry. Some smaller areas of forestry are found north of Aiken, in the southeast corner of the areas, and surrounding Fort Gordon. Unused/undeveloped tracts of land are found throughout the area, with the least amount in Richmond and Columbia Counties.

Richmond County is the most centrally located county in the region and contains within its boundaries; Fort Gordon, Hephzibah, Blythe and Augusta, the largest city in the study area. Richmond County is primarily residential, but is the only county in the study area where the second largest land use is forestry. While development is present throughout Richmond County, the land use map reveals that it is more concentrated around the northern section, near the urban core. Looking at land use in the remaining areas of Richmond County, 36% is residential, 17% is forestry, 9% is industrial, and 7% is agricultural. Hephzibah, Blythe, and Fort Gordon are mainly situated to the south and comprise 28% of the land area in Richmond County[4].

Aiken County SC, the second largest county located on the eastern side of the study area, includes approximately 299 square miles. Again, the portion of Aiken County within the study area is dominated by residential land use at 38% followed by agriculture 13%, forestry 8%, and industrial at 7%. Agriculture is the second largest land use in Aiken County.

Columbia County is situated north and east of Richmond County. Land areas within Columbia County are generally residential, at 33%. Columbia County has a higher percentage of agriculture use, at 23% when compared to other counties in ARTS. Five percent of land use is industrial.

Ten percent of Edgefield County SC is within the study area of which 35% is residential. Agricultural land use is approximately 22%. Third-most common land use is forestry, at 14%. These statistics account for the portion of Edgefield that is within ARTS, not the entire Edgefield County.

[4] Land uses provided for Hephzibah and Blythe but not Fort Gordon

There are portions of land within the study area that remain unused or without land use classification. In Richmond County, this proportion is 16%. The rates for unused lands in Aiken, Columbia and Edgefield Counties are 22%, 26% and 22% respectively. Generally, current land uses and development patterns within the study area can be characterized as typical urban/suburban in pre-established cities with rural areas further away.

3.5.1 Future Growth & Development

As identified in the population and employment growth, as well as land use trends, major economic development areas are focused in the Industrial Park in southeast Augusta, downtown Augusta, and the various medical districts. This includes Georgia Regents University, retail on I-520 by the Augusta Mall and on Washington Road heading into Columbia County. Columbia County continues to grow, increasing major retail development along Washington Road into Evans. Fort Gordon is projected to continue to produce jobs, with development coming in around major thoroughfares near the base. Downtown City of Aiken and major industrial parks such as the Savannah River Site and the Sage Mill Industrial Park will continue to attract employment to the area.

The main thoroughfares serving these active economic areas will face greater demands heading into the future. Interstate 20 and 520 will continue to serve their purpose as high volume interstate corridors. However, major arterials that link population and employment centers bear a large amount of the commuting demand for the region.

Substantial population clusters in South Augusta and near Fort Gordon use many of the north-south connectors to reach Interstate 520 and downtown Augusta, including Deans Bridge Road, Windsor Spring Road, and Peach Orchard Road. Other major roadways that continue to be developed that also serve as major commuting corridors, include Gordon Highway, Wrightsboro Road, and Washington Road.

Columbia County continued development creates added pressure on Washington Road, Riverwatch Parkway, Gordon Highway, and Columbia Road. Additional roadways within Columbia County will see additional demand as the main thoroughfares reach capacity limits.

Jefferson Davis Highway in Aiken County serves as the main roadway to link Augusta, North Augusta, Burnettown, and the City of Aiken. The growth near New Ellenton and other communities south of the City of Aiken also places pressure on Whiskey Road and Silver Bluff Road.

Many of the local and regional land use and growth plans include efforts to promote the growth and development of these areas. Proactively linking land use and transportation at the regional level. There is abundant economic opportunity to expand and develop along these corridors, as seen in their historic growth. However, it is a necessity to ensure they efficiently move persons and goods by appropriately planning the surrounding land uses.

Transportation Vision 2040 is the current LRTP for the Augusta Regional MPO. This LRTP has built upon the issues, visions, goals, needs, and recommendations found within previously completed plans and research studies since the ARTS 2035 LRTP update in 2010. The following planning studies provided guidance for Transportation Vision 2040.

Augusta-Richmond Comprehensive Plan (2008) - A document updated every ten years, taking into account all the socioeconomic, land use, transportation, environmental, infrastructure and community driving forces anticipated to occur over the next twenty years. This document is based on the Department of Community Affairs' minimum requirements for local Comprehensive Planning. While focusing primarily on Augusta-Richmond County, the document provides substantial information on the entire Augusta Metropolitan Statistical Area as a whole and the influence Augusta-Richmond County has on neighboring counties. The City of Augusta is well prepared for any change that will occur thanks to a very thorough, comprehensive and concise analysis. Planning and implementation in a uniform manner are achievable due to the valuable input from each of the communities.

Westobou: A Shared Vision Master Plan (2009) - This is a master plan focused on downtown Augusta, GA. and North Augusta, SC. An urban design plan providing a variety of opportunities dedicated to improving the interconnection of two cities linked by the Savannah River. "Champions" in the region, urban revitalization, mixed-use areas, and transportation improvements are some effective strategies proposed in the plan that will help improve the physical environments the two cities share with one another.

Realizing the Garden City: The Augusta Sustainable Development Agenda (ASDA)-2010 - comprehensive urban designs plan for Augusta-Richmond County. The plan is divided into three (3) distinct classifications: Urban, Suburban, and Rural. The document is a set of specific and strategic projects, that when implemented, will have a dramatic impact on the city and its residents. Key goals are increase economic activity and vitality, protect and enhance the environment, reinforce livable communities and neighborhoods and create effective and attractive regional linkages. Specific objectives include Strategic Action Corridors, Site-specific Projects by Type, and other initiatives.

ASDA represents the City of Augusta's first step into "new urbanism" and "smart growth." This initiative uses various components of established smart growth principles and applies them to Richmond County. Specific elements of ASDA will be included in the ARTS Transportation Vision 2040 LRTP, e.g., Strategic Action Corridors. These corridors include Augusta Way, Gordon Highway Jobs Corridor, Westobou Trace, Riverwatch Parkway, Tobacco Road and Farm to City Scenic Trail.

This plan was implemented through the Tiger II program received from both USDOT and HUD in an effort to revitalize downtown Augusta. A fifteenth Street Corridor improvement was one of the major successes benefiting from this program. Transit oriented development and other urban revitalization practices were exercised to help encourage pedestrian access and address low-income communities with housing opportunities. Other corridors seeking similar improvements include Tobacco Road, Riverwatch Parkway, Gordon Highway, Westobou Trace and Farm to City Parkway.

Reclaiming Historic Harrisburg (2011) - A Community and Stakeholder-based process advocated by Blueprints for Successful Communities, initiated by local community leaders and committed to the historic Harrisburg neighborhood. The document is an urban design plan committed to improving the quality of life, connection of the neighborhood to the city, preserving its history, and preparing for the future economic development potential for Harrisburg. The plan focuses on transportation issues such as the Broad Street corridor and the John C. Calhoun Expressway, and residential land uses. This document demonstrates the significant influence a single community has in shaping its own neighborhood through an active, vibrant, and entertaining public workshop planning process.

Missed Opportunity: Transit and Jobs in Metropolitan America (2011) - The Brookings Institute released their report titled Missed Opportunity: Transit and Jobs in Metropolitan America in 2011. The report assesses the coverage and service of transit in metropolitan areas throughout the United States. The report is a good resource for understanding the application of performance measures that evaluate the effectiveness of transit service provision. The Augusta-Richmond metropolitan area ranked in the bottom 10% for its share of working-age residents with access to transit and the average share of jobs accessible within 90 minutes via transit. Overall, the Augusta-Richmond metropolitan area ranked 98 out of 100 metropolitan areas in regards to the combined ranking of access to transit and employment.

Augusta Regional Transportation Study Bicycle and Pedestrian Plan (2012) - ARTS commissioned Alta Greenways to help improve the bicycling and pedestrian environment. The plan provided an integrated seamless framework to facilitate walking and biking as viable transportation choices throughout the entire region. The plan is based on Education and Enforcement as well as Encouragement and Evaluation. Using common urban design and traffic engineering practices, such as, complete streets, bicycle facilities, and development ordinances, the plan demonstrated how local jurisdictions, MPOs, and state DOTs can work together, improve pedestrian, and bicycle transportation in the area as a whole.

Recommendations arising from the study emphasized: 1) Education and Enforcement through police training programs and implementation of the Safe Streets Save Lives program; 2) Encouragement through the promotion of Safe Routes to School programs and car-free street events; and, 3) Evaluation through forming committees, sourcing funding, and implementing pedestrian count programs. Engineering recommendations from the study included implementing shared lane marking (sharrows), dedicated bicycle routes, and paved shoulders on highways.

Aiken County Bicycle and Pedestrian Plan (2012) – Reflective of the ARTS Bicycle and Pedestrian Plan (2012), the Aiken County Bicycle, and Pedestrian Plan present similar principles and practices. Initiating Complete Street Policies, Safe Routes to Schools programs and infrastructure improvements, as well as education and enforcement strategies; Aiken County continues its dedication to being a pedestrian friendly environment. The Aiken County Bicycle and Pedestrian Plan uses the six E's principles – Engineering, Education, Encouragement, Enforcement, Evaluation, and Equity; to institute a comprehensive planning approach to non-automotive travel.

Central Savannah River Area Regional Plan 2035 (2012) - The Central Savannah River Area Regional Commission Authority (CSRA-RC) is a planning and development agency serving thirteen counties south of the Savannah River in Georgia (an area in excess of 6,500 square miles). Every ten years CSRA updates the Regional Plan (with 20 year planning horizon) incorporating recent changes to the plan. The Regional Plan serves as a reference document for the CSRA Economic Development Strategy (CEDS) and Regionally Important Resources Plan (RIRP) as well as local County and City Comprehensive Plans.

The CSRA Regional Plan presents a broad understanding of the area's overall transportation and community facilities, land use, natural and environmental resources, economic development, population, housing, and intergovernmental coordination. The Regional Plan also documents a specific goal that relates directly to ARTS: *ensure the provision of community facilities and services throughout the state to support efficient growth and development patterns that will protect and enhance the quality of life of Georgia's residents*. Like CEDS, the Regional Plan demonstrates how large regional agencies can provide valuable information to cities and counties in their independent efforts to improve local quality of life.

Lower Savannah Council of Governments 2012 Comprehensive Economic Development Strategy (2012) - The Lower Savannah Council of Governments (LSCOG) is responsible for the economic development of six counties encompassing 3,966 sq. miles and 45 municipalities in South Carolina. Similar to CEDS, LSCOG Comprehensive Economic Development Strategy incorporates transportation improvement projects, enhancing bicycle and pedestrian facilities and effectively accommodating freight and rail "through" movements. The LSCOG CEDS recommends specific community improvement strategies such as design standards to accommodate truck traffic, and the implementation of a regional Bicycle and Pedestrian Plan. Aiken County is the only county that is part of the ARTS and LSCOG. Other counties in LSCOG include Allendale, Bamberg, and Barnwell in South Carolina.

Northside Transportation Study (2012) - The Northside Transportation Study was prepared for the City of Aiken by CDM Smith and Fuss & O'Neill. The purpose of the plan was to provide an independent assessment of the transportation improvements that were recommended in the Northside Comprehensive Plan. The plan draws upon the completed ARTS LRTP 2035 for the transportation demands of roadways and broader recommendations.

US 1/US 78 Corridor Study (2012) - Completed in 2012 by CDM Smith and the Lawrence Group. The US 1/US 78 Corridor Study provided the vision for a 12-mile stretch of the highway from the City Aiken, SC; to Augusta, GA. Significant issues addressed in the study were highway safety and congestion. Recommendations included access management, roadway design, and coordinated traffic signals.

ARTS Advanced Transportation Management System (ATMS) Master Plan (2013) - The ARTS Advanced Transportation Management System (ATMS) Master Plan was most recently updated in December 2013. With the rapid development of technology, the purpose of the ATMS document addresses current transportation issues and concerns in the ARTS planning area through accommodating and facilitating technology-related transportation improvements, i.e., Intelligent Transportation Systems (ITS). Noting that ARTS LRTP aims to provide infrastructure improvements that enhance livability and mobility within the region, employing ITS can help achieve this. ITS improvements include state-of-the-art Traffic Signals, Dynamic Messaging Signs (DMS), Surveillance Cameras, and Fiber Optic Communications, etc.

Comprehensive Economic Development Strategy 2013-2017 (2013) - The Central Savannah River Area Regional Commission (CSRA-RC) prepared CEDS for the largest political region in Georgia, encompassing thirteen counties south of the Savannah River. Augusta is considered the economic core of the region. CEDS assesses and evaluates local conditions and develops goals and strategies that if implemented can meet community needs and values. CEDS is required to qualify for Economic Development Administration (EDA) federal assistance and is a prerequisite for Economic Development District (EDD) designation. As a strategy document, CEDS is also used for County Comprehensive Plans, the Augusta Area Diversification Initiative (AADI), and Special Economic Development Plans and Studies. CEDS presents goals and actions that permit the region to expand its tourism economy, develop and promote an infrastructure plan, and support regional transportation funding; benefiting the entire CSRA region and beyond, including those areas north of the Savannah River.

Congestion Management Process (2010-2014) - The Congestion Management Process (CMP) is an annual travel time survey along major roads in the ARTS to identify which routes suffer from congestion. CMP also evaluates strategies and projects that are implemented to alleviate traffic congestion in the ARTS area. Highway traffic flow performance is measured by the difference between actual travel flow speeds compared to the posted speed limit. The grades range from Not Presently Congested (NPC), where average speeds are at or above the posted speed limit; to Seriously Congested (SC), where average speeds are at 30% or below the posted speed limit. The higher the congestion, the more frequently a roadway is surveyed in future years, with seriously congested roads surveyed annually.

Dougherty Road Corridor Study (2013) - The Dougherty Road Corridor Study was prepared in 2013 by URS for the City of Aiken and Aiken County. Dougherty Road is a one-mile collector road that connects two major corridors in Aiken County - Whiskey Road and Silver Bluff Road. Due to its current high utilization and growing utilization into the future, the corridor study sought to provide recommendations for improvements to both the transportation infrastructure and surrounding built environment. Recommendations included road widening and extensions, intersection improvements, and water, sewer, and storm water drainage improvements.

The 2013 Augusta-Richmond County Analysis of Impediments to Fair Housing Choice (2013) - Prepared for the Augusta Housing and Community Development Department (AHCDD) by Western Economic Services, LLC, and this report assess how the City of Augusta and Richmond County provide fair housing to residents. In order to qualify to receive funds under the Fair Housing Act, jurisdictions must analyze and certify that they are taking actions to overcome any identified impediments to provide housing for low-income citizens, e.g., mortgage availability or redlining, etc. Although focusing particularly on housing, the study provides useful insights into community transportation issues, affecting low-income households.

SC 19 (Edgefield Highway) Corridor Study (2014) - The City of Aiken and Aiken County, along with consultants DRMP during 2014 conducted a corridor study of SC 19 Edgefield Highway situated in South Carolina. The corridor traverses 11 miles from Hampton Avenue in downtown Aiken to the Aiken County - Edgefield County line. The diverse abutting land uses and the changing road functional classifications of adjoining roadways throughout the 11-mile stretch initiated the need for a detailed study to be undertaken. The study directly assesses the mobility needs and community vision (20-year planning horizon) along the corridor through identifying goals for transportation improvements along the corridor. Other planning aspects presented in the study include access, safety, capacity, development, and better mobility for residents, businesses, and users.

3.6 Transportation System

3.6.1 Highways and Roads

Primary functions of a roadway are to: 1) facilitate safe and efficient movement between an origin and a destination (i.e., travel); and, 2) provide access to adjoining lands or to other roads (i.e., access). For many years, these functions focused exclusively on the movement of people and goods in motorized vehicles. Land use planning that prioritized travel and access by motorized transportation resulted in strip development, urban sprawl and the growth of disadvantaged populations who did not have access to a personal vehicles and experienced limited mobility. Recently, road function has widened to take into account the mobility and access needs of non-motorized transportation options.

The Interstate Highway System (aka Dwight D. Eisenhower System of Interstate and Defense Highways) commenced in 1956 has often been referred to as the Greatest Public Works Project in U.S. History. Interstates serve the national purposes of moving people and goods throughout the US. ARTS is transected by two interstates, I-20 (an east-west interstate) linking Atlanta GA and Columbia SC; and the I-520, (aka Bobby Jones Expressway in Georgia and as Palmetto Parkway in South Carolina), a 23.6 mile auxiliary circumferential interstate. Major routes transecting the study area include:

- I-20 an 18 mile east-west interstate linking Atlanta GA and Columbia SC.
- I-520 (aka Bobby Jones Expressway in Georgia and as Palmetto Parkway in South Carolina), is a 23.6 mile auxiliary circumferential interstate. I-520 begins at the I-20 in the northern part of Augusta, encircles Augusta and converges with I-20 in North Augusta SC.
- US 1 Georgia: A south to north highway connecting Charlton County in South Georgia with Richmond County.
- US 1 South Carolina: Traversing the Sandhills Region of South Carolina this highway connects North Augusta in Aiken County with Wallace in Marlboro County SC.
- US 25 Georgia: A typical 4 lane highway that connects Brunswick GA to Augusta GA before crossing the Savannah River into South Carolina.
- US 25 South Carolina: A highway that connects North Augusta SC to the SC and North Carolina state line near Hendersonville NC.
- US 78 Georgia: A highway connecting Haralson County GA with Augusta GA.
- US 78 South Carolina: Beginning at the Georgia South Carolina state line in North Augusta US 78 continues to Charleston in Charleston County SC.
- US 278 Georgia: An east–west highway that connects Augusta GA with Cedartown GA on the Georgia Alabama state line.

- US 278 South Carolina: An east–west highway connecting North Augusta SC with Hilton Head Island SC.

3.6.2 Functional Classification of Highways

Functional classification is the process by which streets and highways are grouped into classes based on the character of traffic service that they are intended to provide to the motoring public. Each class has specific design criteria according to its intended purposes. For example, high speed limited access highways will have different design criteria when compared to a local road designed for low speeds with multiple access points. There are three highway functional classifications as defined by the FHWA: arterial (Interstates, Freeways and Expressways, and principal and minor arterials), collector (major and minor), and local described as follows:

Table 11: *Functional Classifications*

Class	Description
Interstate	Highest classification of Arterials designed and constructed with mobility and long-distance travel in mind. These roadways are officially designated as Interstates by the Secretary of transportation.
Other Freeways and Expressways	Similar to interstates. These roadways have directional travel lanes usually separated by some type of physical barrier, and their access and egress points are limited to on- and off-ramp locations. Like interstates, they are designed to maximize mobility with no direct land use access.
Other Principal Arterials	Serve major centers of metropolitan areas. These roadways provide mobility so traffic can move from one place to another quickly and safely. Prioritizing higher mobility with a low degree of access enables travel at the highest level of service for the longest uninterrupted distance.
Minor Arterials	Provide service for trips of moderate length and serve geographic areas that are smaller than their higher Arteial counterparts and offer connectivity to the higher Arterial system.
Major Collectors	Collectors serve a critical role in the roadway network by gathering traffic from Local Roads and funneling them to the Arterial network. Major collectors tend to provide more mobility than access. They are longer in length, have lower connecting driveway densities, have higher speed limits, and spaced at greater intervals, have higher AADT, and may have more travel lanes than minor arterials.
Minor Collectors	Minor collectors generally have lower AADT and provide more access than mobility.
Local	Consists of all roads not defined as an arterial or collector. These roadways provide access to homes, businesses, and other property (with limited or no through movement) by prioritizing lower mobility and high accessibility.

Source: ARTS, GDOT and SCDOT

The above seven functional classifications are used by GDOT and SCDOT. FHWA Directive 23 CFR 470 states that the State transportation agency has the primary responsibility for developing and updating the functional road classification in rural and urban areas and existing roads and streets in its jurisdiction. *Table 11* summarizes functional classification of the highway system within the ARTS boundary.

Table 12: *Road Miles by Functional Classifications (in miles)*

	Aiken	Edgefield	SC	Columbia	Richmond	GA	Total
Interstate	29	-	29	10	22	32	61
Other Freeways and Expressways			-		8	8	8
Other Principal Arterials	69	2	71	24	108	132	203
Minor Arterials	96	2	98	53	121	174	272
Collector	204	7	212	31	72	103	315
Local*	1,205	40	1,245	556	962	1,519	2,764
Total	1,603	52	1,655	674	1,293	1,967	3,622

Source: ARTS, GDOT and SCDOT

Notable points from *Table 12* are:

- Local roads make up the majority of ARTS roadways, over 75%, including subdivisions.
- Interstates, freeways and expressways, e.g., I-20 and I-520 account for only 2.8% of the road network, and this includes on and off ramps linked to them.
- Collectors and Arterial roads account for the second largest share of ARTS roadways.

3.6.3 National Highway System

The National Highway System (NHS) is a network of strategic highways within the US that were developed by the United States Department of Transportation (USDOT) in cooperation with the states, local officials, and MPOs. As a strategic network, these roadways are important to the nation's economy, defense, and mobility. There are five NHS classifications defined as follows:

- Interstate: "A superior network of limited access, divided highways offering high levels of mobility while linking the major urban areas."[5] Example: I-20 and I-520.
- Other Principal Arterials: Highways in rural and urban areas, which provide access between an arterial and a major port, airport, and public transportation facility. Example: US Highway 278 in South Carolina.
- Strategic Highway Network (STRAHNET): A network of highways which are important to the United States' strategic defense policy and which provide defense access, continuity and emergency capabilities for defense purposes. Example: US Highway 1 in South Carolina.
- Major Strategic Highway Network Connectors: Highways that provide access between major military installations and highways that are part of STRAHNET.
- Intermodal Connectors: Highways providing access between major intermodal facilities and the other four subsystems making up the NHS.

[5] Highway Functional Classification: Concepts, Criteria and Procedures 2013

Gordon Highway (US Highway 78) from the I-520 to Fort Gordon is classified as a STRAHNET Connector. US Highway 1 (Deans Bridge Road) and US Highway 25 (Peach Orchard Road) south of their intersection with I-520 are classified as Non-Interstate STRAHNET Routes.

3.7 Regional Travel and Commuting Patterns

By examining regional travel through the commuting patterns between population and employment centers, the preferred transportation mode, travel time, and other system characteristics, we are able to better understand the travel needs of the region. Understanding how the system functions as a whole will help adequately plan for future transportation needs.

Table 13 presents data detailing commuting patterns (where people live and work) between counties within the study area (*Figure 21*). Over half (56%) of the working age population - those age 16 and above - living in Richmond County, work in Richmond County. In Aiken County, 46% of the working age population works in the county. Both Edgefield and Columbia County currently serve as bedroom communities - large shares of their residential population are commuting outside their county for work. A large share (42%) of Columbia County residents commutes to work in Richmond County; 27% of Columbia County residents work in Columbia County, while 42% work in Richmond County.

Table 13: *County to Work by County of Residence*

Live in...	Work In...							
	Columbia County		Richmond County		Aiken County		Edgefield County	
Columbia	12,284	27%	19,434	42%	1,860	4%	154	0%
Richmond	7,675	11%	40,496	56%	3,346	5%	208	0%
Aiken	1,564	3%	8,733	15%	27,251	46%	1,049	2%
Edgefield	362	4%	1,363	14%	2,126	22%	2,187	23%

Source: U.S. Census Bureau, LODES 2010 Residential and Work Area Characteristics

Larger regional commuting patterns between the ARTS planning area and other nearby metro areas include Atlanta, GA and Columbia, SC. Columbia and Richmond counties tend to commute to and from Atlanta, GA while Aiken and Edgefield counties tend to commute to and from Columbia, SC.

Using the same data presented in *Figure 21*, *Figure 22* depicts the numerical inflows, outflows, and remaining workforce for each county. Positive numbers represent workers who are either working in the county they live in (Remain) or are coming into the county to work from another county (Inflow). Negative numbers represent those who live in the county but commute out of the county for work (Outflow). Both Richmond and Aiken Counties show a net increase of workers when the commutes are totaled, while Columbia and Edgefield have a net decrease. As a whole, more workers commute into the ARTS planning area than leave -a net increase of 76,656 workers.

Figure 21: *Commuting Patterns*

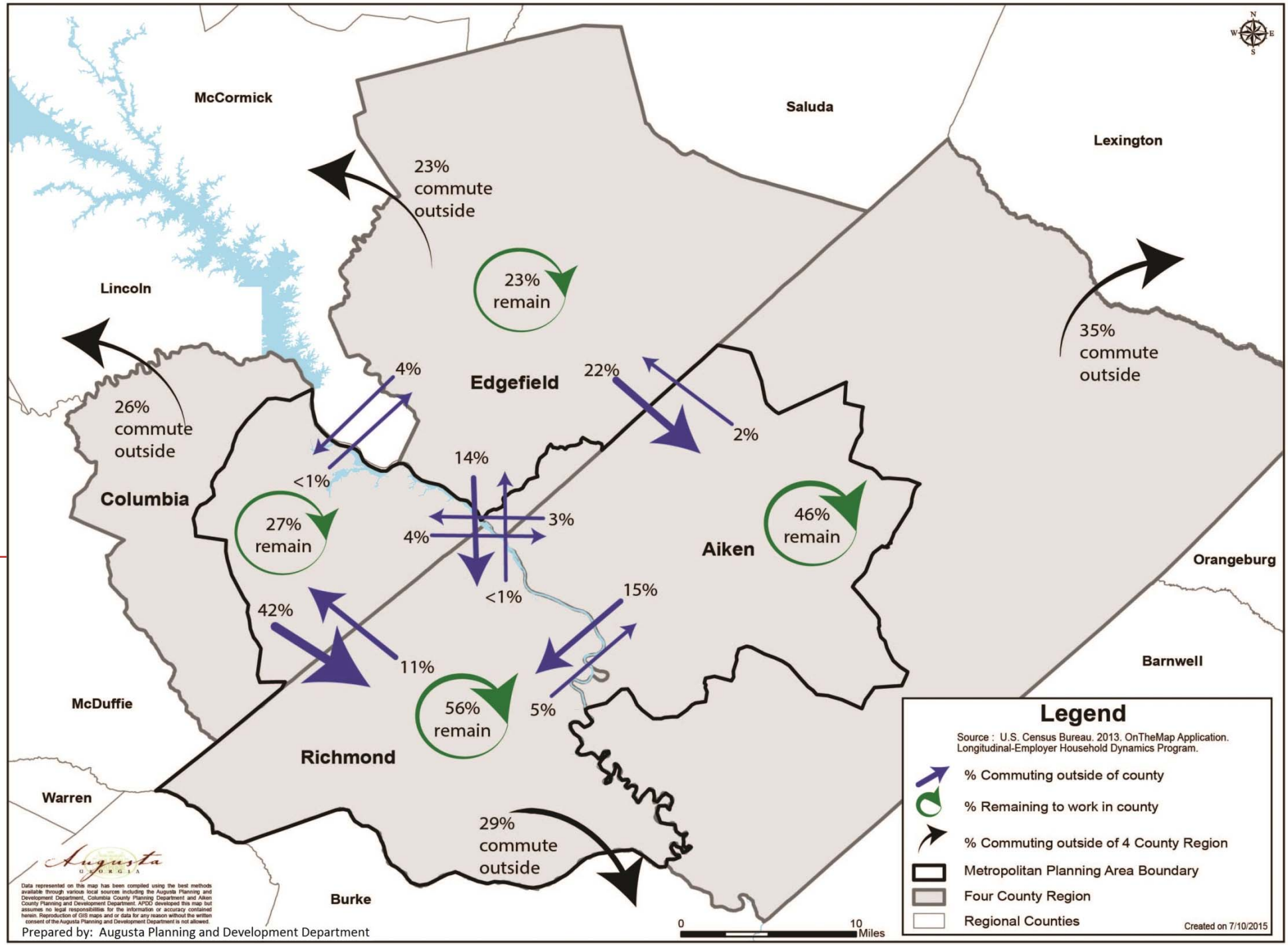
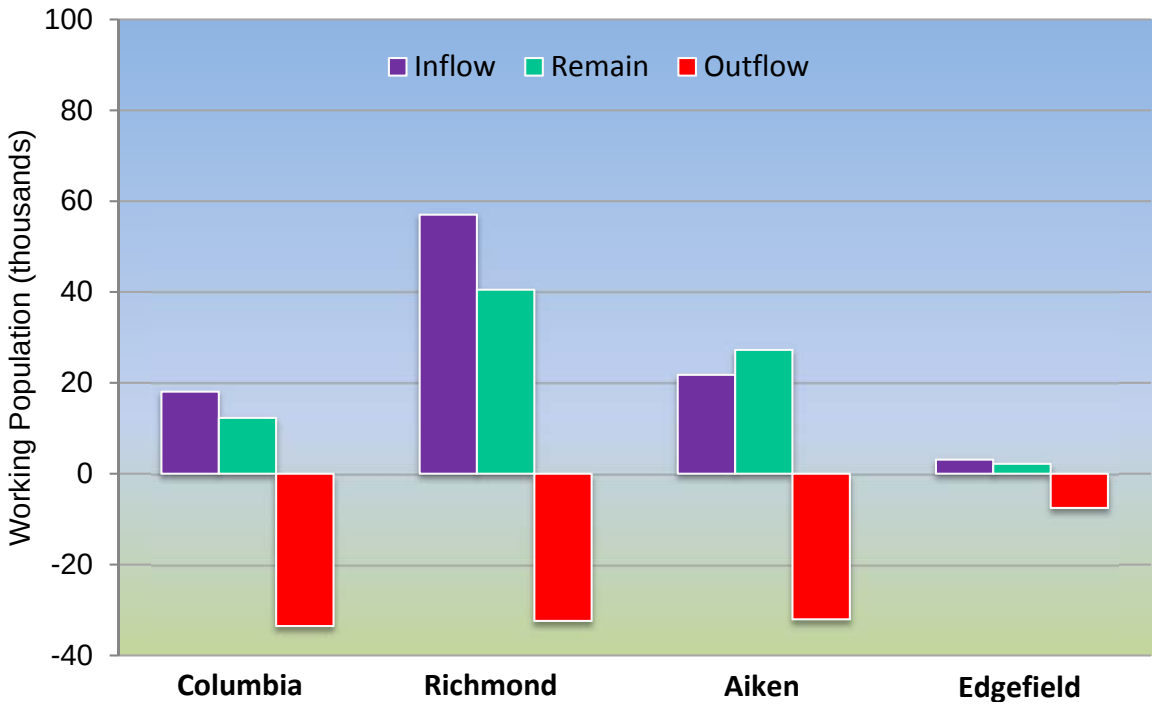


Figure 22: *Individual County Commuter Flow 2010*



Source: US Census Bureau, Longitudinal Employer-Household Dynamics, 2010

3.7.1 Travel Time to Work

Average commute travel times have slightly decreased for the ARTS as a whole comparing 2000 Decennial Census data to the 2008-2012 ACS data, as shown in *Table 14.* Richmond County shows the shortest mean travel time of the four counties. This is most likely due to the above findings that Richmond County has a larger share of its labor force population working in the county. Resulting in shorter home-based work trips, requiring less distance to travel or commute.

Table 14: *Mean Travel Times to Work*

	Columbia	Richmond	Aiken	Edgefield
Census 2000 (in minutes)	25.3	22.2	24.8	27.1
ACS 2008-2012 (in minutes)	24.4	20.1	25.4	26.6

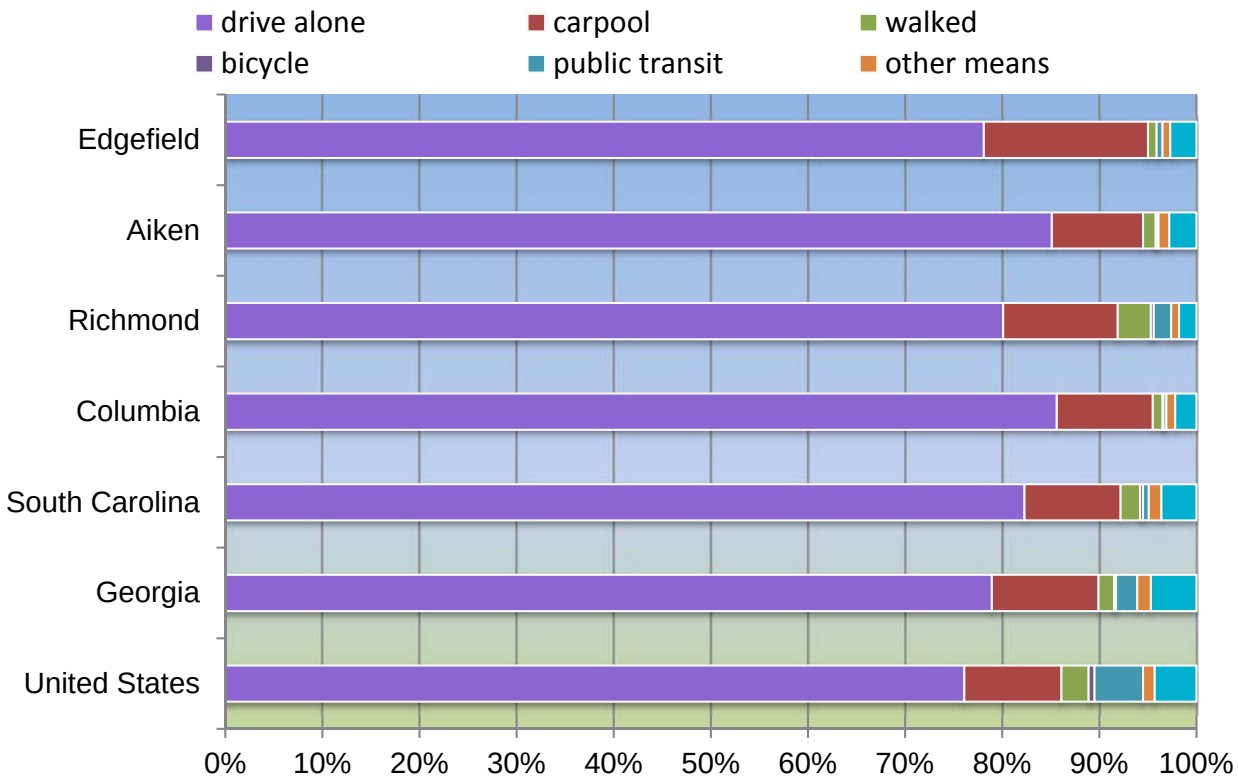
Source: US Census Bureau 2000, 2008-2012 American Community Survey 5-Year Estimates

3.7.2 Journey to Work by Travel Mode

As previously mentioned, the journeys to work trips are predominantly by private vehicles. As seen in *Figure 23*, the share of the various mode types has changed very little over the past ten years, with the use of the private vehicle averaging 95% of mode split. Vehicle use in Richmond County being slightly lower, with around 92% of workers using private vehicles. This difference of 4% is due to higher shares of those walking, biking, and using public transportation in Richmond County.

Carpooling takes in around 11%-12% of private vehicle trips for counties within the ARTS area. Edgefield County appears to have the highest percentage of workers carpooling, equating to almost 17% of personal automobile trips. *Figure 23* illustrates the percentage of total transportation by travel mode.

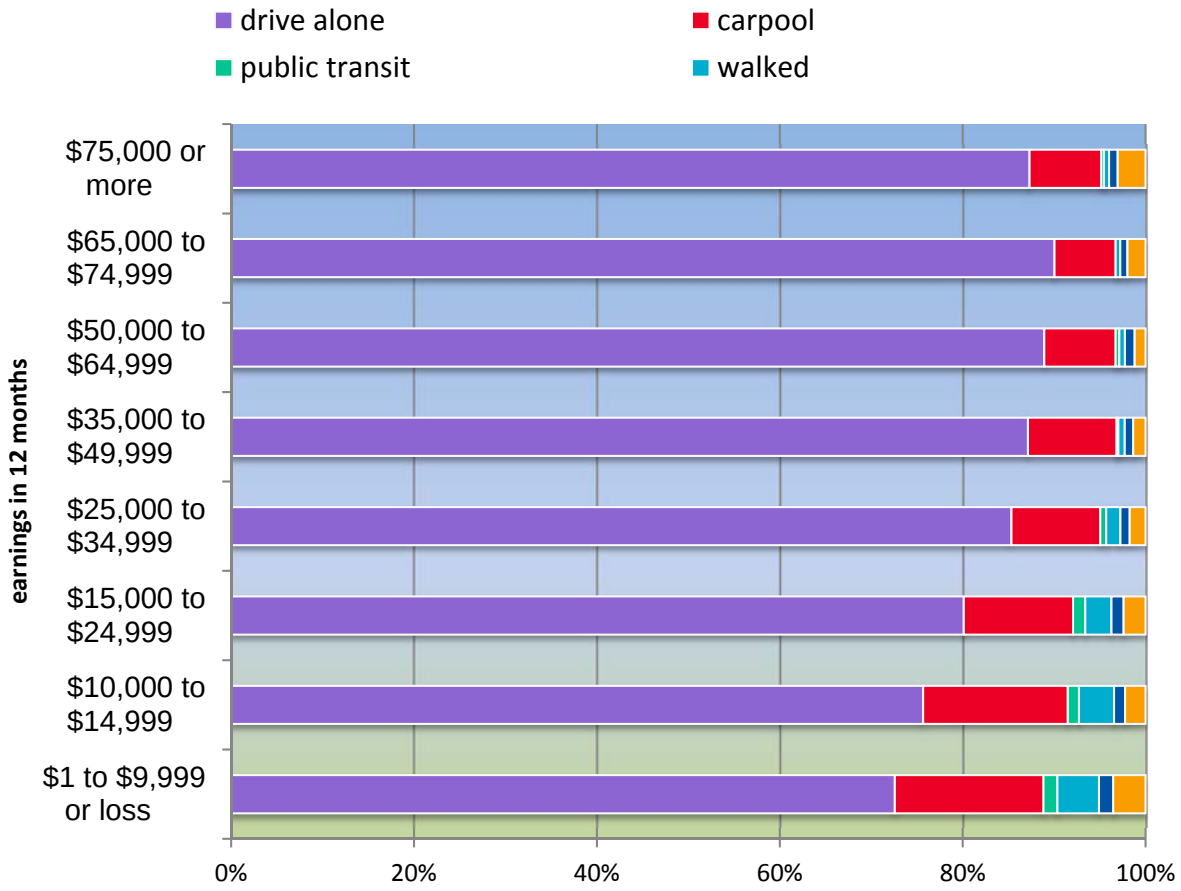
Figure 23: *Journey to Work by Travel Mode*



Source: US Census Bureau 2000, American Community Survey 2008-2012 5-Year Estimates

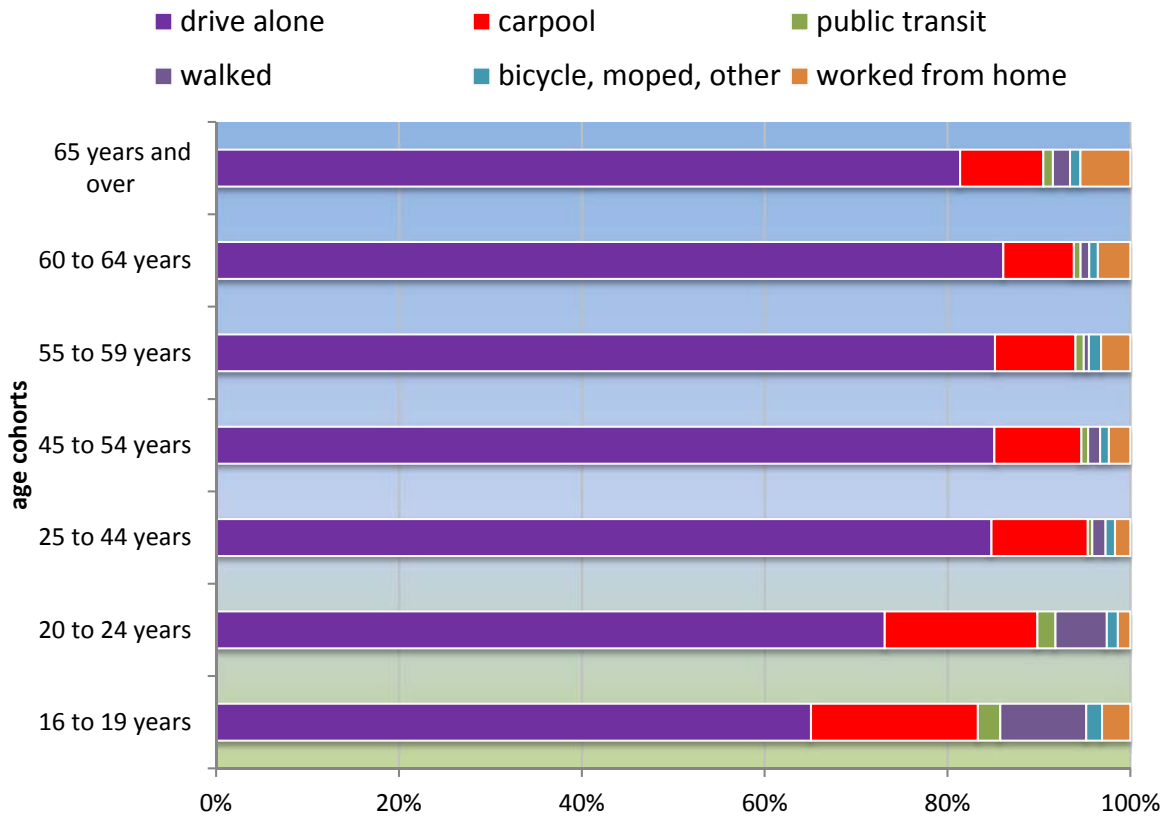
Figure 23 illustrates the percentage of transportation by travel mode. As a whole, the population predominantly uses single occupancy driving as the mode of choice. The shares journey to work travel mode tend to change depending on particular segments of the population. *Figure 24* provides the breakdown of mode choice by earnings, while *Figure 25* shows mode choice by age cohorts. Lower income groups tend to use alternative transportation modes, for example, bicycle, walking and/or carpooling, more frequently. This is an important aspect to consider when planning for future commuting needs. Citizens utilize various transportation modes other than the personal vehicle are dependent on an effective and efficient multimodal transportation system. A poor transportation system, compounded by a sprawling development pattern that further separates population and employment locations could limit the job potential and quality of life for many low-income groups.

Figure 24: *Journey to Work by Travel Mode - Income*



Source: American Community Survey, 5-Year Estimates, 2012

Figure 25: *Journey to Work by Travel Mode - Age*



Source: American Community Survey, 5-Year Estimates, 2012

Figure 25 illustrates the percentage of transportation by travel mode. Younger populations, specifically under 24 years of age, tend to use alternative modes of transportation more so than other age cohorts. Much of the population under 24 years of age may reside close to universities as well as Fort Gordon. These locations combine clusters of residents and employment, both of which increase the ability to take alternative transportation modes due to the short commuting distances. National trends have shown that younger generations are choosing alternative modes of transportation more so than previous generations. Many young adults are waiting longer to obtain a drivers' license and/or are choosing to live in an environment with multimodal transportation options. The one other age group that tends to use non-auto forms of transportation more so than the majority, are those aged 65 years and over. Although these groups show a slight increase in shares of walking and public transit, their biggest increase is the percentage working from home.

3.8 Traffic Safety

An analysis of traffic crashes is an important step to identify high crash locations (e.g., intersection or links) that may warrant additional safety improvements. Addressing these deficiencies will improve traffic safety, non-recurring congestion resulting in mobility benefits for all road users as well as the regional community. The analysis presented in this section assesses crash frequency, bike and pedestrian), injury and fatalities, and crash location from crash data (i.e., year 2013) provided by GDOT and South Carolina Department of Public Safety (SCDPS).

Methodology

ARTS used the FHWA's methodology for calculating crash rate, as stipulated in the publication; Roadway Departure Safety: A Manual for Local Rural Road Owners'. Crash rate per mile allows accurate determination of which segments of roadway are susceptible to greater number of crashes. Multiple roadways can have the same number of accidents but along different segment lengths of the road. This information guides traffic engineers to design intersection and/or operational improvements that may reduce the number of crashes and severity of injury.

FHWA's Formula for Crash Rate by Route Length – Crashes per Mile

$$R = \frac{C}{N \times L}$$

R = Crashes per mile expressed as crashes per each 1 mile of roadway per year.

C = Total number of crashes in the study period.

L = Length of the roadway segment in miles.

N = Number of years of data

Through GIS Analysis, ARTS used the total number of crashes along a particular road segment and divided it by segment length. This produced different crash rates for each road segment. *Figure 26* illustrates road segments in ARTS area experience between 1 to 10 crashes per mile, while other smaller segments of roadway show a greater safety concern (11 to 50 crashes per mile). Closer inspection of the map also identifies pockets of greater than 100 crashes per mile. This includes all manner of crashes: Non-vehicular collision, non-injury, off-road, night time, and wet road.

3.8.1 Fatal Crashes

In 2013, there were 52 fatal crashes within the four-county ARTS planning area (*Table 15*). Of these fatal crashes, 44 were within the ARTS boundary resulting in the deaths of 48 persons.

Table 15: *Fatal Crashes in the ARTS planning area*

Year 2013	Aiken	Columbia	Edgefield	Richmond	Total
Fatal crashes	22	9	0	21	52
Fatal crashes within ARTS Boundary	16	7	0	21	44
Persons killed (within ARTS Boundary)	18	7	0	23	48

Source: ARTS, GDOT, and SC Department of Public Safety

3.8.2 Pedestrian and Bicycle Crashes

In 2013, 54 bicycle and 57 pedestrian crashes occurred in the four-county ARTS planning area (*Tables 16 and 17*). Of the 53 bicycle crashes within the ARTS boundary six (6) were fatal (i.e., 11%), compared to six (6) fatal pedestrian crashes within the ARTS boundary (i.e., 12%). Aiken County accounted for three (3) of the six (6) fatal pedestrian crashes; Columbia County accounted one (1) of the six (6) fatal pedestrian crashes; and Richmond County accounted for six (6) of the fatal bicycle crashes and two (2) fatal pedestrian crashes. *Figure 28* identifies the locations of bicycle and pedestrian crashes including the six (6) fatal bicycle and six (6) fatal pedestrian crashes in 2013.

Table 16: *Bicycle Crashes and Fatalities (2013)*

Year 2013	Aiken	Columbia	Edgefield	Richmond	Total
Bicycle crashes	11	4	1	38	31
Bicycle crashes within ARTS Boundary	10	4	1	38	30
Fatal crashes within ARTS Boundary	0	0	0	6	6
Persons killed (within ARTS Boundary)	0	0	0	6	6

Source: ARTS, GDOT, and SC Department of Public Safety

Figure 26: *Non-intersection Crashes*

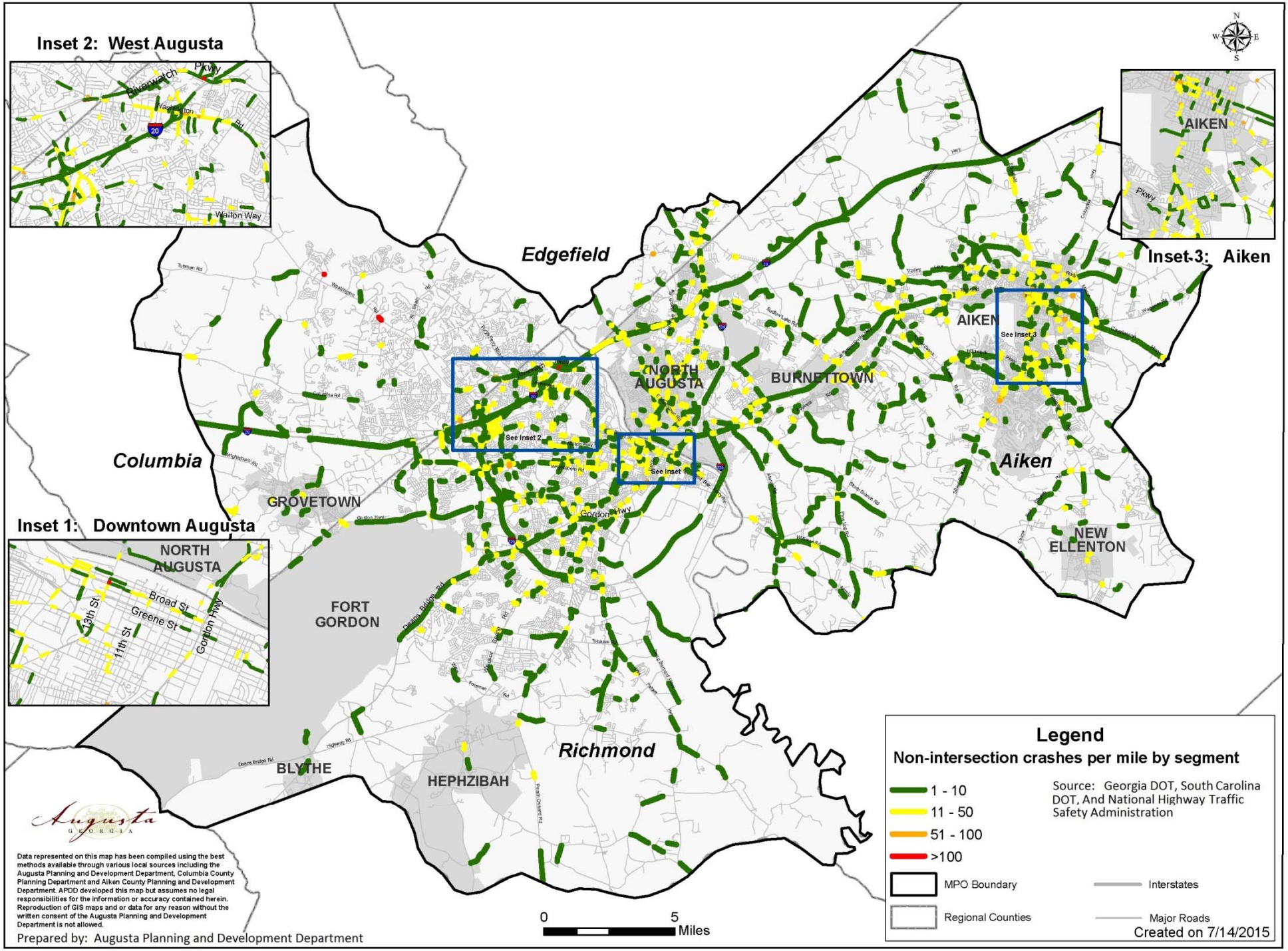


Figure 27: *Traffic Crashes in the ARTS Planning Area*

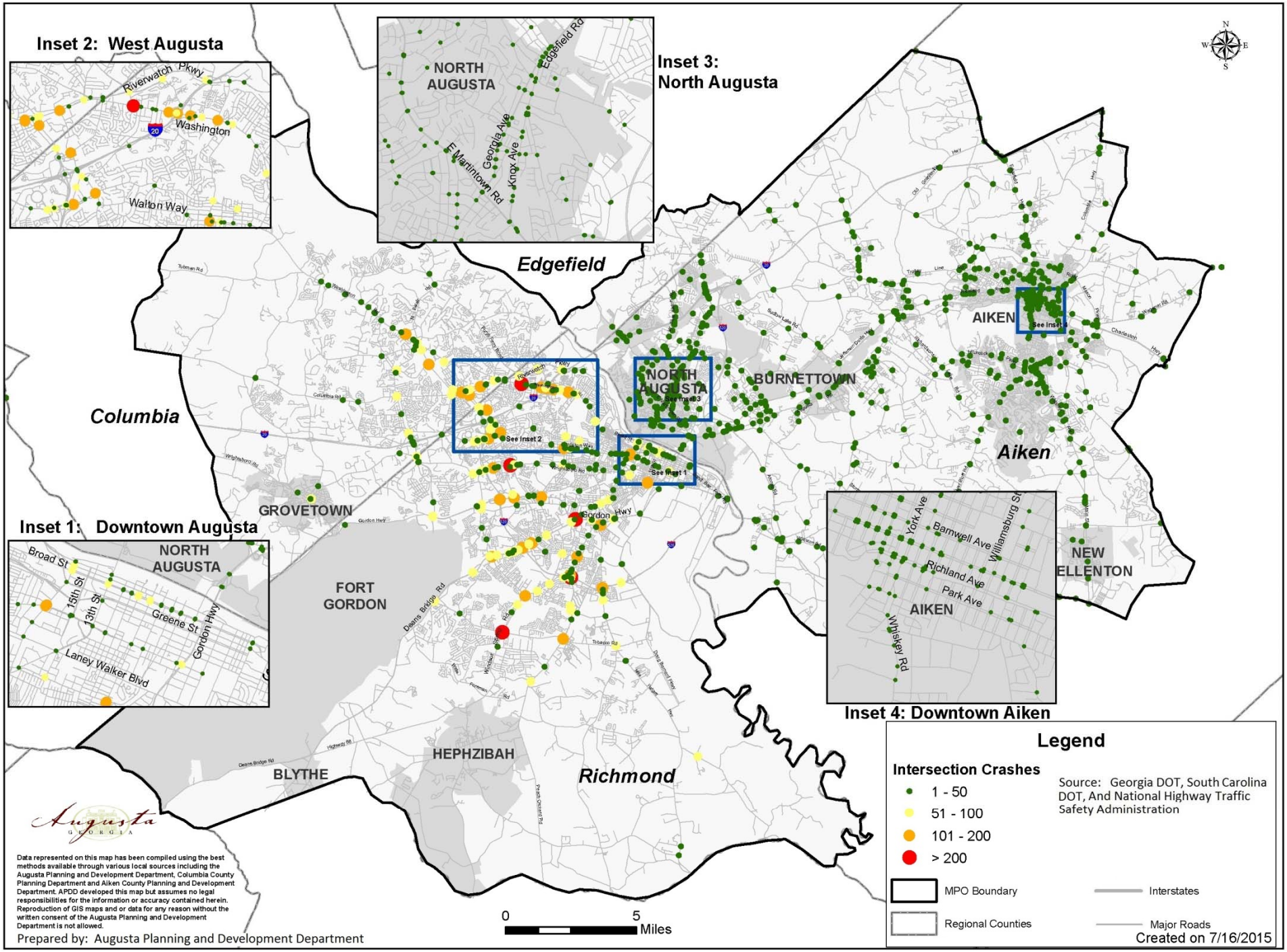


Figure 28: *Fatal Bicycle and Pedestrian Crashes in the ARTS Planning Area 2013*

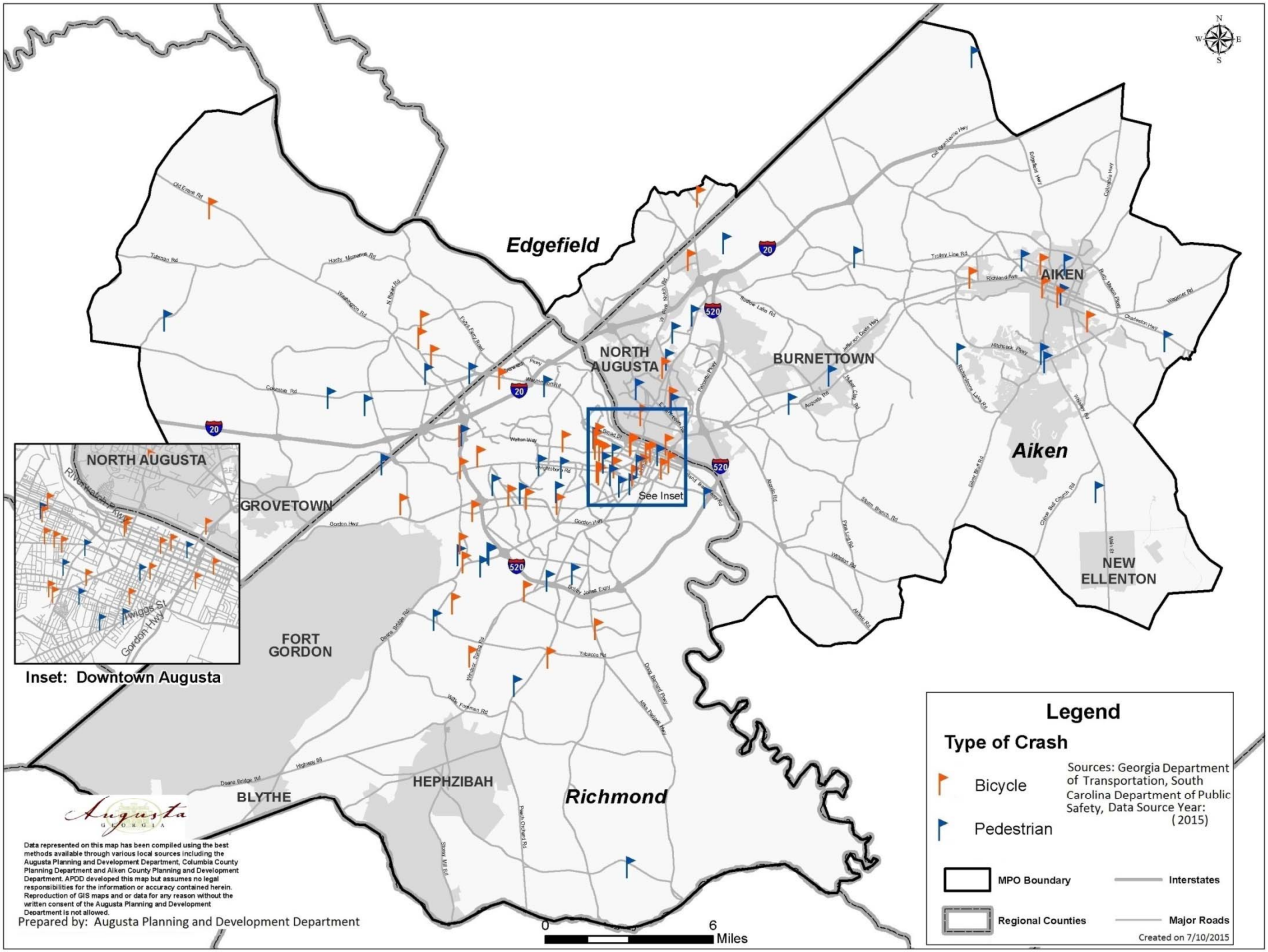


Table 17: *Pedestrian Crashes and Fatalities (2013)*

Year 2013	Aiken	Columbia	Edgefield	Richmond	Total
Pedestrian crashes	24	5	2	26	57
Pedestrian crashes within ARTS Boundary	20	5	0	26	51
Fatal crashes within ARTS Boundary	3	1	0	2	6
Persons killed (within ARTS Boundary)	3	1	0	2	6

Source: ARTS, GDOT, and SC Department of Public Safety

3.8.3 High Crash Intersections

The top traffic crash intersections by county are presented in *Tables 18 to 21*. In *Table 18*, the majority of intersections listed are situated on arterials, such as SC 230 Martintown Road, SC 118 University Parkway, etc. Arterials are typically highly trafficked routes linking major activity centers with the interstate system.

Table 18: *Top Traffic Crash Intersections Aiken County (2013)*

Rank	Intersection	# Crashes	Injuries	Fatalities
1	Martintown Road @ Georgia Ave	16	11	0
2	University Pkwy @ Richland Ave.	13	10	0
3	Howlandville Rd. @ Augusta Rd./Main St.	12	6	0
4	Edgefield Rd. @ Ascauga Lake Rd.	12	0	0
5	Georgia Ave. @ Buena Vista Ave.	12	6	0
6	Richland Ave @ Chesterfield St.	11	11	0
7	Rudy Mason Pkwy and Wire Road	10	16	0
8	Edgefield Rd. @ Nutgrove Dr.	9	4	0
9	York St. @ Rutland Dr.	8	8	0
10	Edgefield Rd @ Pinewood Rd/Edgefield Dr.	7	1	0
11	Edgefield Rd and Chalet North Blvd	9	4	0

Source: ARTS, GDOT, and SC Department of Public Safety

In *Table 19*, six (6) of the 11 Top Traffic Crash Intersections in Columbia County are located along Washington Road. Washington Road, an arterial, provides access to major strip malls, office complexes and residential subdivisions. All of these developments are major generators of traffic contributing to recurring traffic congestion, high traffic volumes, and excessive incidence of traffic crashes at intersections crossing Washington Road.

Table 19: *Top Traffic Crash Intersections Columbia County (2013)*

Rank	Intersection	# Crashes	Injuries	Fatalities
1	Washington Road and Davis Road	47	10	0
2	Washington and Columbia Road	39	18	0
3	Washington Rd and Flowing Wells Dr	31	19	0
4	Washington Rd and Ronald Reagan Dr	26	3	0
5	Bobby Jones Exp and Rose Lane	24	12	0
6	Washington Rd and Cox Rd	24	6	0
7	W Robinson Ave and Railroad Ave	24	7	0
8	Old Petersburg Rd and New Petersburg Rd	23	17	0
9	Washington Rd and Baston Rd	20	13	0
10	Old Evans Rd and Columbia Industrial Blvd	19	7	0
11	Jimmy Dyess Pkwy and Wrightsboro Road	37	13	0

Source: ARTS, GDOT and SC Department of Public Safety

The small urbanized portion of Edgefield County within the ARTS planning area resulted in only two intersections with two (2) or more crashes in 2013 (*Table 20*). Both West Five Notch Road and Edgefield Road are functionally classified as minor arterials.

Table 20: *Top Traffic Crash Intersections Edgefield County (2013)*

Rank	Intersection	# Crashes	Injuries	Fatalities
1	West Five Notch Rd and Murah Rd	2	3	0
2	Edgefield Rd and Pine Oak Dr.	3	4	0

Source: ARTS, GDOT, and SC Department of Public Safety

Table 21 presents the top 10 traffic crash intersections in Richmond County. All of the intersections are intersected by at least one major arterial. Furthermore, all of these intersections are located along routes with high traffic volumes. Many of these intersections are also along routes, such as Washington Road and Walton Way and are classified as Seriously Congested (SC) from recent Congestion Management Surveys. Seriously Congested (SC) conditions, high traffic volumes and associated turning movements all contribute to increasing possibility for an intersection crash.

Table 21: *Top Traffic Crash Intersections Richmond County (2013)*

Rank	Intersection	# Crashes	Injuries	Fatalities
1	Washington Road and Furys Ferry Rd	111	40	0
2	Tobacco Road and Windsor Spring	66	16	0
3	Bobby Jones Exp. and Deans Bridge Road	55	25	0
4	Robert C Daniel Jr Pkwy and Wheeler Road	53	10	0
5	Bobby Jones Exp. and Gordon Highway	52	17	0
6	Gordon Highway and Deans Bridge Road	40	13	3
7	Peach Orchard and I-520 W	39	10	0
8	Walton Way and 15th Street	37	12	0
9	Deans Bridge Road and Barton Chapel Road	37	7	0
10	Gordon Highway and Highland Ave	37	4	0

Source: ARTS, GDOT, and SC Department of Public Safety

3.8.4 High Crash Highway Links

The top 15 links with the highest incidence of crashes in the ARTS planning area in are presented in *Table 22*. This listing according to number of crashes includes all crash outcomes, such as property only damage, injury or fatality. Each road segment identified excludes crashes that occurred at associated intersections. Some of which are presented in *Tables 18 to 21*. Presented in *Table 22* are several 'ramp' links as locations of high crash incidence. Inappropriate turns onto and off ramps together with incorrect speeds all may contribute to high crash incidents at these locations.

Table 22: *Top Ranked Road Links for Crash Incidents ARTS planning area 2013*

Rank	County	Road Name	From	To	# Crashes	# Injury Crashes	Crashes/ Mile
1	Columbia	Old Evans Road	M and M Road	Rosemont Road	26	12	70.7
2	Richmond	Washington Road	Ramp	Boy Scout Road	13	7	64.9
3	Richmond	Washington Road	Sherwood Drive	Bertram Road	12	0	80.7
4	Richmond	Robert C. Daniel Jr. Pkwy	Wheeler Road	Agerton Lane	12	4	33.7
5	Aiken	Chalk Bed Road	Ergle Street	Baker Street	11	0	14.7
6	Aiken	Interstate-20	County line	Aiken County	10	0	12.2
7	Richmond	Washington Road	Bertram Road	Kroger	8	2	39
8	Richmond	Bobby Jones Expy	bound off ramp onto Marks Church Road	eastbound off ramp to Wheeler	8	3	11.1
9	Aiken	Charleston Hwy	Airco Blvd	Old Barnwell Road	8	0	5.9
10	Aiken	I-20	.25 west of North Augusta Greenway	North Augusta Greenway	8	0	17.3
11	Columbia	I-20	ramp @ Harlem Grovetown Road	ramp @ S. Belair Road	7	3	2.1
12	Richmond	Washington Rd	Stevens Creek Road	ramp @ Washington Road	7	2	82.8
13	Richmond	Bobby Jones Expy	Milledgeville Road	Glenn Hills Drive	7	2	5.6
14	Aiken	Whiskey Road	Beatty Lane	Oak Grove Road	7	0	49
15	Aiken	I-20	@ W. Martintown Road	Richmond/Aiken line	7	0	8.7

Source: ARTS, GDOT, and SC Department of Public Safety

3.9 Security

Sustaining regional economic competitiveness, reducing congestion, improving safety, and maximizing the return on existing transportation infrastructure are all dependent on a secure and resilient transportation system. Indeed, one of the objectives of the Transportation Vision 2040 goal, 'Congestion Mobility and Traffic Safety' is to, develop and maintain a transportation system that provides increased security for all of its users. The term 'secure transportation system' is taken to imply a transportation system that is secure from: 1) intentional physical or technological harm, such as a terrorist attack or cyber-attack; and, 2) unintentional harm, such as the spillage of hazardous material after a highway crash, or a landslide after heavy rains. A 'resilient' transportation system is better able to resist the full impact of disruptions and permits a return to full operations in as short a time as possible.

A secure transportation system incorporates and implements strategies and measures that enable an efficient response to and recovery from the loss/damage of an asset. Indeed, overseers of transportation infrastructure and transit providers in the ARTS planning area are all tasked to secure their respective transportation systems and assets. Developing the Transportation Vision 2040 LRTP, ARTS coordinates closely with GDOT, SCDOT, Augusta-Richmond County, Columbia County, Aiken County, Edgefield County, Augusta Public Transit, Columbia County Transit, and Best Friend Express in securing the local multimodal transportation system. The transportation system plays an essential role in the economic fabric of the ARTS planning area and provides access when responding to emergencies. Securing the transportation system is required at state, county and local levels. Emergency plans and procedures at each of these levels will be presented in the following sections.

3.9.1 Georgia Emergency Operations Plan

The Georgia Emergency Operations Plan (GEOP) (2013) is the State of Georgia's Strategic Plan for coordination and management of disasters. As an operational plan it details; 1) how the state will respond to victims, 2) how the state will assess the situation, and the 3) necessary steps towards recovery after a disaster. GEOP as a living plan is updated based on lessons learned from exercises, actual events and emergency response best practices. The plan documents the types of emergencies, present hazards or threats, and the best methods to respond to them when local jurisdictions request state or federal assistance in dealing with emergencies.

3.9.2 South Carolina Emergency Operations Plan

The South Carolina Emergency Operations Plan (SCEOP) is a plan developed for use by government departments and agencies in response to a natural, technological, or manmade emergency in South Carolina. Similar to the GEOP, state department involvement is primarily at the request of local agencies. Divided into four stages of emergency management, i.e., mitigation, preparedness, response, and recovery; the plan outlines general policies and procedures that permit a uniform, coordinated basis for joint state and local operations. The South Carolina Department of Transportation (SCDOT) is the lead agency in dealing with Emergency Support Function (ESF) #1 activity. In this role, SCDOT assists federal, state, or local agencies, in the management of transportation systems and infrastructure during domestic threats or in response to incidents.

3.9.3 Augusta-Richmond County Emergency Operations Plan

The Augusta-Richmond County Emergency Operations Plan (EOP) (2011) describes the management and coordination of resources and personnel during periods of major emergency. The plan while giving guidance on responding to and recovering from emergencies gives guidance on reducing the threat of emergencies. The plan defines the roles and responsibilities of local agencies, the private sector, and other stakeholders, involved in responding to the emergency. Application of the plan assists Augusta-Richmond County and its departmental affiliates continuing their minimum essential functions during natural, technological or manmade threats or emergencies. The plan is updated at a maximum four (4) years in order to incorporate lessons learned from exercises, actual events and emergency response best practices.

3.9.4 Columbia County Emergency Operations Plan

The Augusta-Richmond County Emergency Operations Plan (EOP) (2015) establishes a framework for emergency management planning and response to: 1) prevent emergency situations; 2) reduce vulnerability during disasters; 3) establish capabilities to protect residents from effects of crisis; 4) respond effectively and efficiently to actual emergencies; and 5) provide for rapid recovery from any emergency or disaster affecting the local jurisdiction and Richmond County. The plan while giving guidance on responding to and recovering from emergencies gives guidance on reducing the threat of emergencies. The plan predicated on the National Incident Management System (NIMS) defines the roles and responsibilities of local agencies, the private sector, and other stakeholders, involved in responding to the emergency. Application of the plan assists Augusta-Richmond County and its departmental affiliates continuing their minimum essential functions during natural, technological or manmade threats or emergencies. The plan is updated at a maximum four (4) years in order to incorporate lessons learned from exercises, actual events and emergency response best practices.

3.9.5 Aiken County Emergency Operations Plan

The purpose of the Aiken County Emergency Operations Plan (ACEOP) (2014) is to 'ensure mitigation and preparedness, appropriate response, and timely recovery from hazards that may affect Aiken County.' In doing so the plan: 1) defines policies and procedures for use by county and municipal governments in dealing with a natural, technological, or purposeful harm disaster; and, 2) provides guidelines for the development of mechanisms to facilitate the prompt and efficient deployment of resources in any emergency or disaster situation. These two objectives consolidate the mission of the Aiken Emergency Operations to "provide for the protection of the people and resources in the county in order to minimize damage, injury, and loss of life resulting from any type of emergency or disaster."

Dealing with emergencies or threats, ACEOP notes the size, spatial dispersion, and complexity of the county's transportation network and the potential threat of a major incident causing significant injury or loss of life. Disaster ratings of various emergencies are established based on the likelihood of occurrence. Rail has the highest disaster rating of nine (9) compared to the other 18 emergencies. Highways, is rated at six (6). ACEOP serves as a benchmark document for local government agencies minimizing threats, dealing with and recovering from disasters and emergencies.

3.9.6 Strategic Highway Network

The Strategic Highway Network (STRAHNET) is a network of highways includes interstates and arterials (for long-distance travel) and connectors (to connect individual installations to the routes). I-20 and I-520 are STRAHNET interstate routes; Gordon Highway (US Highway 78) from the I-520 to Fort Gordon is classified as a STRAHNET Connector; and US Highway 1 (Deans Bridge Road) and US Highway 25 (Peach Orchard Road) south of their intersection with I-520 are classified as Non-Interstate STRAHNET Routes.

3.10 Congestion Management

"Congestion occur when the number of vehicles on the road reaches or exceeds the capacity of the road, resulting in slowed or stopped traffic."[6] Managing the causes of congestion has the potential to significantly reduce the associated negative impacts and improve the functionality of the transportation system both of which have the potential to enhance the local socio-economic environment. A Congestion Management Process (CMP) is a systematic and regionally accepted approach for managing congestion.

As part of the CMP process 52 corridors in the ARTS planning area (*Table 24*) are subject to travel time surveys. Of these, sixteen (16) are located in Aiken County, eight (8) in Columbia County and twenty-two (22) in Richmond County. Another six (6) corridors connect Richmond and Columbia counties: Bobby Jones Expressway, SR 223 / Robinson Avenue, Belair Road / Jimmie Dyess Parkway, Wrightsboro Road, Fury's Ferry Road, and Davis Road/Walton Way Extension/Jackson Road. *Figure 29* presents the 52 CMP corridors in the ARTS planning area.

[6] 2014 Georgia Infrastructure Report Card, American Society of Civil Engineers Georgia Section 2014

3.10.1 Seriously Congested Corridors

Seriously Congested (SC) conditions are defined as an observed average travel speed at least 30% less than the posted speed. *Table 23* indicates that of the 52 corridors CMP corridors surveyed in the ARTS planning area over a 5 year period (i.e., 2010-2014), 20 were Seriously Congested (SC) in two or more time periods surveyed four (4) corridors in Aiken County; seven (7) in Columbia County and nine (9) in Richmond County. Seriously Congested (SC) corridors (in two or more periods) for the 2010-2014 CMP surveys are shown in *Figure 29 and 30*.

Table 23: *ARTS Congestion Management Process Corridors*

County	CMP #	CMP Corridor	From	To	Congested Status	Year of Survey
Aiken County	1	Atomic Road	Buena Vista Avenue	Silver Bluff Road	Not Presently Congested	2011
	2	Belvedere-Clearwater Road	US 25	US 1	At Risk of Congestion	2011
	3	Bettis Academy	Ascagua Lake Road	Fields Cemetery	At Risk of Congestion	2013
	4	Buena Vista Avenue	Martintown Road	Georgia Avenue	At Risk of Congestion	2012
	5	Dougherty Road	Whiskey Road	Silver Bluff Road	Seriously Congested	2014
	6	Georgia Avenue	Savannah River	I-20	Borderline Congested	2013
	7	Knox Avenue	Martintown Road	Georgia Avenue	Marginally Congested	2013
	8	Laurens Street / SC 19	South Boundary	I-20	At Risk of Congestion	2012
	9	Martintown Road	Jeff Davis/US 1	I-20	Marginally Congested	2014
	10	(East) Pine Log Road	US 78	Silver Bluff Road (Eastern End)	Borderline Congested	2013
	11	Richland Avenue	Vaucluse Road	Beaufort Street	Marginally Congested	2014
	12	SC 118	US 78	Silver Bluff Road		2012
	13	Silver Bluff Road	Whiskey Road	Savannah Drive	Seriously Congested	2014
	14	US1	York Street	I-20	At Risk of Congestion	2011
	15	US 1 / US 78	Martintown Road	Pine Log Road	At Risk of Congestion	2011
	16	Whiskey Road	Richland Avenue	Powderhouse Road	Seriously Congested	2014

Table 23: *ARTS Congestion Management Process (continued)*

County	CMP #	CMP Corridor	From	To	Congested Status	Year of Survey
Columbia County	17	I-20	Euchee Creek	Columbia/Richmond County Line	Not Presently Congested	2011
	18	Baston Road	Fury's Ferry Road	Washington Road	Seriously Congested	2010
	19	Belair Road	Washington Road	Wrightsboro Road	Seriously Congested	2014
	20	Bobby Jones Expressway/I-520	Washington Road	I-20	At Risk of Congestion	2012
	21	Columbia Road	Washington Road	Hereford Farm Road	Marginally Congested	2012
	22	Evans-to-Locks Road	Stevens Creek Road	Washington Road	Seriously Congested	2014
	23	Flowing Wells Road	Wheeler Road	Washington Road	Seriously Congested	2014
	24	Fury's Ferry Road	Savannah River	Washington Road	Borderline Congested	2014
	25	Old Evans Road	Bobby Jones	Washington Road	Marginally Congested	2012
	26	Old Petersburg Road	Riverwatch Parkway	Old Evans Road	Marginally Congested	2011
	27	SR 223/Robinson Ave	Wrightsboro Road	Gordon Highway	Seriously Congested	2014
	28	Washington Road	Hardy McManus Road	Pleasant Home Road	Borderline Congested	2013
	29	Wrightsboro Road	Barton Chapel Road	Robinson Avenue	Marginally Congested	2012

Table 23: *ARTS Congestion Management Process (continued)*

County	CMP #	CMP Corridor	From	To	Congested Status	Year of Survey
Richmond County	30	I-20	Richmond Co. Line	River Watch Pkwy	Not Presently Congested	2011
	31	I-520	I-20	Laney Walker Blvd.	Not Presently Congested	2010
	32	13th Street/RA Dent Boulevard	Reynolds Street	Wrightsboro Road	Seriously Congested	2014
	33	15th Street/Ruth B. Crawford Hwy.	Reynolds Street	MLK Boulevard	Seriously Congested	2014
	34	SR 56/Mike Padgett Hwy	Lumpkin Road	SR 56 Loop	Not Presently Congested	2011
	35	Deans Bridge Road	MLK Boulevard	Willis Foreman Rd	At Risk of Congestion	2010
	36	Doug Barnard Pkwy/New Savannah Rd	Gordon Highway	Tobacco Road	Not Presently Congested	2012
	37	Greene Street	E. Boundary Street	12th Street	Marginally Congested	2013
	38	Gordon Highway	Savannah River	SR 223	At Risk of Congestion	2011
	39	Jackson Road/Walton Way Ext./Davis Road	Washington Road	Wrightsboro Road	Seriously Congested	2013
	40	John C. Calhoun Expressway	Washington Road	12th Street	At Risk of Congestion	2011
	41	Peach Orchard Road	Tubman Home Road	SR 88	At Risk of Congestion	2012
	42	River Watch Pkwy	Pleasant Home Rd	Fifteenth Street	Not Presently Congested	2011
	43	Tobacco Road	Deans Bridge Rd	Doug Barnard Pkwy	Borderline Congested	2013
	44	Walton Way Segment #1	Gordon Highway	Milledge Road	Borderline Congested	2012
	45	Walton Way Segment #2	Milledge Rd	Bransford Road	Seriously Congested	2014
	46	Walton Way Ext.	Bransford Road	Jackson Road	At Risk of Congestion	2012
	47	Washington Road	Pleasant Home Rd	John C. Calhoun Expressway	At Risk of Congestion	2014
	48	Wheeler Road	Flowing Wells Road	Walton Way Ext.	Seriously Congested	2014
	49	Windsor Spring Rd	Peach Orchard Rd	SR 88	Borderline Congested	2012
	50	Wrightsboro Road Segment	Barton Chapel Rd	Jackson Road	Seriously Congested	2012
	51	Wrightsboro Road Segment	Jackson Rd	Highland Avenue	Borderline Congested	2013
	52	Wrightsboro Road Segment	Highland Ave	Fifteenth Street	Seriously Congested	2013

Source: ARTS, GDOT, and SC Department of Public Safety

Figure 29: *ARTS Congested Management Program*

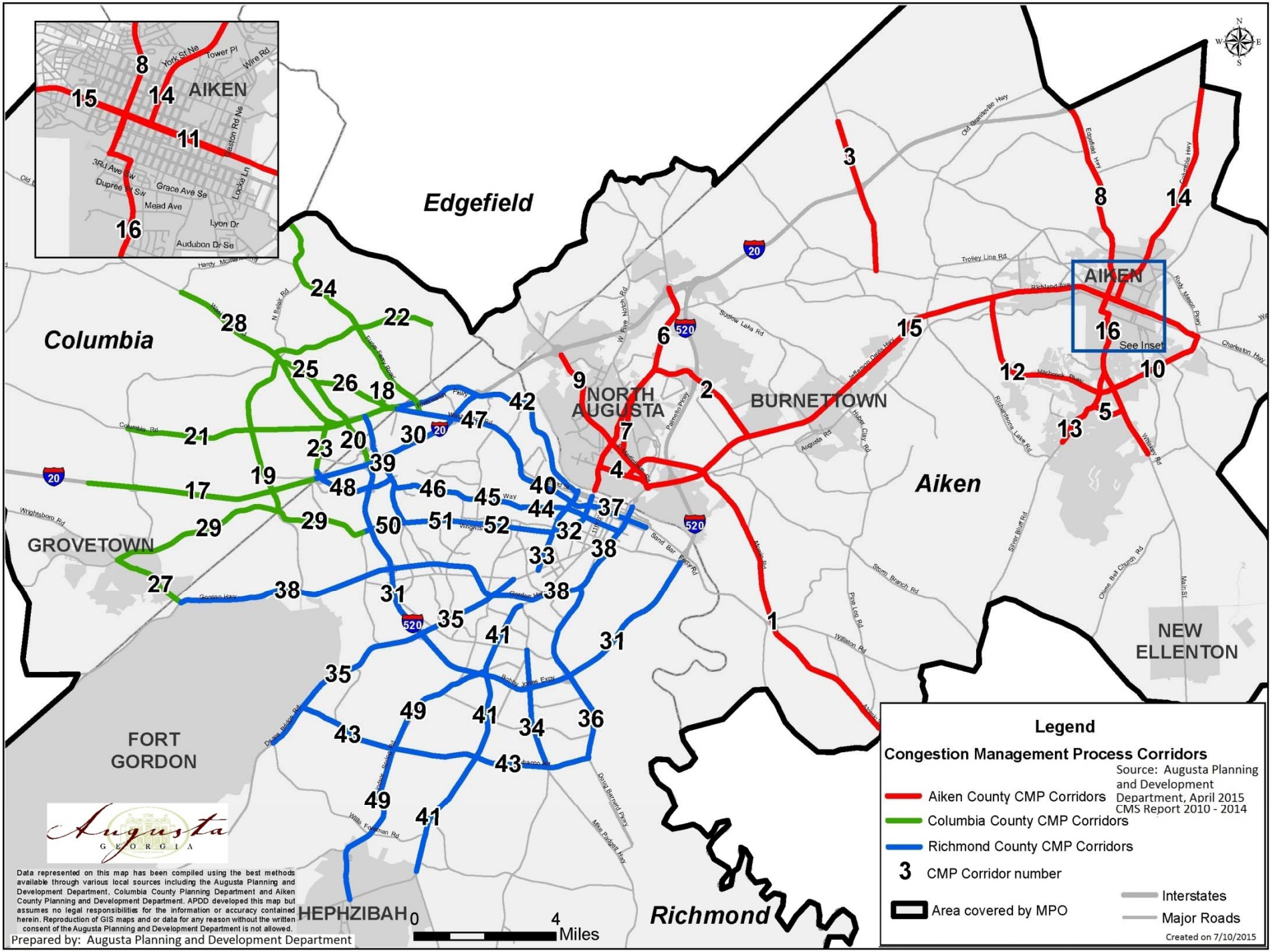
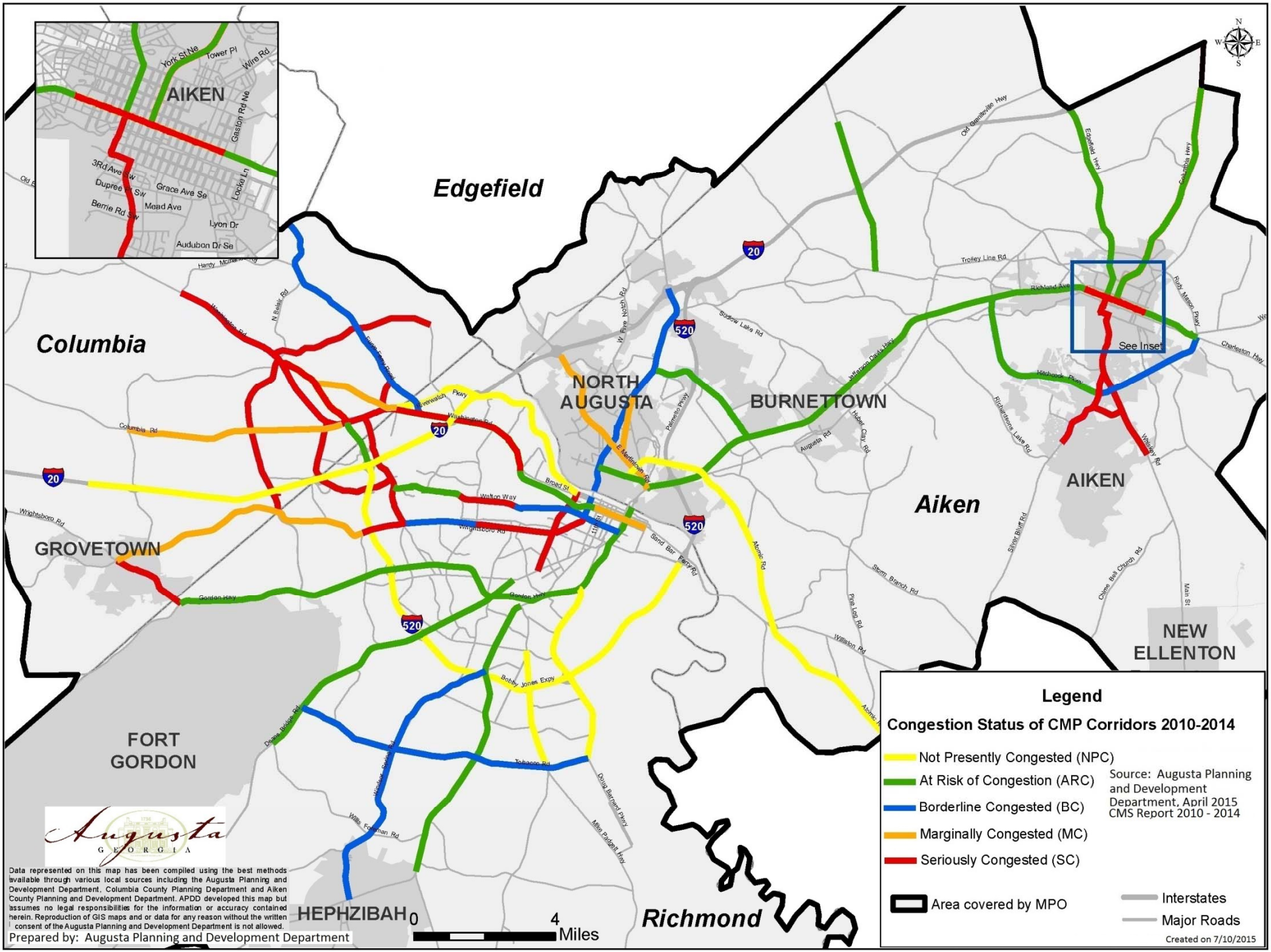


Figure 30: *ARTS Congestion Management Program*



3.10.2 Congestion Measurement

Measuring congestion within the ARTS planning area, each of the 52 corridors were traveled (i.e., run) at least once during the 5 year period from January 2010 through December 2014. Each run consists of traveling in both directions along a corridor during AM peak hours and PM peak hours on three separate weekdays (2 runs per day x 3 days = 6 total runs). A Global Positioning System (GPS) recording unit is activated at the start of the trip and the driver travels the length of the corridor while keeping pace with the traffic. The average speed on each link and corridor are calculated and the overall speed deviation from the posted speed limit on each corridor determines the relative level of congestion on each route, *Table 24.* The extent of deviation from the posted speed potentially indicates the need for a congestion mitigation strategy to be applied on that corridor or link.

Table 24: *Congestion Management Process Speed Deviation Thresholds*

Category	Average Speed
Not Presently Congested (NPC)	>= Posted speed limit.
At Risk of Congestion (ARC)	1% - 15% below the posted speed limit
Borderline Congested (BC)	15% - 25% below the posted speed limit
Marginally Congested (MC)	25% - 30 % below the posted speed limit
Seriously Congested (SC)	> 30% below the posted speed limit

Source: ARTS

Table 25 presented the congested status or extent of speed deviation from the posted speed for each of the 52 CMP corridors as well as the corresponding year of survey. *Figure 30* is a graphical representation of the congested status of all 52 CMP corridors. Adopting a systematic approach in the measurement of congestion compels a systematic approach in congestion mitigation. For example, in *Figure 30* the marginally congested corridors in Columbia County such as the Old Evans Road CMP corridor are situated near several Seriously Congested (SC) CMP corridors, namely, Belair Road and Evans-to-Locks Road. The full results of the 2014 CMP survey are contained in the Documents and Resources section of the ARTS website www.augustaga.gov/arts.

Acknowledging any anticipated growth in traffic volumes, resolving congestion evident on one CMP corridor is likely to shift congestion to another route. The dynamic nature of congestion will continue to be a challenge in areas of anticipated high traffic growth. Effectively dealing with such a scenario calls for a series of transportation improvements and not simply the implementation of congestion mitigation strategies in order to attain the Congestion, Mobility and Traffic Safety goal. Strategies proposed in the Transportation Vision 2040 LRTP update range from road widening, traffic signal coordination, improved public transit options together with a wider range of bike and pedestrian facilities; all of which can sustainably manage congestion.

Seriously Congested (SC) conditions are defined as an observed average travel speed at least 30% less than the posted speed. *Table 25* indicates that of the 52 corridors CMP corridors surveyed in the ARTS planning area over a 5 year period (i.e., 2010-2014), 20 were Seriously Congested (SC) in two or more time periods surveyed four (4) corridors in Aiken County; seven (7) in Columbia County and nine (9) in Richmond County.

Table 25: *Seriously Congested Corridors CMP Surveys 2010-2014*

County	Corridor	From	To
Aiken	Dougherty Road	Whiskey Road	Silver Bluff Road
	Richland Avenue	Vaucluse Road	Beaufort Street
	Silver Bluff Road	Whiskey Road	Savannah Drive
	Whiskey Road	Richland Avenue	Powderhouse Road
Columbia	Baston Road	Fury's Ferry Road	Washington Road
	Belair Road	Washington Road	Wrightsboro Road
	Evans-to-Locks Road	Stevens Creek Road	Washington Road
	Flowing Wells Road	Wheeler Road	Washington Road
	Old Evans Road	Bobby Jones	Washington Road
	SR 223/Robinson Ave	Wrightsboro Road	Gordon Highway
	Washington Road	Hardy McManus Road	Pleasant Home Road
Richmond	13th Street/RA Dent Boulevard	Reynolds Street	Wrightsboro Road
	15th Street/Ruth B. Crawford Hwy.	Reynolds Street	MLK Boulevard
	Jackson Road/Walton Way Ext./Davis Road	Washington Road	Wrightsboro Road
	Walton Way Segment #1	Gordon Highway	Milledge Road
	Walton Way Segment #2	Milledge Road	Bransford Road
	Washington Road	Pleasant Home Rd	John C. Calhoun Expressway
	Wheeler Road	Flowing Wells Road	Walton Way Ext.
	Wrightsboro Road Segment 1	Barton Chapel Road	Jackson Road
	Wrightsboro Road Segment 3	Highland Avenue	Fifteenth Street

Source: ARTS

3.10.3 Seriously Congested Links/Segments

In 2014, each of the 15 CMP corridors surveyed in the ARTS planning area was comprised of several individual links. In total 396 links were surveyed. Of these, 238 (60%) experienced Seriously Congested (SC) conditions during at least any one of the periods surveyed. The top 10 congested links/segments by county in the a.m., either p.m. peak periods or both are presented in *Tables 26 to 28*.

Table 26: *Top 10 Seriously Congested Links Aiken County CMP 2014 Survey*

Rank	Corridor	Direction	Time	From	To	Seconds	Distance	MPH	PSL	Sp Dev
1	Martintown Rd.	Westbound	AM	Byrnes Rd.	I-20	339	1.02	10.83	42.5	-0.75
2	Silver Bluff Rd.	Northbound	PM	Pine Log Rd.	Dougherty Rd.	58	0.16	9.87	35	-0.72
3	Martintown Rd.	Westbound	PM	Byrnes Rd.	I-20	306	1.02	12	42.5	-0.72
4	Silver Bluff Rd.	Northbound	AM	Pine Log Rd.	Dougherty Rd.	56	0.16	10.29	35	-0.71
5	Martintown Rd.	Westbound	PM	Knox Ave.	Georgia Ave.	125	0.45	12.96	42.5	-0.70
6	Whiskey Rd.	Southbound	AM	Richland Ave.	South Boundary	119	0.44	13.27	37.5	-0.65
7	Whiskey Rd.	Northbound	PM	South Boundary	Richland Ave.	118	0.44	13.42	37.5	-0.64
8	Richland Ave.	Westbound	NOON	York St.	Chesterfield St.	29	0.09	11.05	30	-0.63
9	Whiskey Rd.	Northbound	AM	East Gate Dr.	Pine Log Rd.	223	0.94	15.15	37.5	-0.60
10	Whiskey Rd.	Southbound	PM	Richland Ave.	South Boundary	100	0.44	15.84	37.5	-0.58

Source: ARTS Notes: MPH = Observed Miles per Hour; PSL = Posted Speed Limit; and, Sp Dev = % Speed Deviation from PSL

Table 27*: Top 10 Seriously Congested Links Columbia County CMP 2014 Survey*

Rank	Corridor	Direction	Time	From	To	Seconds	Distance	MPH	PSL	Sp Dev
1	Belair Road	Southbound	PM	Washington Road	Peachtree Road	286	0.14	1.76	45	-0.96
2	Belair Road	Southbound	AM	Washington Road	Peachtree Road	284	0.14	1.78	45	-0.96
3	Flowing Wells Road	Southbound	PM	Washington Road	Columbia Road	245	0.21	3.09	45	-0.93
4	Belair Road	Southbound	PM	I-20 EB	Park West Drive	52	0.07	4.85	45	-0.89
5	Evans-To-Locks Rd	Eastbound	PM	Evans Town Center Blvd.	N. Belair Rd	140	0.22	5.66	45	-0.87
6	Flowing Wells Road	Northbound	PM	Columbia Road	Washington Road	128	0.21	5.91	45	-0.87
7	Evans-To-Locks Rd	Westbound	PM	Columbia Industrial Blvd	N. Belair Rd	334	0.59	6.36	45	-0.86
8	Fury's Ferry Road	Northbound	AM	Washington Road	River Watch Parkway	162	0.3	6.67	45	-0.85
9	Flowing Wells Road	Southbound	AM	Washington Road	Columbia Road	112	0.21	6.75	45	-0.85
10	Fury's Ferry Road	Southbound	PM	River Watch Parkway	Washington Road	150	0.3	7.2	45	-0.84

Source: ARTS Notes: MPH = Observed Miles per Hour; PSL = Posted Speed Limit; and, Sp Dev = % Speed Deviation from PSL

Table 28: *Top 10 Seriously Congested Links Richmond County CMP 2014 Survey*

Rank	Corridor	Direction	Time	From	To	Seconds	Distance	MPH	PSL	Sp Dev
1	13th Street / Ra Dent Blvd	Northbound	AM	Jones Street	Reynolds Street	61	0.05	2.95	35	-0.92
2	13th Street / Ra Dent Blvd	Northbound	PM	Jones Street	Reynolds Street	50	0.05	3.6	35	-0.90
3	13th Street / Ra Dent Blvd	Southbound	PM	Reynolds Street	Jones Street	41	0.05	4.39	35	-0.87
4	13th Street / Ra Dent Blvd	Southbound	PM	Greene Street	Telfair Street	43	0.06	5.02	35	-0.86
5	Fifteenth St	Southbound	PM	Reynolds Street	Jones Street	51	0.08	5.65	35	-0.84
6	Wheeler Road	Westbound	PM	I-20 WB	Wheeler / Mason McKnight	54	0.11	7.33	45	-0.84
7	Walton Way Seg 2	Westbound	PM	Milledge Road	Johns Road	116	0.22	6.85	35	-0.80
8	13th Street / Ra Dent Blvd	Northbound	PM	Wrightsboro Road (no signal)	John Wesley Gilbert Dr.	50	0.1	7.2	35	-0.79
9	Washington Road	Westbound	AM	I-20 WB	Stevens Creek Road	31	0.08	9.29	45	-0.79
10	13th Street / Ra Dent Blvd	Northbound	PM	Broad Street	Jones Street	24	0.05	7.5	35	-0.79

Source: ARTS Notes: MPH = Observed Miles per Hour; PSL = Posted Speed Limit; and, Sp Dev = % Speed Deviation from PSL

3.11 Intermodal Connectors

Intermodal connectors are roads that provide access between major intermodal facilities and the other four subsystems (i.e., interstate, arterials, etc.,) to and from the NHS. They may take the form of strategic links connecting, a transportation or freight hub-to-corridor; hub-to-hub; or strategic military installation-to-corridor. As connecting links at the start or end of a truck's journey, they often include local roads in industrial areas or residential neighborhoods. Intermodal Connectors as strategic links serve:

- Seaports and Ferry Terminals.
- Airports.
- Amtrak Stations.
- Public Transit Station, e.g., heavy rail or park-and-ride lots.
- Intercity Bus Terminals.
- Intermodal freight transportation facilities, e.g., Truck/Rail Terminals, Pipeline/Truck Terminals.

The State of Georgia currently has 88.61 miles of Intermodal connectors compared to 15.9 miles in South Carolina. Neither GDOT nor SCDOT have designated any routes as intermodal connectors in the ARTS. [7]

Highway access to Augusta Regional Airport in a North-South direction is via State Route 56 Spur and Doug Barnard Parkway; and East-West via I-520 (Bobby Jones Expressway and Palmetto Parkway) connecting to State Route 56 Spur. Other highways in the surrounding area providing indirect access are I-20, US 1, US 25, and US 78, Tobacco Road and Mike Padgett Highway. Augusta Regional Airport is used by medical facilities for air ambulance and medical transport services on daily basis.

[7] http://www.fhwa.dot.gov/planning/national_highway_system/intermodal_connectors accessed 5/20/15

3.11.1 Freight System

Freight is a significant component of transportation demand within the ARTS planning area. Trucking is the dominant mode for moving freight with rail playing a secondary role. The majority of freight in the study area traveled on I-20 and I-520, two (2) routes with the highest volumes of freight by weight and value. I-20 provides primary truck access to the study area, while the I-520 provides radial access to the City of Augusta. Despite several miles of navigable waterways in the study area (e.g., Savannah River), none of these waterways are used for the transport of freight.

The lack of a direct interstate connection between the study area and Macon GA, Savannah GA, Charleston SC and Greenville SC; necessitates that movements between these centers use the arterial highway network. Arterial roads accommodating these movements may experience an increase in trucking volumes and congestion. I-20 is the primary route for trucking operations in the study area, the mixing of truck and auto traffic may give rise to concerns about safety.

Important facts about truck freight in the ARTS planning area includes:

- Statistics from the Georgia Center of Innovation and Logistics (GCIL) indicate that in Richmond County (2010) 5,955,515 tons of freight moved by truck compared to 2,942,084 tons by rail. Value of goods moved by truck exceeded $18 billion compared to $1.9 billion by rail.
- GCIL statistics indicate that in Columbia County (2010) 1,072,411 tons of freight moved by truck compared to 173,987 tons by rail. Value of goods moved by truck surpassed $1.26 billion compared to $349 million by rail.
- In 2006, the top three origins for truck freight in the Augusta region were Jefferson County GA at 2,914,828 tons (17%), Macon GA at 2,657,400 tons (16%), and Atlanta GA at 2,189,076 tons (13%). The top three destinations for truck freight were Atlanta GA 2,282,139 (17%), Greenville SC 929,458 (7%), and Macon GA 859,647 (6%).[8]
- I-20 is one of two interstates forming a corridor between Atlanta, GA, and South Carolina (the other being I-85). However, I-20 compared to I-85 has much lower truck and auto volumes and forecast to have sufficient road capacity through 2050.
- Richmond County ranked seventh among the top 20 counties in Georgia for inbound tons moved in 2007.[9] More than 3 million tons moved in 2007 approximately 3% of inbound tons moved in Georgia. This finding confirms the ability of mid-sized metropolitan regions (e.g., ARTS) to generate and attract a fair share of truck tonnage.

[8] Augusta Regional Transportation Study Freight Plan Final Report 2009

[9] Georgia Statewide Freight and Logistics Plan, 2010-2050. Truck Modal Profile 2013

- According to the GA statewide Travel Demand Model examining internal state truck flows, the largest non-Atlanta truck volumes modeled in 2010 were between metro Savannah and metro Augusta (311 daily trucks).[3]
- Aiken County ranked eighth (~1.8 million tons) of the top ten South Carolina county origins of commodities that are predicted to move outbound in 2040. Estimates suggest that Aiken County is expected to play a larger role in freight by 2040.[10]

Important facts about the road freight network in the ARTS planning area can be listed as follows:

- In the Georgia portion of ARTS the Statewide Designated Freight Corridor consists of I-20, I-520 and US Highway 1/SR 4 (Fall Line Freeway).
- In the South Carolina portion of ARTS, the Strategic Freight Roadway Network consists of I-20, I-520, US Highway 4, US Highway 19, US Highway 25 and US Highway 78.
- I-20 between Atlanta, GA, and South Carolina is designated as a Long-Haul Interstate Corridor. Long haul interstate corridors are considered as segments of the interstate that are in between urban regions with the minimum number of lanes for the interstate.[11]
- In August 2013, the State Transportation Board designated the I-20, I-520 and the Fall Line Freeway (i.e., existing US Highway 1 from Wrens, GA. to the City of Augusta) as Freight Corridors. Freight corridors represent a network of strategic highways for freight movements in Georgia.
- I-20, I-520 and the Fall Line Freeway are part of the Governor's Road Improvement Program (GRIP). GRIP is a system of economic development highways that, when complete, will connect 95% of Georgia cities with populations of 2,500 or more to the Interstate Highway System. It will also place 98% of Georgia's population within 20 miles of a four-lane road.

The strategic highway freight network in the ARTS is presented in ***Figure 31***.

[10] South Carolina Multimodal Freight Plan. Appendix D. 2014
[11] Georgia Statewide Freight and Logistics Plan, 2010-2050. Task 5 Report Freight Improvement Project Recommendations 2011

Freight Rail

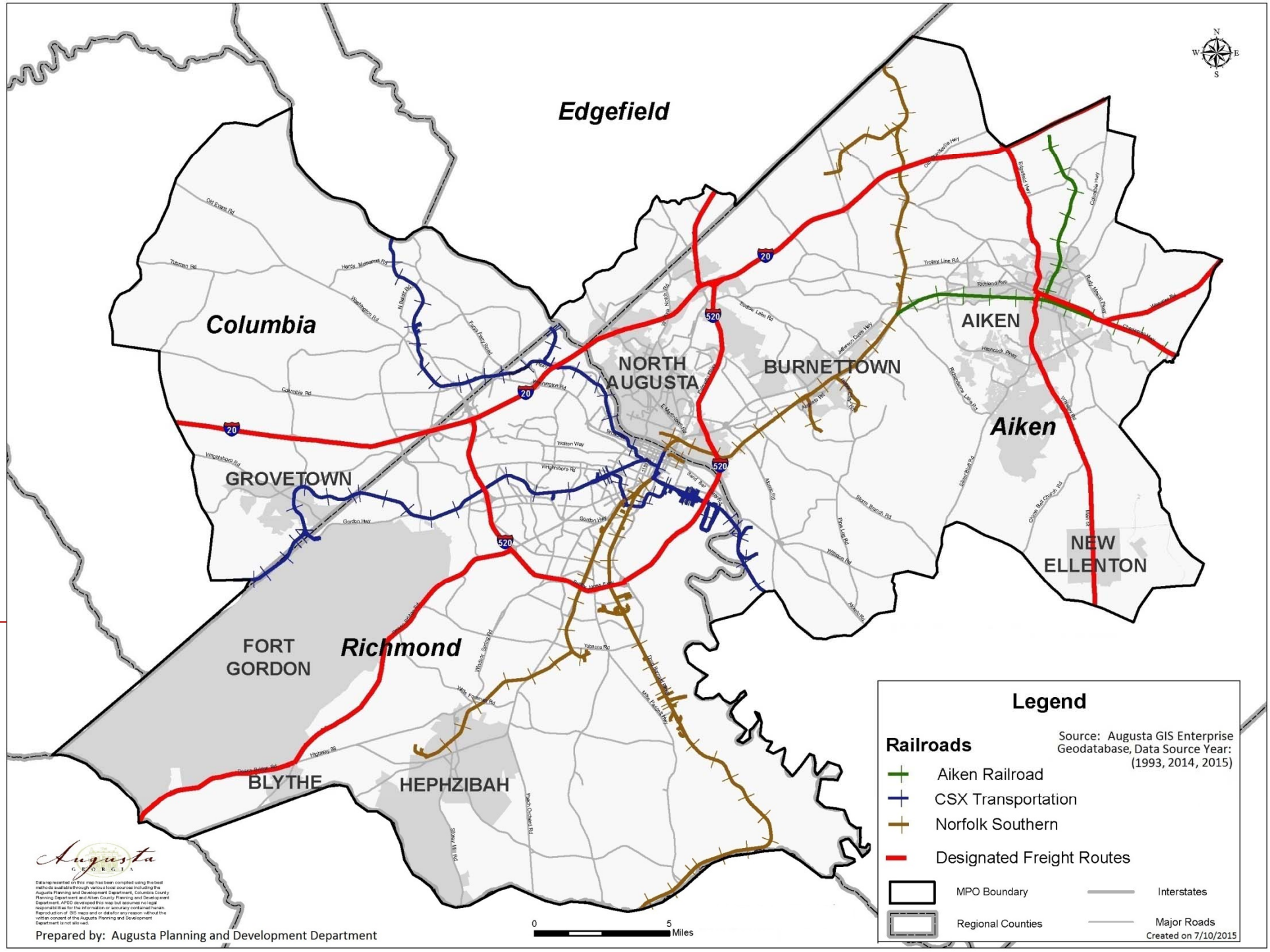
Freight rail transportation continues to play an important role in the ARTS. The study area is traversed by numerous railroads that provide an alternative mode of moving freight throughout the region. Currently, there are two Class 1 railroad companies providing freight services in the study area, CSX Transportation (CSX) and Norfolk Southern Railway (NS). US Class I Railroads are line haul freight railroads with operating revenue of $467 million or more in 2013.[12] The majority of CSX or NS Class 1 railroads in the study area can accommodate 286K (i.e., 286,000 pounds) railcars. NS and CSX own and operate a vast network of railroads primarily east of the Mississippi River.

NS railroad has mainlines and spur tracks serving Aiken and Richmond counties as well as Augusta GA providing a direct rail routes west Atlanta or south to Savannah, GA. The majority of NS railroads in the study area meet 286K capacity with an exception limited to the Moores Subdivision in Augusta.[13]

[12] American Association of Railroads

[13] Georgia Statewide Freight and Logistics Plan, 2010-2050. Task 5 Freight Improvement Project Recommendations 2013

Figure 31: *Freight and Railroad Network*



CSX railroad has mainlines and spur tracks serving Aiken, Columbia and Richmond counties as well as Augusta, GA. The main CSX terminal for the Augusta, GA, region is located off Laney-Walker Boulevard in Augusta. In addition, CSX operates a TRANSFLO terminal in Augusta, GA, located on 48 acres between Wrightsboro Road and Olive Road. TRANSFLO terminals permit trans loading of bulk commodities between railcars and trucks. The CSX terminal in Augusta is located on the Central Service corridor that runs from Detroit (Michigan), Chicago (Illinois), and St. Louis (Missouri) to Savannah. This North-South corridor skirts the eastside of Georgia passing through Augusta, GA.[14]

Not all railroads in the study area can accommodate 286K railcars. These tracks are classified as 'short-line' railroads, often covering a short distance and accommodating low tonnage railcars. Short-line railroads are defined by the American Association of Railroads as typically short distance railroads that serve a limited area and have annual operating revenue $37.4 million or less.[15] Often independent or privately held short-lines perform several functions:

- Link two industries requiring a rail connection or connecting customers, shippers, and manufactures to the national rail network
- Allow the transfer of railcars between different railroad companies sharing the same facility or between group facilities.
- Permit the operation of a passenger train service for tourism.

In the South Carolina ARTS area, there is one short-line railroad operator, Aiken Railway Company (ARC), a subsidiary of Western Carolina Railway Service Corporation. ARC began rail service in 2012 and leases and operates two branch lines – the 12.45-mile line between Warrenville and Oakwood, and the 6.45-mile line running between Aiken and North Aiken – total 18.9 miles in length. With minimal operations, ARC handles railcars weighing between 1,100 – 143,000 tons. The strategic highway freight network and railway system in the ARTS is presented in *Figure 31.*

[14] GDOT Intermodal Program Division State Rail Plan 2009
[15] American Short Line and Regional Railroad Association

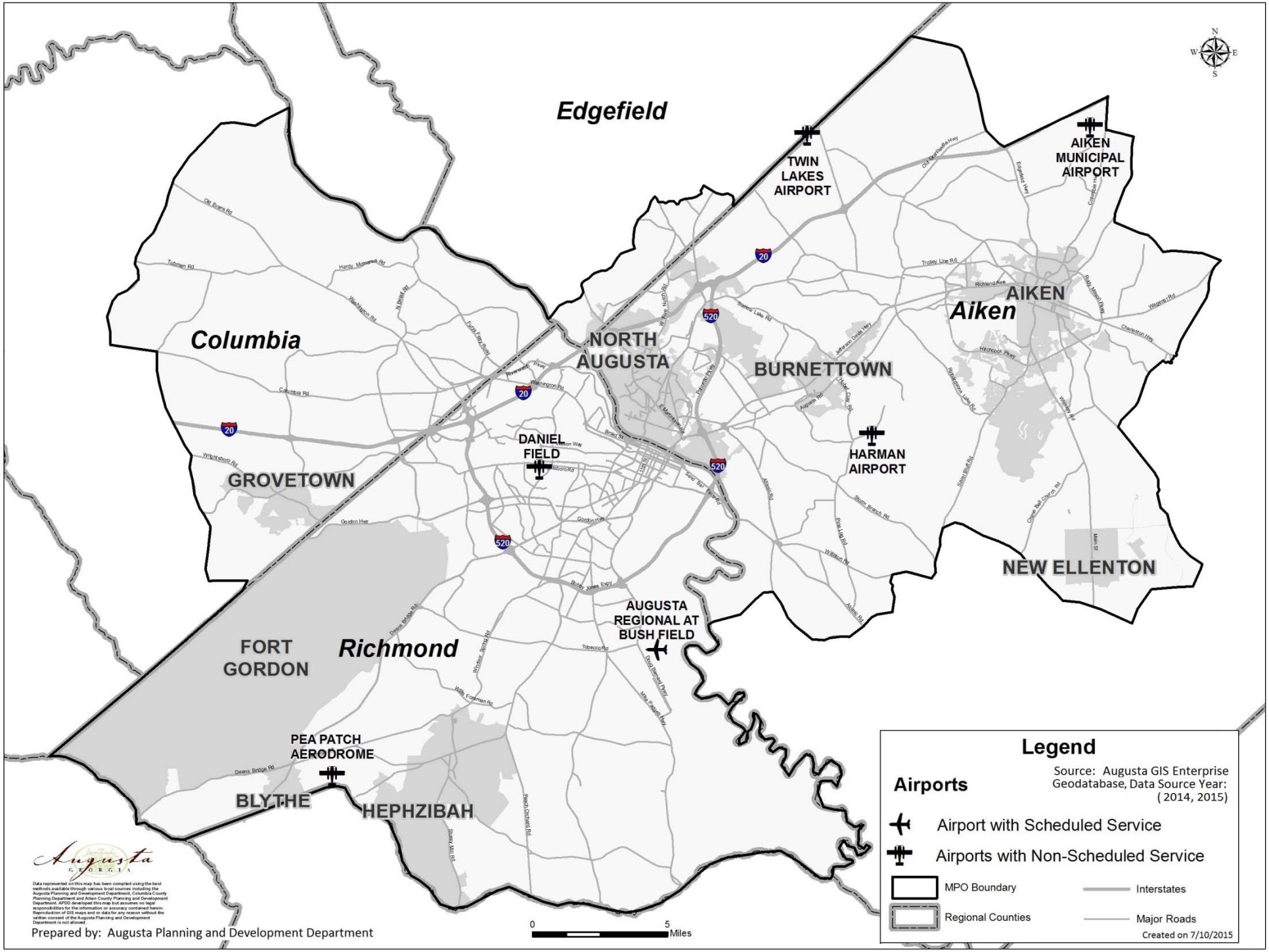
3.11.2 Airports

The ARTS is served by three airports that provide commercial and general aviation services. These airports include Augusta Regional Airport [at Bush Field], Daniel Field and Aiken Municipal Airport. Augusta Regional Airport and Daniel Field are situated in the state of Georgia and Aiken Municipal Airport in South Carolina. Each of these airports are described below and their location within the study area is presented in *Figure 32*.

3.11.2.1 Augusta Regional Airport

Augusta Regional Airport is a city-owned and operated, public use airport located eight miles south of downtown Augusta. The airport is situated on approximately 1,400 acres of land. The Federal Aviation Administration (FAA) has classified Augusta Regional Airport as Non-hub airport has more than 10,000 passengers boarding per year, but less than 0.05% of the total passenger boarding within the United States in the most current calendar year). The airport is also designated as a Fixed Based Operator (FBO) and is permitted to provide aeronautical services such as fueling, hangar, aircraft parking, rental and maintenance as well as flight instruction.

Figure 32: *Airport*



Currently, two primary commercial airlines operate daily services from Augusta Regional Airport: Delta Airlines and US Airways Express. Only two destinations are served directly from Augusta Regional Airport, Atlanta GA, and Charlotte NC. Delta Airlines provides services to Atlanta and US Airways Express provides services to Charlotte. Delta Airlines service is provided by Atlantic Southeast Airlines, whereas US Airways is provided by US Airways Express. In late December 2014, US Airways announced the resumption of its seasonal service to Washington DC., providing one daily round trip flight between Augusta, GA, and Washington, DC (except Saturdays) operating between March 29 thru June 3, 2015.

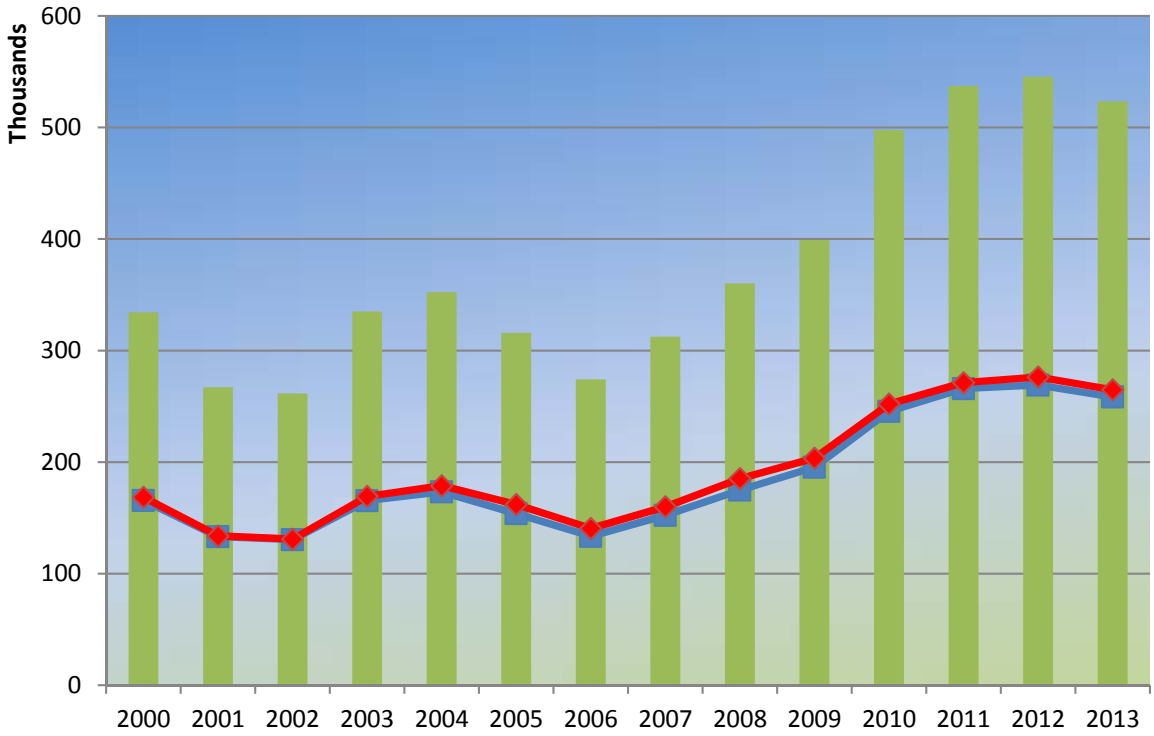
Figure 33 presents statistics denoting the number of arrivals, departures and total passengers at Augusta Regional Airport. Air passenger throughput at Augusta Regional Airport has shown a sustained recovery since dipping in 2001 and 2005-2008Since 2011, air passengers throughout has exceeded 500k passengers per year at Augusta Regional Airport.

Statistics provided by Augusta Regional Airport indicate that in 2013 Delta Airlines had 100% on-time departures record compared to 83.93% of US Airways flights. In 2013, Delta Airlines had a 60% share of passengers at Augusta Regional Airport, followed by US Airways at 39 percent and charters at 1%. Continued passenger throughput driven by anticipated population growth, tourism and economic expansion, Augusta Regional Airport is currently updating its Master Plan with a scheduled completion in Spring 2015. The 20-year Master Plan has a project value of $627,560 and Mead & Hunt, Inc., is the project consultant.

The Augusta National Golf Tournament commonly referred to as The Masters is the busiest season for the Augusta Regional Airport and Daniel Fields Airports. The economic impact of Augusta Regional Airport is significant, supporting the region with 1,561 jobs with an annual payroll of $59,016,500 and $269,632,600 in economic output in the ARTS.[16] In 2012, a new passenger terminal facility was opened consisting of a 14,000 square feet flight planning, crew area and amenities for passengers and catering facilities, and VIP lounge. The recently completed credit card parking lot and taxiway expansion will further strengthen Augusta Regional Airport role in the regional economy.

[16] 2011 Georgia Statewide Airport Economic Impact Study GDOT

Figure 33: *Augusta Regional Airport Passengers 2000-2013*



Source: ARTS

3.11.2.2 Daniel Field Airport

Daniel Field Airport (DNL) is publicly owned and operated by the General Aviation Commission (GAC)). The two-runway airport is situated on 146 acres of land approximately five miles from downtown Augusta. Wrightsboro Road and Highland Avenue provide direct road access to Daniel Field Airport. East-west indirect highway access is via I-20 connecting with the I-520 that intersects Wrightsboro Road.

Classified as a Level 1 Airport according to the Georgia Aviation System Plan the Daniel Field airport is primarily used by corporate and private clients for business and recreational purposes. Daniel Field Airport also hosts the Augusta Squadron of the Civil Air Patrol. Daniel Field Airport is classified by GDOT as Level I and is one of thirty of such airports in the State of Georgia in this category. In 2001, Daniel Field Airport had an economic impact of more than $15 million, providing 127 total jobs with a total payroll $4,372,600.[17]

[17] 2011 Georgia Statewide Airport Economic Impact Study GDOT

The following aircraft related services are provided at Daniel Field Airport: Fuel, parking, hangars, recreational flying, corporate/business jets, flight training and instruction, experimental aircraft, charters, and aircraft repair. Landside services provided 99 apron parking spaces, 62 hangar spaces, 70 auto parking spaces, and a 6,700 square foot terminal and administrative building.

Not more than three miles from the Augusta National Golf Course, Daniel Field Airport plays an important role during Masters Week (the first full week in April). During this time, charter and corporate operators attending the Masters Golf Tournament use it extensively. Its close proximity to numerous medical facilities in the Augusta region, medical air services use the airport almost daily. According to the GAC, Daniel Field Airport has over 27,500 operations a year.

3.11.2.3 Aiken Municipal Airport

Aiken Municipal Airport (AIK) is a city-owned and managed airport situated on 70 acres of land five miles north of central business district of Aiken SC. Road access to the airport is from US 1 near Exit 22 on I-20. As one of 54 general aviation airports in SC, Aiken Municipal Airport serves the aviation community in the ARTS area and has an extended market reach to 11 other counties in the CSRA.

AIK has two runways and averages 120 daily aircraft operations. Of these aircraft operations, 61% are local general aviation; 32% transient general aviation; 6 % air taxi and 1% military. It operates between the hours of 7 a.m.-7 p.m. ET, 365 days a year with extended hours during the Masters Golf week. Currently, no scheduled commercial airlines operate to or from Aiken Municipal Airport. Aiken Municipal Airport has no master plan and there are no significant projects in place.

The two-runway airport accommodates a variety of aviation related activities including:

- Hotel Shuttle, car rental, and taxi services,
- Passenger, commercial and air freight service,
- Corporate/business jets,
- Recreation flying and agricultural spraying,
- Flight training and the testing of experimental aircraft.

3.11.3 Waterborne Transportation

Despite an abundance of navigable rivers and lakes in the ARTS, none of these bodies of water facilitates waterborne freight transportation. The many rivers and lakes in the study area region are primarily used for recreational purposes (e.g., boating, fishing and multiuse trails). All freight in the ARTS is moved by truck, rail or air. The closest seaports to the study area are Savannah GA (138 miles) or Charleston SC (171 miles).

The Savannah River as the largest body of water in the study area also forms the border between Georgia and South Carolina. It is also an important source of drinking water for the ARTS planning area as well as assimilating the region's treated wastewater. For decades a 9-foot-deep, 90-foot-wide shipping channel permitted waterborne freight between Augusta to Savannah, GA. The required dredging and maintenance of the channel ceased in 1979, along with the cessation of commercial shipping between these two cities.[18]

Reliving the heydays of the industrial usage of the Savannah River and its tributaries, the Augusta Canal, built in 1845, is the only intact industrial canal in the American South in continuous use. The Augusta Canal played a pivotal role in the industrialization of Augusta, GA, providing power to the nearby mills, transportation, and drinking water for the city. Today, as a national historical landmark (declared in 1978) the Augusta Canal provides themed boat tours, e.g., Heritage Boat Tour, Civil War Boat Tour; multiuse pedestrian and bicycle trails; and, pristine nature reserves and wetlands.

Another important site along the Savannah River that once played a role in the industrialization of the ARTS is the New Savannah Bluff Lock and Dam. Constructed in 1937 the New Savannah Bluff Lock and Dam is located on the Savannah River adjacent to Augusta Regional Airport. Operated by the Augusta Recreation, Parks & Facilities Department, the recreation area offers facilities for picnicking, fishing and recreational boating. As of May 15, 2014, the Lock operation at the Lock and Dam Park terminated, and due to safety reasons access to the Lock for fishing ceased.

[18] New Plant Vogtle parts could require dredging. Augusta Chronicle September 3, 2009.

3.12 Bridges

There are a total of 14,675 bridges in Georgia of which 233 are within the ARTS boundary. In South Carolina, there are 8,344 bridges of which 109 are within the study area boundary. As indicated earlier the study area is bisected by the Savannah River that is crossed by seven bridges along six routes, namely:

- I-20 (one bridge in each direction).
- US 25 (13th Street in Georgia and Georgia Avenue in South Carolina).
- 5th Street (Jefferson Davis Memorial Bridge).
- US 1/US 278 (Gordon Highway in Georgia and Jefferson Davis Highway in South Carolina).
- I-520 (Bobby Jones Expressway in Georgia and the Palmetto Parkway in South Carolina).
- GA/SC 28 Sand Bar Ferry Road.

General classifications of bridges according to their importance are as follows:

- Critical – structure with a high cost to build/replace or loss would have major effect to the area.

- Essential – loss of structure would affect commerce or emergency response.

- Other – all other structures not included in Critical or Essential.

Bridges may also be classified as:

- Structurally Deficient – a bridge that has significant load carrying elements in poor or worse condition due to deterioration and/or damage. A structurally deficient bridge is not unsafe and is not likely to collapse.
- Functionally Obsolete – a bridge that does not meet current traffic demands on the structure. A bridge may be constructed using design standards from an earlier period that have become outdated today. For example, a bridge with no sidewalks on a section of roadway with sidewalks; or a bridge with narrow shoulders that do not meet current safety standards in either case will be classified as functionally obsolete.

The Transportation Vision 2040 goal 'Maintenance section' recognizes the importance of maintaining a strong bridge network to support the roadway system in the ARTS planning area. This objective also complements the 'Congestion, Mobility and Traffic Safety' goal. Maintenance of bridges along the Strategic Highway Network is critical to sustain efficient traffic movement, connectivity and access throughout the ARTS planning area. However, the I-20 crossing of the Savannah River (two lanes in each direction) as the primary freight route between Georgia and South Carolina has at times created a bottleneck in the local transportation system. This is one of several challenges of the bridge network in the ARTS planning area; in addition to bridges that are structurally deficient or functionally obsolete. Bridges lacking safe pedestrian or bicycle facilities, such as sidewalks or marked bike lanes was another concern presented at public meetings. Developing the Transportation Vison 2040 LRTP update, future capacity needs and potential structural conditions were factored into proposed bridge installation or modernization projects.

3.13 Public Transportation

The availability of public transportation adds additional mobility options to residents, workers and visitors. Public transportation also facilitates geographical accessibility, educational and economic opportunity as well as improvements in public health to persons who: 1) do not have access to a private automobile; 2) do not drive due to disability, age or prohibition; or 3) simply would like to exercise their choice to use an alternative transportation modes to a private vehicle.

There are many people in the ARTS that can relate to one or more of the preceding categories and their use and access to public transportation is not a choice, it is a necessity. This is highlighted by the fluctuating cost of gasoline. Several fixed route providers serve the study area: Augusta Public Transit (APT), Columbia County Transit (CCT), and Best Friend Express (BFE). Rural transportation or paratransit providers include Pony Express, a part of BFE for rural Aiken County and Richmond County Transit, a part of APT.

3.13.1 Augusta Public Transit

Currently, APT contracts MacDonald Transit Associates Inc., to operate nine (9) fixed routes primarily in and around the City of Augusta (*Figure 34*). All APT buses serving the nine (9) fixed routes are equipped with bike racks each capable of carrying two bicycles. The system is primarily radial with the majority of services terminating at the Broad Street passenger bus terminal near downtown Augusta. Route #2 a circulator route terminates at the Social Security office in West Augusta. Two routes (#8 and #9) terminate at the K-Mart bus transfer point (Deans Bridge Road and Gordon Highway). In November 2014, a new route #10 was added to the network. This six-month pilot route links Augusta Mall with Fort Gordon. This service improvement was identified in the five year APT Development Plan. Service frequencies and schedules vary as presented in *Table 29.* According to the 2012 National Transit Database (NTD) the following operational statistics are presented:

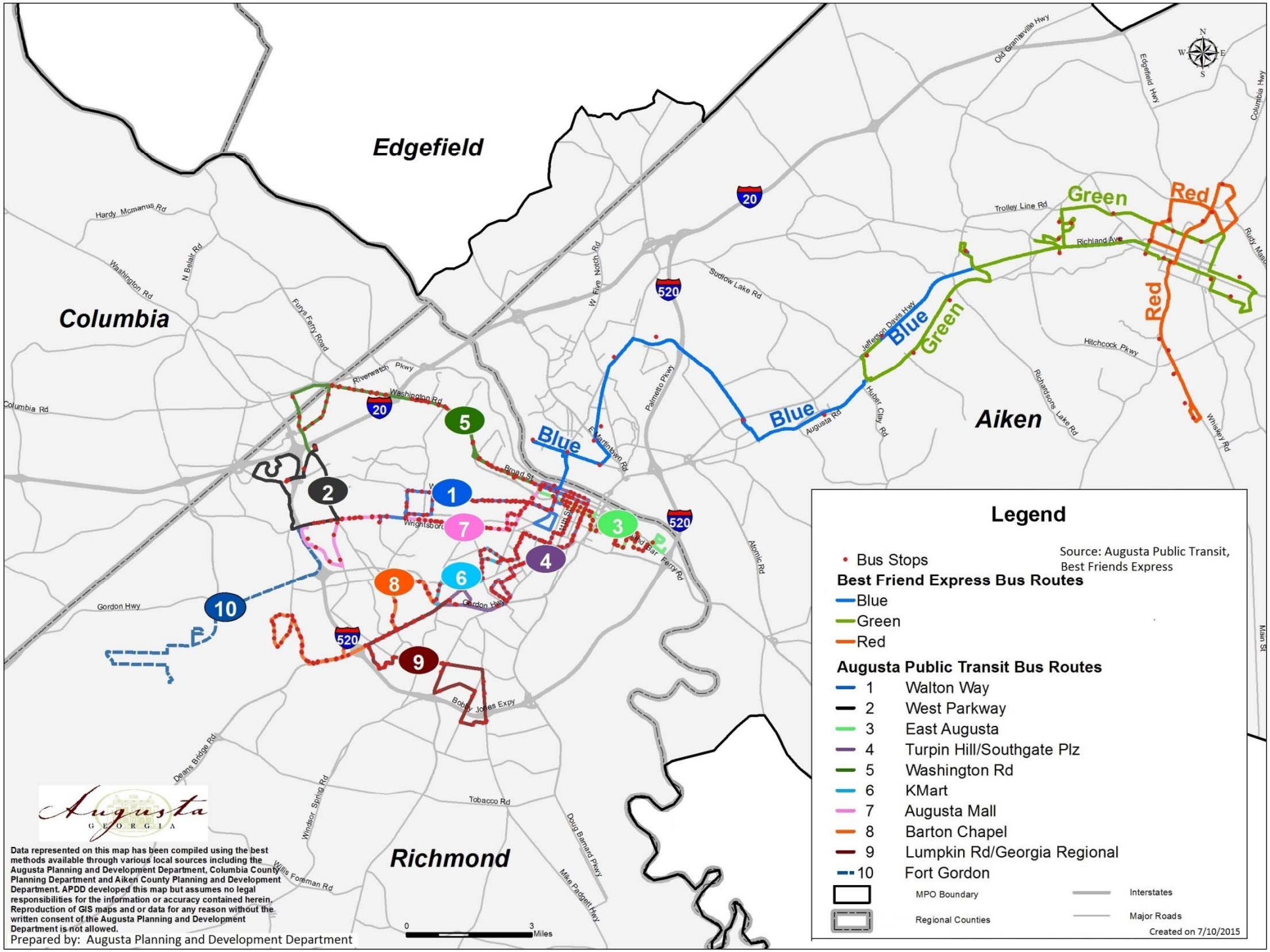
Service Area: 25 sq. mi
Vehicles available for maximum service: 26
Vehicles operated in maximum service: 19
Annual Passenger Miles: 2,542,908
Annual Unlinked Passenger Trips: 737,562
Fare Revenues approximated: $672,531

Table 29: *Augusta Public Transit Schedule*

Route # and Name	Monday to Friday				Saturday			
	First Bus leaves Terminal	Last Bus leaves Terminal	# of Trips	Avg. Headway (minutes)	First Bus leaves Terminal	Last Bus leaves Terminal	# of Trips	Avg. Headway (minutes)
1 – Walton Way	6:30am	5:10pm	9	83	10:30am	5:10pm	6	80
2 – West Parkway	7:10am	5:10pm	16	40	7:10am	5:10pm	16	40
3 – East Augusta	6:30am	7:30pm	11	80	7:00am	7:00pm	11	72
4 – Turpin Hill/Southgate Plaza	7:00am	6:30pm	10	76	7:00am	6:00pm	10	73
5 – Washington Road	6:30am	5:50pm	15	49	7:00am	6:30pm	10	77
6 – Kmart	6:30am	7:00pm	20	40	7:00am	7:00pm	19	40
7 – Augusta Mall	6:30am	7:00pm	17	47	9:00am	7:00pm	9	75
8 – Barton Chapel Transfer	6:00am	7:00pm	16	60	10:00am	7:00pm	10	60
9 – Lumpkin Road Georgia Regional	6:30am	5:30pm	14	60	No Service			
10 – Fort Gordon**	9:30am	6:30pm	6	80	9:10am	6:30pm	8	80

Source: ARTS
*** Pilot transit route for six (6) months in 2014-2015.*

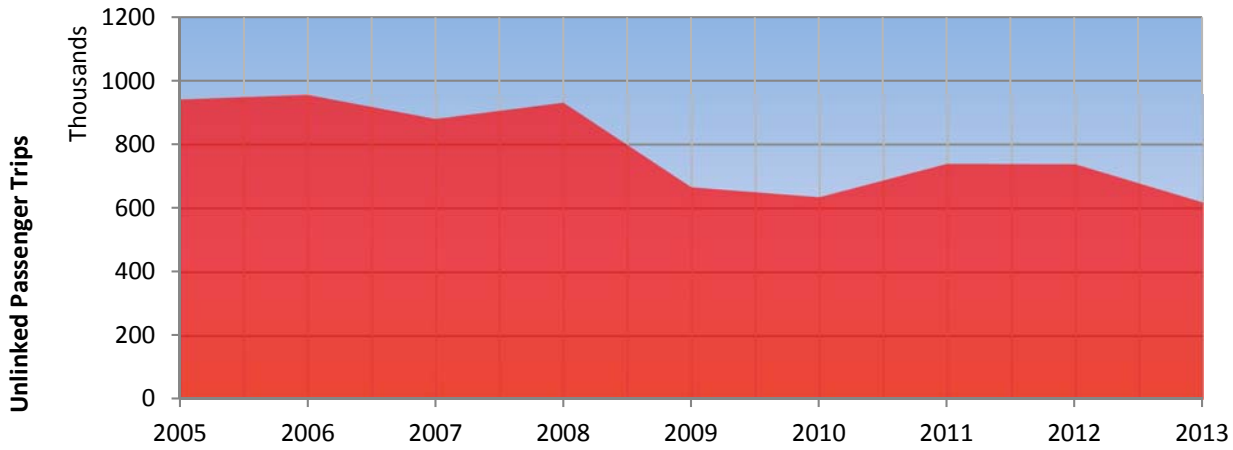
Figure 34: *Public Transit*



There is no Sunday service on any route. Overall, public transit services operate from 6:30 a.m. to 8:00 p.m. Monday through Friday. On some routes, services operate earlier or later than these times based on route distance. Some APT services commence or terminate at the APT garage on Fenwick Street in Augusta, GA. Route #6 has the highest weekday frequency of 20 trips per day. With the exception of Route #10, Route #1 has the lowest frequency of weekday trips per day.

Figure 35 presents APT unlinked passenger trips. Overall, between 2005 and 2013, the ridership trend has decreased peaking in 2006 and 2008. At 617,000 unlinked trips, 2013 marked the lowest ridership year since data submission to the NTD in 1991.

Figure 35: *Augusta Public Transit Ridership*



Source: National Transit Database

APT provides paratransit services for persons with a permanent or temporary disability that prevents them from using fixed-route services. Paratransit services are offered within ¾ mile of APTs fixed route services complying with the American with Disabilities Act of 1990 (ADA). Operating at the same times and days as local fixed routes, paratransit services seek to complement existing APT services. Eligible users of paratransit services submit an application endorsed by a health professional who can verify the type and extent of disability. When using the service prospective riders must reserve their trip by 5 p.m. the day before the trip (Monday thru Friday). However, trips can be reserved up to 14 days in advance. Reservations and trip confirmation are processed by an automated voice system. Due to the specialized nature of the paratransit service, public transit agencies can charge users a premium fare (double fixed route fare).

3.13.2 Richmond County Rural Transit System Operated by Augusta Public Transit

Accommodating the mobility needs of the Richmond County population that live south of I-520; Richmond County Transit System (RCTS) commenced operations in September 1989. RCTS is a collaborative transportation venture between Richmond County and GDOT with funds made available through 49 U.S. Code § 5311 Formula grants for rural areas (aka Section 5311 provided by GDOT Intermodal Program). RCTS operating in the rural areas of Richmond County, including Hephzibah, McBean and Blythe, is a shared-ride transportation service available to persons living in the rural area of county. RCTS operates Monday thru Friday between the hours of 6:a.m. and 5:30 p.m. As a curb-to-curb transit service, RCTS provides curbside pickup to passengers in close proximity to their origins and/or destinations. Users of this service must register and make reservations ahead of intended travel, up to 14 days in advance or by 2 p.m. on the day before travel. Due to the specialized nature of the paratransit system users are charged a premium fare.

3.13.3 Columbia County Public Transit

Columbia County Public Transit (CCPT) based in Grovetown GA is a demand-response rural transit service available for all residents of Columbia County. CCPT provides curb-to-curb service Monday thru Friday between the hours of 8:30 a.m. to 4:30 p.m. serving destinations in Columbia and Richmond counties (with the exception of areas south of Gordon Highway). The earliest drop off time is 10:00 am and the latest pick-up time is 3:30 p.m. Riders who require physical assistance to enter or leave the vehicle must provide a personal escort. There are no restrictions regarding trip purpose, such as to medical appointments, grocery shopping, education, etc., but trip reservations must be booked a minimum of one business day in advance. Due to the specialized nature of this demand-response system, users are charged a premium fare.

3.13.4 Best Friend Express

Best Friend Express (BFE) is a fixed-route transit and paratransit service managed by LSCOG and operated by Aiken Area Council on Aging (AACOA). The three (3) transit routes of BFE operate a circular service between the hours of 7:00 a.m. to 7:00 p.m. Monday thru Friday. All BFE buses are equipped with two bike racks. Currently, there is no Saturday or Sunday service. With an average 120 minute headway, BFE transit services operate throughout Aiken County, SC, serving downtown Aiken, social service agencies, Aiken Regional Medical Center, University of South Carolina Aiken (USC-A), Aiken Technical College., and Whiskey Road to Aiken Mall. BFE North Augusta service operates between North Augusta, SC, to Aiken Technical College, serving the City Municipal Building, social service agencies, Wal-Mart and North Augusta Plaza, and Riverview Park. BFE also connects with APT at the Broad Street Transit Terminal enabling passengers to travel from the City of Aiken to the Augusta Mall and other areas in Augusta, GA, on public transit.

As a fixed route service, passengers can board or arrive at marked bus stops or flag down the bus anywhere along the route. Passengers can also disembark anywhere along the route that the driver deems safe to stop. As a paratransit service provider, BFE's buses are equipped with lifts and are wheelchair accessible. Reduced fares are offered to passengers with a disability, Medicare cardholders, students with valid ID, or seniors 60 years and older.

Bus headway is an important indicator of ridership, route frequency, and capacity. It presents the greatest challenge to achieving sustainable fixed-route operations and increasing transit ridership in the ARTS. APT for example, the average weekday bus headway (or passenger wait time between two buses) on the APT is 61.5 minutes, increasing to 66 minutes for the nine Saturday routes (*Table 24*). Standard transit industry benchmarks have determined that passenger wait times in excess of 60 minutes are generally unattractive to all riders. "Service levels longer than 30 minutes are generally unacceptable from the perspective of the passenger and are not convenient to develop a solid, consistent, ridership base."[19] In the study area where the majority of persons are choice riders, an excessive bus headway reduces the potential of public transit becoming a practical transportation alternative.

3.13.5 Intercity Bus Service

Intercity bus service in the ARTS is provided by Southeastern Coach Stages, Greyhound Lines Inc. There are two intercity bus terminals in the study area: Augusta terminal located at 1125 Greene Street, and the Aiken Terminal located at 153 Pendleton Street NW. Five daily bus services connects Augusta with Atlanta and Augusta with Columbia SC. Two of the five daily Augusta-Atlanta services are non-stop while the other services make several stops along the route. Four daily services link Aiken with Columbia SC and three link Aiken with Atlanta.

3.13.6 Passenger Rail

Rail passenger service to the ARTS ceased with the 1968 closure and subsequent demolition of the Augusta Union Station in 1972 (Walker Street between 8th and 9th Streets in downtown Augusta). The closest passenger rail facilities to the ARTS area are provided by AMTRAK in Denmark, SC (62 miles away), Columbia, SC (74 miles away), Gainesville, GA (140 miles way), and Atlanta, GA (148 miles away).

[19] Best Practices In Transit Service Planning 2009

The demand to keep Georgia economically competitive as a state to live, work and play has initiated proposals to develop a high-speed passenger rail network. The GDOT State Rail Plan (published in 2009) acknowledged the work of the Georgia Rail Passenger Program (GRPP) that proposed several rail passenger routes as part of a statewide intercity service. Atlanta would be the hub of the high speed and commuter rail network linking nine of Georgia's largest cities with metro Atlanta. The proposed 171-mile Augusta-Madison-Atlanta rail corridor would provide a direct passenger rail link between Atlanta and Augusta. The new service (expected to be operational around the year 2030) would use existing CSX freight lines with three daily intercity trains in each direction.[20]

3.14 Bicycle and Pedestrian Systems

A well-established bicycle and pedestrian system allows for affordable personal mobility, carbon-free transportation, and supports a healthy, active lifestyle for ARTS residents. Maintaining and improving upon the bicycle and pedestrian network is reflected in ARTS goals and objectives. These goals include: promoting mobility and accessibility for non-motorized users; increasing safety and security by promoting strategies that reduce traffic crashes and injuries involving cyclist and pedestrians; improving and maintaining the transportation system; enhancing the economic, social, and environmental fabric of the region; promoting efficient land use and development patterns; and developing a transportation system that is financially feasible.

The following sections provide an overview of the bicycle and pedestrian network. The 2012 ARTS Bicycle and Pedestrian Plan, established with the goals and objectives provides a basis for planning and programing future projects to enhance non-motorized transportation.

3.14.1 Bicycle Systems

Communities in the ARTS value bicycling as a viable recreational pursuit and to a lesser extent an alternative transportation choice. Not only can bicycling serve as an alternative transportation mode choice integrated into the transportation system, but it provides added economic, social, environmental, and health benefits. Indeed, cycling related sporting events such as the Ironman Triathlon bring in millions of dollars to the region each year, while multiple leisure and fitness bicycling groups can be seen on weekend morning rides throughout Augusta, GA, and North Augusta, SC.

[20] Georgia Rail Passenger Program Fact Sheet 2005

Table 30 indicates the numbers of persons who use bicycling as their means of transportation to work. Albeit a small portion of people commute by bicycle, these are important users of the ARTS transportation network. Both Richmond and Aiken counties display the highest numbers of riders. Richmond and Aiken counties both have a central business districts, densely built environments and university districts that to some degree provide safe environments conducive to bicyclists.

Table 30: *Persons Riding Bicycle to Work*

	Columbia	Richmond	Aiken	Edgefield
Persons who bicycle as their means of transportation	23	185	108	0

Source: US Census Bureau, American Community Survey 2008-2012 5-Year Estimate

The updated 2012 ARTS Bicycle & Pedestrian Plan provides an in-depth analysis of bicycling conditions within the transportation network. The plan also presents an overall vision for a more bicycle and pedestrian friendly study area. The following sections draw from the work contained in the 2012 ARTS Bicycle & Pedestrian Plan.

3.14.2 Current Assessment of Bicycle Infrastructure

A variety of bicycle infrastructure is available or planned for the ARTS; including, greenways, multi-use paths, dedicated bike lanes, sidewalks and paved shoulders. *Figure 36* represents the 2012 bicycle infrastructure in the study area. Established bicycle infrastructure is predominantly found in Aiken County, which has dedicated bike routes as well as an extensive greenway system located within North Augusta, SC and the City of Aiken, SC. Richmond County features an extended greenway system near the Savannah River and Riverwatch Parkway

Two Georgia State Bicycle Routes also feed into the more localized bicycle network. Savannah River Run (Route 85) runs along the Savannah River from the North Carolina State Line to Savannah, GA, encompassing 314 miles. The Augusta Link (Route 50) runs East-West from Thomson in McDuffie County to Route 85 near downtown Augusta, GA, encompassing a total of 39 miles.

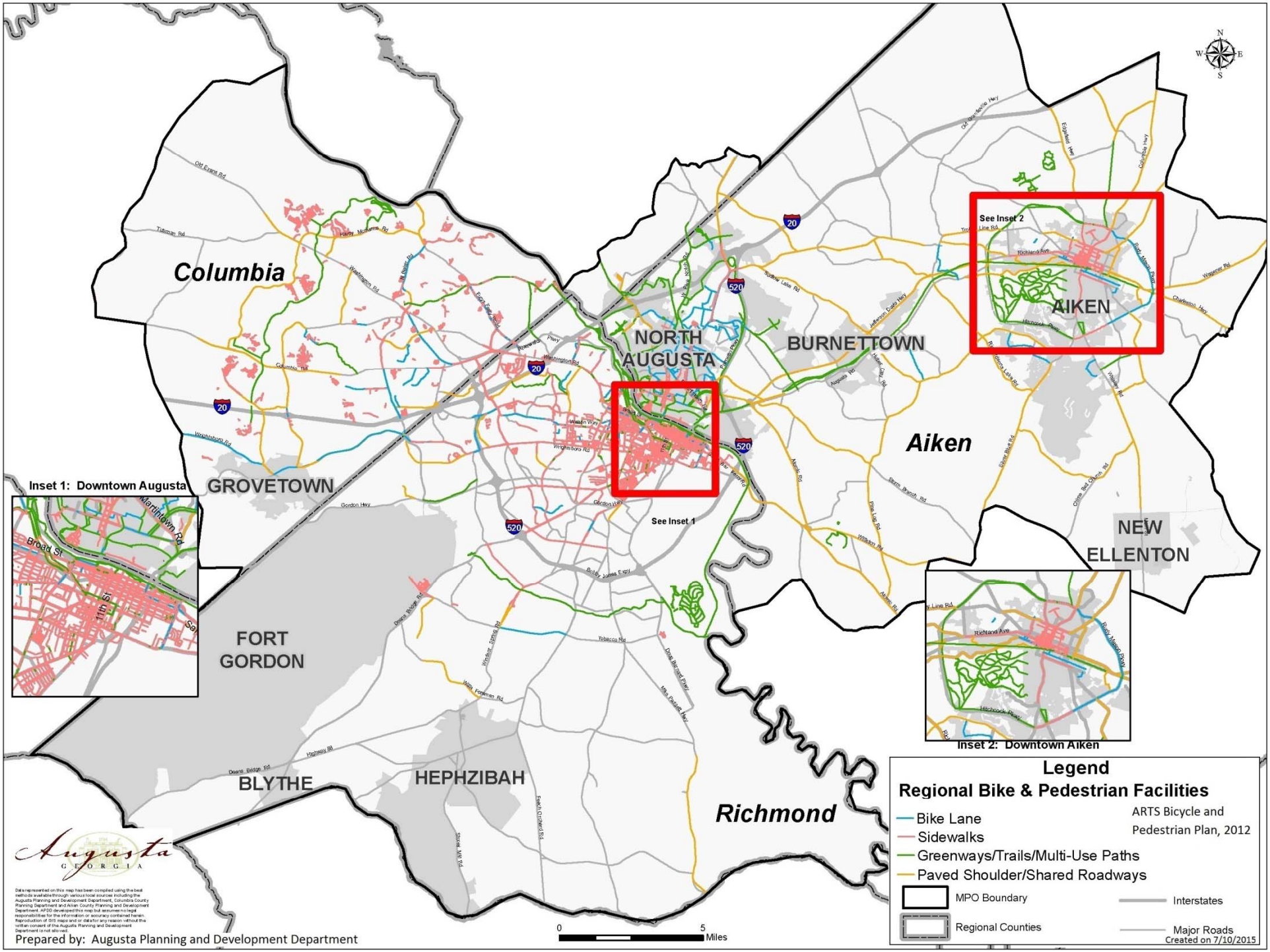
Highlighted strengths and opportunities of the 2012 ARTS Bicycle & Pedestrian Plan include:

- 7.1 miles of bicycle lanes between Columbia and Richmond Counties;
- 34.8 miles of greenways that provides both transportation and recreational activities;

A strong downtown grid network in Augusta, GA, North Augusta, SC, and the City of Aiken, SC that create a comfortable bicycling environment;

- Multiple roadways with large lane widths, low volume traffic or low speeds that create a suitable route for recreational bicycling; and a,
- Pedestrian-friendly infrastructure features that create tangible benefits for bicyclists.

Figure 36: *Bicycle and Pedestrian Plan*



Despite the above strengths, many deficiencies remain. Unsuitable bicycling environments within the ARTS transportation network create numerous traffic safety issues. There is an overall lack of efficient, connected and safe routes for bicyclists. A few of the deficiencies and constraints include, large commercial corridors designed specifically for motorized transportation that offer no connectivity for bicycle and pedestrian users, narrow roads with minimal shoulder width, dangerous railroad crossings and driveways. A weakness in bicycle infrastructure connectivity is exacerbated through the lack of appropriate signage to guide users to destinations both safely and efficiently, as well as street paving maintenance.

3.14.3 Bicycle Policy Overview

Key policy findings from the 2012 ARTS Bicycle & Pedestrian Plan indicate that none of the jurisdictions within the ARTS have a Complete Streets Policy or any guidelines specific to Complete Streets. However, North Augusta, SC, includes Complete Street policy in its Comprehensive Development Ordinance. Noting other design principles of bicycle infrastructure, both North Augusta, SC., and Aiken County, SC, incorporates some elements of Form Based Code in its development standards. None of the jurisdictions within the study area has explicit state-of-the-art guidance on bicycle and pedestrian facilities. Streetscape Design Guidelines are an essential component of Form Based Codes and they graphically show how pedestrian and bicycles can exist in harmony with building form and transportation in all zoning districts.

None of the jurisdictions reviewed considered multi-modal level of service criteria in their development review process. North Augusta, SC, does prioritize traffic mitigation measures that include multi-modal aspects. There were also no strategies for sidewalk or bicycle facility retrofits on existing facilities. Jurisdictions with the study area have incorporated approaches to regulating automobile and bicycle parking, however, the provision of bicycle parking facilities is not a requirement at any location.

Although the ARTS have historically lacked the policies for a strong bicycle network, there has been a recent push in the bicycling community together with local officials. This coalition seeks to provide a safer and a more active bicycle friendly network that captures the needs of both recreational and daily travel users. Priorities being proposed include bicycle parking locations, continued dedicated bike infrastructure during state road resurfacing projects, and connecting the current network through additional connectors and routes.

North Augusta Development Code adopted in 2007 and made effective in January 1, 2008 contains specific provisions for sidewalks, and require sidewalks in all their local streets through arterials streets. This local jurisdiction in the ARTS has taken the lead in formally adopting and enforcing a Complete Streets Policy for the benefit of all pedestrians and cyclists.

3.14.4 Walking and Pedestrian Systems

ARTS pedestrians live, work and recreate in a wide range of physical settings and environments, all connected through transportation. The design of walking and pedestrian systems must strive to accommodate all pedestrian needs by increasing the availability and connectivity of sidewalks. An existing ARTS definition of a 'street' primarily defines the term as it relates to vehicular functioning excluding the use by a pedestrian or cyclist. Increasing pedestrian travel and improving pedestrian comfort and safety (through sidewalk provision) are some of the issues driven by MAP-21, and by the need for everybody to become more physically active.

Like most cities across the country, the ARTS experienced spatial dispersal of development driven by the rapid increase of the road network. Often roads were designed and constructed, without thought to include sidewalks, as the focus was to accommodate sprawling development facilitated by access to the private automobile. The lack of sidewalks created an increased reliance on the automobile and minimal pedestrian connectivity that ultimately reduced the attractiveness of alternative transportation options available. Most of the existing sidewalks are concentrated in the urban cores of downtown Augusta, GA and Aiken, SC. However, sidewalks also occur in small clusters scattered throughout Columbia County (*Figure 37*).

Sidewalks are a vital component in creating a walkable and healthy community because they separate vehicle movements from bicycle traffic and pedestrians. This separation enhances the safety, connectively and comfort of pedestrians and bicyclists. The provision of sidewalks in many ARTS planning area communities have become an important element in creating sustainable and livable spaces. In addition to sidewalks, other important elements creating a pedestrian friendly environment include pedestrian signals, crosswalk treatments, signage, refuge islands, and streetscape elements. Several examples of these exist throughout the study area.

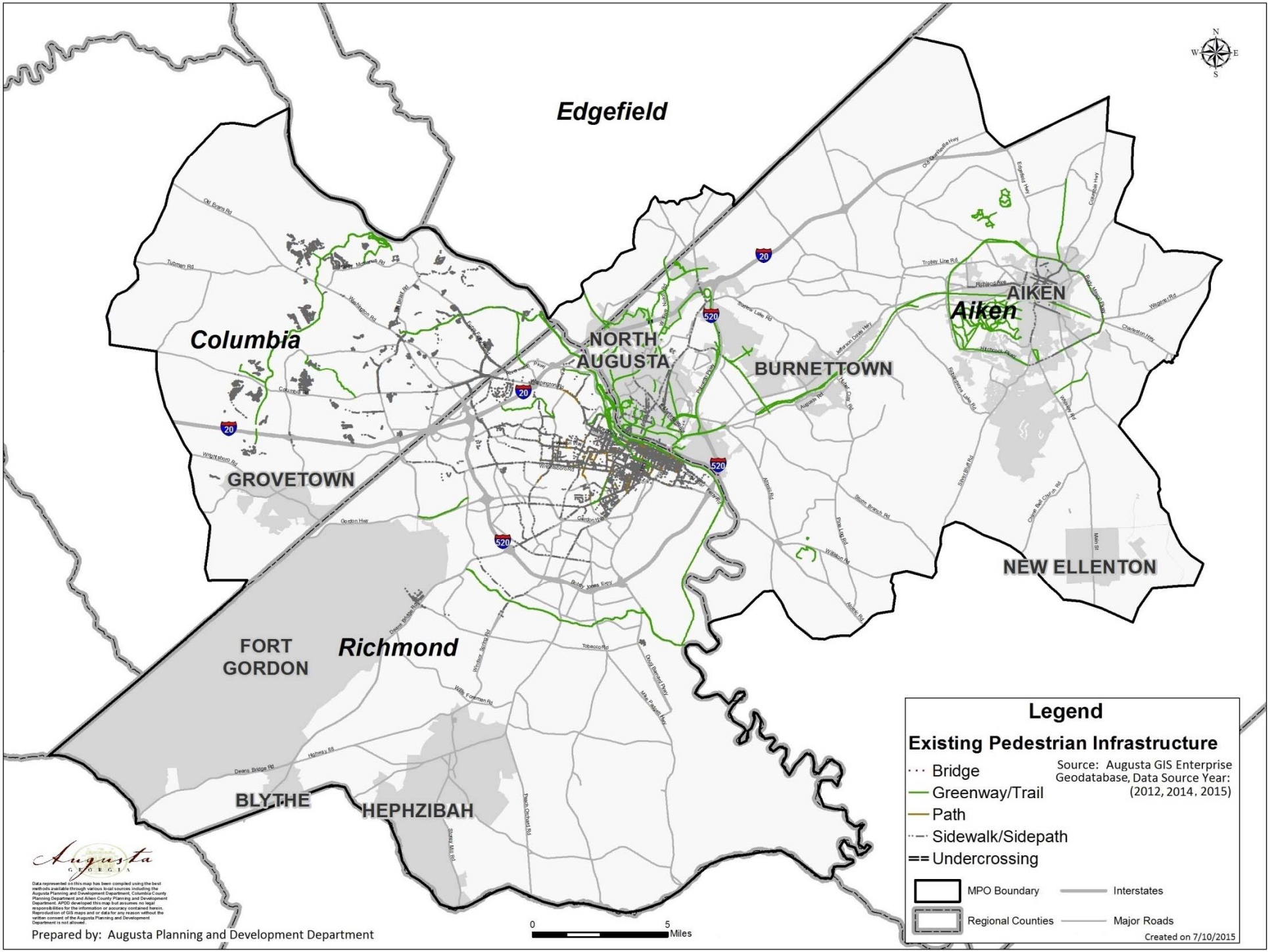
Many gaps still exists in the current pedestrian mobility network. The 2012 Augusta Regional Transportation Study Bicycle and Pedestrian Plan provided a set of minimum design standards and guidelines that can be used in the design of bicycle and pedestrian facilities. In addition to engineering guidelines, policy and education recommendations were put forward in the Plan. Educating motorists about sharing the road, encouragement of safe-routes-to-school programs and consistent enforcement of existing laws and regulations, all these initiatives have a role in creating bicycle and pedestrian friendly spaces in the study area.

3.14.5 Multi-use Trails

The ARTS has several multi-use recreational trails that crisscross communities, strengthen connectivity and enhance access. Multi-use trails are open for non-motorized uses only and often combine recreational uses shared by pedestrians, bicyclists and equestrians. The Augusta Canal and North Augusta Greenway are two prime examples of multi-use trails.

The Augusta Canal multi-use trail includes multiple trails, side-trails and paths within the Augusta Canal National Heritage Area. Main trails include Towpath Trail, Augusta Canal Historic Trail and River Levee Trail, to name but a few. The multi-use trails connect pedestrians and cyclists from downtown Augusta, GA, to Petersburg Boat Dock on the Savannah River in Columbia County, GA, and to residential subdivisions located along the Evans-to-Locks Road, Evans GA.

Figure 37: *Existing Pedestrian Network*



Residents of North Augusta, SC. commonly refer to the North Augusta Greeneway as The Greeneway. The Greeneway was initially developed as a Rails-to-Trails project that followed an abandoned right-of-way of the former Central of Georgia Railway (later renamed as the Central Rail Road and Banking Company of Georgia). As a greenway 13 miles in length, it is mostly shaded and meanders throughout the riverfront community of North Augusta, SC. The greenway connects to Riverview Parkway in North Augusta, SC. Riverview Parkway Trail loops around the Hammonds Ferry neighborhood, Brick Pond Park and continues along the Savannah River. Another addition to the Greenway system includes the Palmetto Parkway Bike Path. Palmetto Parkway Bike Path parallels I-520 and runs south from Ascauga Lake Road to Atomic Road.

Columbia County's Euchee Creek Greenway is an extensive nature park and trail system that follows Euchee Creek from Harlem Grovetown Road to Wrightsboro Road. Euchee Creek Greenway is located within a floodplain and is predominately flat, lending Euchee Creek corridor most favorably for trail development.

Aiken County's Hitchcock Woods is the largest urban nature trail system in the study area. The 70 miles of sandy trails, rings itself around the City of Aiken's urban core. The public trail is open to equestrians, hikers, dog walkers, joggers, and horses with carriages.

3.15 Complete Streets

Complete Streets is now a standard transportation planning practice. This strategy involves designing local streets to incorporate all modes of travel such as; bicycles, pedestrians, motorized vehicles, and public transit. Many state DOTs have formally adopted Complete Streets Policies by encouraging local jurisdictions design and implement transportation improvements to holistically meet local community's travel needs in a safe environment.

3.15.1 State Policy

The State of Georgia and South Carolina, like many states across the country have adopted Complete Streets policies. Local jurisdictions are following their example by adopting these policies into their zoning or street ordinances. North Augusta, SC, is the only city within the ARTS adopting a Complete Streets policy into their zoning ordinance.

GDOT formally adopted a Complete Street Policy on September 20, 2012. It is now incorporated into the GDOT Design Policy Manual – Chapter 9 – and regulated by GDOT for all transportation projects under their oversight, funded with state or federal funds. The policy mirrors USDOT Complete Streets Policy:

> "The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes."[21]

State transportation projects in planning, concept development, or preliminary engineering phase are expected to comply with the policy. Projects advanced to final design or approval of right-of-way plan must also comply with the policy.

SCDOT adopted a Complete Streets Policy in 2003. SCDOT is strongly committed to improving conditions for walking and bicycling. Planning for Complete Streets will be a routine part of planning, design, construction and operating activities. Local municipalities must make such improvements an integral part of their programs when state and federal funds are used.

3.15.2 Local Policies

Counties in the ARTS planning area are encouraged to draft, adopt and update their ordinances to include Complete Streets policies and design guidelines. Sidewalk ordinances in Aiken, SC, Columbia and Richmond Counties in Georgia, are ways of ensuring Complete Streets policy is implemented. In Aiken County, SC, sidewalks are required along one side of the road for all subdivisions with fifty (50) lots or more or by planning commission recommendation. In Columbia County, GA, sidewalks are an important consideration of landscaping and design while in Richmond County they are required along all arterials and collector streets. These ordinances are stated in their local zoning and subdivision regulations as follows:

[21] http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/policy_accom.cfm

Aiken County – Article VII – Land Development Regulations, Sec. 24-7.15 – Sidewalks

Sidewalks shall be required on one (1) side of each street in all subdivisions with 50 lots or more with an average lot size of one-half (½) acre or less. Sidewalks also may be required by the planning commission to continue an existing sidewalk in an adjacent subdivision or along an existing street to access nearby schools and/or public recreation areas. Within subdivisions, sidewalks shall be at least four (4) feet wide; when providing access to public facilities, sidewalks shall be not less than five (5) feet wide.

Richmond County - Subdivision Regulations: Article IV; Design Standards, Sec. 404 Sidewalks

Sidewalks must be provided on any existing arterial or collector street that is part of any subdivision plan that is adjacent to an existing street classified as an arterial or collector in the Highway Functional Classification System within the Augusta-Richmond County Urbanized Area as defined by the Augusta Regional Transportation Study. Where installed, sidewalks shall meet the construction standards of the Traffic Engineer.

Columbia County - Chapter 90 – Zoning: Sec. 90-140. Landscaping - Design standards.

(1) Landscape strips required in this section shall meet the following requirements:
a. Landscape strips shall contain no structures, parking areas, patios, storm water detention facilities, or any other accessory uses, except for retaining walls or earthen berms constructed as part of an overall landscape design, pedestrian-oriented facilities such as sidewalks and bus stops, underground utilities, driveways required to access the property and signs otherwise permitted by this chapter.

City of North Augusta – Article 14.4, Table 14-2, 3, and 4 – Street Types and Design

Sidewalks – Refers to the number of sidewalks required. Sidewalks for boulevards, avenues and collector streets shall have a minimum width of six (6) feet and a maximum width of twenty (20) feet. Sidewalks for all other classifications shall have a minimum width of five (5) feet. Sidewalks shall include additional width where required by the Americans with Disabilities Act. See §14.10 for sidewalk design requirements. For main streets, grated tree wells may be used in lieu of planting strips. For parkways, the sidewalks shall take the form of multi-use Greenways that may meander at a distance of between six (6) to fifty (50) feet from the paved section of the roadway. A minimum six (6) foot paved shoulder shall be included on any street with a design speed of forty-five (45) miles per hour or greater where curb and gutter and sidewalk are not provided.

North Augusta's zoning ordinance requires sidewalks on both side of every street from local through collector and one side for all arterial streets. Their pedestrian walkway design criteria and bikeway design criteria consist of detailed tables that are inclusive of all roadway classifications. Local Planning and Development Departments in each county administer these ordinances through a development review process.

4 Environmentally Sensitive Areas

The four-county region has an abundance of significant natural resources. The physical geography, climate, landscape, and availability of natural resources have played a major role in the development of the ARTS. The many cultural and historical structures and sites have created a distinctive character for the area, a kind of traditional southern charm.

Figures 38 and 39 illustrate the Environmentally Sensitive Areas in the ARTS. The maps are current as of May 2015. Environmentally sensitive areas consist largely of waterways and associated wetlands. Since the study area is highly dependent on these areas, public policy should be directed to preserve and maintain them in their natural state.

The majority of historical areas are located around the urban centers in Richmond and Aiken Counties. Transportation Vision 2040 LRTP recognizes the preservation of natural resources, environmentally sensitive lands and historical sites are essential for maintaining the region attraction as a place to live, work and recreate.

Environmentally Sensitive areas are designated as either:

- Floodplain.
- Wetlands.
- Endangered Species/Wildlife.
- Brownfields.
- Watershed.

Methodology

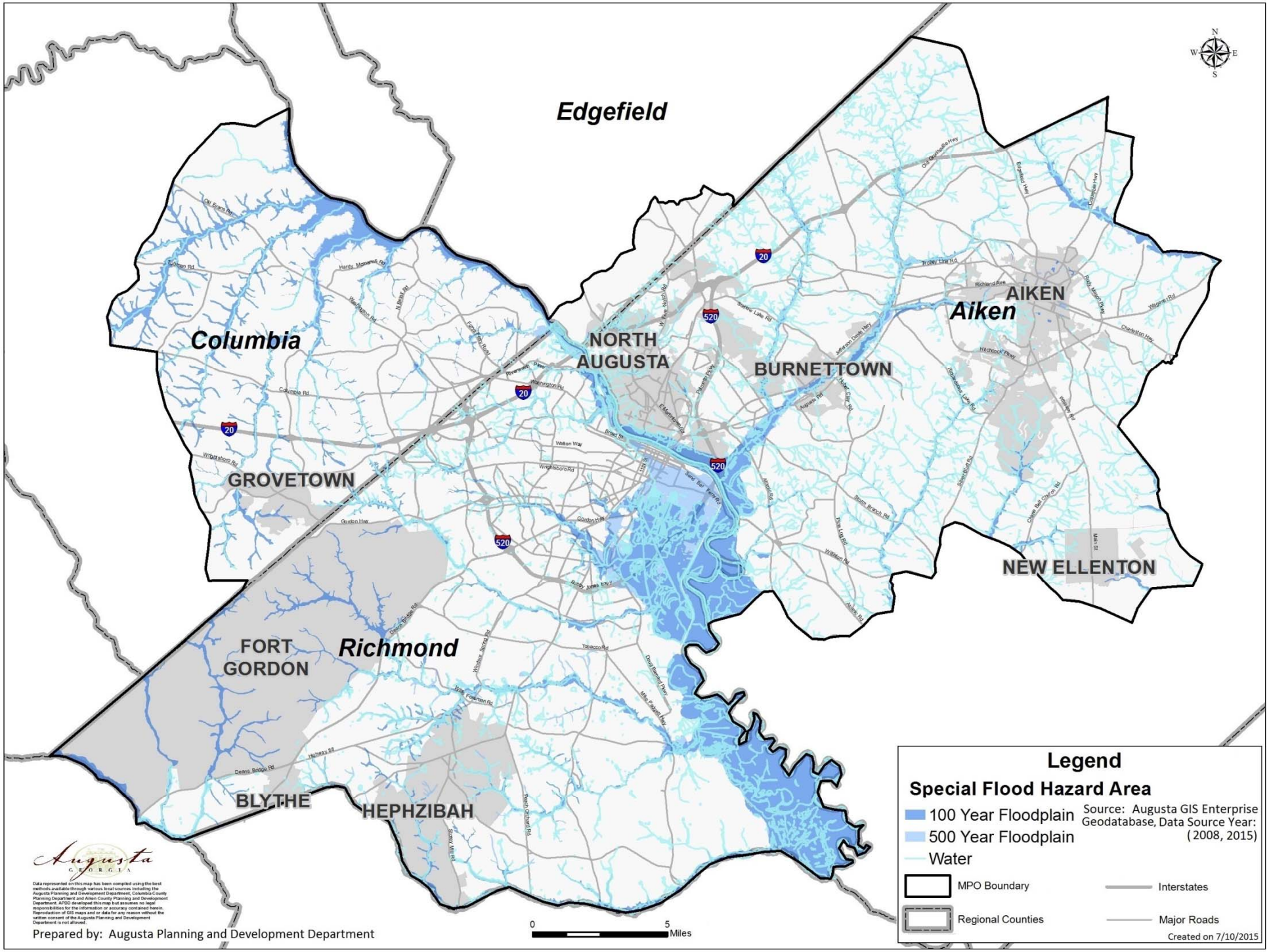
ARTS environmental analysis was conducted through the consultation of various resources. GIS data was collected from local, regional, state and federal agencies. These agencies include:

- Environmental Protection Agency (EPA)
- Columbia County Planning and Development Department
- Aiken County Planning and Development Department
- GDOT and SCDOT
- LSCOG and CSRA-RC
- U.S. Fish and Wildlife Services
- Georgia Department of Natural Resources
- South Carolina Department of Health and Environmental Control
- Federal Emergency Management Agency
- South Carolina Department of Natural Resources

4.1 Floodplain

Floodplain is an area subject to flooding. It is established by the Federal Emergency Management Agency (FEMA) through their National Flood Insurance Program (NFIP). Their Flood Insurance Rate Map (FIRM) delineates the 100-year flood areas, including the floodways. Each County maintains the current floodplain maps for their responsible jurisdiction. The overall Floodplain map of ARTS is presented in *Figure 38* depicting the 100-year and 500-year flood areas. These areas have a 1% - or 0.2% for 500-year – chance of flooding. FEMA provides flood insurance through NFIP for people who own property within the Floodplain.

Figure 38: *Environmentally Sensitive Areas Floodplain*



4.2 Wetlands

Wetlands are defined by the United States Environmental Protection Agency as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas." While many wetlands have direct connection to water, some wetlands do not, but they do have critical connection to groundwater.

4.3 Endangered Species/Wildlife

Endangered Species/Wildlife is mapped by state and federal agencies including U.S. Fish and Wildlife Services, National Georgia Department of Natural Resources. The U.S. Fish and Wildlife Services is the principal federal partner responsible for administering the Endangered Species Act by protecting endangered and threatened species, pursuing their recovery and conserving candidate species and species-at-risk so they are not listed under the Endangered Species Act. ARTS is part of Region 3 according to Georgia Department of Natural Resources; and Wildlife Management Area 3 according to South Carolina Department of Natural Resources.

4.4 Brownfields

Brownfields are defined by the Environmental Protection Agency as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant."[22] Gas stations, landfills, and industrial properties are examples of brownfields. EPA's Brownfields and Land Revitalization Programs help fund projects to bring such sites back to life and make them usable again.

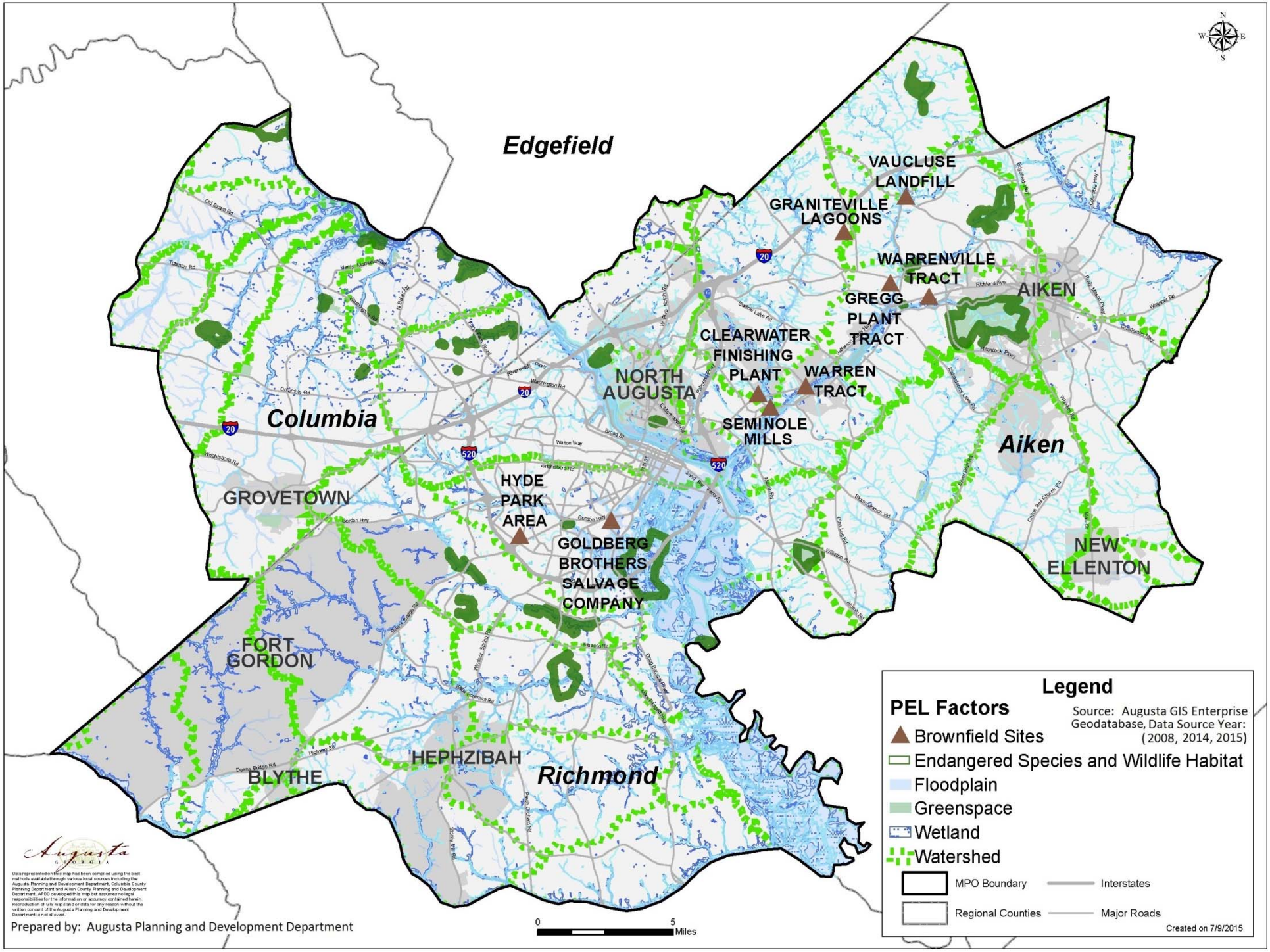
4.5 Watersheds

Watersheds are also defined by the Environmental Protection Agency and are considered an "area of land, a bounded hydrological system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community." Areas that drain into streams, lakes, estuaries, and aquifers are examples of watersheds.

[22] http://www.epa.gov/brownfields/overview/glossary.htm

The ARTS lies within the central Savannah River Basin. Many of the environmentally sensitive areas *(Figure 39)* within this region are wetlands associated with the vast network of rivers and streams. The most highly concentrated environmentally sensitive area is along the Savannah River, western Columbia County, southeast of downtown Augusta, GA and in southern Richmond County. Further north, environmentally sensitive areas continue and extend along Horse Creek and Sand River of Aiken County SC. Horse Creek represents a series of creeks that extend from the Savannah River. Butler Creek, Little Horse Creek, and Sandy Run Creek are other notable areas where measurable wetlands exist.

Figure 39: *Environmentally Sensitive Areas*



4.6 Historical Districts and Cultural Heritage in the ARTS planning Area

Both the natural and historical environments are susceptible to damage by human and natural causes. While it is difficult to predict and at times impossible to stop loss by natural causes, damage by humans can be minimized or eliminated through enforcement of applicable regulations and laws. There are several important laws and regulations in place that address the preservation of historic and natural sites in the study area. These applicable laws aim to preserve the balance between natural, historic and cultural resources and the need for development and sustainable elements of the past that continue to preserve the cultural heritage of the region. Current regulations and/or laws in force include the following:

Federal Laws/Regulations:

- National Historic Preservation Act (NHPA).
- Section 4(f) of the U.S. Department of Transportation Act.
- National Environmental Policy Act of 1969 (NEPA).
- Archaeological Resources Protection Act of 1979 (ARPA).
- Native American Graves Protection and Repatriation Act of 1990 (NAGPRA).

State Laws/Regulations:

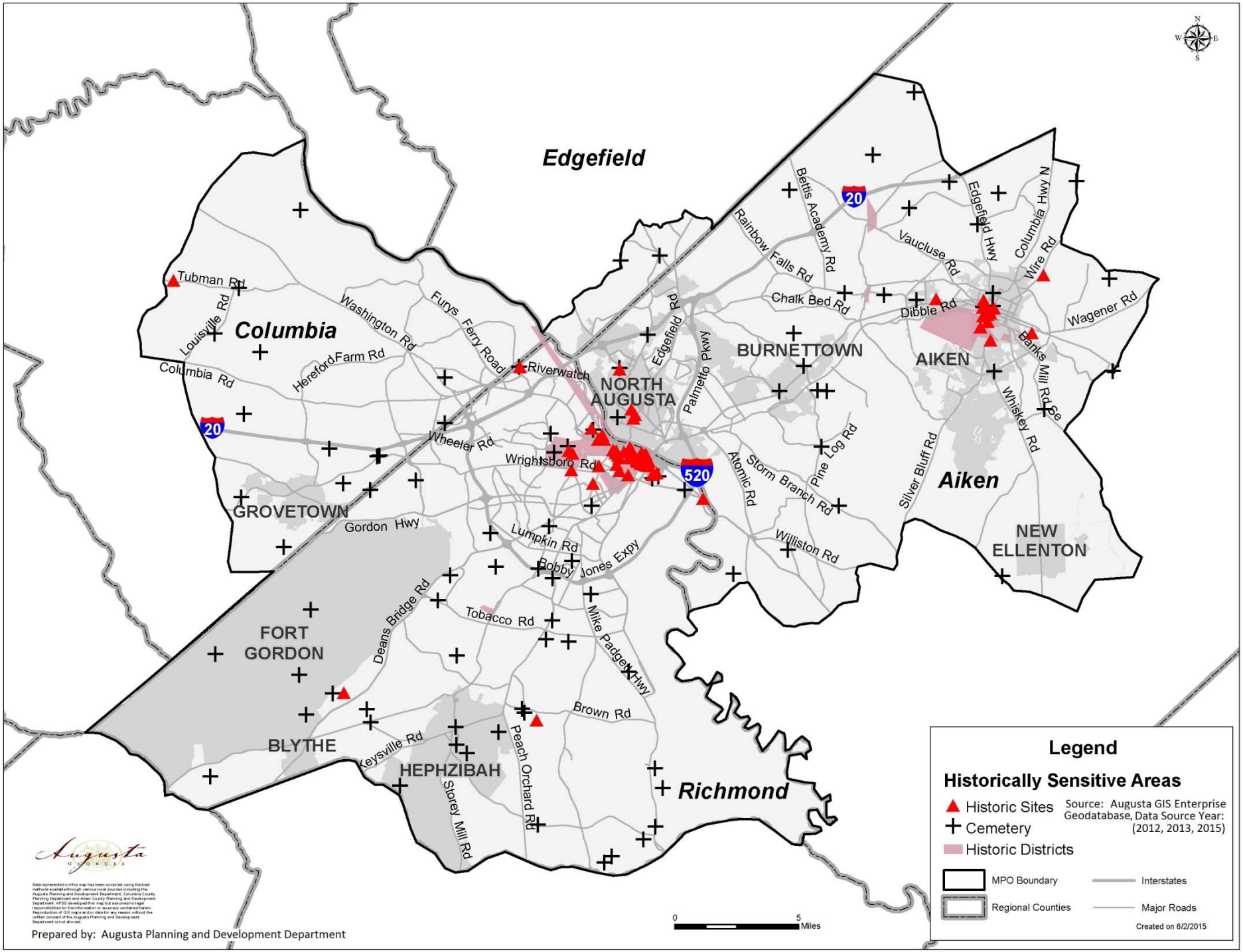
- National Pollutant Discharge Elimination System (NPDES)

Local Laws/Regulations:

- Local historic preservation ordinances

Historical areas in the ARTS are shown in *Figure 40*. Many historical and cultural sites in the study area are primarily found in an around the urban cores of Aiken, SC, Augusta, GA, and in several outlying areas. Downtown Augusta and historic districts like Olde Town and Summerville have the highest concentration of historic sites as depicted in *Figure 40*.

Figure 40: *Historically Sensitive Areas Downtown Augusta*



Over a dozen sites are listed in the National Register of Historic Places including: Augusta Canal Industrial District; Pinched Gut Historic District (otherwise known as Olde Town); Broad Street Historic District; Summerville Historic District; Green Street Historic Street; Laney-Walker North Historic District; Harrisburg-West End Historic District; Sand Hills Historic District (also known as Elizabethtown); Bethlehem Historic District; Augusta Downtown Historic District; and Paine College Historic District. In addition to National Historic designation, Downtown, Olde Town, and Summerville also have Local Historic District designation with individually prepared Design Guidelines Manual. These are:

Historic Downtown Augusta (*Figure 41*), the oldest part of the city was founded and first developed in 1735 by James Oglethorpe. He was the original founder of Augusta and his initial grid for the city continues to remain in existence in Downtown Augusta. The district displays typical characteristics of a traditional central business district, including a wide range of land uses high level of access for vehicles, pedestrian and public transit, a variety of architectural styles, medium to high-density residential development, commercial buildings with no front or side setbacks, and major public and cultural institutions stretched for an entire city block.

Olde Town (or Pinched Gut) is one of the oldest and the largest, most intact downtown residential neighborhood in the city. The primarily residential neighborhood with examples of 19th century architectural styles also includes two substantial cemeteries, Magnolia Cemetery and Cedar Grove Cemetery.

Summerville is commonly known as Augusta's hilltop neighborhood, contains a large inventory of historic residential structures built in the 18th and early 19th century. The primarily residential neighborhood boasts a variety of architectural period styles and landscape features. Other significant sites within the neighborhood include, the Partridge Inn, Bon Air Apartments, Summerville Cemetery, and Georgia Regents University, Summerville Campus.

The second highest concentration of historic districts and places in the study area can be found in Aiken County (*Figure 42*), particularly in the City of Aiken, SC.

Looking at the Aiken County region as a whole, numerous historical sites can be found. These are predominately cemeteries scattered throughout the area and generally located near major roadways. Fourteen (14) historic properties can be found in Aiken including the Best Friends Express Station located on Morgan Street. Five historic districts also exist in Aiken County and they include Georgia Avenue, Butler Avenue, Graniteville, Aiken Winter Colony, Aiken Mile Track

and Aiken Training Tack. Within the Aiken Winter Colony is home of one of the largest urban forests in the nation, the 2,100 acre Hitchcock Woods.

Columbia County also contains some locally historic properties. These properties are not listed on either the state or federal historic registry but are an integral part of the county's historic fabric. Grovetown historic sites include the Bohler House and McGruder Plantation. Hoggie Rock, Walton Cemetery, Peter Crawford Cemetery, and Abilene Baptist Church are the locally historic sites within the ARTS boundary. These sites are illustrated in *Figure 43.*

Figure 41: *Historically Sensitive Areas Augusta*

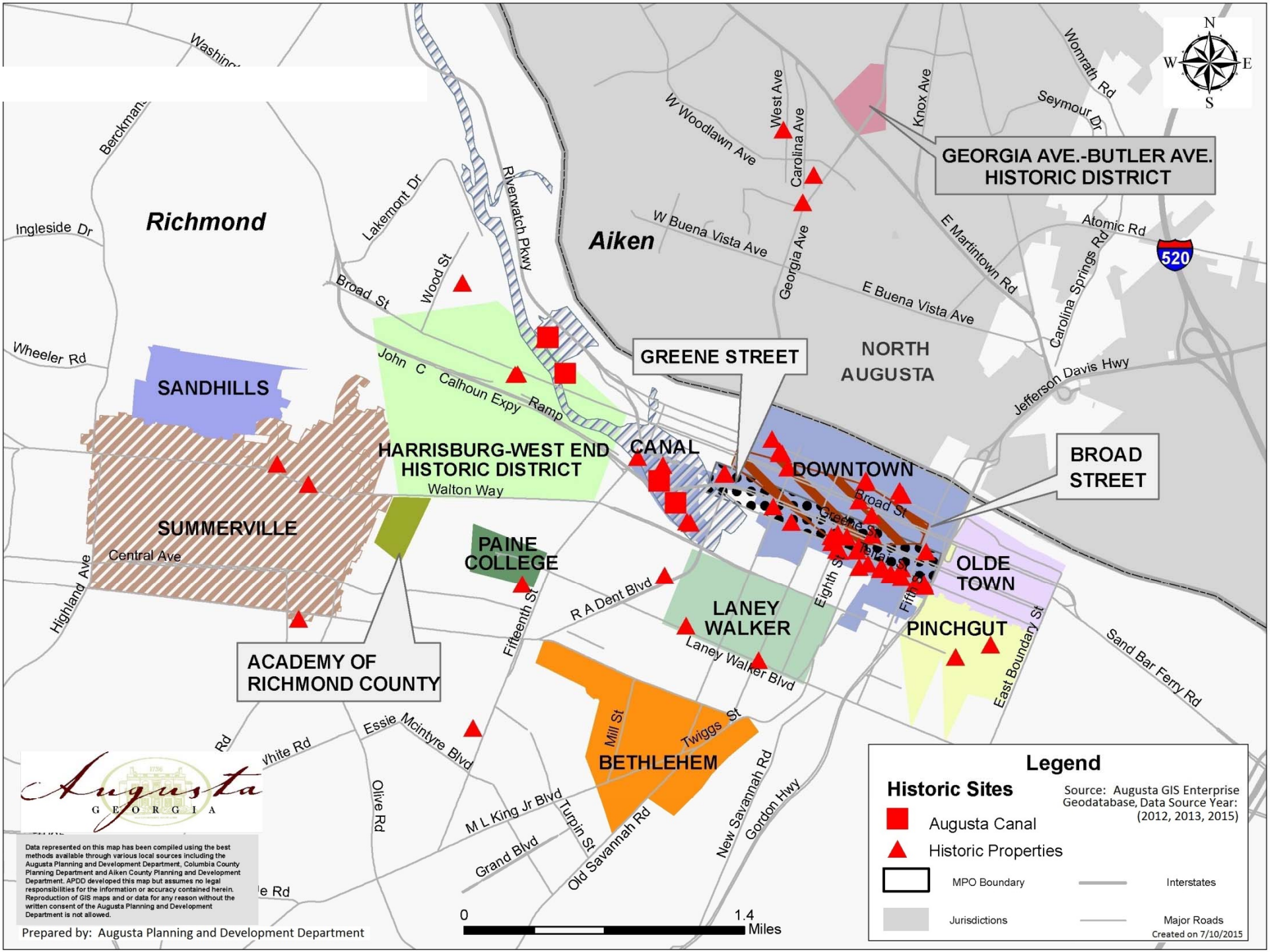


Figure 42: *Historically Sensitive Areas Aiken County*

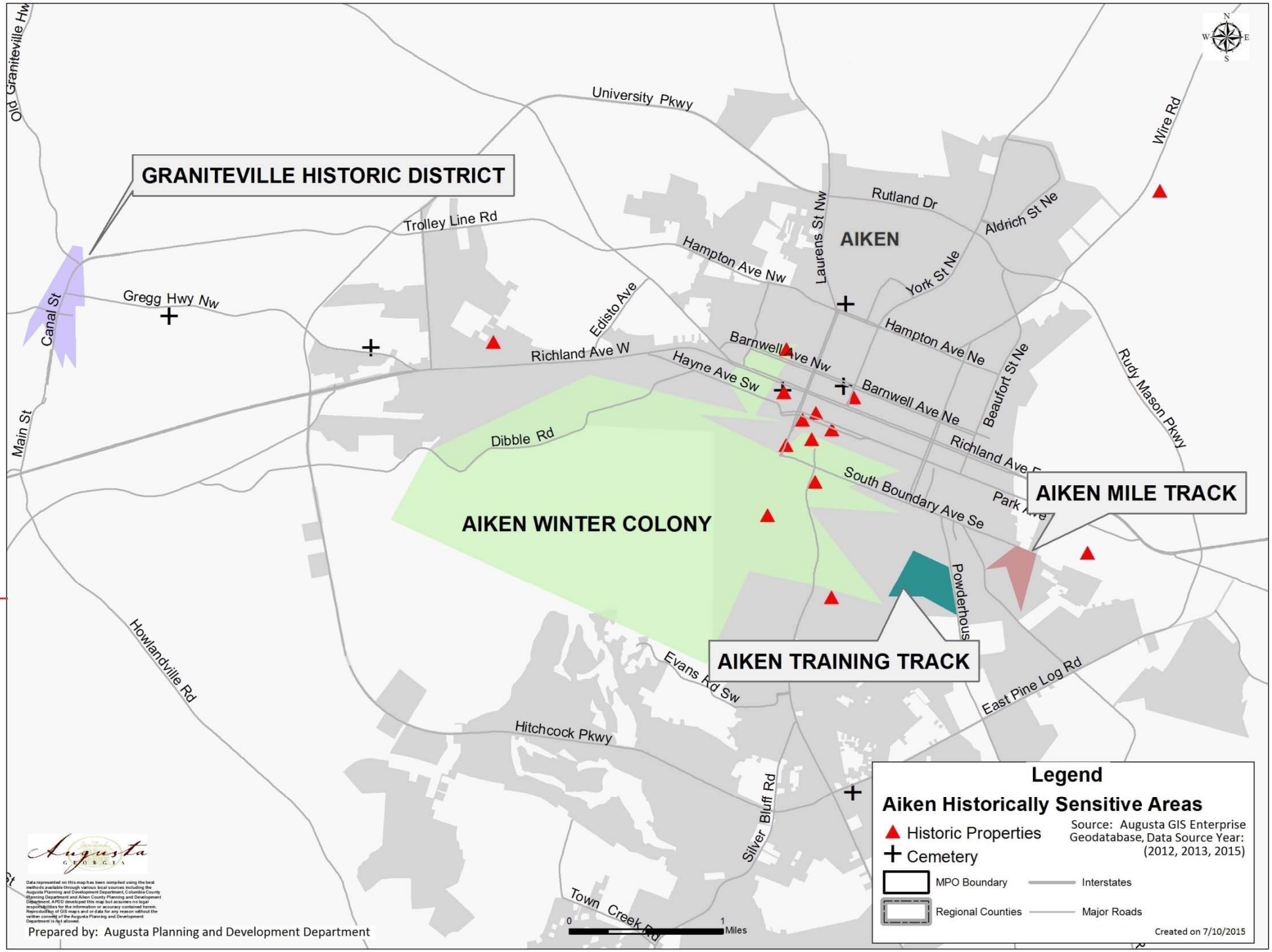
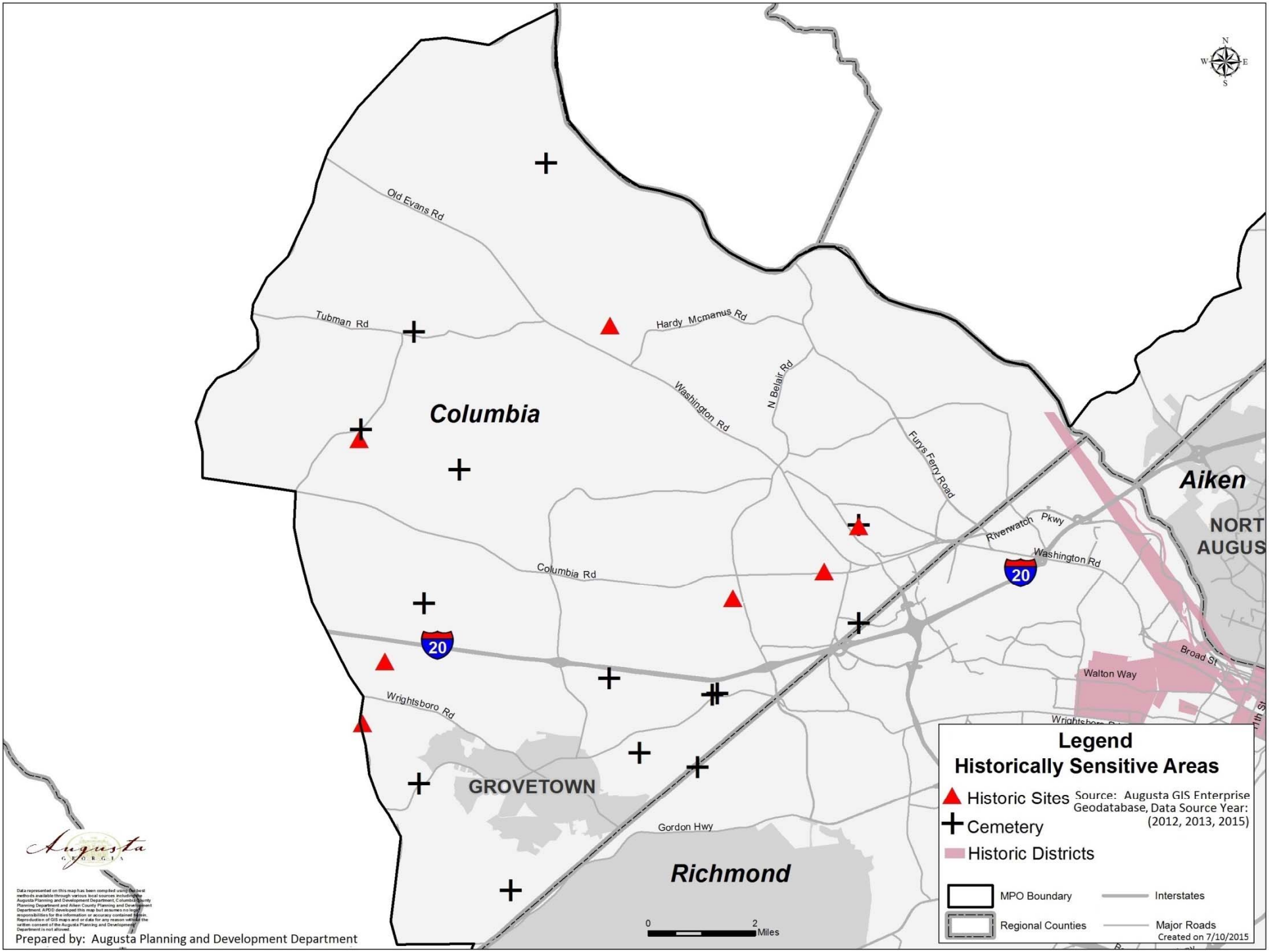


Figure 43: *Historically Sensitive Areas Columbia County*



5 Public Participation

5.1 ARTS Public Participation Plan

The necessity of public participation in the transportation planning process as mandated by federal legislation has guided the ARTS as the regional MPO in the development of the ARTS PPP. The goal of the ARTS PPP is timely and meaningful input into the transportation planning process. This purpose is achieved through five (5) key components of ARTS PPP, namely: 1) consultation; 2) public access; 3) public outreach and education; 4) public input; and 5) evaluation. Each of these components and a selection of public involvement strategies used during the Transportation Vision 2040 LRTP update are described below.

Consultation: To ensure that major regional transportation documents, including the PPP, are developed in consultation with the general public, and other interested parties. This also involves efforts to identify and include stakeholders in the transportation planning process (See *Appendix C*).

Strategies used to achieve this objective were:

- Apply GIS data spatial analysis to identify underserved population groups;
- Develop and maintain a stakeholder directory;
- Consult with stakeholder groups to determine the preferred communication methods to maximize ARTS reach;
    - ✓ Transit Citizens Advisory Committee
    - ✓ Neighborhood Associations
    - ✓ Lower Savannah Council of Governments (LSCOG)
    - ✓ Central Savannah River Area Regional Commission (CSRA RC)
    - ✓ Aiken County
    - ✓ Columbia County
    - ✓ ARTS MPO Committees
        - o Technical Coordinating Committee
        - o Citizen Advisory Committee
        - o South Carolina Policy Subcommittee
        - o Policy Committee
- Consult with stakeholder groups to determine other groups that may be invited to participate in the public participation process and/or identify hot topics that may be raised during this process.

Public Access: To ensure that the general public and other interested parties have timely and convenient access to agendas, meetings, documents and other information related to the regional transportation planning process.

Strategies used to achieve this objective were:

- Community meetings held at community centers, churches and venues centrally located in a public place with diverse population;
- Community meeting public notice materials made available in English and Spanish;
- Community meeting venues ADA accessible;
- Community meetings held on Saturdays;
- All community meeting documents and presentations are available via regular mail or email; and
- Assistance at 48-hour notice provided to persons requiring special assistance to attend meetings.

Public Notice: To publish formal notices of public meetings through local newspapers, flyers, posters, and signs, so the public is encouraged to participate in the regional transportation planning process.

Strategies used to achieve this objective were:

- Updating of ARTS official webpage, making it easier to remember and record;
- Linking ARTS social media webpages to ARTS official webpage;
- Ensure that adequate transportation options are available to and from venue locations to constituents who would like to attend a meeting; and
- Links to Metropolitan Planning Organization partners – Columbia County, Aiken County, LSCOG, and CSRA RC.

Public Outreach and Education: To use effective tools and techniques to provide information about regional transportation plans and issues to the general public and other stakeholders.

Strategies used to achieve this objective were:

- Utilize two color or full color public announcements. Color captures the reader's attention and has the potential of increasing the readership of the advert or announcement.
- Actively pursue speaking engagements at various venues and meetings (e.g., Speakers Bureaus).

- Develop active partnerships with ARTS planning area leaders including ARTS Policy Committee members, South Carolina Policy Subcommittee members, and City of Augusta Commissioners.
- Hosting meetings at smaller, more localized venues, e.g., churches, neighborhood association meetings, etc.
- Television and Radio engagements. It is proposed that local television and radio engagements will be pursued significantly increasing public awareness about ARTS purpose and initiatives.
- Hosting standalone social media (distinct from the City of Augusta) webpages, such as Facebook and Twitter.

Public Input: To obtain meaningful and diverse input from the general public and other interested parties on regional transportation needs, plans, programs, services, and activities.

Strategies used to achieve this objective were:

- Identify stakeholders. Stakeholders will be sought from: Neighborhood & Homeowners Associations; Civic Associations; Special interest groups,
- Recommend new members to ad hoc or advisory committees. The identification of stakeholders may create a pool of individuals who may be recommended by ARTS or volunteer to participate on advisory committees.

Evaluation: To continually evaluate the effectiveness of the strategies, tools and techniques used as part of the Participation Plan.

Strategies used to achieve this objective were:

- Meeting evaluation forms. Evaluation forms are given to all persons who attend meetings hosted by ARTS.
- Online Surveys will be used to evaluate ARTS constituents' views and perspectives on regional transportation issues. Online surveys have the potential to reach a significantly wider audience in the ARTS planning area that would not physically attend meetings.
- Wireless polling. Wireless polling at community meetings offers the ability to conduct on-the-spot surveys and the ability for an audience to immediately view the results of their participation.

Fostering and sustaining two-way communication in the transportation planning process was significantly enhanced in February 2015 by the use of social media and updating the ARTS

webpage address. Before this time, ARTS online presence was nested deep within the City of Augusta's web portal that limited effective online communication. Extraneous factors overwhelmed the message that ARTS sought to communicate online and frustrated the submission of input from the public.

In an era of mobile communications, social media and instant messaging, ARTS has a greater potential of meeting its public involvement goals by accommodating these accepted methods of communication and information sharing specifically reaching people where they are. Best practice necessitated that ARTS strengthen timely communication, citizen engagement, customer service and public information and outreach; all of which are possible through an enhanced website or social media platform.

5.2 Public Outreach Best Practices

Best practices in public outreach seek to apply those methods that are accepted as being the most effective in generating and sustaining public input throughout the transportation planning process. However, the application of established best practices during the Transportation Vision 2040 public outreach process was flexible, leaving room for adjustment that would provide the greatest benefit to the community served. Recent developments in public outreach have seen extensive use of technology and social media. Webpages, Facebook and Twitter have become the de facto standard of any public outreach campaign. Public outreach applications and Best Practices as utilized in the Transportation Vision 2040 public outreach process are presented in *Table 31.*

The application of technology and visual aids (widely accepted Best Practices in public outreach) has great potential to increase the level of public involvement during a community meeting. In January 2015, ARTS invested in an Audience Response System or wireless polling devices. This system allows voting using a wireless hand held device (or smart phone) the results of which are immediately displayed on a monitor or screen. The instant presentation of results and the ability to vote anonymously versus indicating by the raising of a hand; has the potential to increase public participation on all planning issues including sensitive ones. The public will appreciate and immediately see evidence of their unique and valued input into the transportation planning process. Wireless polling is a tool that will achieve this in ways that paper surveys cannot. It gives the public real time results of their input.

5.3 Development of Stakeholder List

Through its many interactions with federal, state and local agencies, ARTS developed an extensive stakeholder list. Members of ARTS committees in their interactions with their own constituents have also augmented the list of ARTS stakeholders. Attendees at Speakers Bureaus, breakfast meetings and community meetings held during February through May 2015, and online visitors to the ARTS Facebook and Twitter websites took the opportunity to join the stakeholder list.

ARTS communicate with its stakeholders primarily via email. However, those stakeholders who do not have internet access receive information by mail or over the phone. ARTS currently communicate via email to more than 700 institutional or individual recipients. Some of these recipients, such as chambers of commerce or local government partners, forward ARTS communication to their contacts or post online. This additional push significantly expands the reach of ARTS information to several thousand recipients in the ARTS planning area.

Table 31: *Public Outreach Best Practices*

Method	Best Practice	Applied
Identify Demographics	Decennial Census	Yes
	American Community Survey	Yes
	Environmental Justice Populations	Yes
	GIS Techniques	Yes
Media	Press Kits/Press Releases	Yes
	Print Media (full color notices)	Yes
	Radio & TV	Yes
	Social Media, e.g., Facebook, Twitter	Yes
	Standalone Website	No
	Speakers Bureau	Yes
	Spanish Availability of Notices	Yes
	Email circulation lists	Yes
	Partner with local government agencies	Yes
Public Meetings	Workshop/Community Forums	Yes
	Focus Groups	No
	Small Group Meetings	Yes
	Varied Start Times	Yes
	Neighborhood Locations	Yes
	Transit Accessible Locations	Yes
	Weekend Meetings	Yes
	Venues ADA Accessible	Yes
	Printed Materials & Maps Available	Yes
	Diversified audience by age, race, socio economic status	Yes
Innovative Meeting Format	Open House format	Yes
	Ample time for questions & answers	Yes
	Surveys & Questionnaires	Yes
	Wireless Polling	Yes
	Printed Materials & Maps	Yes
	Technology	Yes
	Visualization	Yes
	Sign in sheets and comment cards	Yes
Evaluation	Surveys & Questionnaires	Yes
	Online Surveys & Questionnaires	Yes

Source: ARTS

5.4 Environmental Justice

Environmental Justice (EJ) is by the U.S. Environmental Protection Agency Office of Environmental Justice "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies." EJ is ensured through public outreach. All citizens are aware of, have access to, and are encouraged to participate in the transportation planning process.

In order to ensure all residents (e.g., minority, low income, etc.,) in the ARTS planning area had equal opportunity to hear, attend and participate in the Transportation Vision 2040 community meetings, the needs of EJ populations were considered in the locating of the venues.

Another consideration for venue location was the proximity to a public transit bus stop. More than 50% of the Transportation Vision 2040 community meeting venues were located within quarter (¼) mile of a transit bus stop. However, bus scheduling had an impact as to how many persons relying on public transit were able to attend the meetings.

The Oak Pointe Community Center located in a residential neighborhood of the Augusta Housing Authority is an example of a community meeting venues located in close proximity to a transit stop (Augusta Public Transit bus route #3). The Oak Pointe Community Center is situated in a census tract that meets or exceeds multiple EJ thresholds, e.g., minority (95%), low-income households (56%), and no vehicle households (24%). This location directly targeted the underserved and hard-to-reach population.

This was also the case at the Smith Hazel Recreation Center in Aiken SC: minority (82%), elderly (19%), low-income (50%), and no vehicle households (22%). All community meeting venues selected were based on locations that met at least one EJ demographics. *Table 32* illustrates the EJ demographics of the Transportation Vision 2040 community meetings.

Table 32: *Transportation Vision 2040 Community Meeting Venues and Environmental Justice*

#	Venue	Census Tract #	% Minority	% Elderly	% Low Income HH	% Zero Car HH	LEP	Transit within 0.25 mile
1	Hephzibah City Hall	109.03	33	11	28	3	2	No
2	Liberty Community Center	305.06	39	7	25	2	6	No
3	Sand Hills Community Center	1	38	24	37	17	0	Yes
4	Carrie J. Mays Family Life Center	104	85	15	67	24	0	Yes
5	First Baptist Church of Evans	302.01	22	20	13	9	0	No
6	North Augusta Community Center	208.02	28	15	18	3	2	Yes
7	Warren Road Community Center	101.05	25	19	16	1	0	No
8	Odell Weeks Activity Center	215	26	17	28	11	0	Yes
9	Smith Hazel Recreation Center	214	82	19	50	22	1	Yes
10	Diamond Lakes Community Center	107.12	91	6	9%	1	0	No
11	Oak Pointe Community Center	106	95	16	56	24	0	Yes

Source: ARTS

Environmental Justice Thresholds: Minority 42% (i.e., 42% of ARTS population are minority); Elderly 12%; Low Income HH 27% (i.e., 150% HHS Poverty Guidelines); Zero Car HH 7% and Limited English Proficiency (LEP) 1.25%. Source: Decennial Census 2010 & American Community Survey 2008-2012.

5.4.1 Identification and Involvement of Underserved Groups

Through the ARTS public involvement methods, Speakers Bureaus and community meetings; many civic and neighborhood associations became aware of the transportation planning process. Identifying locations for community meetings and other ARTS outreach initiatives incorporated Environmental Justice (EJ) considerations, such as minority population groups, proportion of households with no vehicle, etc., in the venue selection process. ARTS enabled additional involvement of underserved population groups in the transportation planning process through advertising in media serving these groups, such as the Metro Courier.

5.5 Public Engagement and Media Outreach Tools

Informing the public to gather their input into the Transportation Vision 2040 LRTP update was pivotal to the success of the scheduled community meetings. Public and media outreach tools are presented in this section.

5.5.1 Traditional and Non-Traditional Public and Media Outreach Tools

Media outreach during the Transportation Vision 2040 LRTP update engaged traditional and non-traditional methods to increase public awareness. The launch of the public awareness campaign began with the publication of a press release in February and July 2015, distributed to the major media houses in the ARTS planning area. The press release marked the official launch of the Transportation Vision 2040 community outreach campaign.

All media outlets in the ARTS planning area were contacted and informed of the Community Meetings. *Table 33* lists all the media outlets that received the press release.

Table 33: *Media Outlets Receiving Press Release*

Radio	Television	Newspaper
Clear Channel	NBC (Local)	Aiken Standard
Radio-One	ABC (Local)	Augusta Chronicle
WFAM	CBS (Local)	Fort Gordon Signal
WAFJ	Comcast	Metro Courier
WGAC	WFXG	Metro Spirit
WIIZ		North Augusta Star

Source: ARTS

Formal "Community Meeting Notices" (in English, Spanish, Korean and Chinese) were issued to local newspapers. *Table 34* lists the local newspapers that advertised the Community Meeting notices.

Table 34: *Local Newspapers Advertising Community Meeting Notices*

News Paper	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Aiken Standard	Thurs. 2/26/15	Sun. 3/8/15	Sun. 3/15/15	Sun. 3/22/15		Thurs. 7/16/15	Sun. 7/19/15, Wed. 7/22/15, Thurs. 7/23/15	Mon. 7/27/2015, Tues. 7/28/15, Thurs. 7/30/15
Augusta Chronicle	Fri. 2/27/17	Sun. 3/8/15	Sun., 3/15/15	Sun. 3/22/15		Fri. 7/17/2015	Sun. 7/19/2015Wed. 7/22/2015	Mon. 7/27/2015
Fort Gordon Signal		Thurs. 3/5/15	Thurs. 3/12/15	Thurs.3/19/15		Thurs. 7/16/15	Thurs. 7/23/2015	Thurs. 7/30/15
Metro Courier		Wed. 3/4/15	Wed. 3/11/15	Wed., 3/18/15	Wed. 3/25/15	Wed. 7/15/15	Wed. 7/22/15	Wed. 7/29/15
Metro Spirit	Thurs. 2/26/15	Thurs 3/5/15	Thurs. 3/12/15	Wed. 3/18/15	Thurs. 3/26/15			Mon. 7/27/2015
North Augusta Star		Wed. 3/4/15	Wed. 3/11/15	Wed. 3/18/15	Wed. 3/25/15		Wed. 7/22/15, Fri. 7/24/15	Wed. 7/29/15

Source: ARTS

Subsequent to the press release, a partnership was formed between APDD and Augusta Fire Department's Public Information Officer, Dee Griffin. Dee Griffin's experience as a news reporter in Memphis TN, provided valuable input into the success of the public awareness campaign that secured a locally televised interview on Local News Channel 6 on Sunday March 1, 2015 at 7.35 A.M. *Figure 44* is a screen capture of the interview. During the interview, ARTS staff was able to introduce ARTS and explicate what it does, as well as share the main objectives of the upcoming community meetings.

A local news reporter (TV 12 WRDW) attended the first community meeting in Hephzibah City Hall and broadcasted the event on the evening news. At one community meeting, an ARTS Staff person was interviewed by Fox 54 as part of their One Hour Earlier news broadcast (*Figure 45*). Members of the audience were also interviewed for a very brief informational message to the public about the Community Meetings (*Figure 46)*. The public was encouraged to attend these meetings and provide their input on how they viewed the transportation system in the region, and not just in their immediate neighborhoods. News articles and interviews with the public were conducted throughout the ARTS area in March 2015. The Augusta Chronicle posted articles of

the Community Meetings that occurred in Aiken, Columbia, and Richmond Counties. In these articles, members of the public expressed their concerns about the regional transportation network and were happy to provide feedback on the LRTP.

Figure 44: *ARTS Staff Person in Interview at a Local News Station*

1 On 1: Community Meetings on Traffic and Growth

Posted: Mar 01, 2015 10:20 AM EST
Updated: Apr 12, 2015 10:20 AM EDT

By Deon Guillory, WJBF GMA Weekend Anchor/Reporter CONNECT

Augusta, GA - The Augusta Planning and Development Department is holding a series of community meetings in March.

The meetings are designed for neighbors and business owners to voice concerns about traffic, growth, public transit, bike and walking paths.

Figure 45: *ARTS Staff Person Interviewed on Local News Station Fox54*

Figure 46: *Member of Public Interviewed by Local New Reporter at a Community Meeting*

Other outreach initiatives in the Transportation Vision 2040 LRTP update included the use of flyers in English and Spanish, enhanced the ARTS website, and the use of social media (e.g., Facebook and Twitter) to encourage people to attend the community meetings and keep them informed in real time. Yard signs and bill drops were also used.

The bill drop (in English, Spanish, Korean and Chinese) shown in *Figure 47* was attached to the water utility bill issued by Richmond County. Bill drops were dispatched over 8 cycles during the March and July 2015 reaching a potential 91,000 customers.

Yard signs (*Figures 48*) were designed for each community meeting and placed at strategic locations in and around community meeting venues informing local residents of the upcoming meetings.

Figure 47: *Community Meeting Bill Drop*

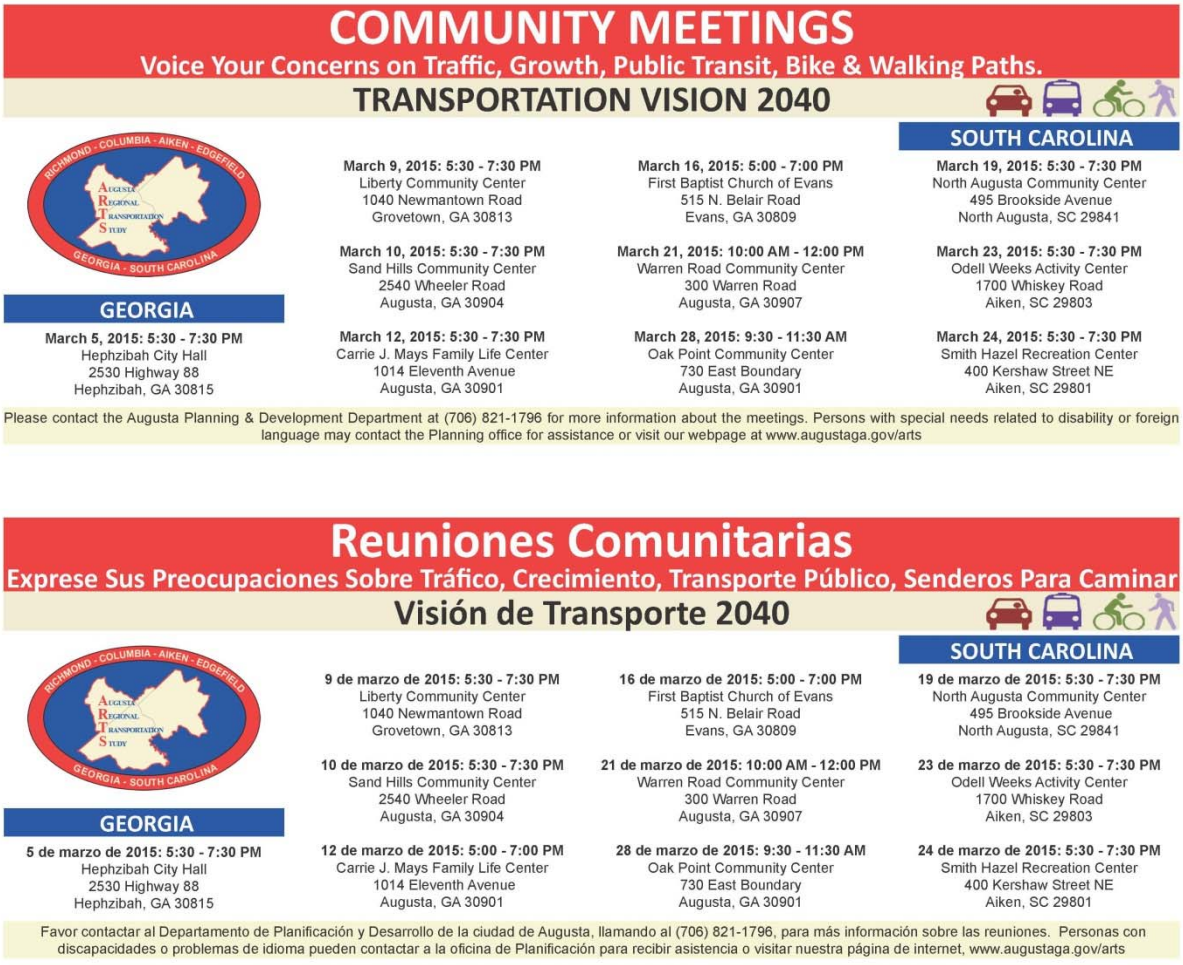


Figure 48: *Detailed View of Yard Sign*

Location: Carrie J. Mayes Family Life Center
Contributed by: ARTS Staff

Reporters from local news agencies such as Fox 54, WJBF, WRDW, WAGT, and Augusta Chronicle attended various community meetings, interviewed ARTS staff, and presented these interviews on the nightly news.

The internet and social media played an important role in the Transportation Vision 2040 public outreach campaign, starting with notices of the community meetings appearing on the City of Augusta homepage. The City of Augusta homepage keeps the public informed of government activities, events, and programs providing them with readily available information. Facebook and Twitter were also used as means to get the word out and keep the public informed. This was in addition to posting community meeting notices, on online calendars and the websites of partner agencies including the Augusta-Richmond County and Columbia County Governments. A listing is provided below:

The Community Meetings were also posted online through Local Event Calendars and the Wheel Movement.

- Online Event Calendars:
- Events Calendar of the Augusta Chronicle http://events.augusta.com/
- Events Calendar WRDW http://www.wrdw.com/

- Wheel Movement Facebook page https://www.facebook.com/WheelMovement

ARTS Partner Agencies:

- Augusta-Richmond County Government http://www.augustaga.gov/
- Columbia County Government http://www.columbiacountyga.gov/
- North Augusta http://www.northaugusta.net/home
- Aiken County http://www.aikencountysc.gov/
- ARTS http://www.augustaga.gov/arts

Several other internet or social media highlights include:

- Simplifying the ARTS website address (written in documents, flyers, etc.,) from www.augustaga.gov/680/Transportation-Planning-ARTS to http://www.augustaga.gov/arts
- Launching an ARTS Facebook site www.facebook.com/planningaugusta
- Launching an ARTS Twitter site www.twitter.com/planningaugusta
- Establishing an online Community Travel Behavior Survey https://www.surveymonkey.com/r/TransportationVision2040

During each community meeting, Facebook posts were posted or messages tweeted. Examples of such Facebook posts or Twitter tweets can be seen in the individual community meeting summaries. Facebook posts along with an image taken at the community meeting illustrated an occurrence at the meeting in real time and encouraged online viewers or mobile device users to attend the current meeting taking place or plan to attend an upcoming meeting near their home or work place. Tweets gave succinct messages of real time occurrences at a meeting. Information about the ARTS Facebook page or Twitter account was distributed at all community meetings allowing all meeting participants to like ARTS on Facebook or follow ARTS on Twitter.

5.6 Speakers Bureau

In an effort to spread the news of the Transportation Vision 2040 LRTP update, and get people involved in the transportation planning process, Speakers Bureau sessions were promoted throughout the ARTS planning area. Methodology and outcomes of the Speakers Bureau sessions are presented in this section.

5.6.1 Speakers Bureau Process

Speakers Bureau presentations were promoted to any community, business, faith based, or social service organization within the ARTS planning area. These sessions allowed ARTS staff to speak to public or private organizations about the LRTP update or transportation planning process. Each speaking session, at the host's chosen venue, allowed ARTS staff to explain the purpose and function of ARTS, and identify how the public and organizations can become involved in the transportation planning process. After speaking, ARTS staff would listen to concerns and answer questions from the audience. One advantage of using the Speakers Bureau method of public outreach is engaging an audience which might otherwise not attend the public meetings due to lack of awareness of the MPO or the need for public input into regional transportation planning. During the months of January through August 2015 ARTS staff addressed twelve (12) Speakers Bureau meetings. Details of the Speakers Bureau meetings held are presented in *Table 35.*

Figure 49: *Jamestown Community Center*

Location: Jamestown Community Center
Contributed by: ARTS Staff

The Speakers Bureau meetings were hosted by a diverse group of organizations and took place at venues throughout the ARTS planning area. An estimated 344 people attended the 12 Speakers Bureau sessions. Each Speakers Bureau session consisted of a short presentation (up to 15 minutes) given by an ARTS staff person. Each presentation was followed by a brief question and answer session. At the end of each session, the public was motivated to spread the information gained and encourage others to participate by attending the public meetings scheduled to take place in March 2015 or complete the online community transportation survey. *Figures 50 to 51* depict Speakers Bureau meetings.

Table 35: *Transportation Vision 2040 Speakers Bureau Meetings January - May 2015*

1st Round March				
Organization	**Date**	**Location**	**Presenter**	**#**
Walton Way Signal Improvement Public Meeting	Thursday, Jan 22, 2015, 5:30 - 7:30 pm	Trinity on the Hill Methodist Church, Augusta GA	Paul Decamp and Carletta Singleton	2
Columbia County Exchange Club	Thursday, Jan 29, 2015, 8:00 am	Snelling Center, Augusta GA	Carletta Singleton	8
Augusta Exchange Club	Thursday, Feb 5, 2015, 12:00 pm	First Baptist Church - Walton Way Ext, Augusta GA	Paul Decamp	100
Augusta Canal Authority	Thursday, Feb 12, 2015, 5:00 pm	Enterprise Mill, Augusta GA	Paul Decamp	12
Commissioner Sammy Sias – District Breakfast Meeting	Saturday, Feb 14, 2015, 9:00 - 11:00 am	Jamestown Community Center, Augusta GA	Melanie Wilson and Carletta Singleton	73
Greater Aiken Chamber of Commerce	Thursday, Feb 19, 2015, 7:30 am	Aiken Chambers, Aiken SC	Paul Decamp	25
Augusta Richmond County Neighborhood Alliance	Saturday, Mar 7, 2015, 9:00 - 11:30 a.m.	Ryan's Restaurant, Augusta GA	Melanie Wilson and Carletta Singleton	45
Augusta Chamber of Commerce	Friday, March 13, 2015, 7:30 am	Augusta Chamber, Augusta GA	Paul Decamp	12
Sierra Club	Tuesday, March 17, 2015, 7:30 pm	Unitarian Universalist Church, Augusta, GA	Carletta Singleton	38
Friends of Our Greenway	Wednesday, May 6, 2015, 6:00 – 7:00 pm	North Augusta Activity Center	Paul Decamp and Carletta Singleton	12
Wheel Movement	Monday, May 11, 2015, 6:00 pm – 8:00 pm	Augusta Canal Authority	Paul Decamp	10
2nd Round July - August 2015				
Organization	**Date**	**Location**	**Presenter**	**#**
Augusta Bus Rider Association	Tuesday, August 11, 2015, 1:00 p.m. - 3:00 p.m.	Augusta-Richmond County Library	Carletta Singleton	7
			Total	**344**

Source: ARTS

Figure 50: *Greater Aiken Chamber of Commerce*

Location: Aiken County Chamber of Commerce
Contributed by: ARTS Staff

Figure 51: *Augusta Exchange Club*

Location: First Baptist Church, Augusta, GA.
Contributed by: ARTS Staff

5.7 Community Meeting

ARTS actively conducted a series of 17 community meetings concerning the Transportation Vision 2040 LRTP update from March through August 2015. The planning staff of the APDD, who also serves as the technical staff to ARTS, conducted each community meeting. The community meetings were held at 17 strategically selected locations. The sites were selected because of their proximity and accessibility to all communities that may be affected in the public participation

process, including those that are traditionally hard to reach or underserved, e.g., EJ populations. The objectives of the community meetings were:

- Introduce ARTS, its role and functions to the local community
- Present the status of the Transportation Vision 2040 LRTP.
- Hear what the public identify as transportation issues and needs in their communities.
- Solicit public input on regional transportation needs, projects and strategies in order to help define and evaluate year 2040 LRTP projects.

5.7.1 Community Meeting Notification Methods

Public notification methods for increasing public awareness of the community meetings consisted of the following: Newspaper display ads; announcements at ARTS committee meetings; postings on the ARTS website; email notification delivery methods; social media outlets such as Facebook and Twitter; local media outlets; press release; flyers; and bill drops were included in 91,000 household water bills. In addition, individuals and organizations who had expressed interest about the LRTP update were notified of the community meetings via email marketing.

5.7.2 Community Meeting Venues, Schedule and Number of Attendees

Meetings were open to all interested residents of the local community. Through media announcements, email marketing and word of mouth over one hundred 86 persons attended the series of community meetings as presented in *Table 36* as follows:

Table 36: *Community Meeting Schedule and Number of Attendees*

1st Round		
Date	**Venue**	**Attendees**
Thursday, 3/5/15	Hephzibah City Hall	7
Monday, 3/9/15	Liberty Community Center	6
Tuesday, 3/10/15	Sand Hills Community Center	26
Thursday, 3/12/15	Carrie J. Mays Family Life Center	7
Monday, 3/16/15	First Baptist Church Evans	7
Thursday, 3/19/15	North Augusta Community Center	6
Saturday, 3/21/15	Warren Road Community Center	7
Monday, 3/23/15	Odell Weeks Activity Center	13
Tuesday, 3/24/15	Smith Hazel Recreation Center	7
Thursday, 3/26/15	Diamond Lakes Community Center	8
Saturday, 3/28/15	Oak Pointe Community Center	8
2nd Round		
Date	**Venue**	**Attendees**
Thursday, 7/23/15	Odell Weeks Activity Center	10
Monday, 7/27/15	Gracewood Community Center	5
Tuesday, 7/28/15	Sand Hills Community Center	17
Thursday, 7/30/15	Evans Government Complex	30
Saturday, 8/1/15	Augusta-Richmond County Municipal Building	12
Monday, 8/3/15	Riverview Park Activity Center	10
	Total	**186**

Source: ARTS

The majority of the community meetings were held on weekdays, from 5:30 p.m. to 7:30 p.m. and Saturday meetings were from approximately 9:30 a.m. to 12:00 p.m. A registration desk was located at the entrance of each meeting room where attendees were invited to sign-in (*Figure 52*). Each attendee received a meeting agenda, ARTS fact-sheet, surveys, and question card to record their thoughts or questions regarding the LRTP.

Figure 52: *Sign In Desk*

Location: Sand Hills Community Center
Contributed by: ARTS Staff

The two-hour meeting was designed in an open house format with poster-board maps of the existing transportation conditions placed around the meeting room. Meeting attendees were given an opportunity to view the various exhibits that were on display. Exhibits included maps of existing transportation conditions and predicted conditions. Additionally, ARTS staff persons were available to provide information and answer questions (*Figure 53)*.

Figure 53: *ARTS Staff with Audience*

Location: Sand Hills Community Center
Contributed by: ARTS Staff

Lastly, meeting attendees participated in a live polling/survey to identify transportation issues and needs for vision and goal settings (*Figure 54)* and followed by questions/answer discussion. Each meeting started with a brief introduction of ARTS staff, followed by a presentation covering the following topics:

- Metropolitan Transportation Planning (Planning and Schedule)
- Where Are We Now? Existing Conditions
- Where Are We Going? Highlights from Regional Travel Model 2040/2035 LRTP
- Where Do We Want to Be in 2040? Vision and Goal Setting
- How Do We Get There?
- Next Steps in the Transportation Planning Process

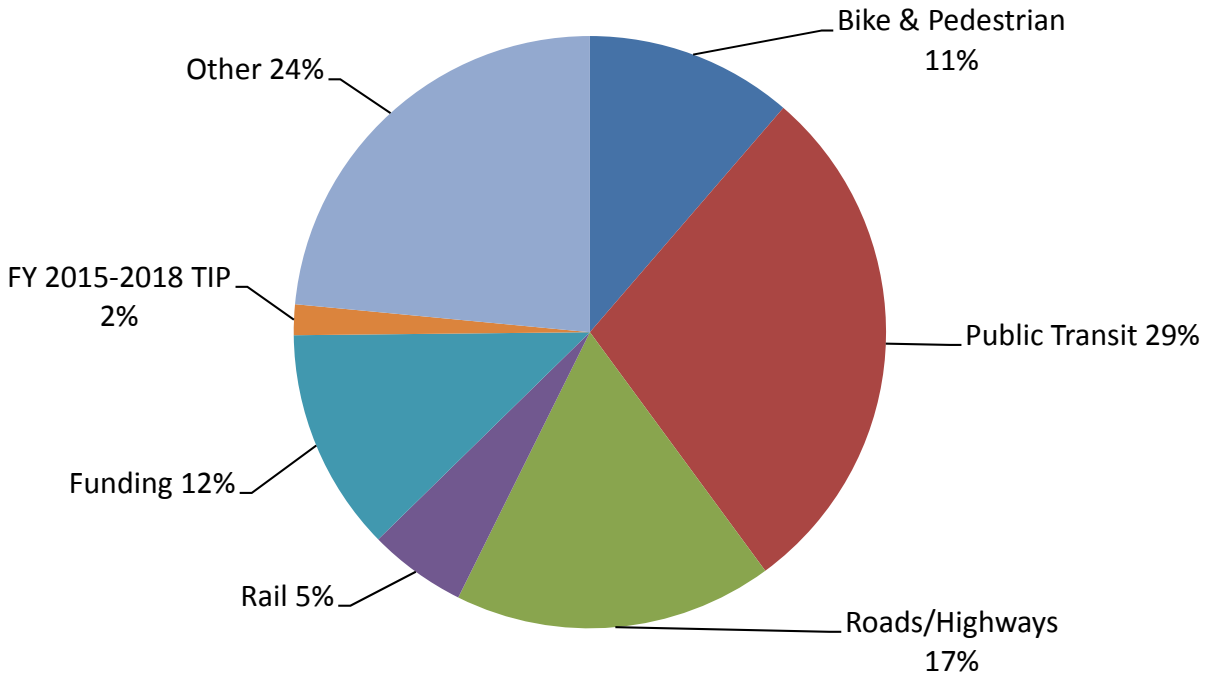
Figure 54: *Goal Setting*

Location: Odell Weeks Community Center
Contributed by: ARTS Staff

5.7.3 Common Discussion Themes

At each of the community meetings and Speakers Bureaus many opportunities and time was provided for question and answer sessions. Attendees were encouraged to write questions or comments on comment cards that were answered at a specified time during each meeting. However, attendees were free to ask ARTS staff any questions before, during or after each meeting. A few inquiries were also submitted electronically, e.g., email or telephone. For all of the attendees, the community meetings or Speakers Bureaus created unique opportunities to ask questions, share concerns, or simply comment on an issue relating to transportation or their local community. Close to 100 questions and inquiries were discussed during the 17 community meetings. Subject themes of these questions are presented in *Figure 55*.

Figure 55: *Questions/Inquiries Received During Community Meetings*



Source: ARTS

The top three (3) key themes arising at the community meeting were as follows: 1) Funding transportation; 2) Roads/Highways; and, 3) public transit. Funding of transportation as an indirect theme dominated many community-meeting discussions. Attendees at community meetings who put forward questions or comments relating to increasing transportation and mobility choices, e.g., transit, bike and pedestrian facilities; became aware that the availability of local funds and willingness of the public to provide local funds, ultimately determines the choice of transportation modes in communities.

Funding as a theme permeates many decisions relating to transportation systems or community transportation options. However, the bottom placement of the original ARTS Goal #2 (i.e., Develop a transportation system that is financially and politically feasible and has broad support) in the Goal Setting and Evaluation. It is apparent that respondents do not accept that 'funding' is an obstacle, limiting the reality of the transportation environment that they desire.

5.8 Goal Setting and Evaluation

The first step in developing a transportation system that meets the needs of the communities it serve is to develop goals, objectives and evaluation measures (i.e., activities) that will demonstrate progress towards the anticipated state. The goal setting and goal validation process that was followed during the Transportation Vision 2040 public outreach process is presented in this section.

5.8.1 Defining Goals

Defining goals in the Transportation Vision 2040 LRTP update process guidance was taken from a variety of resources, e.g., MAP-21, ARTS 2035 LRTP update, Georgia's 2013 Statewide Strategic Transportation Plan, and South Carolina's 2040 Multimodal Transportation Plan, etc. These resources created a framework in which the goals developed would be attainable, measurable, enable prioritization and relate to state DOT and National goals for transportation. A summary of the resources used is presented below.

5.8.2 Moving Ahead for Progress in the 21st Century

MAP-21, which was signed into law in 2012, developed a new performance-based paradigm in funding for surface transportation, transportation infrastructure and transit investments. Guiding future investments in transportation, seven (7) national performance goals (governing transportation investments of the Federal Highways Administration FHWA), Federal Transit Administration (FTA)) were developed.

- Safety: To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure Condition: To maintain the highway infrastructure asset system in a state of good repair.
- Congestion Reduction: To achieve a significant reduction in congestion on the National Highway System.
- System Reliability: To improve the efficiency of the surface transportation system.
- Freight Movement and Economic Vitality: To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- Environmental Sustainability: To enhance the performance of the transportation system while protecting and enhancing the natural environment.

- Reduced Project Delivery Delays: To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

5.8.3 ARTS 2035 Long Range Transportation Plan Update

Published in 2010, the ARTS 2035 LRTP update developed seven (7) goals that provided focus during the transportation planning process. Adopting these seven (7) goals enabled proposed transportation and transit projects to fit within a framework. This would ultimately result in a transportation system that met the needs of the ARTS community. The seven (7) goal statements (taken from the 2035 LRTP update) were as follows: 1) Develop a Transportation System Integrated with Planned Land Use; 2) Develop a Transportation System that is Financially and Politically Feasible and has Broad Support; 3) Develop a Transportation System that will allow Effective Mobility Throughout the Region and Provide Efficient Movement of Persons and Goods; 4) Develop a Transportation System that will Enhance the Economic, Social, and Environmental Fabric of the Area, Using Resources Wisely While Minimizing Adverse Impacts; 5) Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs; 6) Increase the safety and security of the transportation system for motorized and non-motorized users; and, 7) Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS planning area.

5.8.4 Goal Setting Process

During each of the first series of community meetings and Speakers Bureau session, attendees were asked to show their preference to seven (7) transportation goals as defined in the 2035 LRTP through an interactive goal setting exercise. These seven (7) transportation goals were used as a benchmark from which an expanded or shortened list may result from the goal setting process. Public input was necessary to reaffirm these seven (7) transportation goals and incorporate them into the LRTP Update. Out of the one hundred eighty-five (185) persons who participated in the community meetings and Speakers Bureau sessions, where a goal setting exercise was offered, approximately ninety-seven (97) persons took part in the goal setting exercise (a response rate of 52%). The objectives of each goal setting exercise were as follows:

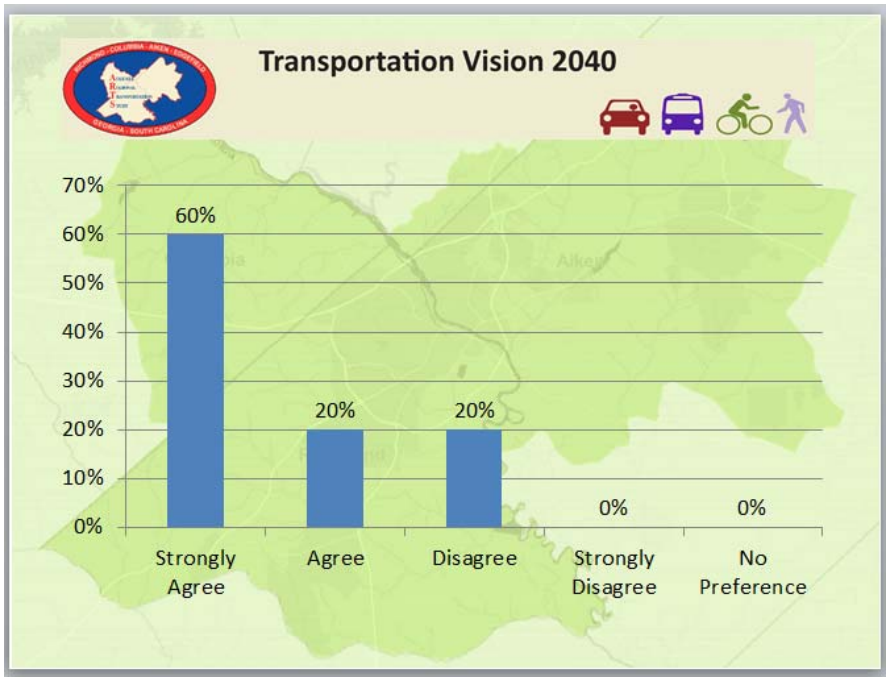
- Present transportation planning goals for general discussion.
- Gauge the level of agreement of meeting participants with each goal statement.
- Prioritize the seven (7) goal statements in order of preference.
- Gauge the level of alignment of prioritized goals with MAP-21, and 2035 LRTP update.

An Audience Response System was the primary method used to conduct the goal setting survey. This is a system where meeting participants can vote wirelessly and anonymously using a hand held wireless-keypad (*Figure 56*). Each of the seven goal statements were presented on the screen and briefly explained to the attendees at the meeting. Attendees were handed a wireless hand-held device to select one of five (5) options to indicate how strongly they agreed or disagreed with the goal statement. The five choices were: 1) Strongly Agree; 2) Agree, 3) Disagree; 4) Strongly Disagree; and 5) No Preference. By pressing one of these five choices, votes were recorded. Results were shown immediately following each selection made. *Figures 57 and 58* illustrate a goal-setting question and the results.

Figure 56: *Voting with a Wireless Hand-Held Device*

Figure 57: *Example Question Slides from the Goal Setting Exercise*

Figure 58: *Example Results Slide from Goal Setting Exercise*

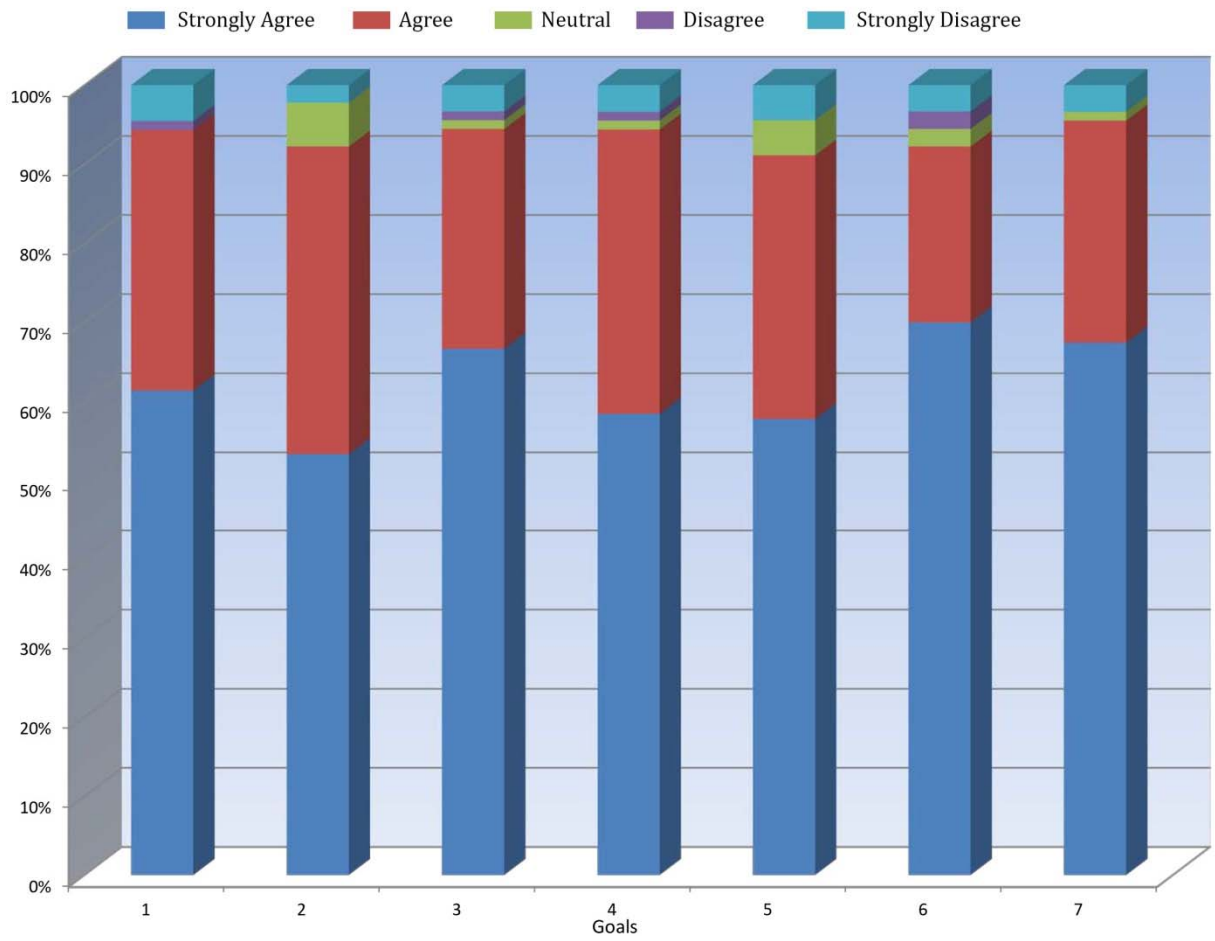


The seven (7) goal statements presented at the eleven (11) community meetings and two (2) speakers bureau sessions (taken from the 2035 LRTP update) were:

- Goal 1 – Develop a transportation system integrated with planned land use.
- Goal 2 – Develop a transportation System that is financially and politically feasible and has broad support.
- Goal 3 – Develop a transportation system that will allow effective mobility throughout the region and provide efficient movement of persons and goods.
- Goal 4 – Develop a transportation system that will enhance the economic, social, and environmental fabric of the area, using resources wisely while minimizing adverse impacts.
- Goal 5 – Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs
- Goal 6 – Increase the safety and security of the transportation system for motorized and non-motorized users.
- Goal 7 – Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS planning area.

Individual results of the goal setting exercise from each of the first round of community meetings are presented in the meeting summaries contained in the *Public Participation & Community Meeting Report*. Nevertheless, overall results are presented in *Figure 59*. It is evident that participants in the goal setting exercise strongly agreed with all seven (7) goal statements.

Figure 59: *Overall Goal Setting Results*



Goal description listed on page 162

Goal #1 - Develop a transportation system integrated with planned land use.

Goal #2 - Develop a transportation system that is financially and politically feasible and has broad support.

Goal #3 - Develop a transportation system that will allow effective mobility throughout the region and provide efficient movement of persons and goods.

Goal #4 - Develop a transportation system that will enhance the economic, social, and environmental fabric of the area, using resources wisely while minimizing adverse impacts

Goal #5 - Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs.

Goal #6 - Increase the safety and security of the transportation system for motorized and non-motorized users .

Goal #7 -Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS planning area.

However, to prioritize the goal statements, numeric value may be attached to each of the levels of agreement, e.g., strongly agree = 5 points, Agree = 4 points, No Preference = 3 points, Disagree = 2 points and Strongly Disagree = 1 point. Multiplying these values by the number of meeting attendees who selected a particular level of agreement gives an overall rating as depicted in *Tables 37 and 38*.

Table 37: *Goal Setting Overall Results*

Response	Strongly Agree	Agree	Disagree	Strongly Disagree	No Preference	Total Votes
Develop a Transportation System Integrated with Planned Land Use	54	29	0	1	4	88
Develop a Transportation System that is Financially and Politically Feasible and has Broad Support	48	35	5	0	2	90
Develop a Transportation System that will allow Effective Mobility Throughout the Region and Provide Efficient Movement of Persons and Goods	60	25	1	1	3	90
Develop a Transportation System that will Enhance the Economic, Social, and Environmental Fabric of the Area, Using Resources Wisely While Minimizing Adverse Impacts	52	32	1	1	3	89
Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs	52	30	4	0	4	90
Increase the safety and security of the transportation system for motorized and non-motorized users	63	20	2	2	3	90
Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS region	60	25	1	0	3	89

Source: ARTS

Table 38: *Goal Setting Rating of Responses*

Rating	Strongly Agree	Agree	Disagree	Strongly Disagree	No Preference	Total Score	Rating
Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and air quality issues in the ARTS region	300	100	2	0	9	411	4.62
Develop a Transportation System that will allow Effective Mobility Throughout the Region and Provide Efficient Movement of Persons and Goods	300	100	2	1	9	412	4.58
Increase the safety and security of the transportation system for motorized and non-motorized users	315	80	4	2	9	410	4.56
Develop a Transportation System Integrated with Planned Land Use	270	116	0	1	12	399	4.53
Enhance the Economic, Social, and Environmental Fabric of the Area, Using Resources Wisely While Minimizing Adverse Impacts	260	128	2	1	9	400	4.49
Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs	260	120	8	0	12	400	4.44
Develop a Transportation System that is Financially and Politically Feasible and has Broad Support	240	140	10	0	6	396	4.4

Source: ARTS

Applying the average rating to the seven (7) goal statements, the following prioritization (i.e., highest to lowest average rating) order is identified by respondents who voted, see *Table 40.*

5.9 Goal Prioritization

Of the seven (7) goals presented, the prioritized order based of the average rating is as follows:

- Goal #1 - Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management and traffic safety in the ARTS planning area (formerly Goal #7).
- Goal #2 - Develop a transportation system that will allow effective mobility throughout the region and provide efficient movement of persons and goods (formerly Goal #3).
- Goal #3 - Increase the safety and security of the transportation system for motorized and non-motorized users (formerly Goal #6);
- Goal #4 - Develop a transportation system integrated with planned land use (formerly Goal #1).
- Goal #5 - Develop a transportation system that will enhance the economic, social, and environmental fabric of the area, using resources wisely while minimizing adverse Impacts (formerly Goal #4).
- Goal #6 - Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs (formerly Goal #5).
- Goal #7 - Develop a transportation system that is financially and politically feasible and has broad support (formerly Goal #2).

Correlating the prioritized goals with MAP-21 and the results of the Goal Prioritization, the following conclusions can be made:

- Goal #1 emphasizing the continued development of multimodal transportation options emphasizes more transportation choices and MAP-21 goal #3 congestion reduction.
- Goal #1 impacting congestion management in a positive way will have parallel impacts on safety. (Safety is the MAP-21 #1 goal).
- Goal #2 emphasizing mobility options will have positive impacts on equitable, affordable housing; supporting and adding value to existing communities.
- Goal #3 - recognizes the equality of motorized and non-motorized users in terms of safety while using the transportation system. Safer transportation systems will strengthen safer, economically vibrant and sustainable communities; positively enhancing economic competitiveness and MAP-21 goal #5, freight movement and economic vitality.

5.9.1 Summary

Through an extensive public outreach campaign during February thru August 2015, more than 1,100 persons contributed to the Transportation Vision 2040 LRTP update. The use of traditional and non-traditional outreach tools contributed to this success. Key issues arising from the input received were:

- Funding: The issue of funding generated the most inquires during the public outreach campaign.
- Road and Highways: A highway system that is safe, efficient and in a good state of repair, benefits everybody in meeting their transportation needs.
- Preferred Transportation Mode: The majority of residents and visitors in the ARTS planning area own a private motor vehicle, i.e., car/truck/van.
- Desired transportation improvements: Physical condition of highways and streets; traffic flow during peak periods; and road safety were seen as the most needed transportation improvements.
- Public Transit and Non-motorized Transportation Modes: More public transit and alternative transportation facilities, such as bike lanes, multi-use paths, and sidewalks are needed in the ARTS planning area.
- Functionality of the Regional Transportation System: Local traffic congestion, traffic safety, public transit and facilities for alternative transportation modes were all seen as critical transportation issues improving transportation system functionality.

Transportation Vision 2040 Goals: Transportation Vision 2040 LRTP supported a safe and efficient multimodal transportation system.

6 Transportation System Needs Assessment

6.1 Introduction

Once every five years the Long Range Transportation Plan (LRTP) for the Augusta Regional Transportation Study (ARTS) is updated. A major task of ARTS is the update of the LRTP through the identification of existing transportation conditions, issues and needs; and recommending strategies and system improvements (i.e., solutions) that enhance livability in the ARTS planning area. The public was invited to become involved in this process during a series of Speaker Bureau sessions and Community Meetings held throughout the ARTS planning area during February-March 2015; or participate in an online Community Transportation Survey (posted on the ARTS website) during March-April 2015.

This report presents the analysis results of transportation issues and needs (affecting both motorized and non-motorized transportation modes) identified through the: 1) Transportation Vision 2040 public outreach campaign (February-April 2015), Community Meetings and Speaker Bureau sessions; 2) Online Community Transportation Survey; 3) Travel Demand Modeling of the ARTS, planning a real transportation network; 4) Public Transit Surveys (Augusta Public Transit and Best Friend Express); 5) Congestion Management Process; and the 6) incidence of traffic crashes (at intersections and corridors) in the ARTS planning area.

The issues and needs identified have reduced potential levels of mobility and accessibility within the ARTS planning area for pedestrians and non-motorized, motorized and freight transportation system users. If left unresolved, the economic vitality of the region may be negatively impacted. The identification of critical transportation issues and potential solutions to address them (i.e., needs) was the heart of the ARTS public participation process.

6.2 Methodology Identifying Issues and Needs

A summary of the six (6) methods used to identify transportation issues and needs are presented below.

6.2.1 Community Meetings

ARTS actively conducted a series of 17 community meetings concerning the Transportation Vision 2040 LRTP update, which were held at strategically selected locations during the month of March 2015. The objectives of the community meetings were: 1) introduce ARTS, its role and functions to the local community; 2) present the current status of the Transportation Vision 2040 LRTP; 3) hear issues the public identify as transportation issues and needs in their communities; and 4) solicit public input on regional transportation needs, projects and strategies in order to help define and evaluate year 2040 LRTP projects. 102 persons attended these meetings.

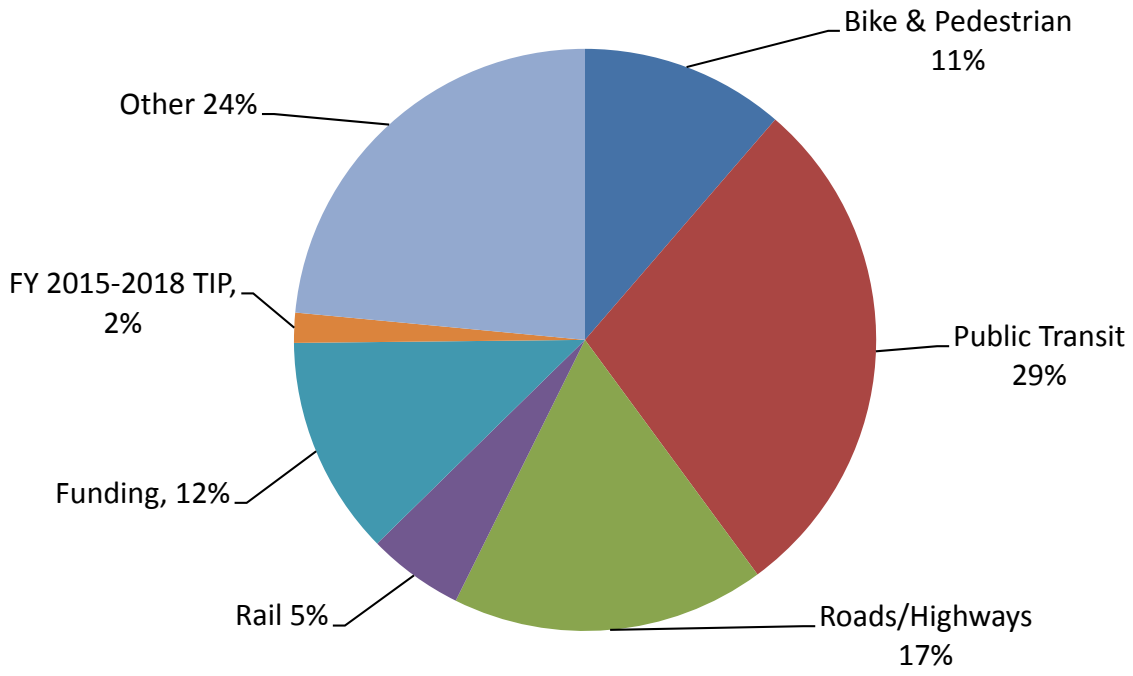
6.2.2 Speakers Bureau Meetings

During the months of January through March 2015, ARTS staff addressed 12 Speaker Bureau meetings. Speaker Bureau presentations were promoted to any community, business, faith based or social service organization within the ARTS planning area. These sessions allowed ARTS staff to speak directly to public or private organizations about the LRTP update or metropolitan transportation planning process. An estimated 318 people attended these Speaker Bureau sessions.

6.2.3 Community Meetings and Speaker Bureaus

It became evident that the top three (3) key themes arising at the Community Meeting were: 1) Funding transportation; 2) Roads/Highways; and, 3) Public Transit. Funding of transportation as an indirect theme dominated many Community Meeting discussions. Attendees at Community Meetings who put forward questions or comments relating to enhancing transportation and mobility choices, e.g., transit, bike and pedestrian facilities; became aware that the availability of local funds and willingness to fund by local residents, ultimately determines the choice of transportation modes in communities. The questions are resulting from comments as referenced in the Public Participation and Community Meeting Report (*Figure 60)*.

Figure 60: *Public Comments*



Source: ARTS

6.2.4 Goal Setting Process

Of the seven (7) goals that were presented the prioritized order (i.e., identifying regional transportation planning focus areas) based on average scores and input from the public is as follows:

- Goal #1 - Continue to develop a multimodal transportation network that utilizes strategies for addressing congestion management, and traffic and pedestrian safety in the ARTS planning area;
- Goal #2 - Develop a transportation system that will allow effective mobility throughout the region through improving the physical condition and maintenance of the transportation network and, provide efficient and safe movement of persons and goods;
- Goal #3 - Increase the safety and security of the transportation system for motorized and non-motorized users, and pedestrians;
- Goal #4 - Develop a transportation system integrated with planned land use;
- Goal #5 - Develop a transportation system that will enhance the economic, social, and environmental fabric of the area, using resources wisely while minimizing adverse Impacts;

- Goal #6 - Promote efficient land use and development patterns to improve safety and economic vitality to meet existing and future multimodal transportation needs; and
- Goal #7 - Develop a transportation system that is financially and politically feasible and has broad support.

6.2.5 Online Community Transportation Survey

An online version of the ARTS Transportation Vision 2040 Travel Behavior Survey (Community Transportation Survey) was uploaded on Monday March 9, 2015. The survey sought to obtain a wide range of information relating to the perceptions of the regional transportation system, issues and needs, from the public. Questions also sought to evaluate the respondent's level of agreement regarding a particular transportation issue. From the initial date of upload which was from Monday, March 19, 2015, to April 30, 2015, approximately 689 responses were received. The online survey closed on April 30, 2015.

6.2.6 Travel Demand Modeling

A Travel Demand Model (TDM) is a computer model used to assess current trip making and travel behavior as well as predict future travel behavior and travel demand based on certain inputs and assumptions. Required TDM inputs range from population, employment and school enrollment data as well as current traffic flow levels on the highway network. The ARTS travel demand model is built and managed by a consultant under contract to the Georgia Department of Transportation (GDOT).

TDMs are highly complex and not only model demand for road trips (i.e., by car, motorcycle, van or truck) and the routes they take between origin and destination, but are also capable of modeling transit demand. The capability of ARTS TDM is to assess future traffic scenarios enabling the identification of potential highway bottlenecks or links with high volume to capacity ratios. The application of TDM in the Transportation Vision 2040 LRTP update process assists ARTS stakeholders in making informed decisions about how best to address any transportation need identified.

6.2.7 Public Transit Surveys

A survey of Augusta Public Transit (APT) passengers was conducted over a 9-day period in March and April 2015. Similarly, a survey of passenger riding Best Friend Express (BFE) was conducted over a 5-day period in April and May 2015. The objectives of the transit surveys were as follows: 1) Determine where and when customers use transit; 2) Define who uses transit; 3) Gauge how satisfied customers are with the services provided; 4) Determine why customers use transit; and

5) Gain insight to identify conditions, issues, needs and future improvements from the transit user's (i.e., transit customer) perspective. All 10 fixed routes of APT and 3 routes of BFE were surveyed. Overall, a total of 662 riders (599 APT and 63 BFE) participated in the onboard transit surveys.

Identified needs and challenges relating to Public Transit are listed as:

- The majority of public transit riders, ride during the AM peak or morning period.
- The majority of public transit riders come directly from home.
- The majority of public transit riders in the ARTS planning area walk to the bus stop to commence their transit trip.
- The primary destination of transit riders in the ARTS planning area is work related.
- The majority of riders in the ARTS planning area walk from the bus stop to their final destination.
- The majority of public transit riders surveyed do not have a car/truck/van available to make trips.
- The majority of public riders surveyed have trip travel times of 30 minutes or less.
- The majority of APT and BFE riders wait for up to 15 minutes for a bus.

APT	BFE	ARTS Public Transit
Time waiting for the bus	Time waiting for the bus	Time waiting for the bus
Convenience of route	On-time Performance	Convenience of routes
On-time Performance	Convenience of routes	On-time Performance

- Fifty percent or more of public transit riders in the ARTS planning area do not possess a valid drivers' license.
- More than 40% of riders use fixed route public transit bus services five or more days per week in the ARTS planning area.
- The majority of public transit riders in the ARTS planning area have annual household incomes of $10,000 or less.
- In order of priority, the top issues for the 662 transit riders surveyed (based on the number of comments received) were:

APT	BFE	ARTS Public Transit
Extended Operations	Saturday/Sunday Operation	Extended Operations
Higher Frequency, Bus Scheduling & Timing	Increase Routes	Higher Frequency, Bus Scheduling & Timing
Increase Routes	Higher Frequency, Bus Scheduling & Timing	Increase Routes

Respondents were asked to state the year they were born. Of the 599 APT respondents, 30% declined to answer this question, compared to 29% of BFE respondents. The age breakdown for the remaining 419 APT and 45 BFE respondents surveyed is presented in. The majority of APT respondents (94%) were of working age, i.e., 18-64, compared to 91% BFE respondents. Only 1% of APT respondents surveyed were younger than 18 years, compared to zero percent of BFE respondents. Elderly respondents 65 years and older accounted for 5% and 9% riding APT and BFE.

Of the 599 APT respondents who completed the transit survey, 539 (or 90%) disclosed their ethnicity, compared to 57 (90%) of the 63 BFE respondents. APT or BFE respondents could select one of five (5) ethnic/racial categories; namely: American Indian/Alaskan Native; Asian; Black/African American; Hispanic/Latino; or White. Blacks/African Americans were the majority users of APT services (79%); followed by respondents who identified themselves as White at 9%. Similarly Blacks/African Americans were the majority users of BFE services (56%); followed by respondents who identified themselves as White at 28%.

6.2.8 Congestion Management Process Survey

Managing traffic congestion is a daily challenge in urban areas where the motorized vehicle is the primary mode of transportation. The Congestion Management Process (CMP) seeks to improve transportation system performance and reliability by reducing the adverse impacts of congestion on the movement of people and goods. Identifying congested corridors, intersections, or road segments, CMP can be used to assess alternative strategies reducing congestion that meet community needs.

6.2.9 Traffic Crash Incidents Analysis

Identifying intersections and corridors within the ARTS planning area with a high incidence of crashes necessitated the analysis and mapping of traffic crash data. Traffic crash data for the years 2010 through 2013 were received from GDOT and the South Carolina Department of Public Safety (SCDPS). According to the raw data, between 2010 and 2013 there were approximately 64,232 reported traffic crashes in the four-county ARTS planning area. Of the total 64,232 crashes approximately 260 (0.4%) were fatal (i.e., a crash resulting in the death of one or more persons within 30 days of the crash).

6.2.10 Traffic Safety Challenges

Safety has always been a vital component of the long range transportation planning process. MAP-21, Georgia's 2013 Statewide Strategic Transportation Plan, and South Carolina's 2040 Multimodal Transportation Plan influenced a key Transportation Vision 2040 goal to be focused on safety. Public input received from Speaker's Bureaus, Community Meetings, transit and online surveys; crash data analysis and ongoing ARTS programs such as the Congestion Management Process Surveys; all contributed to identify transportation safety deficiencies prevalent in the ARTS planning area. Safety related issues, challenges and needs in the ARTS planning area are listed as follows.

6.2.11 High Traffic Volumes

High traffic volumes on major roadways during morning or afternoon peak times make it a challenge to cross streets safely for pedestrians and bicyclists. Principal arterials in the ARTS planning area, high traffic volume routes connecting major activity centers (e.g., downtowns, commercial centers) with the interstate system; are also routes with a high number of crash incidence. High traffic volumes may also contribute to congestion, characterized by stop-go traffic which in turn may decrease the level of safety for road users. Gratuitous lane-changing or inattention in congested conditions increase the possibility of rear-end crash. Slow moving traffic may tempt pedestrians to cross in-between vehicles rather than at crosswalks.

6.2.12 Bicycle and Pedestrian Crashes

Lack of sidewalks, marked bicycle lanes, connectivity and crosswalks all have influenced the level of safety afforded to pedestrians and bicyclists in the ARTS planning area. According to Tables 15 and 16, 51 pedestrian crashes and 30 bicycle crashes occurred in 2013. During this same period 6 bicyclists and 6 pedestrians died as a result of these crashes. Pedestrian and bicycle crash locations have occurred on arterials, collectors and local roads indicating that all routes should accommodate to some level all road users. The promotion of walking and bicycling as a healthy lifestyle choice and a viable mobility option to motor vehicle, providing a safe and secure traveling environment will enhance community livability while meeting Transportation Vision 2040 goals.

6.2.13 Inadequate Safety controls on major streets and railroad crossings

Major thoroughfares throughout the ARTS planning area lack safe crosswalk areas. At several signalized intersections pedestrian phases are limited or non-existent forcing pedestrians to cross hurriedly against multiple lanes of traffic. At other locations wide roadways necessitate that pedestrians cross in stages, from one sidewalk to a center refuge and from center refuge to the opposite sidewalk. With the possibility of an extended wait at at-grade rail crossings, impatient drivers may try to outrun a train in order to cross or circumvent the barriers.

6.2.14 Pedestrian Accessibility and Safety

Strip malls, bus stops, office complexes and other activity centers lack adequate sidewalks forcing pedestrians and bicyclists who need to access these developments to walk or bicycle in the roadway. Crosswalks if available may be located at some distance from where the pedestrian desires to cross; resulting in pedestrians and bicyclists taking unwarranted risks when crossing roadways.

Limited Transportation Options in Growing Suburban Residential Developments Rapidly growing suburban residential areas where many residents drive have influenced the high incidence of traffic crashes on roads connecting these areas. Limited transportation options in these areas have exacerbated the need to own a vehicle which in turn increases the numbers of multi-vehicle households. Access to several suburban residential developments in the ARTS planning area often requires travel along CMP corridors some of which experience Seriously Congested (SC) conditions. Example corridors used as access routes to/from suburban residential developments include: Richland Avenue and Chesterfield Street (Richland Avenue CMP Corridor, Aiken County); Washington Road and Davis Road (Washington Road CMP Corridor, Columbia County); and Washington Road and Fury's Ferry Road (Washington Road CMP Corridor, Richmond County).

With the car/truck or van continuing to be the dominant mode of transportation in the ARTS planning area together with the drive towards accommodating multi-modalism there will be a constant need to provide more efficient and safer facilities for all users of the transportation system. It therefore becomes necessary that our transportation system be made as safe, accommodating, accessible and as efficient as possible.

6.2.15 Travel Behavior Survey

Identified needs and challenges from more than 1,000 respondents who completed the Travel Behavior Survey are listed as, *Appendix F*:

- The lack of sidewalks and bike lanes are very important issues to survey respondents in the ARTS planning area.
- The car, truck or van is the dominant means of transportation for ARTS residents.
- Very few people in the ARTS planning area used APT services.
- Very few people in the ARTS planning area used BFE services.
- Very few people in the ARTS planning area used APT services.
- Majority of survey respondents expressed neutral satisfaction with the regional transportation system.
- *"Do you agree with the following critical transportation issues in your community?"*
  Local traffic congestion;
  Traffic safety;
  Lack of sidewalks
- *"What transportation improvements do you think are needed in your community?"*

Online	At Meetings
Sidewalks	Sidewalks
Road/highway widening	Public transit service
Bike lanes	Bike lanes

- *"Should the following issues be important for the ARTS transportation system?"*

Online	At Meetings
Physical condition of major road streets and highways	Access to sidewalks and crosswalk areas
Flow of traffic on major streets during morning or afternoon peak times	Safety controls on major streets & railroad crossings
Safety controls on major streets & railroad crossings	Availability of public transit services

Figure 61: *Physical Condition of Roads and Sidewalks*

Contributed by: ARTS Staff

6.2.16 Freight Movement Issues and Needs

The last survey of the trucking and rail industries in the ARTS planning area was completed as part of the ARTS Freight Plan in 2008/9. Despite limited input from the trucking, rail and warehousing industries in the development of the Transportation Vision 2040 LRTP update, secondary sources were used to identify deficiencies in the existing transportation infrastructure that restrict efficient freight and goods movement and operations. These secondary sources included: freight and trucking industry reports, travel demand models, and interviews with representatives of local industry associations such the Augusta Economic Development Authority. With continued economic growth of the ARTS planning area, managing freight movement and operational deficiencies will be critical to sustain this growth. Freight issues and needs identified are listed as follows.

Transportation Infrastructure and Congestion

According to the 2014 Critical Issues in the Trucking Industry survey by the American Transportation Research Institute; Transportation, Infrastructure and Congestion was ranked #7 out of 10 issues. Transportation, Infrastructure and Congestion has consistently ranked in the top 10 issues since the survey began in 2005. Deteriorating transportation infrastructure, limited capacity roadways or bridges, and congested networks (some of these network deficiencies are present in the ARTS planning area) lead to increased operating costs, longer delivery times, and inefficient supply chains.

Demonstrating the linkage between freight movement and network deficiency Figure 5 illustrates the Strategic Freight Highway Network/Designated Freight Corridors in relation to roadway LOS (2010). Key points from Figure 5 are:

- Sections of the I-520 between Wrightsboro Road and Deans Bridge Road experience LOS D, E & F. According to the 2010 base year counts, these sections are also the most highly trafficked sections in the ARTS planning area.
- Only one section of the I-20 experiences LOS D, E or F, and that is between Wheeler Road and Belair Road. High levels of traffic and the change from a 6-lane interstate (that is 3 lanes in each direction) to a 4-lane interstate has degraded LOS on this section of the I-20.
- Interstate exit- and on-ramps to and from the arterial road network are locations experiencing LOS D, E or F. Most notably, I-20/Belair Road, I-20/Riverwatch Parkway, I-20/W. Martintown Road, I-520/Wrightsboro Road, I-520/Gordon Highway and I-520/Mike Padgett Highway. The intersection of arterials and the interstate system are also locations of high traffic crashes.

Connectivity and Safety

The lack of a direct interstate connection between the ARTS planning area and Macon GA, Savannah GA, Charleston SC and Greenville SC; necessitates that freight movements between these centers use the arterial highway network such as US 1 Georgia, US 25 Georgia, and US 278 South Carolina. Arterial roads accommodating these movements may experience an increase in trucking volumes and congestion. The I-20 and I-520 are the designated interstate routes for trucking operations to, from and within the ARTS planning area. The increased mixing of truck and auto traffic from these designated interstate routes to arterials may also give rise to concerns about traffic safety and noise pollution.

At-Grade Rail Crossings and Traffic Delay

The ARTS planning area is crisscrossed by numerous at-grade railroad crossings. According to data from the FRA Office of Safety Analysis there are 221, 33, 70 and 238 at-grade railroad crossings in Aiken, Columbia, Edgefield and Richmond Counties respectively. Many of these at-grade railroad crossings are in non-urban areas. However, freight trains using at-grade crossings intersecting high volume roadways in urbanized areas can cause substantial delays to traffic. Extended traffic delays >10 minutes during the AM or PM peak periods are not uncommon particularly at downtown at-grade crossings.

At-Grade Rail Crossings and Traffic Safety

Inadequately maintained or poorly paved at-grade crossings have been known to contribute to vehicle damage. Members of the general public interviewed as part of the ARTS Freight Plan in 2008/9 expressed this complaint. With the possibility of an extended wait at at-grade crossings, impatient drivers may try to outrun the train in order to cross. Driver inattention, disregard of rail crossing safety devices, or simply miscalculating the train's speed or distance can result in a crash at the at-grade crossing. Several crashes of this type have occurred in the ARTS planning area. The safety component of Transportation Vision 2040 goals includes safety improvements at at-grade rail crossings.

Limiting Rail Infrastructure

A current deficiency in some sections of the rail network in the ARTS planning area is the non-accommodation of double-stack railcars, 286K railcars weighing up to 110 tons or railcars in excess of 19 ft. in height. The current defined railcar height for fully unrestricted clearance is 22 ft. 6 inches.

6.3 Multimodal Transportation Strategies

Multimodal improvements recommended in the LRTP are developed from a variety of strategies that are acknowledged to improve the multimodal transportation network. The following chapters present recommended improvements based on the issues and needs that are found in the general strategies identified below. In many instances, strategies have the ability to address multiple issues and needs. These strategies are also meant to connect to the overarching goals of ARTS.

The list below provides a brief description of the strategies used as a basis for the improvements. A more detail discussion of the issues, needs and strategies are outlined in the Issues and Needs Report.

6.3.1 Highway and Road

Since highways and roads facilitate travel by the predominant mode of vehicular traffic, improvements on the road network have the potential to impact a larger amount of travelers. An efficient and effective roadway network is critical to support the region's economy, quality of life, mobility, social equity, and promote livable communities. Roadways serve not only freight and passenger vehicles, but also public transit, bicycling, and pedestrian networks.

The projected growth in the region will undoubtedly lead to increase vehicle miles traveled (VMT) throughout the network. This increase will lead to capacity constraints, increasing the deficiency of the roadway. Improving the design of the roadway increases the ability of vehicles to move freely and safely through a corridor. It is important to consider the context-specific needs of a corridor at the design phase to ensure the most efficient and effective mobility improvement.

6.3.1.1 Geometric Changes, Widening, or Capacity Improvements

Geometric Changes or Widening: Such strategies involve the physical change of the roadway in terms of its horizontal or vertical alignment. Physical strategies mitigating congestion may include the addition or reconfiguration of turning lanes, lane widening, and the realignment of intersecting streets. Other strategies may include the removal of a physical constriction that delays travel, e.g., widening the space between bridge abutments or eliminating a sight barrier. Costs may vary but can be substantial depending on the extent of physical change required.

Capacity improvements serve to allow effective movement of persons and goods throughout the region and can partially tackle congestion.

6.3.1.2 Traffic Operational Improvements

Traffic Operational Improvement involves a plethora of engineering based strategies that address congestion. Traffic surveillance and control systems, motorist information systems, traffic control centers, computerized signal systems are some of the tools used in mitigating congestion along local roads. Other engineering strategies such as road widening, alternative route development, channelization, bottleneck removal, variable speed limits and computerized signal systems are implementation strategies local jurisdiction can use to relieve congestion.

Traffic operational improvements allow effective movement of persons and goods throughout the region, increases the safety and security for users, and addresses congestion.

6.3.2 Airport Connectors

Planning for the future and constructing needed airside and landside improvements is important for each of the three airports situated in the ARTS planning area. Ground access to each of these airports will be critical to their continued success. Ground access improvements are also dependent on the projected growth and subsequent increase in passenger landside traffic. The draft Master Plan Update for Augusta Regional Airport was completed March 2015. Currently, at Augusta Regional Airport there is an adequate amount of curb frontage with no constraints restricting ground access improvements anticipated in the foreseeable future.

6.3.2.1 Context Sensitive Solutions (CSS)

Context Sensitive Solutions or CSS is a collaborative, interdisciplinary approach that involves all stakeholders in providing a transportation facility that fits its unique setting. An approach leads to preserving and enhancing scenic, aesthetic, historic, community, and environmental resources, while improving or maintaining safety, mobility, and infrastructure conditions. It is part of the design of transportation projects from, programming, environmental studies, design, construction, operation, and maintenance, including long range planning.

Context Sensitive Solutions enhances the economic, social, and environmental fabric of the area, promotes efficient land use, and increases safety and security of users.

Figure 62: *Need for Context Sensitive Design Solution*

Location: Bayvale Elementary School
Contributed by: WALC Institute

6.3.3 Public Transit

The availability of public transportation adds additional mobility options to residents, workers, and visitors. Many times, public transportation serves as the only available transportation mode for citizens to commute large distances. Limiting the mobility of citizens hinders their economic opportunity as well as personal and social activities. The sporadic and low-density development patterns throughout the ARTS planning area can make public transit planning difficult. Innovative ways to improve service in a cost effective manner is necessary.

Public transportation strategies will provide everyone an opportunity to find employment, improve mobility and access to transportation options as well as revitalize neighborhoods within ARTS. In a presentation provided by USDOT titled *Creating Ladders of Opportunity*: *USDOT's Efforts to Increase Access for the Future*[23], improvements to local transportation provide three invaluable benefits:

- Connect: A multimodal transportation system provides people with reliable and affordable connections to employment, education, and other critical services. Planning transportation networks that provide low-cost reliable options enables more people to realize their economic potential and improves businesses' access to a diverse workforce.
- Work: Transportation projects create jobs, both in constructing projects and operating them. Through thoughtful workforce programs— built in partnership with industry, and

[23] 2015 DOT Civil Rights Virtual Symposium. Speaking with One Voice: Connecting the DOTs

with a focus on disadvantaged businesses— we can help more underserved people find and keep good jobs in the transportation sector.

- Revitalize: Transportation infrastructure can have a dramatic impact on neighborhoods and regions. It can provide support for healthy main street centers and direct more equitable business and residential developments designed to bring everyone closer to opportunities.

Public transit is critical in the region, especially in ARTS Environmental Justice areas. The Unified Planning Work Program (UPWP) is the primary implementation tool. It is used to ensure all minorities and low-income residents' transportation needs are addressed. Regular activities conducted through the UPWP include:

- Collecting building permit data used to monitor changes in residential units and occupancy.
- Using Department of Labor information to develop annual estimates of employment by place of work.
- Conducting socioeconomic analysis at Traffic Analysis Zones (TAZ).
- Documenting and improving upon community outreach and engagement for minority and low-income residents.

These activities are conducted regularly to ensure everyone is connected to transportation options, opportunities for employment and improved mobility through revitalized neighborhoods.

Public Transit allows for effective mobility through the region and provides efficient movement of persons and goods, enhances the economic, social, environmental fabric of the area, and addresses congestion and air quality issues.

6.3.4 Augusta Public Transit

Transit improvements and strategies proposed by APT for implementation can be listed as:

- Expand weekday service to 10pm in 2016 and possibly Saturday. However, the introduction of Sunday service currently is not a priority project.
- Initiate a Comprehensive Operational Analysis (COA) during the first half of 2016. COA is an in-depth study of a transit system designed to identify strengths and weaknesses, and develop recommendations for improvement.

- Expand APT bus fleet by ten (10) buses and reduce bus headway. With 10 new buses, APT fleet will have 28 buses for regular mainline transit services. This will enable two (2) buses on each route, reducing bus headway to 30 minutes from current 60 minutes.
- Introduce one or two new routes with one of these routes serving South Augusta. This initiative is consistent with the Augusta Public Transit Development Plan recommendation in 2009.
- Completely replace bus shelters. Average cost of bus shelter is approximately $4,000-$5,000 with an upwards cost of $10,000.
- Proposed bus and transit stop amenities include:
    - ADA accessible
    - Trash cans
    - Advanced fare box technology
    - Sidewalk approaches
    - Solar powered
- Rebranding of APT. Communication/marketing students at Georgia Regent's University (GRU) could be approached to assist with rebranding.
- Develop the APT rural service to become a feeder service connecting with mainline APT services. Although expansion of the paratransit bus network may be possibility, if the realignment of mainline routes is successful there may not be a need for an increase in the number of paratransit buses.
- Form partnerships with local businesses and community agencies.
- Explore how APT can positively impact blighted communities in Augusta. Providing transit service to underserved areas may stimulate socio-economic regeneration and revitalization.
- Upgrade of the Kmart transfer center through :
    - Replacement of shelter (this may take 4-5 months)
    - Signage improvement (such as bus stops and wayfinding information) throughout Richmond County
    - Security improvement
    - Beautification of immediate surroundings
    - Lighting improvement
- Introduce a Travel Training Program that enables seniors to be able understand how to use transit. Once seniors know how to get around using transit, more will use transit services.
- Engage in better data collection through working with the City of Augusta Information Technology Department. This may also include upgrading the APT website.

- The downtown circulator project as recommend in the Transit Development Plan may become a reality with the relocation of the Broad Street Transfer Center.
- Investigate the relocation of the Broad Street Transit Center.
- Upgrade the Kmart Transfer Center.

The Richmond County Emergency and Transit Vehicle Preemption System is a TIA funded project that is set to be implemented during 2015-2018. This system is a component of the Master Plan for ATMS in Richmond County that will result in improved operational efficiency of the transit system.

6.3.5 Best Friend Express

Transit improvements and strategies proposed by BFE (or programmed in the South Carolina Statewide Plan for Lower Savannah) for implementation can be listed as:

- Add 5 ADA compatible vehicles
- Add 5 motor vehicles
- Replace and Upgrade Technology
- Upgrade Transit Facility
- Upgrade Vehicle storage facility
- Initiative replacement of 20 vehicles
- Replace technology and invest in security software upgrade
- Enhance safety and security of operations and facilities
- Add 8 drivers
- Add 2 dispatchers
- Expand 5311 to 5 days of operation
- Expand 5310
- Extend bus operating hours
- Enhance ADA offerings and riding experience
- Expand to NE Aiken County
- Restore Saturday service

6.3.6 Bike Racks on Buses

Most buses operating in the ARTS planning area are equipped with bike racks, a strategy that improves multimodal connectivity between all travel modes. Each bus is equipped a bike rack carrying two bikes. Installing bike racks on buses enables travelers to consider transit as a viable mobility option, potentially, increasing transit ridership. The availability of bike racks on buses widens the transit catchment area, particularly in low density areas. For example, cyclists traveling to and from a bus stop may reside or work more than a 1/4 mile, which is typically maximum walking distance to a transit stop. Public transit may be used by cyclists to access dedicated bike paths in community recreational areas. Bike racks on buses also permit one-way commuting for those workers traveling after bus operating hours. Improving multimodal mobility options, the availability of bike racks on buses eliminates barriers, increasing accessibility and the attractiveness of public transit for all travelers.

6.3.7 Regional Express Transit

Express transit across large regions provides citizens with an alternative mode of transportation to the automobile. A highly utilized express system has the ability to decrease the amount of vehicles on the roadway, increasing the overall efficiency. Many times these services are linked to key commercial or residential clusters as well as large transportation hubs, such as park and rides and public transit transfer facilities.

Regional express transit allows for effective mobility through the region and provides efficient movement of persons and goods, enhances the economic, social, environmental fabric of the area, and addresses congestion and air quality issues.

6.3.8 Bicycle and Pedestrian Improvements

Bicycle and Pedestrian Improvements are essential to address roadway traffic and congestion. Allowing for and promoting non-motorized travel alleviates demands placed on local road networks by providing bicyclists and pedestrians a safe and secure means of travel along public spaces. Augusta Regional Transportation Study (ARTS) currently has a Regional Bicycle and Pedestrian Plan for the area in place.

Bicycle and Pedestrian Improvements can provide effective mobility through the region, enhance the social and environmental fabric of the area, increase safety and security of users, and address congestion and air quality issues.

6.3.9 Congestion Management

6.3.9.1 ITS and ATMS

Intelligent Transportation Systems (ITS) or Advanced Traffic Management Systems (ATMS) use the latest computerized technology to monitor and control traffic. Through use of cameras, regulating traffic signals and speed sensors; local jurisdictions can manage emergency vehicle response times to incidents that occur throughout their area, enhance traffic flow and reduce congestion. This also involves the coordination of Law Enforcement, Fire, and Rescue, Medical Services Transportation, Public Safety Communications, Emergency Management, and Traffic Information Media. ITS and ATMS allow for effective and efficient movement of persons and goods, increases the safety and security of users, and addresses congestion and air quality issues.

6.3.9.2 Transportation Demand Management

Transportation Demand Management or Travel Demand Management, commonly referred to as TDM, are policies that reduce the demand placed on the transportation system using car or van pooling strategies, and rideshare programs. Alternative approaches, such as telecommuting and alternative work schedules are also incorporated into TDM strategies, as well as parking management and employer paid transit passes. U.S. Department of Transportation, Federal Highway Administration Office of Operations also recommends TDM as the preferred way of addressing congestion as part of their 21st Century Operations using 21st Century Technology, one lane in each direction.

TDM strategies may also include Educational Outreach programs. Such programs may target population groups that may be incentivized to use alternative travel modes to the motor car. Travel training programs targeted at seniors or persons with disabilities enable these groups regain travel independence through the use of transit. From a regional perspective, all transit buses that operate in the ARTS planning area are to be equipped with bike racks. Buses equipped with bike racks allow cyclists to broaden their area of travel by accessing all transit buses operating in the ARTS planning area. Benefits of this TDM strategy reduce commuting costs and improves personal health when compared to travel by personal car.

Transportation Demand Management when integrated with planned land use, will allow for effective mobility throughout the ARTS planning area, and addresses congestion and air quality issues.

6.3.10 High Occupancy Vehicle (HOV) lanes

High Occupancy Vehicle (HOV) lanes: are used throughout the federal highway system all across the country. It reserves certain lanes along highways and expressways for vehicles with two or more occupants, allowing them a separate lane from single vehicle occupants. This strategy is presented as a high priority unfunded project for I-20 between Louisville Road and Riverwatch Parkway.

High Occupancy Vehicles allow for effective mobility through the region and provides efficient movement of persons and goods, and addresses congestion.

6.3.11 Land Use and Transportation

Development of land and the growth in transportation demand are undeniably linked, affecting one another. Coordinating land use and transportation planning can enhance the resources of the area and lead to more sustainable communities. Land uses that tend to foster a balance of mixed uses, such as commercial, housing, and recreational activities, have the ability to offer citizens a greater amount of transportation options.

Land Use and Transportation connection promotes efficient land use and development patterns, is financially and politically feasible, allows for effective mobility and efficient movement of persons and goods, increases safety and security of users, and addresses congestion and air quality issues.

6.3.11.1 Access Management

Access Management is best used on all manner of roadways to help manage access and egress to and from property. This strategy applies to all local and major roadways including highways and major arterials. Signal spacing, right-of-way access to highways, streetscapes, median treatment and two-way left turn lanes, driveway location, spacing, and design are some of the techniques used to implement access management.

Access management strategies allow for effective movement of persons and goods throughout the region, integrates with surrounding land uses, increases safety and security for users, and addresses congestion.

6.3.12 Age-Friendly Design

The ARTS planning area, similar to many of the communities in the United States, has an increasing life expectancy and a large portion of citizens reaching retirement age. Many of these aging citizens continue to be active and engaged in the community- many times being the most active members of a community. However, with increased age comes the demand for an urban environment that meets the changing mobility needs of this growing population.

By focusing on an age-friendly design of the transportation network that encompasses all ages, ARTS can ensure citizens can maintain an active, safe, and healthy lifestyle throughout all communities. Particular focus is spent on ensuring ADA compliance, not only through transportation projects that enhance mobility such as public transit, bicycle and pedestrian facilities, but also on development that ensures citizens can "age-in-place" through mobility in homes, businesses, and recreational opportunities.

Age-Friendly Design integrated with planned land use, allows for effective mobility of users, increases the safety and security of users, and enhances the economic, social, and environmental fabric of the area.

Figure 63: *Need for Complete Streets*

Location: Ellis Street downtown Augusta, GA.
Contributed by: ARTS Staff

6.3.12.1 Complete Streets

Complete Streets is now a standard transportation planning practice. This strategy involves the designing of local streets to incorporate all modes of travel and streetscapes that are designed with bicycle, pedestrian, car, and public transit in mind. Many state Departments of Transportation have formally adopted Complete Street Policies encouraging local jurisdictions to do the same.

Complete Streets promotes efficient land uses and development patterns, increases safety and security of users, enhances economic and environmental fabric of the area, and addresses congestion and air quality issues.

Figure 64: *Need for Complete Streets*

Contributed by: ARTS Staff

6.4 Regional Transportation Improvements

6.4.1 Summary

The primary purpose of this report has been to provide a comprehensive understanding of transportation needs within the ARTS planning area. This report also presents strategies and transportation improvements that can address identified needs as well as support the Transportation Vision 2040 goals. Through an extensive public outreach program, analysis of the existing transportation system conditions, and the identification of current and programmed projects; a series of recommended strategies and improvements have been put forward. Anticipated growth in population and highway traffic in a financially constrained environment will necessitate the need to consider alternative resources and efficient transportation options. Transportation improvement projects presented in this plan will contribute to the fulfillment of Transportation Vision 2040 goals while strengthening the economic vibrancy and livability of the ARTS planning area *(Table 39)*.

Table 39: *Key Findings based on Needs Recommendations*

Capacity, Level of Service and Congestion
Key Findings
· Carryover capacity projects from 2035 LRTP on roadways that are seriously congested.
· Implement new capacity projects on roadways that are exhibiting poor Level of Service and are Seriously Congested.
· Monitor congestion levels and implement congestion mitigation measures in South Augusta as it continues to develop.
· Monitor congestion levels and implement congestion mitigation measures in and around the Fort Gordon Military Base as it continues to develop.
· Continued implementation of congestion mitigation strategies on Seriously Congested roadways identified in the annual congestion management process surveys.
· Continued implementation of ATMS plan to address safety and congestion.
Traffic Safety Improvements
Key Findings
· Implement safety improvements at high crash intersections.
· Implement operational and access management improvements on corridors with extensive amounts of driveways, such as Washington Road.
Freight
Key Findings
· Many large state projects for freight have been completed.
· Continue to focus on corridors with high freight activity, especially near industrial areas, such as I-20.
· Implement capacity improvements on major roadways and freight corridors, including I-20, US 78, and US 278
Bicycle and Pedestrian
Key Findings
· Complete implementation of 2012 Bicycle and Pedestrian plan.
· Focus on paths and trails with regional connectivity.
· Advocate and implement bicycle and pedestrian facilities on roadway projects.
· Increase education of all road users of roadway safety.
· Continued maintenance of existing facilities.
Transit
Key Findings
· Current densities do not facilitate large expansions of fixed route service, although certain population/employment clusters could offset potential expansion if land uses are appropriate.
· Changes to current routes may improve efficiency.
· Improved frequency and extended hours of service into the evenings and weekends provide increased quality of life and economic opportunity to residents.
· If future development is compact there exists the potential to support bus rapid transit if commuting pattern needs exist.
· Bike racks on buses
· Educational Outreach and Travel Training programs

Source: ARTS

7 Financial Plans and Long Range Transportation Planning

Continued economic and population growth in the ARTS planning area place ever greater demands on the current transportation network. Though ARTS engages innovative and creative planning efforts to achieve a safe, livable, and economically prosperous region, these outcomes are all dependent on the availability of funds. Simply adding to the transportation network to mitigate congestion and other negative consequences of unrestrained development, the gap between transportation needs and available resources widen. Undeniably, funding transportation, public transit and non-motorized transportation improvements, consistently remains a challenge for many MPOs.

Accommodating current and future transportation improvements in the region, ARTS has developed a financially constrained multimodal transportation plan. The financial plan is a pragmatic forecast of costs and revenue streams that are reasonably expected (i.e., to be incurred or made available) over the next 25 years. The financial plan documents the methods used to calculate funding availability (i.e., revenues) and project expenditures (i.e., costs) to achieve financial constraint in the LRTP.

Moving Ahead for Progress in the 21st Century Act (MAP-21) consolidated and restructured federal grant programs for transportation, e.g., Surface Transportation Program (STP). MAP-21 also introduced new financing mechanisms for core program funding. One key aspect of MAP-21 requires the ranking of all projects against performance measurement goals. Transportation projects that meet or exceed performance thresholds have a greater potential of attracting and sustaining federal, state or local funding. Despite the availability of federal, state and local revenues, for many MPOs there still remains a shortfall to fund transportation projects and improvements.

Several factors have limited the growth of revenues to fund high priority transportation projects, further consolidating the number and type of projects that can be proposed in a financially constrained plan. These factors are: 1) Declining gas tax revenues resulting from changing driving habits, lower vehicle miles traveled and increased fuel efficiency; 2) Increased use of alternative fuel vehicles, such as electric or hybrid vehicles, which are not currently subject to highway fuel taxes; and, 3) Flat rate gas taxes where federal and state gas taxes remain at fixed per-gallon amounts despite increases in transportation construction costs.

Federal planning regulations require that the financial plan presented in LRTPs be financially constrained (i.e., a balanced budget). A position where the estimated costs for all transportation improvements presented in a LRTP cannot exceed the amount of reasonably expected revenues from identified funding sources. The financial constraint requirement ensures realistic assumptions are made when committing funds for projects.

Projects for the Transportation Vision 2040 LRTP update were identified through a thorough assessment of issues and needs affecting the ARTS planning region. Input provided by citizens, local jurisdictions and other stakeholders guided the project selection process. Coordination between ARTS, GDOT, SCDOT, county partners and other federal and county agencies identified potential revenue sources that are reasonably expected over the next 25 years.

7.1 Federal Grant Programs and Revenue Sources for Transportation Improvements

Funding for transportation improvements is accessible from a variety of federal, state and local sources. Funding sources financing projects in the Transportation Vision 2040 LRTP update are described below. A summary table of grants and the types of transportation improvements projects that can be funded is presented in *Appendix D*.

7.1.1 Federal Funds

Federal Funds are the largest share of funding for transportation improvements in the ARTS planning area. Federal Funds authorized by Congress to assist states in building, improving and maintaining multimodal transportation networks and services within each state. Federal funds, typically, comes from gas taxes or motor fuel fees. Federal funds for surface transportation are administered by the FHWA, FTA and Federal Railroad Administration (FRA).

High Priority Projects (HPP)

HPP grants provide discretionary funds for specific highway projects identified by Congress. As a federally mandated earmark, HPP grants are used to fund "demonstration" projects that may not have been included in TIP or the LRTP. The maximum Federal share for HPP is 80%. Funding for HPP was discontinued under MAP-21. According to the 2015-2018, TIP ARTS is programmed to apportion $4,499,501 to eligible HPP recipients/projects.

Highway Safety Improvement Program (HSIP)

HSIP grants fund transportation improvement projects that reduce traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal lands. Eligible projects include highway safety improvements, roadway hazard correction, etc. Eligible projects must be consistent with the State Highway Safety Program (SHSP) while achieving state safety targets. According to the 2015-2018 TIP ARTS is programmed to apportion $9,805,000 to eligible HSIP recipients/projects.

National Highway Performance Program (NHPP)

NHPP grants provide funding for the construction and maintenance of the National Highway System (NHS). The interstate system and all principal arterials are eligible for NHPP funds. According to the 2015-2018 TIP ARTS is programmed to apportion $13,919,764 to eligible NHPP recipients/projects.

Surface Transportation Program (STP)

STP grants provide flexible funding to states and localities for transportation improvement projects. Eligible projects for STP grants will preserve or improve the conditions and performance on any Federal-aid highway, bridge and tunnel, on any public road, and on pedestrian and bicycle infrastructure. Funding for transit capital projects, such as intercity bus terminals, are also included in STP grants. STP grants can cover up to 80 percent of the total cost of a project, with the balance covered by states or localities. According to the 2015-2018 TIP ARTS is programmed to apportion $60,784,987 to eligible STP recipients/projects.

Transportation Alternatives Program (TAP)

TAP grants provide funds for alternative transportation projects, such as transportation improvement projects relating to pedestrian and bicycle paths and sidewalks. TAP funds may contribute up to 80% of the total eligible project cost. Local governments, regional transportation authorities, transit agencies, and school districts are just some of the agencies eligible to receive TAP funds.

TAP funds can be used for programs and projects that promote walking and bicycling in a safe environment by children (possibly accompanied by their parents) to and from school. Engaging these alternative modes result in improvements to personal health and fitness, particularly for children. Eligible TAP projects can now include: sidewalk improvements, traffic calming and speed reduction improvements, pedestrian and bicycle crossing improvements, and on- and off-street pedestrian and bicycle facilities, etc. According to the 2015-2018 TIP ARTS is programmed to apportion $3,504,991 to eligible TAP recipients/projects.

Federal Transit Administration Grants

The Federal Transit Administration (FTA) issues various competitive grants and cooperative agreements funding public transit operations, maintenance programs and capital purchases. Depending on the grant, the FTA may fund up to 100% of the project cost. FTA grants disbursed to MPOs or public transit providers in the ARTS planning area are presented below.

Section 5303 – Urban Planning

Section 5303 grants from the FTA go to MPOs for planning activities. MPOs may be engaged in planning activities that: 1) increase the accessibility and mobility of people; 2) enhance the integration and connectivity of the transportation system; or 3) promote efficient management and operation of transportation systems. In SC. all federal funds under this program are consolidated with FHWA metropolitan planning funds.

Section 5307 – Large Urban Public Transportation

The Urbanized Area Formula Funding program makes Federal resources available to urbanized areas (population of 50,000+) for transit capital and operating assistance and transportation related planning. Public transit providers may use Section 5307 grants to provide mobility management services to members of the public. Contracted mobility services may also be funded by Section 5307 grants.

Section 5310 – Enhanced Mobility of Seniors and Individuals with Disabilities

Section 5310 grants are available to transit agencies that provide public transit services improving the mobility for seniors and disabled persons. Section 5310 grants enable public transit providers to go beyond meeting the mobility requirements of the Americans with Disabilities Act (ADA). Eligible projects include: 1) capital projects that improve access to transit for seniors and persons with disabilities, e.g., specialized vehicle purchase; and, 2) communication equipment, such as two-way radios.

Section 5311 – Other than Urbanized Areas

Section 5311 grants are available to transit agencies that provide service in rural areas with population of less than 50,000. Section 5311 grants seek to: 1) Enhance the access of people in rural areas to health care, shopping, education, employment, public services, and recreation; 2) Assist in the maintenance, development, improvement, and use of public transit in rural areas; 3) Assist in the development and support of intercity bus transportation; and 4) Provide for the participation of private transportation providers in rural transportation. Eligible activities using these grant funds include: acquisition of public transportation services and capital, operating, and administrative expenses on providing public transit services in rural areas.

Section 5339 – Bus and Bus Facilities Program

MAP-21 replaced Section 5309 grants with Section 5339. Section 5339 discretionary funds provide funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Grant funds can be used to purchase shelters and bus stop signs, bicycle infrastructure tied to transit, and electronic communications. This program requires a 20 percent local match.

7.2 State Grant Programs and Revenue Sources for Transportation Improvements

States are major contributors of funds for transportation improvement projects, often the second largest contributor after the Federal Government. With reductions in the availability of federal funds for transportation projects, states have had to develop innovative funding programs at the state level to make up for any shortfalls. Funding initiatives at the state level are presented in this section.

7.3 Georgia

7.3.1 Transportation Investment Act of 2010

Georgia House Bill 277 (aka Transportation Investment Act of 2010 (TIA)) was passed by the Georgia General Assembly in 2010. Each of the 12 economic development regions in Georgia through a referendum would be permitted to impose a 1 percent sales tax for 10 years (beginning in 2013) to fund multimodal transportation projects. This special tax would create a source of discretionary funds for participating regions to finance additional local transportation improvements. The process if approved, would give voters a greater role in the development of Georgia's transportation system.

In 2012, the referendums took place and voters in three (3) economic development regions, comprising of 46 Georgia counties, voted to implement the 1% Transportation Special Purpose Local Option Sales Tax (TSPLOST), beginning January 1, 2013. The three (3) regions were: Central Savannah River Area (CSRA), Heart of Georgia–Altamaha, and River Valley.

GDOT serves as the agency responsible for managing the budget, schedule, execution and delivery of all projects contained in the approved investment lists. The Georgia State Financing and Investment Commission (GSFIC) is the agency responsible for receiving SPLOST funds and distributing a 25% local share back to the counties. GSFIC is also responsible for investing 75% of SPLOST funds received and disbursing such funds as GDOT invoices for work completed. SPLOST revenues collected by GSFIC are presented in *Table 40*.

Table 40: *Columbia and Richmond Counties SPLOST Collections 2013-2015*

Period	Columbia	Richmond
Jan-Jun 2013	$1,031,062.42	$1,644,119.37
Jul-Dec 2013	$1,093,115.41	$1,490,673.06
Total Jan-Dec 2013	$2,124,177.83	$3,134,792.43
Jan-Jun 2014	$1,166,162.31	$1,590,287.08
Jul-Dec 2014	$1,209,163.24	$1,729,371.74
Total Jan-Dec 2014	$2,375,325.55	$3,319,658.82
Jan-May 2015	$1,029,511.48	$1,472,429.93

Source: Georgia State Financing and Investment Commission

TIA is currently budgeted at $1,175,318,463 (in 2011 Dollars) with $316,962,906 tax revenues collected as of June 2015. Currently 871 projects are funded with TIA dollars. Of this, 84 projects are within the CSRA region with a total budget of $538,965,884. An example of a TIA funded project is the SR 10 Gordon Highway/SR 4 Deans Bridge Road intersection improvements in Richmond County. This project in construction as from March 2015 is a TIA Band 1 project (2013-2015) with an expected completion date of March 2016.

7.3.2 Georgia House Bill 170

Transportation Funding Bill, House Bill 170 (HB 170), was passed March 31, 2015 and made effective July 1, 2015. The Georgia General Assembly adopted this new transportation funding legislation. HB 170 establishes a .26 cents per gallon state excise tax on gasoline, and 29 cents per gallon state excise tax on diesel.

Georgia – House Bill 170 – Transportation Funding Act of 2015 became ACT 46 after the governor signed it into law on May 4, 2015. This Act amends the Official Code of Georgia (O.C.G.A.) in order to help fund transportation projects in the state. The amendments to the O.C.G.A. include:

- Chapter 12 of Title 45 – limits Governor's power to suspend collection of motor fuel taxes and requires ratification by the General Assembly.
- Title 48 – Revenue and Taxation
- Chapter 10 of Title 32 Article 2 Part 2 – the Georgia Transportation Infrastructure Bank Act, provide new criteria for determination of eligible projects by Transportation Infrastructure Bank.

HB 170 changed the current indexing formula to include both the Corporate Average Fuel Economy (CAFÉ) standards and Consumer Price Index (CPI) through July 1, 2018. Future indexing will be against CAFÉ standards only. HB 170 includes additional oversight by the Georgia General Assembly, requiring GDOT to annually submit a ten (10) year strategic plan outlining the use of department resources for upcoming fiscal years. It also creates a Special Joint Committee on the Georgia Revenue Structure (i.e., Tax Reform).

At the local level, HB 170 authorizes a cap on the average retail price for fuel that local sales taxes can collect, at a rate of $3.00 per gallon for motor fuel, including diesel. Comparatively, local sales taxes are currently collected on an average price of $2.59 per gallon for gasoline, and $3.16 per gallon for diesel. HB 170 authorizes a region to self-start the process for TIA by adopting a resolution and allows the rate to be a fractional rate of 0.5 percent up to 1 percent.

7.3.3 Georgia House Bill 106

Georgia House Bill 106 (HB 106) authorizes TSPLOST to be adopted by a single county. Beginning in July of 2017, any county not currently in a TIA region, may impose a single county TSPLOST for transportation purposes at a fractional rate of .05 percent up to a maximum of 1 percent for a period not to exceed five (5) years. If the county fails to enter an Inter-Government Agreement (IGA) with its municipalities, it can still impose the tax but at a maximum rate of .75 percent. If there is an IGA, the project list must contain Statewide Strategic Transportation Plan (SSTP) projects that make up at least 30% of the projected revenues. A county must have a regular Special Purpose Local Option Sales Tax (SPLOST) in effect in order to levy a single county TSPLOST. The single county TSPLOST is not subject to the 2% local sales tax cap. Other requirements indicate that only one single county TSPLOST can be in effect at any given time.

Georgia Transportation Infrastructure Bank

State Infrastructure Banks (SIBs) provide infrastructure investment funds for surface transportation. SIBs are established and administered by the state where they are located. The Georgia Transportation Infrastructure Bank (GTIB) established by House Bill 1019 in April 2008, provides loans to state, regional, and local government entities. These loans fund much-needed transportation improvement projects through which economic value and vitality is increased in local communities. The program is primarily funded through state motor fuel taxes and administered by the State Road and Tollway Authority (SRTA). Currently, the majority of GTIB loans fund road and bridge projects in the Atlanta Metro area. However, GTIB funds are available to all jurisdictions in Georgia.

7.4 South Carolina

General Bill H.3579

In May 2015 the South Carolina Senate failed to pass General Bill H.3579 which sought to address and reform funding mechanisms for the state's aging transportation infrastructure. General Bill H.3579 proposed a gas tax increase to fund much needed repairs and upgrades. A debate and revote is anticipated when the South Carolina General Assembly returns to Columbia in January 2016. Until that time needed funds are to be appropriated from other state resources.

Local Funding Sources

Local funds for transportation improvement projects may come from various sources. These sources may range from: general revenues, sales taxes, property taxes or millage, and, vehicle fees.

South Carolina State Infrastructure Bank

SIBs are banks providing infrastructure investment funds for surface transportation. SIBs are established and administered by the state where they are located. South Carolina's SIB purpose is to select and assist in financing major qualified projects (i.e., exceeding $100 M) by providing loans and other financial assistance for constructing and improving highway and other transportation facilities as necessary for public purposes, including economic development. The program is primarily funded by the issuance of revenue and general obligation bonds. Funds are attributable to the South Carolina SIB for the Transportation Vision 2040 LRTP update amount to $4,600,000.

7.5 Projected Federal and State Revenues - Georgia

Georgia Federal and State amounts for 2015-2040 were provided by Georgia Department of Transportation (GDOT). GDOT's projections are based on historical data. An inflation factor of 1% was applied to produce available revenues to the year 2040 (*Table 41*). Projects estimate totaled $1,011,042,320 (Column B, *Table 41*) and Maintenance estimate totaled $99,643,518. The total Georgia Federal and State funds estimate for ARTS is $1,110,685,838.

Table 41: *Year-on-Year Federal and State Estimates for Georgia*

Year	Projects Estimate	Maintenance Estimate	Sub-Total Estimate	Tier	Total by Tier
2015	$34,242,869	$3,374,814	$37,617,683		
2016	$34,585,297	$3,408,562	$37,993,860	1	$152,742,877
2017	$34,931,150	$3,442,648	$38,373,798		
2018	$35,280,462	$3,477,074	$38,757,536		
2019	$35,633,266	$3,511,845	$39,145,111		
2020	$35,989,599	$3,546,964	$39,536,563		
2021	$36,349,495	$3,582,433	$39,931,928		
2022	$36,712,990	$3,618,258	$40,331,248		
2023	$37,080,120	$3,654,440	$40,734,560		
2024	$37,450,921	$3,690,984	$41,141,906	2	$452,785,033
2025	$37,825,430	$3,727,894	$41,553,325		
2026	$38,203,685	$3,765,173	$41,968,858		
2027	$38,585,721	$3,802,825	$42,388,546		
2028	$38,971,579	$3,840,853	$42,812,432		
2029	$39,361,294	$3,879,262	$43,240,556		
2030	$39,754,907	$3,918,054	$43,672,962		
2031	$40,152,456	$3,957,235	$44,109,691		
2032	$40,553,981	$3,996,807	$44,550,788		
2033	$40,959,521	$4,036,775	$44,996,296		
2034	$41,369,116	$4,077,143	$45,446,259		
2035	$41,782,807	$4,117,915	$45,900,722	3	$505,157,929
2036	$42,200,635	$4,159,094	$46,359,729		
2037	$42,622,642	$4,200,685	$46,823,326		
2038	$43,048,868	$4,242,691	$47,291,560		
2039	$43,479,357	$4,285,118	$47,764,475		
2040	$43,914,150	$4,327,970	$48,242,120		
Total	$1,011,042,320	$99,643,518	$1,110,685,838		$1,110,685,838

Source: ARTS
Note: Estimates are based on historical revenue data with a 1% inflation rate

7.6 Projected Federal and State Revenues – South Carolina

South Carolina federal and state totals originate from annual Guide share amounts provided by SCDOT. Guide shares are synonymous with Surface Transportation Program (STP) grants in other states. SCDOT federal and state Guide share amounts for the 2015-2040 amounted to $93,354,660. This base figure does not take into account annual inflation factors.

The Guide share amount for FY 2015 is $3,510,435 under the Emma's Law. Guide share, TAP and local match base figures were held constant for 2016-2018. From FY 2019 an inflation factor of 3% was applied to produce available revenues to the year 2040 (*Table 42*). The total South Carolina Federal and State funds estimate for ARTS is $157,703,960. Other federal and state funds for South Carolina are as follows:

Federal Transportation Alternatives Program (TAP) = $ 5,778,820
State: State Infrastructure Bank (SIB) = $ 5,515,000
State: Non-State Infrastructure Bank = $ 19,084,000

Table 42: *Year-on-Year Federal and State Estimates for South Carolina*

# Years	Year	Projects Estimate (Guideshares)	State Infrastructure Bank	Safety, Bridge & Maintenance Programs Funds	Transportation Alternatives Program	Total Estimate Federal and State	Tier	Totals by Tier
1	2015	$3,510,435			$163,000	*$28,272,435*		
2	2016	$3,593,769	$5,515,000	$19,084,000	$163,000	*$3,756,769*	1	$39,542,742
3	2017	$3,593,769			$163,000	*$3,756,769*		
4	2018	$3,593,769			$163,000	*$3,756,769*		
5	2019	$3,701,582			$167,890	*$3,869,472*		
6	2020	$3,812,630			$172,927	*$3,985,556*		
7	2021	$3,927,008			$178,115	*$4,105,123*		
8	2022	$4,044,819			$183,458	*$4,228,277*		
9	2023	$4,166,163			$188,962	*$4,355,125*		
10	2024	$4,291,148			$194,631	*$4,485,779*	2	$49,559,408
11	2025	$4,419,883			$200,469	*$4,620,352*		
12	2026	$4,552,479			$206,484	*$4,758,963*		
13	2027	$4,689,053			$212,678	*$4,901,731*		
14	2028	$4,829,725			$219,058	*$5,048,783*		
15	2029	$4,974,617			$225,630	*$5,200,247*		
16	2030	$5,123,855			$232,399	*$5,356,254*		
17	2031	$5,277,571			$239,371	*$5,516,942*		
18	2032	$5,435,898			$246,552	*$5,682,450*		
19	2033	$5,598,975			$253,949	*$5,852,924*		
20	2034	$5,766,944			$261,567	*$6,028,511*		
21	2035	$5,939,953			$269,414	*$6,209,367*	3	$68,601,811
22	2036	$6,118,151			$277,497	*$6,395,648*		
23	2037	$6,301,696			$285,821	*$6,587,517*		
24	2038	$6,490,747			$294,396	*$6,785,143*		
25	2039	$6,685,469			$303,228	*$6,988,697*		
26	2040	$6,886,033			$312,325	*$7,198,358*		
	Total	$127,326,140	$5,515,000	$19,084,000	$5,778,820	$157,703,960		$157,703,960

Source: ARTS

7.7 Projected Local Revenues – Georgia

Table 43 presented Federal and State funding estimates for highway related investments in the Georgia portion of the ARTS planning area. The estimated grant of $1,110,685,838 requires a 20% local match of $277,671,460. For example for every $8 in Federal and State grants an additional $2 local match is required.

In order to receive the maximum Federal and State grant, Columbia and Richmond Counties are expected to provide $277,671,460 from local funding sources. The required pro rata population distributions from each county are based on the 2010 Decennial census estimates as follows:

Columbia County population	124,053 (38%)
Richmond County population	200,249 (62%)
Total	324,302 (100%)

Columbia County is responsible for 38% of the local match and Richmond County 62% (*Table 43)* as follows:

Columbia County	$ 105,515,155 (38%)
Richmond County	$ 172,156,305 (62%)
Total	$ 277,671,460

Projected Local Revenues Columbia County

Projected local revenues for Columbia County total $137,436,422 (*Table 44)* are based on revenue estimates provided by Columbia County. Assumptions are as follows:

- TIA/TSPLOST Tier #1 = $21,415,267 for 2015-2018.
- TIA/TSPLOST Tiers #2 & 3 = $10,506,000 for 2019-2040.
- SPLOST Tiers #1, #2 &#3= $105,515,155 for 2015-2040.

Table 43: *Year-on-Year Federal Funding Estimates Georgia and Anticipated Local Match*

Year	Federal Grant	Assumed Local Match	Local Columbia County Match (38%)	Local Richmond County Match (62%)
2015	$37,617,683	$9,404,421	$3,573,679.86	$5,830,740.82
2016	$37,993,860	$9,498,465	$3,609,416.66	$5,889,048.23
2017	$38,373,798	$9,593,450	$3,645,510.82	$5,947,938.71
2018	$38,757,536	$9,689,384	$3,681,965.93	$6,007,418.10
2019	$39,145,111	$9,786,278	$3,718,785.59	$6,067,492.28
2020	$39,536,563	$9,884,141	$3,755,973.45	$6,128,167.20
2021	$39,931,928	$9,982,982	$3,793,533.18	$6,189,448.88
2022	$40,331,248	$10,082,812	$3,831,468.51	$6,251,343.37
2023	$40,734,560	$10,183,640	$3,869,783.20	$6,313,856.80
2024	$41,141,906	$10,285,476	$3,908,481.03	$6,376,995.37
2025	$41,553,325	$10,388,331	$3,947,565.84	$6,440,765.32
2026	$41,968,858	$10,492,214	$3,987,041.50	$6,505,172.97
2027	$42,388,546	$10,597,137	$4,026,911.92	$6,570,224.70
2028	$42,812,432	$10,703,108	$4,067,181.03	$6,635,926.95
2029	$43,240,556	$10,810,139	$4,107,852.84	$6,702,286.22
2030	$43,672,962	$10,918,240	$4,148,931.37	$6,769,309.08
2031	$44,109,691	$11,027,423	$4,190,420.69	$6,837,002.17
2032	$44,550,788	$11,137,697	$4,232,324.89	$6,905,372.19
2033	$44,996,296	$11,249,074	$4,274,648.14	$6,974,425.92
2034	$45,446,259	$11,361,565	$4,317,394.62	$7,044,170.18
2035	$45,900,722	$11,475,180	$4,360,568.57	$7,114,611.88
2036	$46,359,729	$11,589,932	$4,404,174.26	$7,185,758.00
2037	$46,823,326	$11,705,832	$4,448,216.00	$7,257,615.58
2038	$47,291,560	$11,822,890	$4,492,698.16	$7,330,191.73
2039	$47,764,475	$11,941,119	$4,537,625.14	$7,403,493.65
2040	$48,242,120	$12,060,530	$4,583,001.39	$7,477,528.59
Total	$1,110,685,838	$277,671,460	$105,515,155	$172,156,305

Source: ARTS

Table 44: *Year-on-Year Local Revenue Estimates for Georgia - Columbia County*

# Years	Year	Tier	TIA/TSPLOST	SPLOST	Total	Totals by Tier
1	2015		$0	$3,573,680	$3,573,680	
2	2016	1	$12,016,722	$3,609,417	$15,626,139	$35,925,840
3	2017		$0	$3,645,511	$3,645,511	
4	2018		$9,398,545	$3,681,966	$13,080,511	
5	2019		$10,506,000	$3,718,786	$14,224,786	
6	2020		$0	$3,755,973	$3,755,973	
7	2021		$0	$3,793,533	$3,793,533	
8	2022		$0	$3,831,469	$3,831,469	
9	2023		$0	$3,869,783	$3,869,783	
10	2024	2	$0	$3,908,481	$3,908,481	$53,520,578
11	2025		$0	$3,947,566	$3,947,566	
12	2026		$0	$3,987,042	$3,987,042	
13	2027		$0	$4,026,912	$4,026,912	
14	2028		$0	$4,067,181	$4,067,181	
15	2029		$0	$4,107,853	$4,107,853	
16	2030		$0	$4,148,931	$4,148,931	
17	2031		$0	$4,190,421	$4,190,421	
18	2032		$0	$4,232,325	$4,232,325	
19	2033		$0	$4,274,648	$4,274,648	
20	2034		$0	$4,317,395	$4,317,395	
21	2035	3	$0	$4,360,569	$4,360,569	$47,990,003
22	2036		$0	$4,404,174	$4,404,174	
23	2037		$0	$4,448,216	$4,448,216	
24	2038		$0	$4,492,698	$4,492,698	
25	2039		$0	$4,537,625	$4,537,625	
26	2040		$0	$4,583,001	$4,583,001	
	Total		$31,921,267	$105,515,155	$137,436,422	$137,436,422

Source: ARTS

Projected Local Revenues Richmond County

Projected local revenues for Richmond County $230,537,767 (*Table 45)* are based on revenue estimates provided by Engineering Department of Richmond County and GDOT District #2 office. Assumptions are as follows:

- TIA/TSPLOST Tier #1 = $6,853,100 for 2015-2018.
- SPLOST Tiers #1, #2 &#3= $172,156,305 for 2015-2040.
- Local Maintenance Improvement Grant Year 2015 $1,570,687 from GDOT District #2 Office.
- Inflation factor 1% applied to LMIG.
- Expected 10% local match of LMIG.

Table 45: *Year-on-Year Local Revenue Estimates for Georgia - Richmond County*

# Years	Year	Tier	TIA/TSPLOST	SPLOST	Local Maintenance Improvement Grant (LMIG)	LMIG Local 10% Match	Total	Totals by Tier
1	2015	1	$2,000,000	$5,830,741	$1,570,687	$174,521	$9,575,949	$37,614,489
2	2016		$4,853,100	$5,889,048	$1,586,394	$176,266	$12,504,808	
3	2017		$0	$5,947,939	$1,602,258	$178,029	$7,728,225	
4	2018		$0	$6,007,418	$1,618,280	$179,809	$7,805,507	
5	2019	2	$0	$6,067,492	$1,634,463	$181,607	$7,883,562	$91,187,864
6	2020		$0	$6,128,167	$1,650,808	$183,423	$7,962,398	
7	2021		$0	$6,189,449	$1,667,316	$185,257	$8,042,022	
8	2022		$0	$6,251,343	$1,683,989	$187,110	$8,122,442	
9	2023		$0	$6,313,857	$1,700,829	$188,981	$8,203,667	
10	2024		$0	$6,376,995	$1,717,837	$190,871	$8,285,703	
11	2025		$0	$6,440,765	$1,735,016	$192,780	$8,368,560	
12	2026		$0	$6,505,173	$1,752,366	$194,707	$8,452,246	
13	2027		$0	$6,570,225	$1,769,889	$196,654	$8,536,769	
14	2028		$0	$6,635,927	$1,787,588	$198,621	$8,622,136	
15	2029		$0	$6,702,286	$1,805,464	$200,607	$8,708,358	
16	2030	3	$0	$6,769,309	$1,823,519	$202,613	$8,795,441	$101,735,413
17	2031		$0	$6,837,002	$1,841,754	$204,639	$8,883,396	
18	2032		$0	$6,905,372	$1,860,172	$206,686	$8,972,229	
19	2033		$0	$6,974,426	$1,878,773	$208,753	$9,061,952	
20	2034		$0	$7,044,170	$1,897,561	$210,840	$9,152,571	
21	2035		$0	$7,114,612	$1,916,537	$212,949	$9,244,097	
22	2036		$0	$7,185,758	$1,935,702	$215,078	$9,336,538	
23	2037		$0	$7,257,616	$1,955,059	$217,229	$9,429,903	
24	2038		$0	$7,330,192	$1,974,610	$219,401	$9,524,202	
25	2039		$0	$7,403,494	$1,994,356	$221,595	$9,619,444	
26	2040		$0	$7,477,529	$2,014,299	$223,811	$9,715,639	
	Total		$6,853,100	$172,156,305	$46,375,526	$5,152,836	$230,537,767	$230,537,767

7.8 Projected Local Revenues – South Carolina

Estimates of local revenues for the South Carolina portion of ARTS were provided by Aiken County Government. Local match base figures were held constant for 2015-2018. From FY 2019 an inflation factor of 3% was applied to produce available revenues to the year 2040. Local match figures for the period 2019-2040 were estimated at $82,421,438 (*Table 46)*.

Local estimated amounts for the South Carolina side of ARTS are as follows (see *Table 46)*:

Local:	Local Taxes (2015–2018)	= $ 26,225,000
Local:	Local Taxes (2019–2040)	= $ 82,421,438

The total South Carolina Local funds estimate for ARTS is $108,646,438.

Table 46: *Year-on-Year Local Revenue Estimates for South Carolina*

# Years	Year	Tier	Local Match Tier 1	Local Match Tiers 2, 3	Totals by Tier
1	2015	1	$6,556,250		$26,225,000
2	2016		$6,556,250		
3	2017		$6,556,250		
4	2018		$6,556,250		
5	2019	2		$3,746,429	$41,210,719
6	2020			$3,746,429	
7	2021			$3,746,429	
8	2022			$3,746,429	
9	2023			$3,746,429	
10	2024			$3,746,429	
11	2025			$3,746,429	
12	2026			$3,746,429	
13	2027			$3,746,429	
14	2028			$3,746,429	
15	2029			$3,746,429	
16	2030	3		$3,746,429	$41,210,719
17	2031			$3,746,429	
18	2032			$3,746,429	
19	2033			$3,746,429	
20	2034			$3,746,429	
21	2035			$3,746,429	
22	2036			$3,746,429	
23	2037			$3,746,429	
24	2038			$3,746,429	
25	2039			$3,746,429	
26	2040			$3,746,429	
	Total		$26,225,000	$82,421,438	$108,646,438

7.9 Projected Federal, State and Local Year-of-Expenditure Revenues for Transit

7.9.1 Projected Federal, State and Local Revenues Transit – Georgia

FTA Federal Transit Funds – Augusta Public Transit (APT)

Georgia Transit Federal transit funds (for transit services operated by APT) for FY 2015-2018 were based on the ARTS 2015-2018 Transportation Improvement Program 4 (see *Table 47)*. Georgia Transit Federal transit funds (for transit services operated by APT) for FY 2019-2040 were based on FY 2014 and FY 2015 Federal Transit Administration Section 5303, 5307, 5339 and 5310 Apportionments directive.

Assumptions Years 2015-2018:

- GA Federal Transit 5303 = N/A
- GA Federal Transit 5307 = $12,469,989 from 2015-2018 TIP.
- GA Federal Transit 5310 = $1,163,369
- GA Federal Transit 5339 = Average of Apportionment FY 2014 and FY 2015 or (FY 2014 $271,675 + FY 2015 $180,644) / 2 = $226,159 * 4 = $904,638.
- GA State Transit = $290,842 from 2015-2018 TIP.
- GA Local Transit = $3,117,497 = $922,107 from 2015-2018 TIP.
- No inflation factor applied during years 2015-2018 (TIP period).

Assumptions Years 2019-2040:

- GA Federal Transit 5303 = N/A.
- GA Federal Transit 5307 = Average of Apportionment FY 2014 and FY 2015 or (FY 2014 $2,024,954 + FY 2015 $1,343,879) / 2 = $1,684,417.
- GA Federal Transit 5339 = Average of Apportionment FY 2014 and FY 2015 or (FY 2014 $271,675 + FY 2015 $180,644) / 2 = $226,159.
- GA Federal Transit 5310 = Average of Apportionment FY 2014 and FY 2015 or (FY 2014 $354,003 + FY 2015 $235,261) / 2 = $294,632.
- GA State & GA Local match together @ 20% of the GA Federal amount (i.e., 10% state and 10% local).
- Inflation @ 1% per year applied to the GA Federal amounts only.

Table 47: *Year-on-Year Transit Funding Federal and State Estimates for Georgia (Augusta Public Transit)*

n	F/P	FTA Section 5303 Planning	FTA Section 5307 Capital	FTA Section 5339 Capital	FTA Section 5310 Capital	GA Federal Transit Capital	GA State Transit Capital	GA Local Transit Capital	GA State & Local Capital	Total Capital	Year
Base Year FY 2015 to 2018	1.0000	N/A	$12,469,989	$904,638	$1,163,369	$14,537,996	$290,842	$3,117,497	$3,408,339	$17,946,335	2015 to 2018
1	1.0100	N/A	$1,701,261	$228,421	$297,578	$2,227,260	$278,408	$278,408	$556,815	$2,784,075	2019
2	1.0201	N/A	$1,718,274	$230,705	$300,554	$2,249,533	$281,192	$281,192	$562,383	$2,811,916	2020
3	1.0303	N/A	$1,735,457	$233,012	$303,560	$2,272,028	$284,004	$284,004	$568,007	$2,840,035	2021
4	1.0406	N/A	$1,752,811	$235,342	$306,595	$2,294,748	$286,844	$286,844	$573,687	$2,868,435	2022
5	1.0510	N/A	$1,770,339	$237,695	$309,661	$2,317,696	$289,712	$289,712	$579,424	$2,897,120	2023
6	1.0615	N/A	$1,788,043	$240,072	$312,758	$2,340,873	$292,609	$292,609	$585,218	$2,926,091	2024
7	1.0721	N/A	$1,805,923	$242,473	$315,885	$2,364,281	$295,535	$295,535	$591,070	$2,955,352	2025
8	1.0829	N/A	$1,823,982	$244,898	$319,044	$2,387,924	$298,491	$298,491	$596,981	$2,984,905	2026
9	1.0937	N/A	$1,842,222	$247,347	$322,235	$2,411,804	$301,475	$301,475	$602,951	$3,014,754	2027
10	1.1046	N/A	$1,860,644	$249,820	$325,457	$2,435,922	$304,490	$304,490	$608,980	$3,044,902	2028
11	1.1157	N/A	$1,879,251	$252,318	$328,712	$2,460,281	$307,535	$307,535	$615,070	$3,075,351	2029
12	1.1268	N/A	$1,898,043	$254,842	$331,999	$2,484,884	$310,610	$310,610	$621,221	$3,106,104	2030
13	1.1381	N/A	$1,917,024	$257,390	$335,319	$2,509,732	$313,717	$313,717	$627,433	$3,137,166	2031
14	1.1495	N/A	$1,936,194	$259,964	$338,672	$2,534,830	$316,854	$316,854	$633,707	$3,168,537	2032
15	1.1610	N/A	$1,955,556	$262,564	$342,059	$2,560,178	$320,022	$320,022	$640,045	$3,200,223	2033
16	1.1726	N/A	$1,975,111	$265,189	$345,479	$2,585,780	$323,222	$323,222	$646,445	$3,232,225	2034
17	1.1843	N/A	$1,994,863	$267,841	$348,934	$2,611,638	$326,455	$326,455	$652,909	$3,264,547	2035
18	1.1961	N/A	$2,014,811	$270,520	$352,423	$2,637,754	$329,719	$329,719	$659,438	$3,297,192	2036
19	1.2081	N/A	$2,034,959	$273,225	$355,948	$2,664,132	$333,016	$333,016	$666,033	$3,330,164	2037
20	1.2202	N/A	$2,055,309	$275,957	$359,507	$2,690,773	$336,347	$336,347	$672,693	$3,363,466	2038
21	1.2324	N/A	$2,075,862	$278,717	$363,102	$2,717,681	$339,710	$339,710	$679,420	$3,397,101	2039
22	1.2447	N/A	$2,096,621	$281,504	$366,733	$2,744,857	$343,107	$343,107	$686,214	$3,431,072	2040
Total			$54,102,548	$6,494,452	$8,445,582	$69,042,583	$7,151,172	$7,178,279	$17,034,486	$86,077,068	

Source: ARTS

Total Georgia Federal Transit Capital Funds for APT is estimated at $69,042,583.

Georgia Local and State Transit Funds – Augusta Public Transit (APT)

Georgia Transit state and local transit funds (for transit services operated by APT) for FY 2015-2018, *Table 47* were based on the ARTS 2015-2018 Transportation Improvement Program. No inflation factor applied during this period.

Future revenue estimates (i.e., 2019-2040) were discounted to present $ values at an 1% discount factor. Georgia local and state funding FY 2019-2040 for APT is estimated at 20% match of the Georgia Federal amounts for Transit Funds. That is 10% state and 10% local.

Estimated Georgia state and local transit funds for years 2015-2040 totaled $17,034,486.

Total Georgia Transit Funds (Federal, State and Local) for APT amounted to $86,077,068.

7.10 Projected Federal, State and Local Revenues Rural Transit – Georgia

Georgia Federal Transit Funds – Rural Transit Services

Georgia Transit Federal transit funds (for rural transit services operated in Richmond and Columbia counties) were based on FTA 5311 grants and ARTS 2015-2018 Transportation Improvement Program (TIP). FTA 5311 grant funds are apportioned to operating or capital costs. *Table 48* presents Georgia Federal Transit Funds – Rural Transit Services.

Assumptions Year 2015-2018:

- GA Federal Rural Transit FTA 5311 Capital Richmond County = $73,020 from 2015-2018 TIP.
- GA Federal Rural Transit FTA 5311 Operating Richmond County = $110,284 from 2015-2018 TIP.
- GA Federal Rural Transit FTA 5311 Capital Columbia County = $110,480 from 2015-2018 TIP.
- GA Federal Rural Transit FTA 5311 Operating Columbia County = $194,288 from 2015-2018 TIP.
- No inflation factor applied during years 2015-2018 (TIP period).

Assumptions Year 2019-2020:

- GA Federal Transit FTA 5311 Capital Rural Richmond County 2019 base figure = $73,920 / 4 years = $18,480.
- GA Federal Transit FTA 5311 Operating Rural Richmond County 2019 base figure = $110,284 / 4 years = $27,571.
- GA Federal Transit FTA 5311 Capital Rural Columbia County 2019 base figure = $110,284 / 4 years = $27,571.
- GA Federal Transit FTA 5311 Operating Rural Columbia County 2019 base figure = $194,288 / 4 years = $48,572.
- Inflation @ 1% per year applied to the GA Federal amounts only.

Table 48: *Year-on-Year Federal Funding Estimates for Georgia (Rural Transit)*

n	F/P	FTA Section 5311 Capital Rural Richmond County	FTA Section 5311 Operating Rural Richmond County	FTA Section 5311 Capital Rural Columbia County	FTA Section 5311 Operating Rural Columbia County	GA Federal Rural transit
Base Year FY 2015 to 2018	1.0000	$73,920	$110,284	$110,480	$194,288	$488,972
1	1.0100	$18,665	$27,847	$27,896	$49,058	$123,465
2	1.0201	$18,851	$28,125	$28,175	$49,548	$124,700
3	1.0303	$19,040	$28,406	$28,457	$50,044	$125,947
4	1.0406	$19,230	$28,690	$28,741	$50,544	$127,207
5	1.0510	$19,423	$28,977	$29,029	$51,050	$128,479
6	1.0615	$19,617	$29,267	$29,319	$51,560	$129,763
7	1.0721	$19,813	$29,560	$29,612	$52,076	$131,061
8	1.0829	$20,011	$29,855	$29,909	$52,597	$132,372
9	1.0937	$20,211	$30,154	$30,208	$53,122	$133,695
10	1.1046	$20,413	$30,456	$30,510	$53,654	$135,032
11	1.1157	$20,618	$30,760	$30,815	$54,190	$136,383
12	1.1268	$20,824	$31,068	$31,123	$54,732	$137,746
13	1.1381	$21,032	$31,378	$31,434	$55,279	$139,124
14	1.1495	$21,242	$31,692	$31,748	$55,832	$140,515
15	1.1610	$21,455	$32,009	$32,066	$56,391	$141,920
16	1.1726	$21,669	$32,329	$32,387	$56,954	$143,340
17	1.1843	$21,886	$32,652	$32,710	$57,524	$144,773
18	1.1961	$22,105	$32,979	$33,038	$58,099	$146,221
19	1.2081	$22,326	$33,309	$33,368	$58,680	$147,683
20	1.2202	$22,549	$33,642	$33,702	$59,267	$149,160
21	1.2324	$22,775	$33,978	$34,039	$59,860	$150,651
22	1.2447	$23,002	$34,318	$34,379	$60,458	$152,158
Total		$530,677	$791,737	$793,144	$1,394,808	$3,510,367

Source: ARTS

Georgia Local and State Rural Transit Funds

Georgia Transit State and Local transit funds (for rural transit services in Columbia and Richmond counties) were based on FTA 5311 grants and the ARTS 2015-2018 TIP. FTA 5311 grant funds are apportioned to operating or capital costs. *Table 49* presents Georgia State and Local Funds – Rural Transit Services.

Assumptions Year 2015-2018:

- GA State and Local Match Rural Transit FTA 5311 Capital Richmond County = $9,240 from 2015-2018 TIP.
- GA Local Match Rural Transit FTA 5311 Operating Richmond County = $110,284 from 2015-2018 TIP.
- GA State and Local Match Rural Transit FTA 5311 Capital Columbia County = $13,810 from 2015-2018 TIP.
- GA Rural Transit FTA 5311 Operating Supplement Columbia County = $194,288 from 2015-2018 TIP.
- No inflation factor applied during years 2015-2018 (TIP period).

Assumptions Year 2019-2020:

- GA State and Local FTA 5311 Capital Rural Richmond County requires a 20% Match to Federal 5311 Capital Grant (10% state and 10% local).
- GA State and Local FTA 5311 Operating Rural Richmond County requires a 50% Match to Federal 5311 Operating Grant (25% state and 25% local).
- GA State and Local FTA 5311 Capital Rural Columbia County requires a 20% Match to Federal 5311 Capital Grant (10% state and 10% local).
- GA Supplement FTA 5311 Operating Rural Columbia County requires a 50% Match to Federal 5311 Operating Grant.
- Inflation @ 1% per year applied to the GA Federal amounts only.

Table 49: *Year-on-Year Transit Funding State and Local Estimates for Georgia (Rural Transit)*

n	F/P	FTA Section 5311 State Capital Rural Richmond County	FTA Section 5311 Local Capital Rural Richmond County	FTA 5311 State Operating Rural Richmond County	FTA 5311 Local Operating Rural Richmond County	FTA 5311 State Capital Rural Columbia County	FTA 5311 Local Capital Rural Columbia County	FTA 5311 Operating Supplement Rural Columbia County	Total	Year
Base Year FY 2015 to 2018	1.0000	$9,240	$9,240	na	$110,284	$13,810	$13,810	$194,288	$350,672	2015 to 2018
1	1.0100	$2,333	$2,333	$13,923	$13,923	$3,487	$3,487	$49,058	$88,545	2019
2	1.0201	$2,356	$2,356	$14,063	$14,063	$3,522	$3,522	$49,548	$89,430	2020
3	1.0303	$2,380	$2,380	$14,203	$14,203	$3,557	$3,557	$50,044	$90,324	2021
4	1.0406	$2,404	$2,404	$14,345	$14,345	$3,593	$3,593	$50,544	$91,228	2022
5	1.0510	$2,428	$2,428	$14,489	$14,489	$3,629	$3,629	$51,050	$92,140	2023
6	1.0615	$2,452	$2,452	$14,634	$14,634	$3,665	$3,665	$51,560	$93,061	2024
7	1.0721	$2,477	$2,477	$14,780	$14,780	$3,702	$3,702	$52,076	$93,992	2025
8	1.0829	$2,501	$2,501	$14,928	$14,928	$3,739	$3,739	$52,597	$94,932	2026
9	1.0937	$2,526	$2,526	$15,077	$15,077	$3,776	$3,776	$53,122	$95,881	2027
10	1.1046	$2,552	$2,552	$15,228	$15,228	$3,814	$3,814	$53,654	$96,840	2028
11	1.1157	$2,577	$2,577	$15,380	$15,380	$3,852	$3,852	$54,190	$97,808	2029
12	1.1268	$2,603	$2,603	$15,534	$15,534	$3,890	$3,890	$54,732	$98,786	2030
13	1.1381	$2,629	$2,629	$15,689	$15,689	$3,929	$3,929	$55,279	$99,774	2031
14	1.1495	$2,655	$2,655	$15,846	$15,846	$3,969	$3,969	$55,832	$100,772	2032
15	1.1610	$2,682	$2,682	$16,005	$16,005	$4,008	$4,008	$56,391	$101,780	2033
16	1.1726	$2,709	$2,709	$16,165	$16,165	$4,048	$4,048	$56,954	$102,798	2034
17	1.1843	$2,736	$2,736	$16,326	$16,326	$4,089	$4,089	$57,524	$103,826	2035
18	1.1961	$2,763	$2,763	$16,489	$16,489	$4,130	$4,130	$58,099	$104,864	2036
19	1.2081	$2,791	$2,791	$16,654	$16,654	$4,171	$4,171	$58,680	$105,912	2037
20	1.2202	$2,819	$2,819	$16,821	$16,821	$4,213	$4,213	$59,267	$106,972	2038
21	1.2324	$2,847	$2,847	$16,989	$16,989	$4,255	$4,255	$59,860	$108,041	2039
22	1.2447	$2,875	$2,875	$17,159	$17,159	$4,297	$4,297	$60,458	$109,122	2040
Total		$66,335	$66,335	$340,727	$451,011	$99,143	$99,143	$1,394,808	$2,517,501	

Source: ARTS

A summary table of Federal, State and Local funds for Capital and Operating costs is presented in *Table 50*.

Table 50: *Year-on-Year Funding Federal, State and Local Estimates for Georgia (Summary)*

n	F/P	Urbanized Area			Rural			Grand Total	Year
		GA Federal Transit	Total State & Local Transit	Total	GA Federal Rural transit	Total State & Local Transit	Total		
Base Year FY 2015 to 2018	1.0000	$8,173,067	$1,817,107	$9,990,174	$488,972	$350,672	$839,644	$10,829,818	2015 to 2018
1	1.0100	$2,227,260	$556,815	$2,784,075	$123,465	$88,545	$212,010	$2,996,085	2019
2	1.0201	$2,249,533	$562,383	$2,811,916	$124,700	$89,430	$214,130	$3,026,046	2020
3	1.0303	$2,272,028	$568,007	$2,840,035	$125,947	$90,324	$216,272	$3,056,307	2021
4	1.0406	$2,294,748	$573,687	$2,868,435	$127,207	$91,228	$218,434	$3,086,870	2022
5	1.0510	$2,317,696	$579,424	$2,897,120	$128,479	$92,140	$220,619	$3,117,738	2023
6	1.0615	$2,340,873	$585,218	$2,926,091	$129,763	$93,061	$222,825	$3,148,916	2024
7	1.0721	$2,364,281	$591,070	$2,955,352	$131,061	$93,992	$225,053	$3,180,405	2025
8	1.0829	$2,387,924	$596,981	$2,984,905	$132,372	$94,932	$227,304	$3,212,209	2026
9	1.0937	$2,411,804	$602,951	$3,014,754	$133,695	$95,881	$229,577	$3,244,331	2027
10	1.1046	$2,435,922	$608,980	$3,044,902	$135,032	$96,840	$231,872	$3,276,774	2028
11	1.1157	$2,460,281	$615,070	$3,075,351	$136,383	$97,808	$234,191	$3,309,542	2029
12	1.1268	$2,484,884	$621,221	$3,106,104	$137,746	$98,786	$236,533	$3,342,637	2030
13	1.1381	$2,509,732	$627,433	$3,137,166	$139,124	$99,774	$238,898	$3,376,064	2031
14	1.1495	$2,534,830	$633,707	$3,168,537	$140,515	$100,772	$241,287	$3,409,824	2032
15	1.1610	$2,560,178	$640,045	$3,200,223	$141,920	$101,780	$243,700	$3,443,923	2033
16	1.1726	$2,585,780	$646,445	$3,232,225	$143,340	$102,798	$246,137	$3,478,362	2034
17	1.1843	$2,611,638	$652,909	$3,264,547	$144,773	$103,826	$248,599	$3,513,146	2035
18	1.1961	$2,637,754	$659,438	$3,297,192	$146,221	$104,864	$251,085	$3,548,277	2036
19	1.2081	$2,664,132	$666,033	$3,330,164	$147,683	$105,912	$253,595	$3,583,760	2037
20	1.2202	$2,690,773	$672,693	$3,363,466	$149,160	$106,972	$256,131	$3,619,597	2038
21	1.2324	$2,717,681	$679,420	$3,397,101	$150,651	$108,041	$258,693	$3,655,793	2039
22	1.2447	$2,744,857	$686,214	$3,431,072	$152,158	$109,122	$261,280	$3,692,351	2040
Total		$62,677,654	$15,443,254	$78,120,907	$3,510,367	$2,517,501	$6,027,868	$84,148,775	

Source: ARTS

7.11 Projected Federal, State and Local Revenues Transit – South Carolina

South Carolina Federal Transit Funds

Estimates of South Carolina Federal and State Transit funds (available to transit services provided by Best Friend Express (BFE), and Lower Savannah Council of Governments (LSCOG)) were based on the ARTS 2015-2018 TIP (see *Table 51)*.

Assumptions FY 2015-2018

- SC Federal Transit 5303 Planning = $192,000 from 2015-2018 TIP.
- SC Federal Transit FTA 5307 Operating = $1,535,000.
- SC Federal Transit FTA 5307 Capital = $2,618,000 from 2015-2018 TIP.
- SC Federal Transit FTA 5307 Planning = $115,000.
- SC Federal Transit FTA 5310 Capital = $480,000.
- SC Federal Transit FTA 5310 Operating (Aiken Council on Aging) = $$60,000 per year * 4 = $240,000.
- SC Federal Transit FTA 5311 Operating (Aiken Council on Aging) = $400,000 per year * 4 = $1,600,000.
- No inflation factor applied during years 2015-2018 (TIP period).

Assumptions FY 2019-2040

- SC Federal Transit 5303 Planning = $48,000 per year.
- SC Federal Transit FTA 5307 Operating = $266,000 per year.
- SC Federal Transit FTA 5307 Capital = $474,000 per year, less $150,000 every third year from 2021.
- SC Federal Transit FTA 5307 Planning = $150,000 every third year from 2021.
- SC Federal Transit FTA 5310 Operating (Aiken Council on Aging) = $60,000 per year.
- SC Federal Transit FTA 5311 Operating (Aiken Council on Aging) = $400,000 per year.
- Inflation @ 1% per year applied to the SC Federal amounts only.

Table 51: *Year-on-Year Transit Funding Federal Estimates for South Carolina*

n	F/P	FTA Section 5303 Planning	FTA Section 5307 Operating	FTA Section 5307 Capital	FTA Section 5307 Planning	FTA Section 5310 Capital	FTA Section 5310 Operating	Total SC Federal Transit	Year
Base Year FY 2015 to 2018	1.0000	$192,000	$1,535,000	$2,618,000	$115,000	$480,000	$0	$4,940,000	2015 to 2018
1	1.0100	$48,480	$268,660	$478,740	$0	$80,800	$0	$876,680	2019
2	1.0201	$48,965	$271,347	$483,527	$0	$81,608	$0	$885,447	2020
3	1.0303	$49,454	$274,060	$488,363	$0	$82,424	$0	$894,301	2021
4	1.0406	$49,949	$276,801	$493,246	$0	$83,248	$0	$903,244	2022
5	1.0510	$50,448	$279,569	$498,179	$0	$84,081	$0	$912,277	2023
6	1.0615	$50,953	$282,364	$503,161	$0	$84,922	$0	$921,399	2024
7	1.0721	$51,462	$285,188	$508,192	$0	$85,771	$0	$930,613	2025
8	1.0829	$51,977	$288,040	$513,274	$0	$86,629	$0	$939,920	2026
9	1.0937	$52,497	$290,920	$518,407	$0	$87,495	$0	$949,319	2027
10	1.1046	$53,022	$293,829	$523,591	$0	$88,370	$0	$958,812	2028
11	1.1157	$53,552	$296,768	$528,827	$0	$89,253	$0	$968,400	2029
12	1.1268	$54,088	$299,735	$534,115	$0	$90,146	$0	$978,084	2030
13	1.1381	$54,628	$302,733	$539,456	$0	$91,047	$0	$987,865	2031
14	1.1495	$55,175	$305,760	$544,851	$0	$91,958	$0	$997,744	2032
15	1.1610	$55,727	$308,818	$550,299	$0	$92,878	$0	$1,007,721	2033
16	1.1726	$56,284	$311,906	$555,802	$0	$93,806	$0	$1,017,798	2034
17	1.1843	$56,847	$315,025	$561,360	$0	$94,744	$0	$1,027,976	2035
18	1.1961	$57,415	$318,175	$566,974	$0	$95,692	$0	$1,038,256	2036
19	1.2081	$57,989	$321,357	$572,644	$0	$96,649	$0	$1,048,639	2037
20	1.2202	$58,569	$324,571	$578,370	$0	$97,615	$0	$1,059,125	2038
21	1.2324	$59,155	$327,816	$584,154	$0	$98,591	$0	$1,069,716	2039
22	1.2447	$59,746	$331,094	$589,995	$0	$99,577	$0	$1,080,413	2040
Total		$1,378,382	$8,109,536	$14,333,527	$115,000	$2,457,304	$0	$26,393,750	

Source: ARTS

South Carolina Local Transit Funds

Estimates of South Carolina Local Transit funds (see *Table 52)* provided by LSCOG and SCDOT.

Assumptions FY 2015-2018

- SC Federal Transit 5303 Local Match = $48,000 from 2015-2018 TIP.
- SC Federal Transit FTA 5307 Local Match = $2,221,000.
- SC Federal Transit FTA 5310 Local Match = $120,000.
- SC Federal Transit FTA 5310 Local Match (Aiken Council on Aging) = $15,000 per year * 4 = $60,000.
- SC Federal Transit FTS 5311 Local Match (Aiken Council on Aging) = $90,000 per year * 4 = $360,000.
- No State Mass Transit Funds (SMTF) are received towards contribute to Local Match.
- No inflation factor applied during years 2015-2018.

Assumptions FY 2019-2040

- SC Federal Transit 5303 Local Match = $12,000 per year.
- SC Federal Transit 5307 Local Match = $385,000 per year.
- SC Federal Transit 5310 Local Match = $20,000 per year.
- SC Federal Transit FTA 5310 Local Match (Aiken Council on Aging) = $15,000 per year.
- SC Federal Transit FTS 5311 Local Match (Aiken Council on Aging) = $90,000 per year.
- No State Mass Transit Funds (SMTF) are received to contribute towards Local Match.
- Inflation @ 1% per year applied to the SC Federal amounts only.

Table 52: *Year-on-Year Transit Funding State and Local Estimates for South Carolina*

n	F/P	FTA 5303 Planning Local Match	FTA 5307 Local Match	FTA 5310 Local Match	ACOA Local Match	ACOA 5303 Local Match	SC Transit State & Local	Total SC Federal Transit	Grand Total	Year
Base Year FY 2015 to 2018	1.0000	$48,000	$2,221,000	$120,000	$360,000	$48,000	$2,797,000	$4,940,000	$7,737,000	2015 to 2018
1	1.0100	$12,120	$388,850	$20,200	$90,900	$12,120	$524,190	$876,680	$1,400,870	2019
2	1.0201	$12,241	$392,739	$20,402	$91,809	$12,241	$529,432	$885,447	$1,414,879	2020
3	1.0303	$12,364	$396,666	$20,606	$92,727	$12,364	$534,726	$894,301	$1,429,027	2021
4	1.0406	$12,487	$400,633	$20,812	$93,654	$12,487	$540,073	$903,244	$1,443,318	2022
5	1.0510	$12,612	$404,639	$21,020	$94,591	$12,612	$545,474	$912,277	$1,457,751	2023
6	1.0615	$12,738	$408,685	$21,230	$95,537	$12,738	$550,929	$921,399	$1,472,328	2024
7	1.0721	$12,866	$412,772	$21,443	$96,492	$12,866	$556,438	$930,613	$1,487,052	2025
8	1.0829	$12,994	$416,900	$21,657	$97,457	$12,994	$562,003	$939,920	$1,501,922	2026
9	1.0937	$13,124	$421,069	$21,874	$98,432	$13,124	$567,623	$949,319	$1,516,941	2027
10	1.1046	$13,255	$425,280	$22,092	$99,416	$13,255	$573,299	$958,812	$1,532,111	2028
11	1.1157	$13,388	$429,532	$22,313	$100,410	$13,388	$579,032	$968,400	$1,547,432	2029
12	1.1268	$13,522	$433,828	$22,537	$101,414	$13,522	$584,822	$978,084	$1,562,906	2030
13	1.1381	$13,657	$438,166	$22,762	$102,428	$13,657	$590,670	$987,865	$1,578,535	2031
14	1.1495	$13,794	$442,548	$22,989	$103,453	$13,794	$596,577	$997,744	$1,594,321	2032
15	1.1610	$13,932	$446,973	$23,219	$104,487	$13,932	$602,543	$1,007,721	$1,610,264	2033
16	1.1726	$14,071	$451,443	$23,452	$105,532	$14,071	$608,568	$1,017,798	$1,626,367	2034
17	1.1843	$14,212	$455,957	$23,686	$106,587	$14,212	$614,654	$1,027,976	$1,642,630	2035
18	1.1961	$14,354	$460,517	$23,923	$107,653	$14,354	$620,801	$1,038,256	$1,659,057	2036
19	1.2081	$14,497	$465,122	$24,162	$108,730	$14,497	$627,009	$1,048,639	$1,675,647	2037
20	1.2202	$14,642	$469,773	$24,404	$109,817	$14,642	$633,279	$1,059,125	$1,692,404	2038
21	1.2324	$14,789	$474,471	$24,648	$110,915	$14,789	$639,611	$1,069,716	$1,709,328	2039
22	1.2447	$14,937	$479,216	$24,894	$112,024	$14,937	$646,008	$1,080,413	$1,726,421	2040
Total		$344,596	$11,736,776	$614,326	$2,584,467	$344,596	$15,624,761	$26,393,750	$42,018,511	

Source: ARTS

7.12 Projected Federal, State and Local Year-of-Expenditure Revenues – Georgia & South Carolina

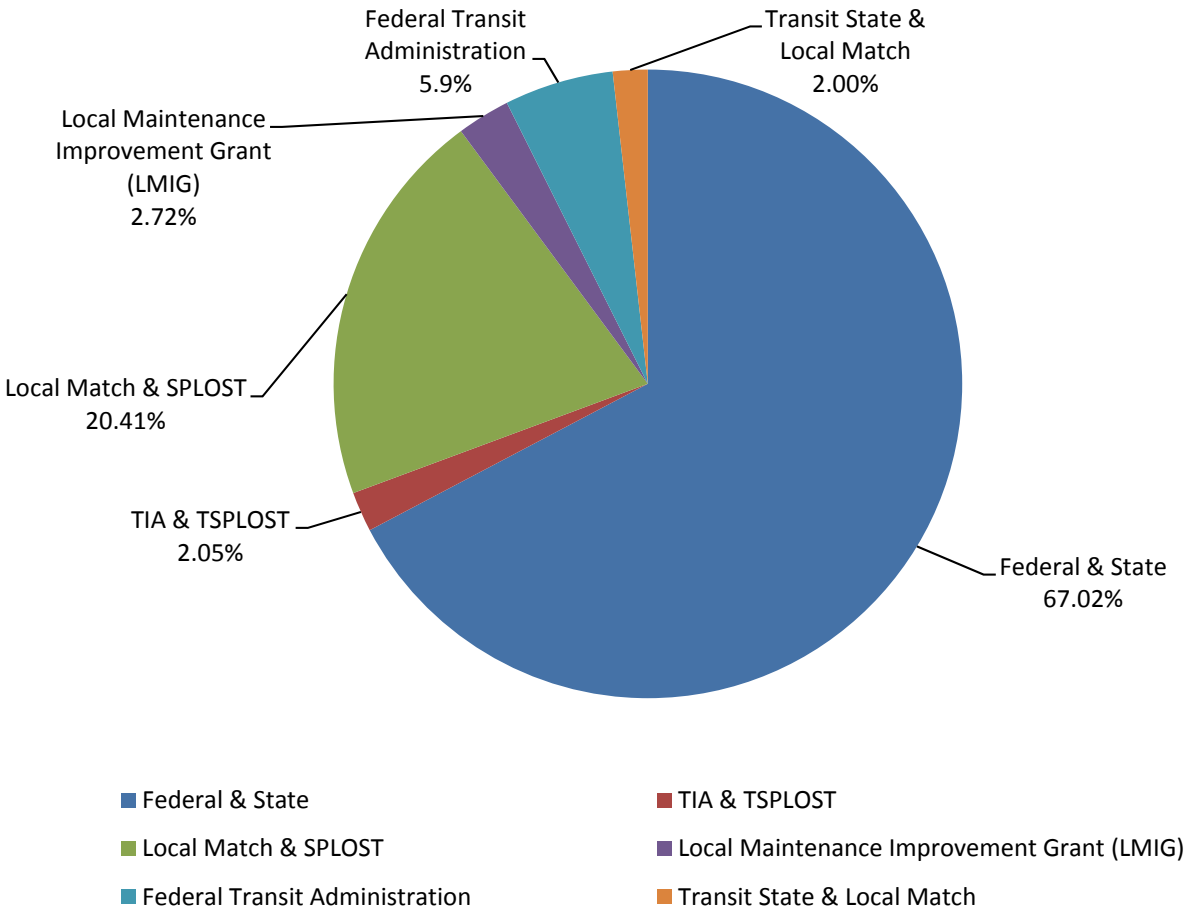
Presented in *Table 53*, the total Year-of-Expenditure (YOE) revenues for the ARTS Transportation Vision 2040 LRTP are forecasted at $1.87 billion. GDOT and SCDOT provided projected federal and state revenue dollars available to the year 2040. Federal and local transit revenue estimates were produced in cooperation with Columbia, Richmond and Aiken County governments, as well as staff from Aiken Area Council on Aging (AAOA), Augusta Public (APT) Transit and Best Friend Express (BFE). *Figure 65* illustrates projected Year-of-expenditure revenues by funding source.

Table 53: *Projected Year-of-Expenditure Revenues (2015-2040)*

Revenue Source	Georgia	South Carolina	Total	% of Total
Federal & State	$1,110,685,838	$157,703,960	$1,267,474,798	67.0%
TIA & TSPLOST	$38,774,367	na	$38,774,367	2.0%
Local Match & SPLOST	$277,671,460	$108,646,438	$386,317,898	20.4%
Local Maintenance Improvement Grant (LMIG)	$51,528,362	na	$51,528,362	2.7%
Federal Transit Administration (Urbanized Areas)	$69,042,583	$39,603,249	$108,645,832	5.7%
Federal Transit Administration (Rural Areas)	$3,510,367	na	$3,510,367	0.2%
Transit State & Local Augusta Public Transit (Urbanized Areas)	$17,034,486	na	$17,034,486	0.9%
Transit State & Local Augusta Public Transit (Rural Areas)	$2,517,501	na	$2,517,501	0.1%
Transit Local Best Friend Express/Aiken Area Council on Aging/LSCOG	na	$15,710,910	$15,710,910	0.8%
Total Year-of-Expenditure Dollars	$1,570,764,964	$321,664,557	$1,891,514,521	100.0%

Source: ARTS

Figure 65: *Projected Year-of-Expenditure Revenues by Funding Source*



Source: GDOT, SCDOT, Aiken County, Columbia County, Richmond County, Augusta Public Transit, Aiken Area Council on Aging, Best Friend Express and ARTS Staff

Figure 65 indicates that 67% of the projects and programs in the Transportation Vision 2040 LRTP are reasonably expected to be funded through federal and state funding sources. Local match funding (i.e., non-Public Transit) will account for 20%, followed by Federal Transit Administration at 6%. Local transit agencies in Georgia and South Carolina will be responsible for 2% of Year-of-Expenditure revenues.

Year-of-Expenditure Dollars

As stated earlier, Federal planning regulations require that the financial plan presented in LRTPs be financially constrained. Projects contained in the LRTP will at some future point in time require a financial disbursement. Estimating the dollar amounts that will be required to meet these anticipated future disbursements requires cost estimates to reflect YOE dollars. Simply put, YOE dollars are dollars that are adjusted for inflation from the present (i.e., 2015) to the expected year of the task or activity that requires a disbursement, e.g., preliminary engineering, Right-of-Way (ROW) acquisition, or construction. Guidance received from GDOT and SCDOT require MPOs to apply YOE in preparing cost estimates for highway, transit and other transportation projects. Guidance received from SCDOT recommended a 3% annual inflation rate be applied to estimate highway construction costs and 1% for transit improvements. GDOT recommended a 1% inflation rate to estimate highway construction costs and transit improvements.

Evaluating the projects that require funding "tiers," such as time bands, have been developed. Establishing these time bands enables: 1) a prioritization of projects, i.e., Tier 1 projects take preference over Tier 2 projects; 2) an average inflation rate can be applied to all projects within a specific tier; and 3) greater flexibility is allowed in the start and end dates of projects within each tier. Three (3) tiers were developed for the Transportation Vision 2040 LRTP update, namely;

Tier 1 – FY 2015 to FY 2018 (4 years or short term and corresponds to the TIP 2015-2018)
Tier 2 – FY 2019 to FY 2029 (11 years or medium-term)
Tier 3 – FY 2030 to FY 2040 (11 years or long term)

An inflationary factor is not applied to projects in *Tier 1*, the current TIP period. These projects are already financially constrained by ARTS through consultation with GDOT and SCDOT. However, an average inflation factor is applied to project cost estimates in Tier 2 and Tier 3 as shown in *Table 54.* The average inflation factor is the average of all annual inflation factors in a particular tier. *Appendix E* presents how the inflation factors were obtained.

Table 54: *Inflation Factors According to Tier*

Tier	Inflation Factor GA Projects	Inflation Factor SC Projects
Tier 1 – FY 2015 to FY 2018	N/A	N/A
Tier 2 – FY 2019 to FY 2029	1.06	1.2
Tier 3 – FY 2030 to FY 2040	1.18	1.66

Source: ARTS

Cost Estimation for Georgia Projects

Federal planning regulations require that all project cost estimates include the cost of the total project inclusive of preliminary design, Right-of-Way acquisition and construction; as well as account for inflation. Cost estimation for roadway projects in Columbia and Richmond counties is developed using GDOT's Cost Estimation System Tool (CES), ROW, and Utility Estimation Tool (RUCEST). RUCEST calculates costs relating to utility relocation and ROW acquisition as a result of projects relating to bridge widening, adding turn lanes, etc. Whereas, CES estimates construction costs resulting from projects relating to road widening, adding turn lanes, new or widened bridges, etc. Cost estimates contained in RUCEST and CES originate from historical bid data for Georgia based projects funded wholly or partially from federal, state and county funds. RUCEST and CES estimates include a GDOT recommended 30% contingency factor for projects in urbanized areas. Contingency factors account for project risk and uncertainty and are standard practice in project cost estimation. Updated on a quarterly basis, the planning-level cost estimates are current and accurate.

Cost Estimation for South Carolina Projects

Cost estimation for roadway projects in Aiken and Edgefield counties were developed using historical cost per mile for similar projects in South Carolina. Similar to the process in Georgia, all historical bid data for roadway projects in South Carolina funded wholly or partially from federal, state and county funds are used to produce cost estimates. All SCDOT cost estimates include a 30% contingency factor. Contingency factors account for project risk and uncertainty and are standard practice in project cost estimation. As a continuous process, cost estimates are current and accurate.

7.13 Projected Expenditures

Table 55 presents the planning level cost estimates in YOE dollars for the Transportation Vision 2040 LRTP projects according to the three constrained tiers. Tier 1 amounts (2015-2018) are currently programmed dollars identified in the 2015-2018 TIP. Tiers 2 and 3 are expenditures financially constrained to the projected revenue.

Table 55: *Year-of-Expenditures by Tier and State*

Georgia Time Period/Tier	Projected Revenues	Year-of-Expenditure Dollars	Revenues – Expenditures Remaining Revenues
FY 2015 to FY 2018	$245,069,185	$137,036,837	$108,032,348
FY 2019 to FY 2029	$632,148,697	$563,210,172	$68,938,525
FY 2030 to FY 2040	$693,547,080	$577,840,196	$115,706,884
Total	$1,570,764,962	$1,278,087,205	$292,677,757
South Carolina **Time Period/Tier**	**Projected Revenues**	**Year-of-Expenditure Dollars**	**Revenues – Expenditures Remaining Revenues**
FY 2015 to FY 2018	$75,356,742	$70,048,760	$5,307,982
FY 2019 to FY 2029	$112,382,758	$108,634,562	$3,748,196
FY 2030 to FY 2040	$133,925,058	$131,158,521	$2,766,537
Total	$321,664,558	$309,841,843	$11,822,715
Total ARTS	$1,892,429,520	$1,587,929,047	$304,500,473

Source: GDOT, SCDOT, Aiken County, Columbia County, Richmond County, Augusta Public Transit, Aiken Area Council on Aging, Best Friend Express and ARTS Staff.

7.13.1 Expenditures by Improvement Type

Approximately $1.62 billion of improvements have been identified in the ARTS Transportation Vision 2040 LRTP update. This total amount accounts for all multimodal projects that are programmed in the LRTP. *Figure 66* shows a breakdown of the improvements by project type. The majority of projects deal with roadway capacity improvements, accounting for over half of the project costs (58%). Although substantial investments in capacity improvements are proposed in response to increased roadway congestion, project costs also accommodate multimodal pedestrian and bicycle improvements. Pedestrian and bicycle improvements are included by default in many roadway capacity improvements. Both states, GA and SC require bicycle and pedestrian facilities on applicable roadways and the 2012 Bicycle and Pedestrian Plan serves as a recommended guide for additional multimodal improvements on all roadway projects.

The second largest expenditures come from operational, median, and corridor improvements, accounting for 14% of the total amount. These projects tackle congestion by increasing roadway efficiency and traffic safety. Maintenance and operations makes up 11% of the total. Maintaining the quality of the current multimodal transportation network is an important Transportation Vision 2040 objective and was an issue frequently talked about by citizens at community meetings. The summary of projects for each tier for both South Carolina and Georgia can be found in *Tables 56* and *57.*

Figure 66: *Total Projected Expenditures by Improvement Type (GA. and SC.)*

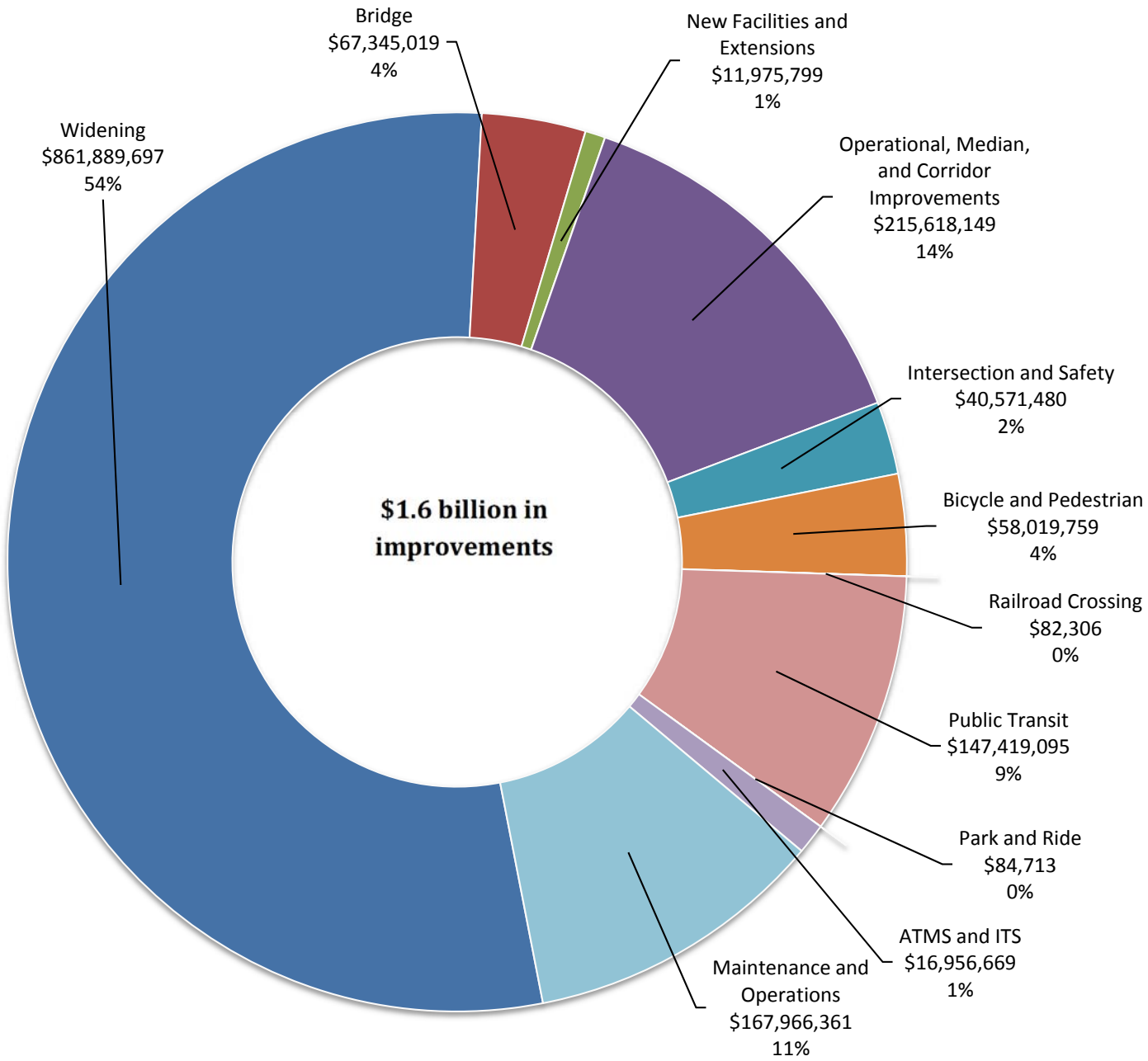


Table 56: *Georgia Total Projected Expenditures by Improvement Type*

Georgia Expenditures Expenditures by Type	Tier 1 #	%	Tier 2 #	%	Tier 3 #	%	Total #	%
Widening	$52,597,221	38%	$331,940,486	59%	$353,162,427	61%	$737,700,134	58%
Bridges	$2,715,640	2%	$29,132,043	5%		0%	$31,847,683	3%
New Facilities and Extensions	$0	0%	$0	0%	$0	0%	$0	0%
Operational, Median, and Corridor Improvements	$16,780,340	12%	$74,479,838	13%	$85,056,150	15%	$176,316,328	14%
Intersection and Safety	$6,292,127	5%	$10,562,523	2%	$0	0%	$16,854,650	1%
Bicycle and Pedestrian	$2,101,030	2%	$20,976,023	4%	$20,096,430	4%	$43,173,483	3%
Railroad Crossings	$0	0%	$53,249	0%	$0	0%	$53,249	0%
Public Transit	$18,785,979	14%	$34,655,222	6%	$38,663,735	7%	$92,104,936	7%
Park and Ride Facilities	$0	0%	$0	0%	$84,713	0%	$84,713	0%
ATMS and ITS	$0	0%	$4,953,158	1%	$12,003,510	2%	$16,956,669	1%
Maintenance and Operations	$37,764,500	28%	$56,457,630	10%	$68,773,231	12%	$162,995,361	13%
Total	**$137,036,837**	**100%**	**$563,210,172**	**100%**	**$577,840,196**	**100%**	**$1,278,087,205**	**100%**

Source: ARTS

Table 57: *South Carolina Total Projected Expenditures by Improvement Type*

South Carolina Expenditures Expenditures by Type	Tier 1 #	%	Tier 2 #	%	Tier 3 #	%	Total #	%
Widening	$21,265,000	30%	$34,646,705	32%	$68,277,859	12%	$124,189,563	40%
Bridges	$8,421,000	12%	$27,076,336	25%		0%	$35,497,336	12%
New Facilities and Extensions		0%		0%	$11,975,799	2%	$11,975,799	4%
Operational, Median, and Corridor Improvements	$18,920,000	27%	$17,687,541	16%	$2,694,280	1%	$39,301,821	13%
Intersection and Safety	$5,677,000	8%	$4,701,043	4%	$13,338,787	2%	$23,716,831	8%
Bicycle and Pedestrian	$1,205,760	2%	$2,881,248	3%	$10,759,268	2%	$14,846,276	5%
Railroad Crossings		0%	$29,057	0%		0%	$29,057	0%
Pulic Transit	$9,589,000	14%	$21,612,631	20%	$24,112,528	4%	$55,314,159	18%
Park and Ride Facilities		0%		0%		0%	$0	0%
ATMS and ITS		0%		0%		0%	$0	0%
Maintenance and Operations	$4,971,000	7%		0%		0%	$4,971,000	2%
Total	**$70,048,760**	**100%**	**$108,634,562**	**100%**	**$131,158,521**	**22.70%**	**$309,841,843**	**100%**

Source: ARTS

7.13.2 Financially Constrained Capacity TDM Results

The capacity projects (widening, new facilities, and extensions) recommended in Tiers 1, 2, and 3 are modeled in the Travel Demand Model (TDM) in order to determine their effectiveness on improving the Level of Service (LOS) of the roadway. The level of service grades the quality of the roadway based on the amount of vehicles it handles on a daily basis (measured in volume/capacity). A LOS of D, E, or F is generally considered poor.

Figure 67 provides a breakdown of the LOS for the three main networks run in the TDM. The 1st network provides the 2010 existing conditions, the 2nd network showing the future conditions in 2040 if no capacity improvements are made, and the 7th network that provides the financially constrained capacity projects presented in this chapter. As shown, the financially constrained capacity projects will improve the LOS of ARTS, with approximately 7% of the vehicle miles traveled (VMT) on the network improving to LOS A-C over the "Do-Nothing" network. The 7th network LOS results are shown in *Figure 70*. Displayed in *Table 58* is the summary of all networks. One important note is the results of 2040 Do Nothing compared to the Financially Constrained Plan. Once again, capacity projects from the plan are showing an improvement in LOS as well as decreases in vehicle hours of delay.

Table 58: *Summary of Results by Network*

					Transportation Improvement Program + additional local capacity projects								TIP, Tier 2, Tier 3	
Network	1st (2010 Base Year)		2nd (2040 Do-Nothing)		3rd (E+C)		4th (STIP/TIP)		5th (Remainder of programmed projects)		6th (Unconstrained)		7th (Financially Constrained)	
LOS by Vehicle Miles Traveled	#	%	#	%	#	%	#	%	#	%	#	%	#	%
A-C	7,755,549	82.4%	6,767,284	51.4%	7,020,270	53.4%	7,048,285	53.6%	7,020,270	53.4%	9,935,130	75.3%	7,686,970	58.4%
D	1,176,215	12.5%	3,466,642	26.4%	3,370,513	25.6%	3,336,360	25.4%	3,370,513	25.6%	2,162,802	16.4%	3,185,427	24.2%
E	391,248	4.2%	2,166,521	16.5%	2,224,568	16.9%	2,231,299	17.0%	2,224,568	16.9%	797,231	6.0%	1,878,140	14.3%
F	87,053	0.9%	754,456	5.7%	537,381	4.1%	535,484	4.1%	537,381	4.1%	298,505	2.3%	401,118	3.0%
Total Vehicle Miles Traveled	9,410,064		13,154,903		13,152,733		13,151,428		13,152,733		13,193,669		13,151,656	
Vehicle Hours Traveled	279,686		510,073		500,014		500,039		500,014		446,351		480,361	
Vehicle Hours of Delay	52,069		171,641		161,874		161,942		161,874		109,889		142,149	

Source: GDOT and ARTS Travel Demand Model

Figure 67: *Level of Service (LOS) by Daily Vehicle Miles Traveled (VMT)*

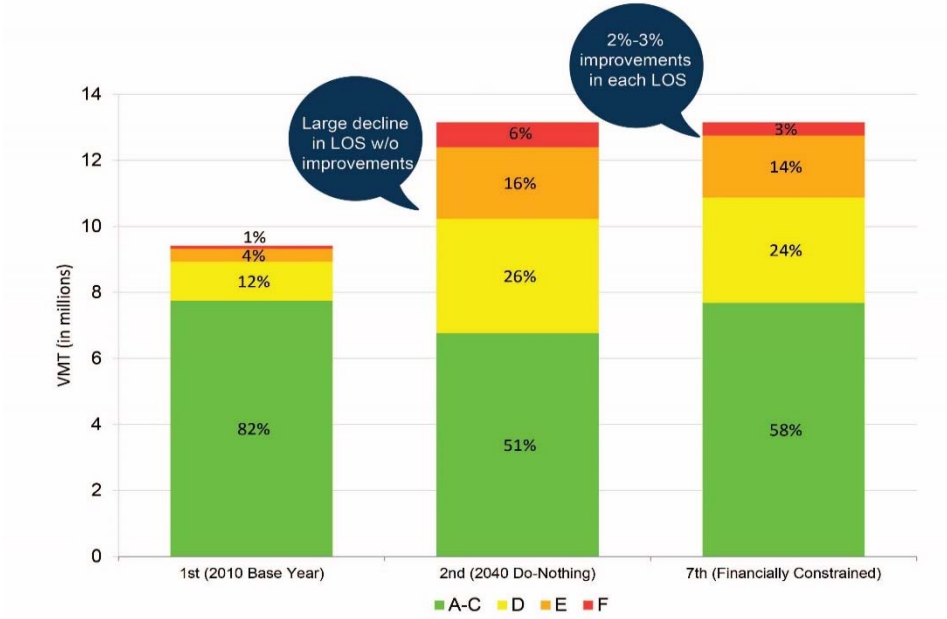


Figure 68: *1st Network LOS in ARTS*

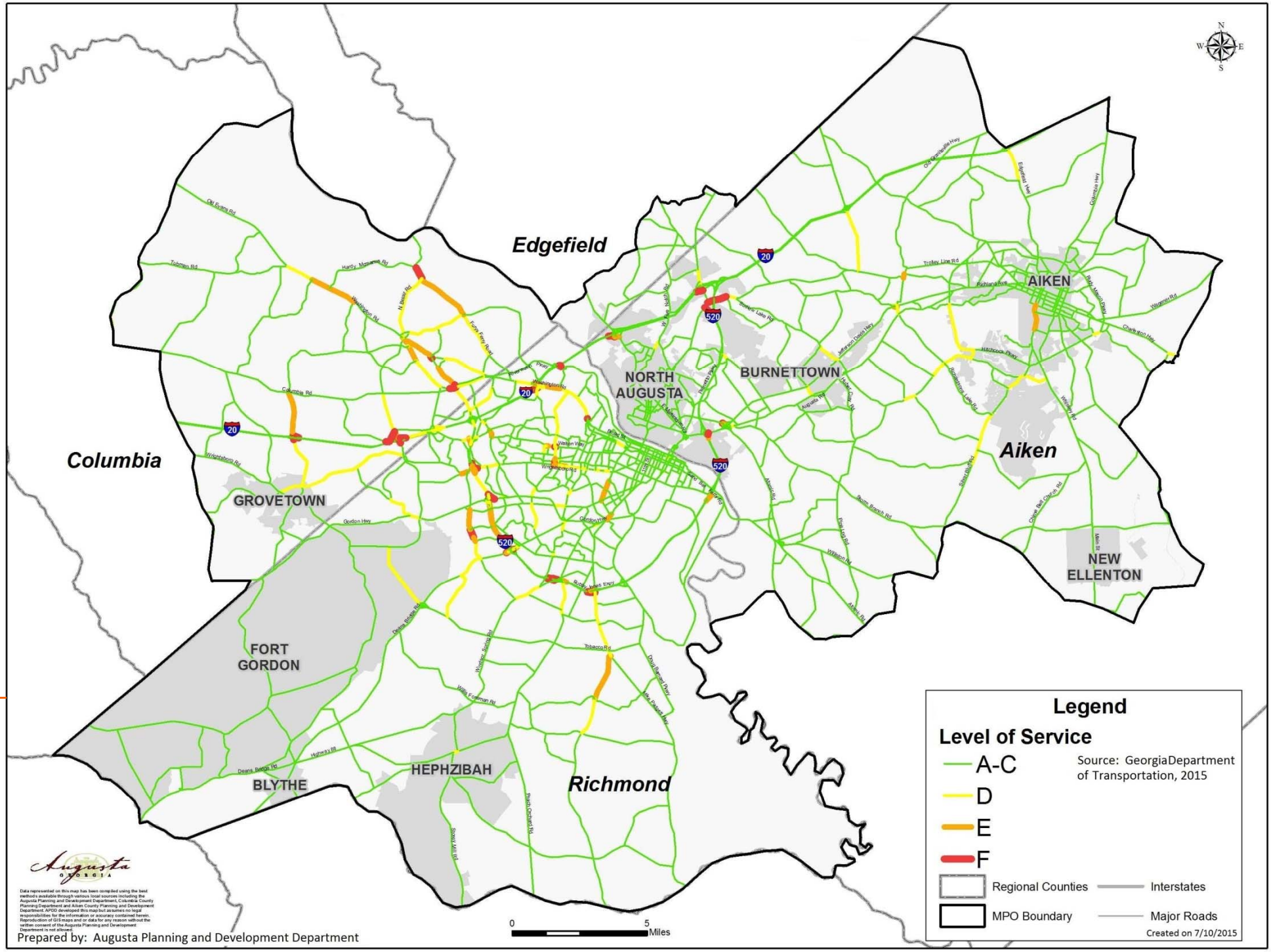


Figure 69: *2st Network LOS in ARTS*

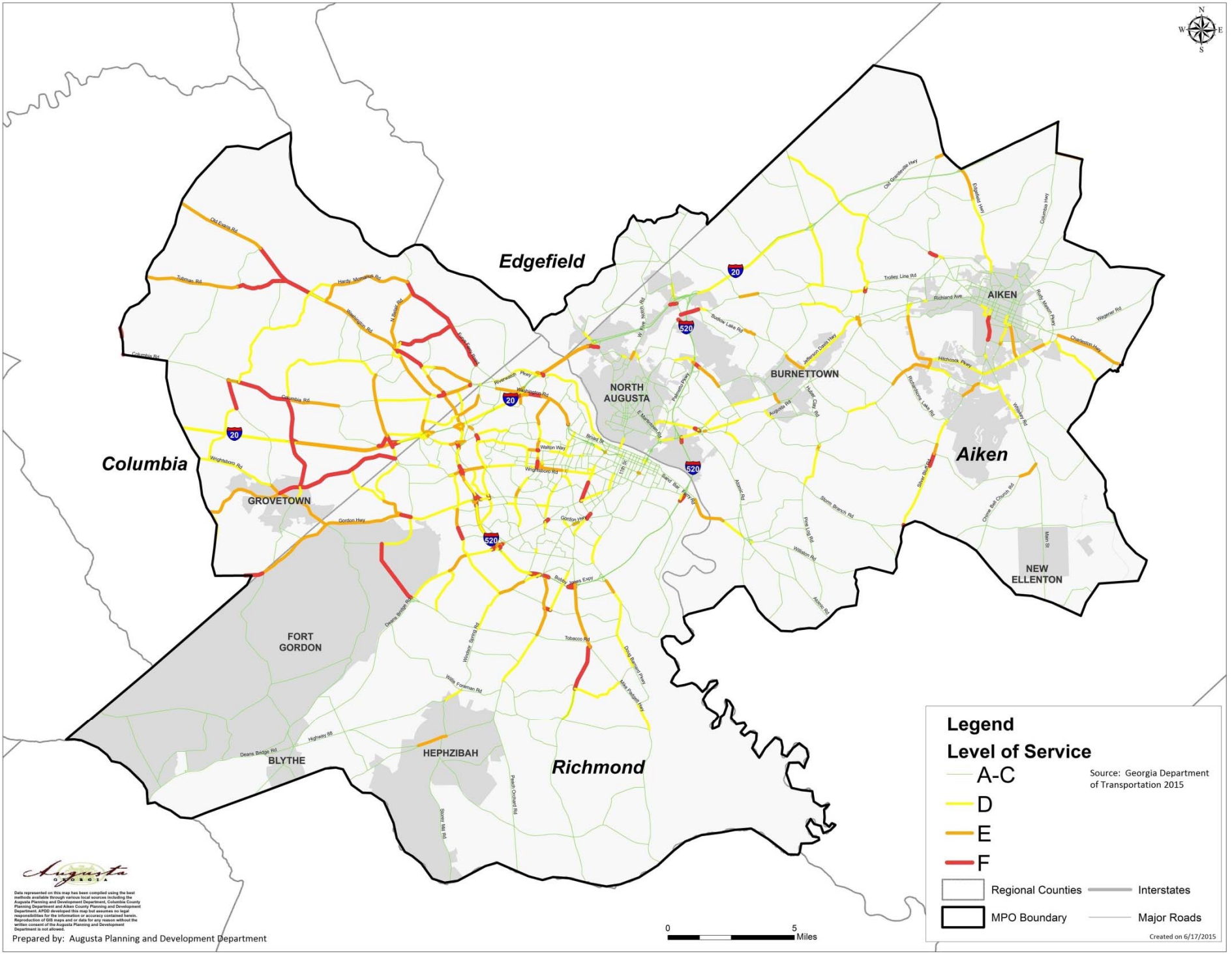
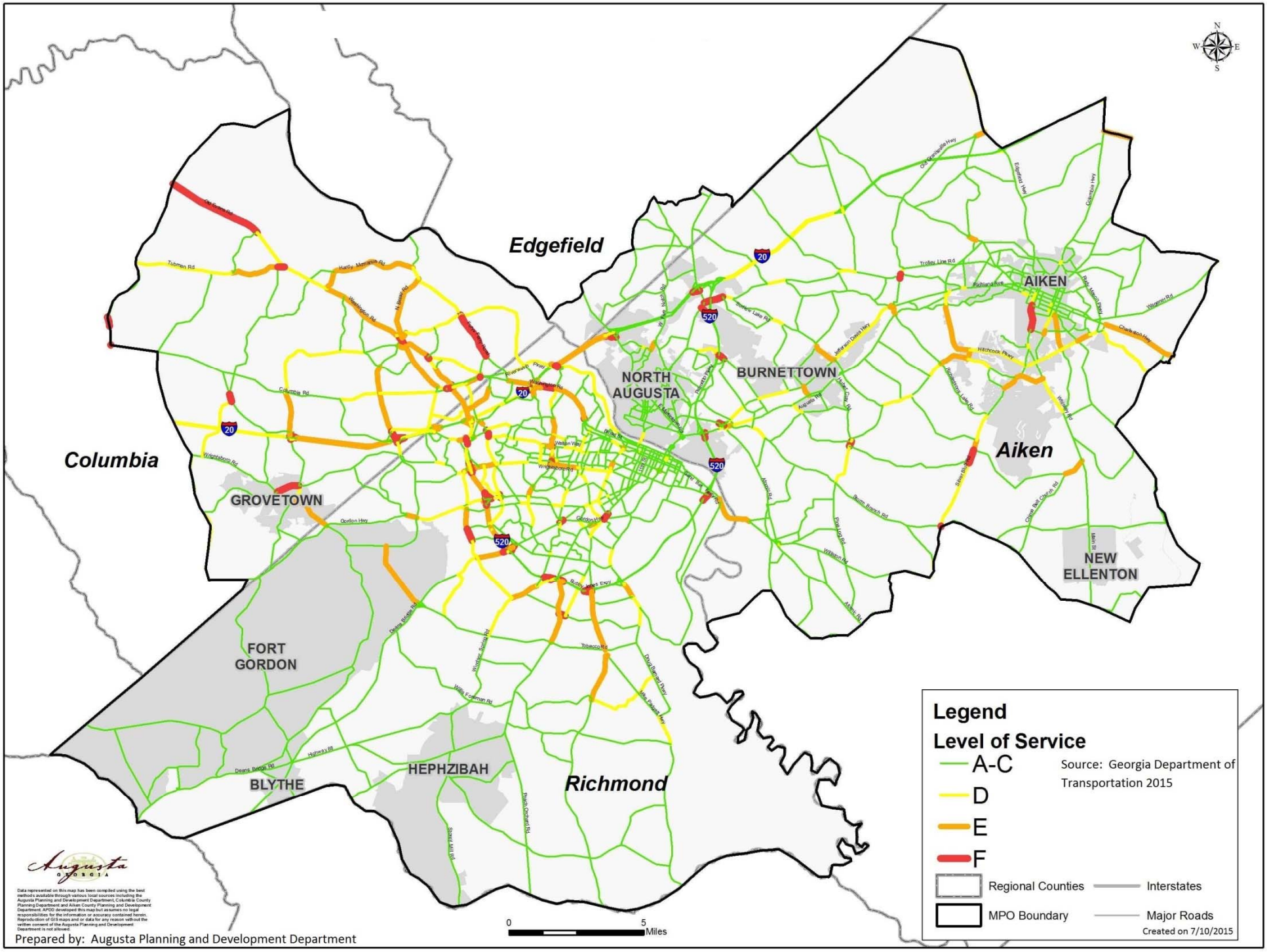


Figure 70: *7th Constrained Network Level of Service*



7.13.3 Projected Expenditures versus Projected Revenues

Reiterating the need to present a financially constrained plan, projected planning level cost estimates for proposed transportation projects cannot exceed the amount of reasonably expected revenues from identified funding sources. *Table 59* provides the summary of revenues and expenditures in the three tiers.

Table 59: *Expenditures and Revenues by Tier and State*

Georgia Time Period/Tier	Projected Revenues	Year-of-Expenditure Dollars	Revenues – Expenditures Remaining Revenues
FY 2015 to FY 2018	$245,069,185	$137,036,837	$108,032,348
FY 2019 to FY 2029	$632,148,697	$563,210,172	$68,938,525
FY 2030 to FY 2040	$693,547,080	$577,840,196	$115,706,884
Total	$1,570,764,962	$1,278,087,205	$292,677,757
South Carolina **Time Period/Tier**	**Projected Revenues**	**Year-of-Expenditure Dollars**	**Revenues – Expenditures Remaining Revenues**
FY 2015 to FY 2018	$75,356,742	$70,048,760	$5,307,982
FY 2019 to FY 2029	$112,382,758	$108,634,562	$3,748,196
FY 2030 to FY 2040	$133,925,058	$131,158,521	$2,766,537
Total	$321,664,558	$309,841,843	$11,822,715
Total ARTS	$1,892,429,520	$1,587,929,047	$304,500,473

Source: GDOT, SCDOT, Aiken County, Columbia County, Richmond County, Augusta Public Transit, Aiken Area Council on Aging, Best Friend Express and ARTS Staff.

7.14 Financially Constrained Plan

Prioritization of recommended projects was determined by their inclusion in the 2035 Long Range Transportation Plan, needs assessment analysis, the potential costs within the constrained budget, a mix of short-term and long-term improvements, and a variety of improvement types. Projects were also reviewed by local engineers to ensure particular needs are being met and that the implementation of a project is consistent with surrounding transportation improvements.

The ARTS Test Network Subcommittee reviewed the findings from the ARTS Travel Demand Model including a list of potential projects to meet future Level of Service capacity needs. The Subcommittee, with representation from local engineers representing each jurisdiction within the ARTS planning area, provided a technical assessment of existing long range transportation

capacity projects. They also identified new transportation improvements to meet future needs and alternatives to potential projects.
Bicycle and Pedestrian projects were initially prioritized by the 2012 Bicycle and Pedestrian Plan and then updated by regional planners. The remaining projects included the top 50 identified in the 2012 Bicycle and Pedestrian Plan to ensure implementation over the next 20 years.

Aiken County also utilizes a Project Prioritization Tool developed for the South Carolina portion of ARTS during the 2035 plan. The tool ranks projects based on criteria enacted by the South Carolina Code of Law Title 57-1-1 Highways, Bridges and Ferries, Department of Transportation, which requires Metropolitan Planning Organizations (MPOs) to follow legislative guidance on prioritizing transportation projects. The state ranking criteria includes traffic and congestion, safety, financial viability, economic development, pavement condition, truck traffic, and environmental impact. Aiken County also added Livability measures to the process. Title 57 (Act 114) is presented in *Appendix I.*

The multimodal transportation investments presented in the Transportation Vision 2040 LRTP update are meant to provide a well-rounded transportation system heading into the future. Limited funding is available moving into the coming years, and the constrained tiers are meant to strike a balance of various multimodal projects. The Financially Constrained Plan provides financial and project phasing detail. Planning level cost estimates, YOE dollars, and anticipated revenues are also presented. Anticipated costs and revenues are based on the best available information, which was provided by GDOT, SCDOT, and local jurisdictions. The following pages provide the final project lists for the Augusta Regional Transportation Study Transportation Vision 2040 Long Range Transportation Plan.

7.14.1 Funding Priorities Tier 1 (2015-2018)/ Transportation Improvement Program

Tier 1 projects are committed projects in the 2015-2018 Transportation Improvement Program (TIP). These projects are programmed to commence preliminary engineering, ROW acquisition, or construction during the 2015-2018 planning period. As such, these projects were defined and prioritized prior to the Transportation Vision 2040 LRTP update. Tier 1 (TIP 2015-2018) projects are presented in *Tables 60* and *61* and *Figure 71*.

Table 60: *Tier 1 (2015-2018) Program of Projects Georgia*

Georgia 2015-2018 Projects						
GDOT PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**
Widening Projects						**$52,597,221**
0008356	SR 4/ US 1 (Dean's Bridge Road)	Meadowbrook Drive	Tobacco Rd	4 to 6 lanes	SCP 2015	$1,000,000
					PE 2017	$1,718,775
0008355	US 25/SR 121 (Peach Orchard Road)	Tobacco Road	Browns Road	4 to 6 lanes	SCP 2015	$1,000,000
					PE 2017	$1,212,988
*220680	Fifteenth Street (SR 4)	Milledgeville Road	Government Street	4 to 6 lanes	ROW 2016	$16,516,223
					UTL 2018	$1,172,372
					CST 2018	$8,226,173
*245320	Windsor Spring Road - Phase V	SR 88	Willis Foreman Road	2 to 4 lanes	UTL 2015	$2,294,363
					CST 2015	$14,456,327
0013248	Gordon Highway / SR 10	Old Louisville Road	SR 223	2 to 4 lanes	PE 2016	$3,500,000
0012869	Willis Foreman Road	SR 4/US 1 (Deans Bridge Rd)	SR 121/US 25 (Peach Orchard Rd)	2 to 4 lanes	PE 2018	$1,500,000
Bridge Projects						**$2,715,640**
210327	I-20 Bridge over Augusta Canal and Savannah River	Richmond	Aiken	4 to 6 lanes	PE 2018	$30,000
*245325	Windsor Spring Road @ NS Railroad	Windsor Spring Road	Norfolk Southern Railroad	Rehabilitation	CST 2015	$1,935,640
0013604	SR 4/US 1 Bridge Replacement	SR 4/US 1	South Prong Creek	Replacement	PE 2016	$500,000
					ROW 2018	$250,000
Operational and Median Improvements						**$16,780,340**
*0011699	Riverwatch (SR 104) @ I-20	Quarry Road	River Shoals Parkway	2 to 3 lanes	PE 2015	$750,000
					UTL 2016	$1,133,100
					CST 2016	$3,720,000
0013704	Hardy Mcmanus Road	William Few Parkway	Furys Ferry Road	2 to 3 lanes	PE 2016	$1,500,000
					ROW 2016	$946,258
0012865	Hereford Farm Road	SR 383 (Belair Road)	SR 232 (Columbia Road)	2 to 3 lanes	PE 2015	$1,700,000
					ROW 2017	$462,000
					CST2018	$5,818,982
0008352	Stevens Creek Road	Evans-to-Locks Road (SC 11236)	Riverwatch Parkway (SR 104)	2 to 3 lanes	PE 2015	$750,000

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 60: *Tier 1 (2015-2018) Program of Projects Georgia (continued)*

Georgia 2015-2018 Projects						
GDOT PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**
Intersection and Safety Improvements						**$6,292,127**
0012867	Wheeler Road	I-20 eastbound ramp	Augusta West Parkway	Improvements/turn lanes	PE 2015	$750,000
					CST 2018	$2,500,000
0012866	Wheeler Road Intersection Improvements	Wheeler Road	Robert C Daniel Parkway	Improvements/turn lanes	PE 2015	$225,000
					CST 2016	$1,000,000
0012868	Barton Chapel Road	Barton Chapel Road	Gordon Highway (SR 10/US 78)	Improvements/turn lanes	PE 2015 + 2016	$275,000
					CST 2018	$1,542,127
Bicycle and Pedestrian Improvement Projects						**$2,101,030**
0013705	River Levee Trail Extension Phase 3D	Augusta Levee	Hawk's Gully	Asphalt trail	SCP 2015	$50,000
					PE 2016	$85,000
					CST 2016	$612,030
0013707	James Brown Boulevard Streetscape- Phase 3	Twiggs Street	Laney Walker Blvd	Corridor improvements	SCP 2015	$50,000
					PE 2016	$150,000
					ROW 2016	$15,440
					CST 2016	$424,560
0013706	Harlem-Grovetown Road/Old Berzalia Road	Old Berzelia Road	Elementary School campus	Sidewalk, curb, and gutter	SCP 2015	$50,000
					PE 2016	$76,790
					CST 2016	$336,210
SAFETY-LUMP-2	Safe Routes to School Program			Lump Sum	CST 2015 + 2016	$103,000
REC-1	Lump Sum			DNR Recreational Trails; Consultant Services; Contract Construction Oversight.	CST 2015+2016+ 2017+2018	$148,000
Transit Capital Funds						**$18,176,835**
	Augusta Transit Capital Projects	Urban Area		Lump Sum	Lump	$17,946,335
	Richmond Rural Transit Capital Projects	Rural Area		Lump Sum	Lump	$92,400
	Columbia Transit Capital Projects	Rural Area		Lump Sum	Lump	$138,100
Transit Operating Funds						**$609,144**
	Augusta Transit Operating	Urban Area		Lump Sum	Lump	
	Richmond Rural Transit Operating	Rural Area		Lump Sum	Lump	$220,568
	Columbia Transit Operating	Rural Area		Lump Sum	Lump	$388,576

Table 60: *Tier 1 (2015-2018) Program of Projects Georgia (continued)*

Georgia 2015-2018 Projects						
GDOT PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**
Maintenance and Operations, etc.						**$37,764,500**
NHS LUMP SUMS	Various Lump Sum Minor Improvement Projects			NHS Lump Sums	CST 2015 + 2016 + 2017 + 2018	$5,526,000
STP LUMP SUMS	Various Lump Sum Improvement Projects			STP Lump Sums	CST 2015 + 2016 + 2017 + 2018	$29,010,000
TEA-1	Transportation Enhancement Projects			Transportation Enhancement Projects	CST 2015 + 2016 + 2017 + 2018	$2,220,000
SAFETY-LUMP-1	Various Lump Sum Improvement Projects			Unspecified Safety Improvements Using Various Funds	CST 2015 + 2016 + 2017 + 2018	$956,000
OS-1	Oversight Services for M230			Oversight services for M230	PE	$52,500
					Total Expenditures	**$137,036,837**
					Funds Available	**$245,069,185**
					Difference	**$108,032,348**

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 61: *Tier 1 (2015-2018) Program of Projects South Carolina*

South Carolina 2015-2018 Projects						
PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**
Widening Projects						**$21,265,000**
SC-7	SC 126 (Belvedere Clearwater Road)	Old Sudlow Lake Road (Near I-520)	US 1/US 78	3 to 5 lanes	ROW 2015	$1,500,000
					CST 2017	$8,250,000
SC-3	University Parkway (S-2131)	US 1/US 78 (Richland Ave)	SC 118	3 to 5 lanes	PE 2016	$1,000,000
					ROW 2017	$1,000,000
					CST 2018	$8,600,000
Corridor Improvements						**$18,920,000**
24745/ SC-8	Hitchcock Parkway (SC-118) Corridor Improvements			Intersection, corridor improvements	ROW 2017	$500,000
					CST 2018	$8,200,000
34290/ SC-11	Silver Bluff Road (SC 302) Corridor Improvements	Indian Creek Trail	Richardson Lake Road	Intersection, corridor improvements	CST 2016	$4,200,000
34298/ SC-12	East Buena Vista and Atomic Road Corridor Improvements	Brookside Avenue	Old Edgefield Road	Intersection, corridor improvements	ROW 2015	$1,380,000
					CST 2016	$4,640,000
Bicycle and Pedestrian Improvement Projects						**$1,205,760**
SC-REC-1	North Augusta Bergen Road Tunnel (Greeneway)	Bergen Road	North Augusta Greeneway	Tunnel construction	CST 2015	$553,000
SC-REC-2	North Augusta Greeneway Extension	Bergen Road	Bergen Village Development	Lump Sums	CST 2015	$245,000
TAP-BIKE	City of Aiken Bicycle Infrastructure Phase 1			Bike lanes, shared lane markings, buffered bike lane, etc	CST 2016	$203,880
TAP_CROSLAND	Crosland Park Pedestrian Walkways			Install sidewalks and crosswalks	CST 2016	$203,880

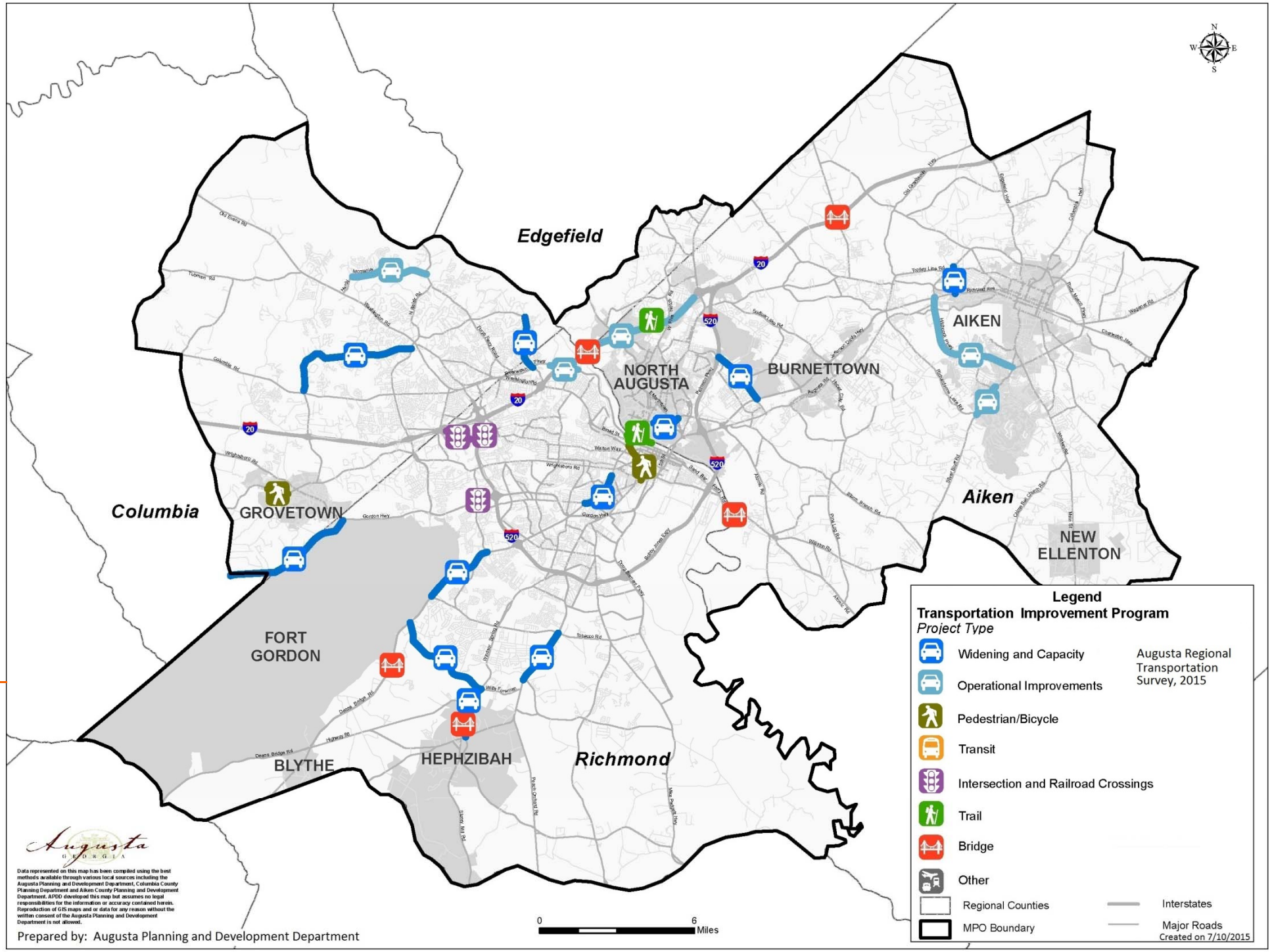
*State Safety, Bridge, and Maintenance Programs
SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table: 61: *Tier 1 (2015-2018) Program of Projects South Carolina (continued)*

South Carolina 2015-2018 Projects						
PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**
Maintenance and Operations, etc.						**$4,971,000**
*SC-18	I-20 Rehabilitation and Maintenance Work	Mile Marker 1	Near Mile Marker 5	Rehab and Maintenance work	CST 2016	$4,971,000
Bridge Projects						**$8,421,000**
*SC-16	SC 28 at Savannah River Bridge Rehabilitation	SC 28	Savannah River	Bridge Rehabilitation	PE 2015 CST 2018	$135,000 $2,920,000
*SC-17	S-2-144(Bettis Academy) at I-20	S-2-144	Bettis Academy	Bridge Rehabilitation	PE, CST	$630,000
*SC-421	SC 421 over Little Horse Creek	SC 421	Little Horse Creek	Bridge Rehabilitation	PE, ROW, CST	$4,736,000
Safety Improvements						**$5,677,000**
*	Lump Sum			Lump Sums for Safety projects	CST	$5,677,000
Transit Capital Funds						**$3,874,000**
	Transit Capital Projects			Lump	All	$3,874,000
Transit Operating Funds						**$5,330,000**
	Transit Operations			Lump	All	$5,330,000
Transit Planning Funds						**$385,000**
	Transit Planning Funds			Lump	All	$385,000
					Total Expenditures	**$70,048,760**
					Funds Available	**$75,356,742**
					Difference	**$5,307,982**

*State Safety, Bridge, and Maintenance Programs
SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Figure 71: *Transportation Improvement Program 2015-2018 Projects*



7.14.2 Funding Priorities Tier 2 (2019-2029)

Tier 2 projects represent projects programmed to commence in the medium-range planning horizon (i.e., 2019-2029). *Tables 62* and *63,* and *Figure 72* identify Tier 2 financially constrained projects in Georgia and South Carolina.

Table 62: *Tier 2 (2019-2029) Program of Projects Georgia*

Georgia 2019-2029 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							**$331,940,486**
0012869	Willis Foreman Road	SR 4/US 1 (Deans Bridge Rd)	SR 121/US 25 (Peach Orchard Rd)	2 to 4 lanes	ROW	$1,191,097	$1,265,000
					CST	$33,495,497	$35,573,750
0008349	SR 232 (Columbia Road)	William Few Parkway	Old Belair Road	2 to 4 lanes	PE	$2,998,519	$3,184,564
					ROW	$6,746,884	$7,165,499
					UTL	$7,129,229	$7,571,567
					CST	$37,481,486	$39,807,052
0008356	SR 4/ US 1 (Dean's Bridge Road)	Meadowbrook Drive	Tobacco Road	4 to 6 lanes	ROW	$23,507,583	$24,966,128
					UTL	$4,318,809	$4,586,773
					CST	$30,174,431	$32,046,626
0008355	US 25/SR 121 (Peach Orchard Road)	Tobacco Road	Brown Road	4 to 6 lanes	ROW	$12,329,555	$13,094,551
					UTL	$5,607,020	$5,954,912
					CST	$27,576,749	$29,287,768
0008348	Wrightsboro Road	SR 388 (Horizon South Parkway)	SR 383 (Jimmie Dyess Parkway)	2 to 4 lanes	PE	$2,806,798	$2,980,948
					ROW	$6,429,349	$6,828,263
					UTL	$6,494,791	$6,897,765
					CST	$35,084,970	$37,261,843
0013248	Gordon Highway / SR 10	Old Louisville Road	SR 223	2 to 4 lanes	ROW	$3,766,316	$4,000,000
					CST	$38,604,741	$41,000,000
ARTS_R_25	Doug Barnard Parkway Widening	Tobacco Road	Mike Padgett Highway	2 to 4 lanes	PE	$622,920	$661,570
					ROW	$16,882,618	$17,930,112
					UTL	$9,298,842	$9,875,795
Bridge Projects							**$29,132,043**
210327	I-20 Bridge over Augusta Canal and Savannah River	GA	SC	Construct six lane bridge	CST	$25,876,515	$27,482,043
0013604	SR 4/US 1 Bridge Replacement	SR 4/US 1	South Prong Creek	Replacement	CST	$1,553,605	$1,650,000

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 62: *Tier 2 (2019-2029) Program of Projects Georgia (continued)*

Georgia 2019-2029 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Operational Improvements and Median Improvements							**$74,479,838**
LR-65	Old Waynesboro Road	SR 56 (Mike Padgett Hwy)	Hephzibah-McBean Road	Construct turn lanes.	PE	$78,322	$83,182
					ROW	$3,102,566	$3,295,067
					UTL	$1,446,920	$1,536,695
					CST	$979,035	$1,039,780
LR-62	15th Street Pedestrian Improvement Project	John C Calhoun Expressway	15th Street CSX Overpass	Construct medians and upgrade traffic signals along 15th Street	UTL	$3,766,316	$4,000,000
					CST	$8,662,527	$9,200,000
0013704	Hardy Mcmanus Road	William Few Parkway	Furys Ferry Road	2 to 3 lanes	CST	$15,583,133	$16,550,000
0008352	Stevens Creek Road	Evans-to-Locks Road (SCP 11236)	Riverwatch Parkway (SR 104)	Widen to 3 lanes	ROW	$3,576,346	$3,798,243
					UTL	$6,160,526	$6,542,760
					CST	$26,772,963	$28,434,111
Intersection and Safety Improvements							**$10,562,523**
LR-82	SR 56 at Dixon Airline Road Safety Improvements	SR 56 (Mike Padgett Hwy)	Dixon Airline Road	Deceleration lanes, widen lane widths and bridge, improve signage, evaluate need for signalized traffic control.	PE	$298,464	$316,982
					ROW	$537,114	$570,440
					UTL	$482,307	$512,232
					CST	$3,730,800	$3,962,280
LR-83	SR 56 at Marvin Griffin Road Safety Improvements	SR 56 (Mike Padgett Hwy)	Marvin Griffin Road	Widen turn radii, improve road signage, improve detector gaps, widen throat	PE	$3,795	$4,030
					ROW	$243,682	$258,801
					UTL	$107,906	$114,601
					CST	$47,437	$50,380
LR-84	SR 56 at Apple Valley Drive Safety Improvements	SR 56 (Mike Padgett Hwy)	Apple Valley Drive	Decrease concrete island or increase turning radii, increase throat, construct new access, add street lighting.	PE	$3,795	$4,030
					ROW	$67,980	$72,198
					UTL	$107,906	$114,601
					CST	$47,437	$50,380
LR-85	SR 56 at Old Waynesboro Road Safety Improvements	SR 56 (Mike Padgett Hwy)	Old Waynesboro Road	Widen lane widths, lower speed limit	PE	$187,253	$198,871
					ROW	$313,260	$332,696
					UTL	$482,307	$512,232
					CST	$2,340,662	$2,485,890
ARTS_C_84	Old Berzalia Road and Harlem Grovetown Road Roundabout	Old Berzalia Road	Harlem Grovetown Road	Insert roundabout at Old Berzalia Road and Harlem Grovetown Road	PE	$69,878	$74,214
					CST	$873,470	$927,665

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 62: *Tier 2 (2019-2029) Program of Projects Georgia (continued)*

Georgia 2019-2029 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Railroad Crossing Improvements							**$53,249**
LR-87	Norfolk Southern Doug Barnard Pkwy Rail Crossing Safety Improvements	Doug Barnard Parkway	Norfolk Southern Railroad	Correct hump, move pavement markings	CST	$29,429	$31,255
LR-88	CSX at 15th Street Rail Crossing Safety Improvements	15th Street	CSX Railroad	Install W10-2 and W10-1 and develop signal plan	CST	$6,267	$6,656
LR-89	CSX at Broad Street Rail Crossing Safety Improvements	Broad Street	CSX Railroad	Improve signal timing plan	CST	$2,997	$3,183
LR-90	CSX at Walton Way/12th St. Rail Crossing Improvements	Walton Way/12th Street	CSX Railroad	Redo railroad pre-emption sequence, improve signage, install w10-1 and pavement markings	CST	$11,445	$12,155
Bicycle and Pedestrian Improvements							**$20,976,023**
	Bike/Ped Bridge Over Savannah River	SC	GA	Bike/Ped bridge adjacent to the 5th street bridge. Split with SC.	PE	$1,583,683	$1,681,944
					ROW	$603,236	$640,665
					UTL	$17,167	$18,232
					CST	$1,979,598	$2,102,424
BP_1	15th Street Bike Lanes	John C Calhoun Expressway	Broad Street	Striped bike lane	CST	$4,721	$5,013
BP_2	5th Street Shared Lane Markings	Broad Street	5th Street Bridge	Share lane markings	CST	$1,470	$1,561
BP_3	North Belair Road Bike Lanes	Columbia Road	Town Park Lane	Striped bike lane	CST	$33,044	$35,094
BP_4	Wrightsboro Rd. Paved Shoulders	Jimmie Dyess Parkway	Lewiston Road	Shared shoulder	CST	$150,534	$159,874
BP_5	Ellis Street Bike Route	James Brown Boulevard	E Boundary Street	Bike Route	CST	$2,666	$2,832
BP_6	5th Street Bridge Multiuse path	Riverwalk Marina	Jefferson Davis Highway	Multiuse path	CST	$138,542	$147,138
BP_7	Central Avenue Buffered Bike Lane	Monte Sano Avenue	Druid Park Avenue	Buffered bike lane	CST	$19,407	$20,611
BP_8	Henry Street Bike Route	Fleming Avenue	Bransford Road	Bike route	CST	$2,164	$2,298
BP_9	McDowell Street Bike Route	Arsenal Avenue	Merry Street	Bike route	CST	$3,409	$3,621
BP_10	Bransford Ave - McAnally St Bike Route	Merry Street	Emmett Avenue	Bike route	CST	$677	$720

Table 62: *Tier 2 (2019-2029) Program of Projects Georgia (continued)*

Georgia 2019-2029 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Bicycle and Pedestrian Improvements							**$20,976,023**
BP_11	4th Street Shared lane markings	Laney Walker Boulevard	Broad Street	Bike route	CST	$2,054	$2,182
BP_12	Central Avenue Striped Bike Lanes	Druid Park Avenue	15th Street	Share lane markings	CST	$1,634	$1,735
BP_13	Laney Walker Boulevard Striped Bike Lanes	E Boundary Street	15th Street	Striped bike lane	CST	$24,967	$26,516
BP_14	Olive Road Striped Bike Lanes	Heard Avenue	Gordon Highway	Striped bike lane	CST	$17,728	$18,828
BP_15	Old Evans Road Striped Bike Lanes	Washington Road S	Washington Road N	Striped bike lane	CST	$990,557	$1,052,017
BP_16	10th Street Bike Route	Wrightsboro Road	Dantignac Street	Bike route	CST	$1,268	$1,346
BP_17	Wrightsboro Road Striped Bike Lane	Druid Park Avenue	James Brown Boulevard	Striped bike lane	CST	$13,532	$14,372
BP_SUM	Bicycle and Pedestrian Lump Sum			Additional bicycle and pedestrian improvements with a focus on projects from the 2012 Bicycle and Pedestrian Plan	All	$14,123,686	$15,000,000
REC-1	Lump Sum			Lump Sums for DNR Recreational Trails; Consultant Services; and Contract Construction Oversight.	CST	$34,838	$37,000
ATMS and ITS Projects							**$4,953,158**
ATMS_ITS	Implementation of ATMS Master Plan Projects Mid Term - Engineering and Construction			Lump	All	$4,663,790	$4,953,158
Transit Capital Funds							**$32,876,140**
	Augusta Transit Capital Projects	Urban Area		Lump Sum	Lump		$32,202,936
	Richmond Rural Transit Capital Projects	Rural Area		Lump Sum	Lump		$269,866
	Columbia Transit Capital Projects	Rural Area		Lump Sum	Lump		$403,338

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 62: *Tier 2 (2019-2029) Program of Projects Georgia (continued)*

Georgia 2019-2029 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Transit Operating Funds							**$1,779,082**
	Augusta Transit Operating	Urban Area		Lump Sum	Lump		
	Richmond Rural Transit Operating	Rural Area		Lump Sum	Lump		$644,197
	Columbia Transit Operating	Rural Area		Lump Sum	Lump		$1,134,885
Maintenance and Operations, etc.							**$56,457,630**
TEA-1	Transportation Enhancement Projects			Transportation Enhancement Projects	CST	$522,576	$555,000
SAFETY-LUMP-1	Various Lump Sum Improvement Projects			Unspecified Safety Improvements Using Various Funds	CST	$225,037	$239,000
Maintenance	Maintenance, Operations, Safety, Enhancements, Railroad, Recreational Trails			M001, M300, M230, MS30, MS40, MS50, M940	All	$52,411,707	$55,663,630
					Total Expenditures	$530,306,894	**$563,210,172**
					Funds Available	$595,217,965	**$632,148,697**
					Difference	$64,911,071	**$68,938,525**

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 63: *Tier 2 (2019-2029) Program of Projects South Carolina*

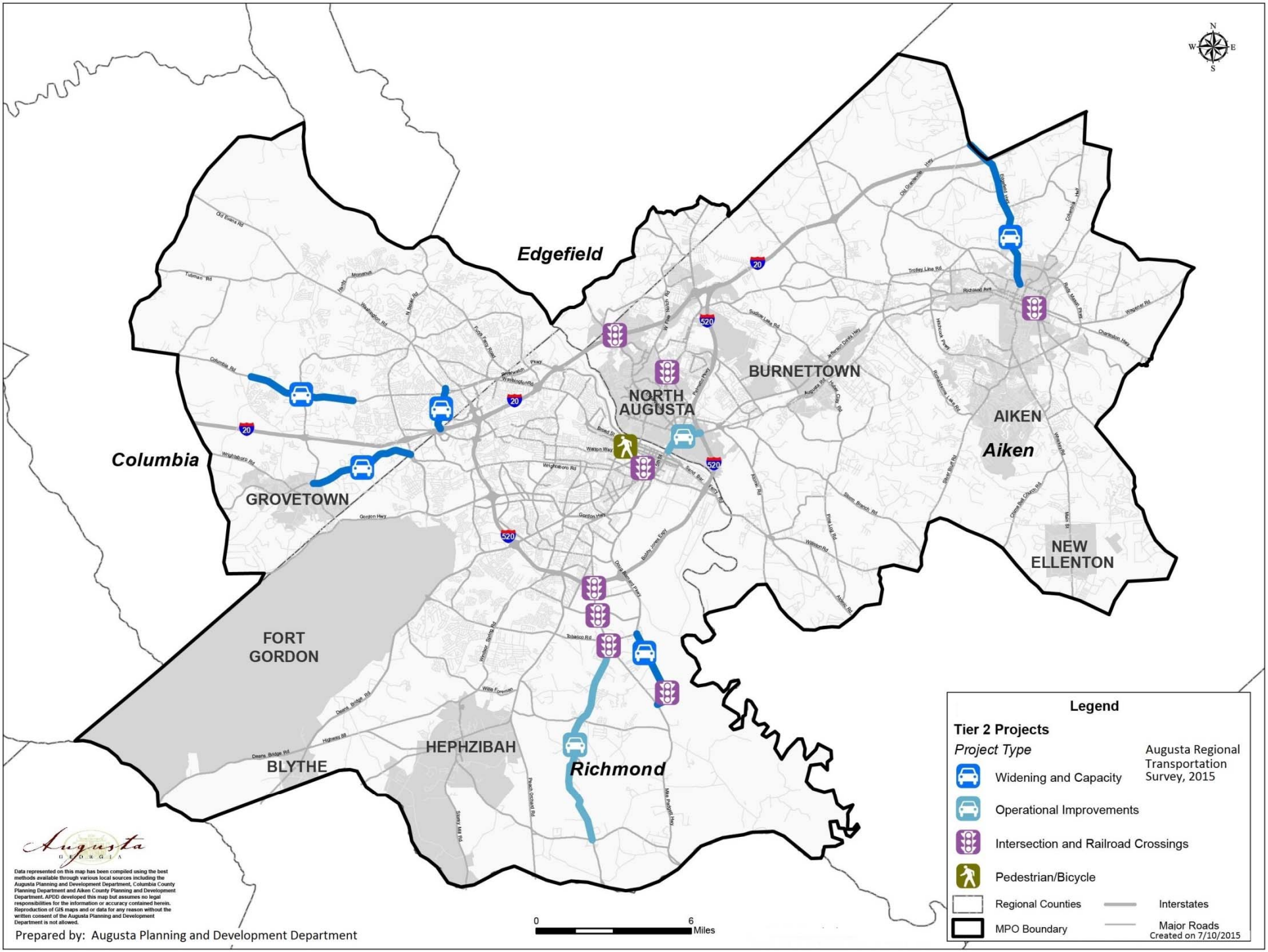
South Carolina 2019-2029 Projects							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							**$34,646,705**
	Edgefield Highway (SC 19)	SC 118 (University Parkway)	S-153 Shiloh Church Road	2 to 4 lanes	All	$28,889,708	$34,646,705
Bridge Projects							**$27,076,336**
	I-20 Bridge over Augusta Canal and Savannah River	GA	SC	4 to 6 lanes	CST	$22,577,254	$27,076,336
Intersection and Safety Improvements							**$4,701,043**
	Georgia/Knox Ave and Five Notch/Bradyville Road	Georgia/Knox Avenue	Five Notch/Bradyville Road	Realignment, turn lanes	All	$1,601,356	$1,920,467
	I-20 and Martintown Road	I-20	Martintown Road	Reconfiguration, turn signals	All	$2,318,548	$2,780,577
Operational Improvements and Median Improvements							**$17,687,541**
	Aiken-Augusta Highway	Savannah River	I-520 (Palmetto Parkway)	Interchange, operational improvements	All	$8,952,158	$10,736,099
	Dougherty Road	Silver Bluff Road	Whiskey Road	Landscaped median, sidewalks	All	$5,796,370	$6,951,442
Railroad Crossing Improvements							**$29,057**
	NS at Park Avenue/Williamsburg Lane/Staubes Lane	Norfolk Southern Railroad	Park Avenue/Williamsburg Lane	Railroad Improvement	All	$24,229	$29,057

Table 63: *Tier 2 (2019-2029) Program of Projects South Carolina (continued)*

South Carolina 2019-2029 Projects							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Bicycle and Pedestrian Improvements							**$3,118,117**
	Bike/Ped Bridge Over Savannah River	SC	GA	Bridge adjacent to 5th street bridge	ROW	$603,236	$723,446
					UTL	$17,167	$20,588
					CST	$1,979,598	$2,374,083
Transit Capital Funds							**$7,645,975**
	Transit Capital Projects			Lump	All	$6,750,724	$7,645,975
Transit Operating Funds							**$12,815,706**
	Transit Operations			Lump	All	$6,059,092	$12,815,706
Transit Planning Funds							**$1,150,950**
	Transit Planning			Lump	All	$701,374	$1,150,950
					Total Expenditures	$89,462,054	**$108,634,561**
					Funds Available	$93,708,914	**$112,382,758**
					Difference		**$3,748,197**

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Figure 72: Tier 2 Projects



7.14.3 Funding Priorities Tier 3 (2030-2040)

Long Range transportation projects for Tier 3 cover the years 2030-2040. The projects for Georgia and South Carolina are presented in *Tables 64* and *65*, and in *Figure 73*.

Table 64: *Tier 3 (2030-2040) Program of Projects Georgia*

Georgia 2030-2040 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							**$353,162,427**
0008354	US 78 / SR 10	Robinson Avenue	Fort Gordon Gate 1	4 to 6 lanes	PE	$2,805,664	$3,324,405
					ROW	$10,349,818	$12,263,404
					UTL	$8,443,638	$10,004,789
					CST	$35,070,800	$41,555,068
LR-77	Bobby Jones (I-520)	US 1 (Deans Bridge Road)	SR 56 (Mike Padgett Hwy)	4 to 6 lanes	PE	$4,770,497	$5,652,518
					CST	$59,631,212	$70,656,475
221805	SR 104	CR 1427 (William Few Parkway)	CR 578 (Tubman Road)	2 to 4 lanes	PE	$2,083,914	$2,469,211
					ROW	$2,689,402	$3,186,648
					UTL	$7,560,420	$8,958,272
					CST	$26,048,926	$30,865,133
ARTS_C_114	Evans to Locks Rd Widening and Roundabout	Town Centre Blvd	Furys Ferry Road	2 to 4 lanes	PE	$2,055,443	$2,435,476
					ROW	$13,944,204	$16,522,359
					UTL	$3,240,581	$3,839,735
					CST	$25,693,040	$30,443,447
ARTS_C_81	Wrightsboro Rd Widening C	Harlem-Grovetown Road	Louisville Road	2 to 4 lanes	PE	$2,073,599	$2,456,988
					ROW	$15,676,625	$18,575,089
					UTL	$8,371,650	$9,919,491
					CST	$25,919,985	$30,712,352
ARTS_R_214	Highway 88 Widening	Keysville Road	Windsor Spring Road	2 to 4 lanes	PE	$1,168,919	$1,385,041
					ROW	$3,500,591	$4,147,818
					UTL	$2,224,179	$2,635,409
					CST	$14,611,482	$17,313,011
ARTS_R_25	Doug Barnard Parkway Widening	Tobacco Road	Mike Padgett Highway	2 to 4 lanes	CST	$7,786,505	$9,226,158

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 64: *Tier 3 (2030-2040) Program of Projects Georgia (continued)*

Georgia 2030-2040 Projects							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Operational Improvements and Median Improvements							**$85,056,150**
245200	North Belair Road	Evans to Locks Rd	SR 28 (Furys Ferry Road)	Widen 2 to 3 lanes	PE	$1,426,996	$1,690,834
					ROW	$3,367,331	$3,989,920
					UTL	$3,668,013	$4,346,195
					CST	$17,837,456	$21,135,438
ARTS_C_HAL1	Halali Farm Road Widening and New Alignment	SR 104 (Washington Road)	Hereford Farm Road	New alignment and existing widening	PE	$1,604,630	$1,901,311
					ROW	$4,899,002	$5,804,782
					UTL	$959,838	$1,137,303
					CST	$20,057,872	$23,766,388
ARTS_C_OLDEVANS	Old Evans Rd Widening	Riverwatch Parkway	SR 104 (Washington Road)	Widen 2 to 3 lanes	PE	$1,054,074	$1,248,963
					ROW	$1,510,866	$1,790,211
					UTL	$2,221,950	$2,632,768
					CST	$13,175,929	$15,612,037
Bridge Improvements							**$2,580,575**
245205	North Belair Road at CSX Railroad	North Belair Road	CSX Railroad	Widen 2 to 3 lanes, with wide shoulders	CST	$2,177,901	$2,580,575

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 64: *Tier 3 (2030-2040) Program of Projects Georgia (continued)*

Georgia 2030-2040 Projects							
GDOT PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**	**Year of Expenditure Dollars**
Bicycle and Pedestrian Improvements							**$20,096,430**
BP_SUM	Bicycle and Pedestrian Improvements			Additional bicycle and pedestrian improvements with a focus on projects from the 2012 Bicycle and Pedestrian Plan	All	$16,879,193	$20,000,000
REC-1	Lump Sum			Lump Sums for DNR Recreational Trails; Consultant Services; and Contract Construction Oversight.	CST	$31,227	$37,000
Safety Lump -2	Safe Routes to School Program/TAP			Lump Sums	CST	$50,157	$59,430
Park and Ride Facility Projects							**$84,713**
	US 1 (Deans Bridge Rd) Southwest Park And Ride			Park and ride lot at Tobacco Road (SE Quad)	PE	$71,494	$84,713
					ROW	$1,408,805	$1,669,280
					UTL	$57,223	$67,803
					CST	$893,673	$1,058,905
ATMS and ITS Projects							**$12,003,510**
	Implementation of ATMS Master Plan Projects Long Term - Engineering and Construction			Lump	All	$10,130,478	$12,003,510
Transit Capital Funds							**$36,678,870**
	Augusta Transit Capital Projects	Urban Area		Lump Sum	Lump		$35,927,797
	Richmond Rural Transit Capital Projects	Rural Area		Lump Sum	Lump		$301,081
	Columbia Transit Capital Projects	Rural Area		Lump Sum	Lump		$449,992
Transit Operating Funds							**$1,984,865**
	Augusta Transit Operating	Urban Area		Lump Sum	Lump		
	Richmond Rural Transit Operating	Rural Area		Lump Sum	Lump		$718,710
	Columbia Transit Operating	Rural Area		Lump Sum	Lump		$1,266,155

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 64: *Tier 3 (2030-2040) Program of Projects Georgia (continued)*

Georgia 2030-2040 Projects							
GDOT PI#	**Project Name**	**From**	**To**	**Description**	**Phase**	**2015 Dollars**	**Year of Expenditure Dollars**
Maintenance and Operations, etc.							**$68,773,231**
TEA-1	Transportation Enhancement Projects			Transportation Enhancement Projects	CST	$468,398	$555,000
SAFETY-LUMP-1	Various Lump Sum Improvement Projects			Unspecified Safety Improvements Using Various Funds	CST	$201,706	$239,000
Maintenance	Maintenance, Operations, Safety, Enhancements, Railroad, Recreational Trails			M001, M300, M230, MS30, MS40, MS50, M940	All	$57,371,726	$67,979,231
					Total Expenditures	$487,673,797	**$577,840,196**
					Funds Available	$585,325,735	**$693,547,080**
					Difference	$97,651,939	**$115,706,884**

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 65: *Tier 3 (2030-2040) Program of Projects South Carolina*

South Carolina 2030-2040 Projects							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							**$68,277,859**
	Atomic Road	Old Edgefield Road	Jefferson Davis Highway	Widen 2 to 4 lanes	All	$22,011,333	$36,540,529
	Charleston Highway	SC 302 (Pine Log Road)	S-507 (Old Dibble Road)	Widen 2 to 4 lanes	All	$5,025,597	$8,342,883
	I-20	Savannah River	US 25 (Edgefield Road)	Widen to 6 lanes.	All	$14,092,378	$23,394,447
New Facility Projects							**$11,975,799**
	Bergen-Five Notch Collector	Bergen Road	Gregory Lake Road	New 2 lane roadway	All	$6,750,288	$11,206,005
	East Gate extension from Whiskey Road to Athol Ave	East Gate Drive	Athol Avenue	New 2 lane roadway with median	All	$463,710	$769,794
Operational Improvements and Median Improvements							**$2,694,280**
	East Buena Vista Ave	Barton Road	Martintown Road	Widen to 2 through lanes	All	$1,622,984	$2,694,280
Improvements							**$13,338,787**
	Five Notch Road and Pisgah Road	Fine Notch Road	Pisgah Road	Realign intersection and add turn lanes. Completed with Five Notch Road widening project.	All	$1,587,417	$2,635,236
	Five Notch Road and Walnut Lane	Five Notch Road	Walnut Lane	Realign intersection to a T intersection. Completed with Five Notch Road widening project.	All	$3,897,216	$131,158,521
	West Martintown Rd and Knobcone Ave Intersection	West Martintown Road	Knobcone Avenue	Intersection improvements	All	$2,550,403	$133,925,058

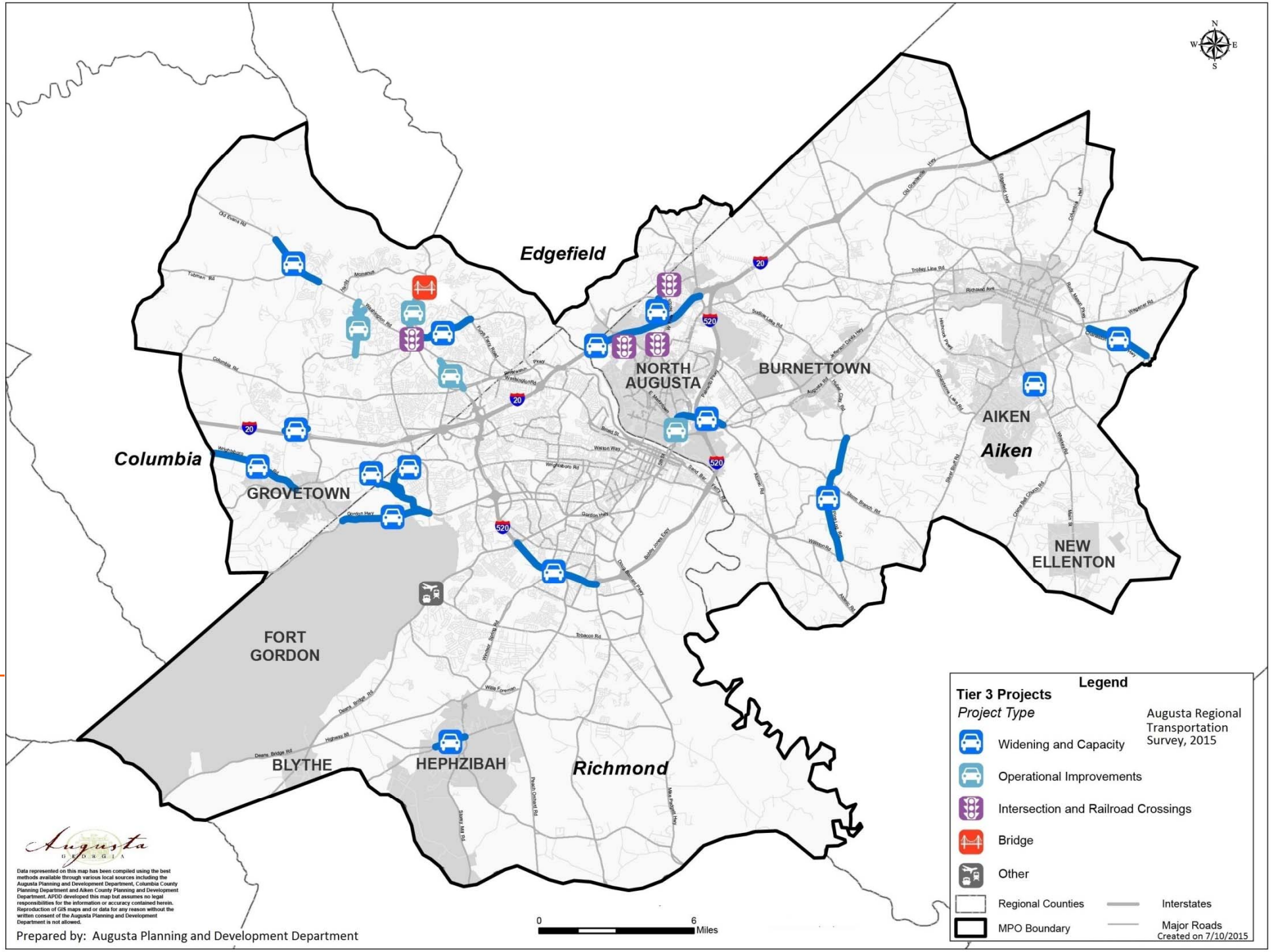
SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 65: *Tier 3 (2030-2040) Program of Projects South Carolina (continued)*

South Carolina 2030-2040 Projects							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Bicycle and Pedestrian Improvements							**$10,759,268**
	University Parkway Greenway	Robert M Bell Parkway	SC 19 (Edgefield Highway)	Greenway	All	$4,659,388	$7,734,947
	Atomic Rd. Greenway	Buena Vista Avenue	Palmetto Parkway	Greenway	All	$602,311	$999,883
	S Aiken Lane	E Pine Log Road	Corporate Parkway	Multi Use Path	All	$454,574	$754,629
	SC 19 Striped Bike Lane	Hampton Avenue	Shiloh Heights Road	Striped Bike Lane	All	$764,909	$1,269,808
Transit Capital Funds							**$9,032,423**
	Transit Capital Projects			Lump	All	$5,440,963	$9,032,423
Transit Operating Funds							**$8,107,023**
	Transit Operations			Lump	All	$4,883,519	$8,107,023
Transit Planning Funds							**$938,434**
	Transit Planning			Lump	All	$565,295	$938,434
					Total Expenditures	**$75,721,990**	**$131,158,521**
					Funds Available	**$120,702,307**	**$133,925,058**
					Difference		**$2,766,537**

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Figure 73: *Tier 3 Projects*



7.14.4 High Priority Unfunded Priority Projects

Current funding forecasts do not permit inclusion of all identified transportation improvement projects in the constrained tiers (Tiers 1, 2 or 3). Despite the current lack of funding for these identified projects, future availability of funds may result in their progression through the transportation planning process to be built at a future date. Unfunded high priority projects address similar needs and issues as financially constrained projects. Traffic safety improvements, congestion reduction, and additional bike and pedestrian facilities are some examples of unfunded high priority projects identified during the Transportation Vision 2040 LRTP update process. A list of high priority unfunded transportation improvement projects in Georgia and South Carolina are presented in *Tables 66* and *67* and in *Figure 74*.

Table 66: *Unfunded High Priority Projects Georgia*

Georgia Unfunded Priority Projects - Projects not in Financially Constrained Plan							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							
LR-91	I-20 HOV Lanes	Louisville Road	Riverwatch Parkway	Construct HOV in each direction	All	$111,131,561	$118,026,800
	Mike Padgett Highway Widening	I-520	Old Waynesboro Road	Widen 4 to 6 lanes	All	$74,671,939	$88,478,094
	Barton Chapel Rd Widening	Milledgeville Road	Deans Bridge Road	Widen 3 to 4 lanes	All	$47,137,125	$55,852,345
	Barton Chapel Rd Widening 2	Wrightsboro Road	Gordon Highway	Widen 2 to 4 lanes	All	$43,744,055	$51,831,928
	I-520 Southbound	Wrightsboro Road	US 78/Gordon Highway	Add auxiliary lane	All	$12,380,905	$14,670,020
	Interstate 20	SR 47 (Appling Harlem Hwy)	SR 383 (Belair Road)	Widen from 4 to 6 through lanes	All		
	Tubman Rd/ Old Washington Rd Widening	Louisville Road	Washington Road/General Woods Parkway	Widen 2 to 4 lanes	All	$59,383,079	$70,362,465
	Louisville Road Widening and Extension	Gordon Highway	Fort Gordon Gate	Widen 2 to 3 lanes from Gordon Highway to Harlem-Grovetown Rd (existing alignment) and add additional extension to Fort Gordon	All	$53,279,404	$63,130,276
	Harlem Grovetown Rd Widening	Louisville Road	Wrightsboro Road	Widen 2 to 4 lanes	All	$57,912,927	$68,620,494
	North Leg Road Widening	Lumpkin Road	Sibley Road	Widen 2 to 4 lanes	All	$49,359,753	$58,485,917

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 66: *Unfunded High Priority Projects Georgia (continued)*

Georgia Unfunded Priority Projects - Projects not in Financially Constrained Plan							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Intersection and Safety Improvements							
	Peach Orchard, Windsor Spring, and I-520 Intersection Improvements	Peach Orchard, Windsor Spring	I-520	Interchange Improvements	All		
	I-520 and Wrightsboro Road Interchange Improvements	I-520	Wrightsboro Road	Interchange Improvements	All		
	Louisville Road and I-20 New Interchange	Louisville Road	I-20	Interchange Improvements	All		
Operational Improvements and Median Improvements							
222710	SR 10/US 78 (Gordon Hwy) Median Improvements	Peach Orchard Road	Walton Way	Construct median barrier from Peach Orchard Road (US 25) to Walton Way	All	$9,073,534	$9,636,508
	Louisville Road Widening 2	I-20	Wrightsboro Road	Operational improvements	All		
	Louisville Road Widening 3	I-20	Columbia Road	Operational improvements	All		
	Louisville Road Widening 4	Tubman Road	Columbia Road	Operational improvements	All		
	Old Belair Road	Columbia Road	Belair Road	Widen 2 to 3 lanes	All		
	Augusta W Parkway Widening	Wrightsboro Road	Wheeler Road	Widen 2 to 3 lanes	All		
	Milledgeville Rd Complete Streets	Kissingbower Road	Gordon Highway	Complete Streets	All		

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 66: *Unfunded High Priority Projects Georgia (continued)*

Georgia Unfunded Priority Projects - Projects not in Financially Constrained Plan							
GDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Railroad Crossing Improvements							
	6th Street Rail Corridor Improvements - Quiet Zone	Taylor Street	Savannah River	Rail corridor improvements to move towards quiet zone designation. Facilities may include raised medians, control arms, train sensors, and radio equipment. Includes 8 intersections.	All		
New Construction Projects							
	South Augusta Inland Port	South Augusta		Construction of Inland Port in South Augusta near Peach Orchard Rd. Cost estimate is based on Cordele Inland Port Phase I.	All	$5,000,000	$5,924,454
	Reynolds Farm Road Paving	Old Louisville Road	Old Berzelia Rd.	Paved currently unpaved road	All		
Park and Ride Facilities							
	Walmart/Southpointe Plaza Park and Ride	I-520	Deans Bridge Road	Construct Park and Ride lot with express bus service.		$3,848,279	$4,559,790
	US 78 (Gordon Hwy) Park And Ride	US 78	Jimmie Dyess Parkway	Construct Park and Ride lot with express bus service.	All	$3,848,279	$4,087,048

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 67: *Unfunded High Priority Projects South Carolina*

South Carolina Unfunded Priority Projects - Projects not in Financially Constrained Plan							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Widening Projects							$430,215,861
	Five Notch Road	US 25 Business Road(Georgia Avenue)	Walnut Lane	Widen 2 to 4 lanes	All	$23,481,664	$38,981,395
	Martintown Road	I-20	Old Martintown Road	Widen 2 to 4 lanes	All	$5,679,909	$9,429,091
	Silver Bluff Road and Hitchcock Parkway	Silver Bluff Road	Hitchcock Parkway	Median, bicycle/pedestrian crossing	All	$1,381,281	$2,293,034
	Robert M. Bell Parkway / University Parkway	US 1 / US 78 (Jefferson Davis Highway)	SC 19 (Edgefield Highway)	Widen 2 to 4 lanes	All	$40,864,411	$67,838,110
	Rudy Mason Parkway	S-912 (North of Willow Run Road)	S- 783 (North of Old Wagener Road)	Widen 2 to 4 lanes	All	$6,955,644	$11,546,912
	Wagener Road	S-218 (North of Redd's Branch Road)	S-260 (Wright's Mill Road)	Widen 2 to 4 lanes	All	$9,045,255	$15,015,828
	I-20	US 25 (Edgefield Road)	Bettis Academy Road	Widen to 6 lanes.	All	$26,170,246	$43,444,649
	Pine Log Road	US 278 (Williston Road)	S-66 (Huber Clay Road)	Widen 2 to 4 lanes	All	$21,105,594	$35,036,933
	Silver Bluff Rd Widening A	Richardson Lake Road	Gray Mare Hollow Road	Widen 2 to 4 lanes	All	$36,450,000	$60,509,843
	Silver Bluff Rd Widening B	Town Creek Road	Dougherty Road	Widen 2 to 4 lanes	All	$8,100,000	$13,446,632
	Pine Log Road Widening	Hillman Street	Town Creek Road	Widen 2 to 4 lanes	All	$23,490,000	$38,995,232
	East Pine Log Road Widening	Silver Bluff Road	Deloach Way	Widen to 6 lanes	All	$30,510,000	$50,648,980
	Powderhouse Rd Widening	South Boundary Avenue	East Pine Log Road	Widen 2 to 4 lanes	All	$12,960,000	$21,514,611
	Two Notch Road Widening	Barnard Avenue Se	Grave Avenue	Widen 2 to 4 lanes	All	$5,670,000	$9,412,642
	Whiskey Road Widening 1	South Boundary Avenue	Barnard Avenue	Widen 2 to 4 lanes	All	$7,290,000	$12,101,969

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 67: *Unfunded High Priority Projects South Carolina (continued)*

South Carolina Unfunded Priority Projects - Projects not in Financially Constrained Plan							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
New Facility Projects							$158,578,157
	Extend East Gate to Powderhouse Road	Existing East Gate Drive	Powderhouse Road	New 2 lane roadway with median	All	$12,694,051	$21,073,115
	I-20 Frontage Collector	Five Notch Road	US 25 (Edgefield Road)	Widen to 3 and 5 lanes	All	$8,100,345	$13,447,205
	Whiskey/Centennial Parkway Extension	Centennial Parkway	East Gate Drive	New 2 lane roadway with median	All	$6,520,917	$10,825,230
	Dougherty Road (Christie Place North and South Extensions)	Pawnee Drive to Dougherty Road	Dougherty Road to East Gate Drive	Extension	All	$1,610,446	$2,673,466
	Dougherty Road (Hamilton Drive Extension)	Neilson Street	Owens Street	Extension	All	$804,162	$1,334,972
	Ascauga Lake Road	US 25 (Edgefield Road)	S 80 (Canal Street)	Widen Ascauga Lake Road (S-33) between US 25 and Canal Street (S 80), with full landscaped median and turn lanes as needed.	All	$65,794,600	$109,224,168
Operational Improvements and Median Improvements							$18,221,033
	Trolley Line Road	Robert M Bell Parkway	Ascauga Lake Road	Widen 2 to 3 lanes	All	$9,555,000	$15,862,045
	Celeste Avenue	US 25 (Edgefield Road)	S-45 (Five Notch Road)	Operational improvements	All	$1,421,010	$2,358,988
Intersection and Safety Improvements							$5,637,578
	York St./Columbia Hwy and Rutland Ave/Aldrich St	York Street/Columbia Highway	Rutland Avenue/Aldrich Street	Operational and signal improvements	All	$415,484	$689,736
	Knox Avenue and Martintown Road	Knox Avenue	Martintown Road	Realign intersection and pedestrian improvements	All	$1,477,395	$2,452,591
	Pine Log Road and Collier Street	Pine Load Road	Collier Street	Realignment and turn lanes	All	$743,958	$1,235,029
	Richland Avenue West and University Parkway	Richland Avenue West	University Parkway	Lengthen and add turn lanes	All	$759,134	$1,260,222

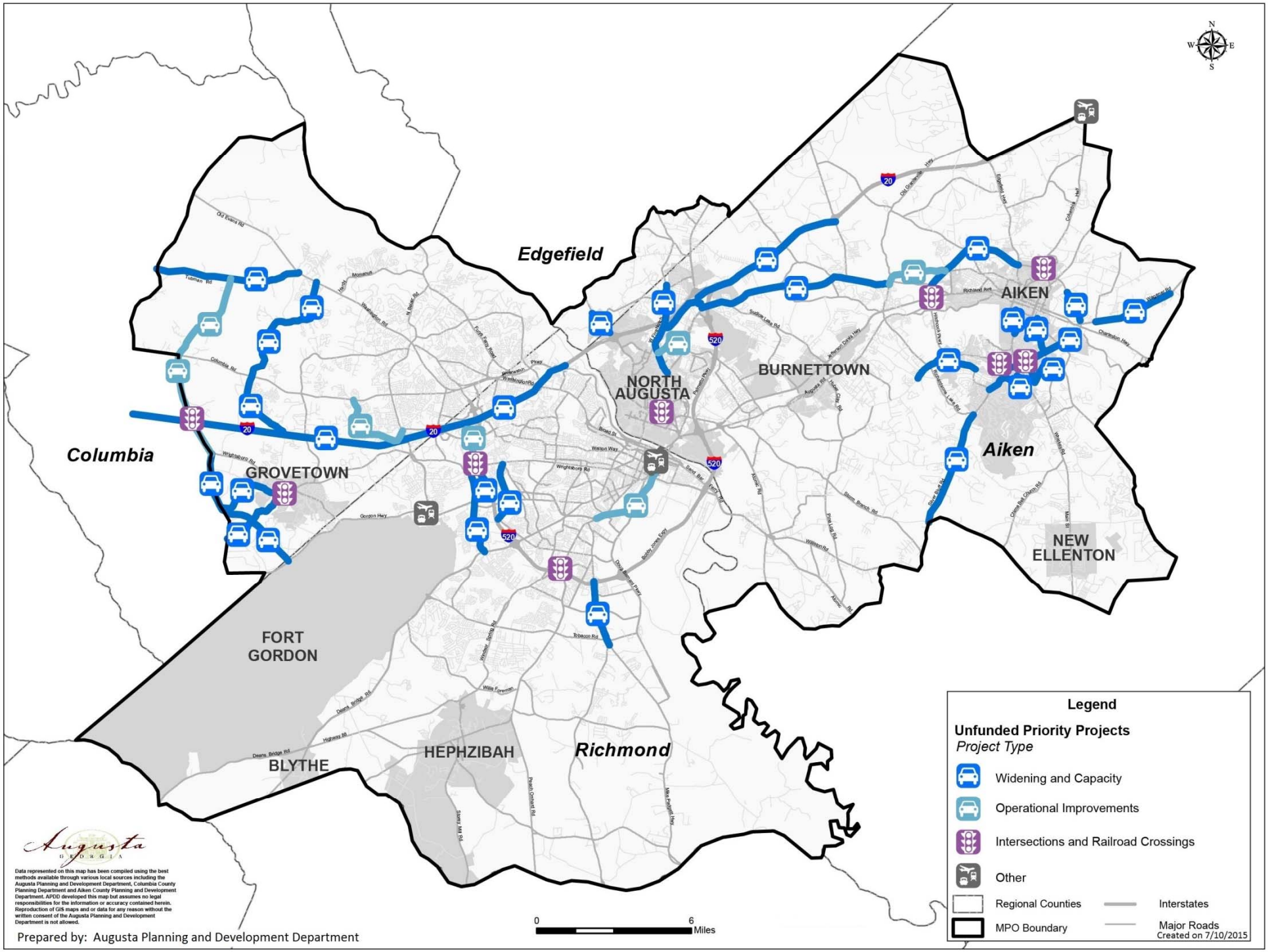
SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Table 67: *Unfunded High Priority Projects South Carolina (continued)*

South Carolina Unfunded Priority Projects - Projects not in Financially Constrained Plan							
SCDOT PI#	Project Name	From	To	Description	Phase	2015 Dollars	Year of Expenditure Dollars
Park and Ride Facility Projects							$1,924,485
	I-20 and US 1 (Columbia Highway) Park and Ride in Aiken County (Exit 22)	I-20	US 1	Construct Park and Ride lot with express bus service.	All	$1,159,274	$1,924,485
Bicycle and Pedestrian Improvements							$24,407,434
	West Aiken Greenway	Greenville Road	Highland Avenue	Rail with Trail	All	$5,636,723	$9,357,400
	Belvedere Clearwater Rd	Edgefield Road	Palmetto Parkway	Striped Bike Lane	All	$17,833	$29,605
	Belvedere Clearwater Rd - Belvedere Road	Palmetto Parkway	Augusta Road	Multi Use Path	All	$3,113,398	$5,168,483
	E Pine Log Road Greenway	Silver Bluff Road	Trailwood Avenue	Greenway	All	$1,443,274	$2,395,947
	East Buena Vista Ave Greenway	Riverside Boulevard	Georgia Avenue	Striped Bike Lane	All	$13,218	$21,942
	US Highway 1 Paved Shoulders	Old Aiken Road	Augusta Road	Paved Shoulders	All	$355,407	$590,004
	E Buena Vista Avenue	Floyd Avenue	Atomic Road	Multi Use Path	All	$477,303	$792,360
	Georgia Ave	13th Street Bridge	Knox Avenue	Striped Bike Lane	All	$30,002	$49,806
	Knox Ave	E Martintown Road	Edgefield Road	Striped Bike Lane	All	$841,400	$1,396,789
	US 1	Rutland Drive	ARTS Boundary	Paved Shoulder	All	$249,666	$414,465
	Martintown Rd	E Buena Vista Avenue	Jefferson Davis Highway	Multi Use Path	All	$295,473	$490,509
	E Martintown Road	Martintown Road	E Buena Vista Avenue	Multi Use Path	All	$113,644	$188,657
	Jefferson Davis Hwy	Martintown Road	Revco Road	Greenway	All	$2,113,334	$3,508,299
	Collier Street	Henry Street	E Pine Log Road	Bike Route	All	$437	$726
	13th Street Bridge	GA	SC	Shared-lane marking	All	$1,471	$2,442

SCP - Scoping; PE -Preliminary Engineering; UTL - Utilities; ROW - Right of Way; CST - Construction; All - PE, ROW, & CST

Figure 74: *Unfunded Priority Projects*



Augusta Planning and Development Department
535 Telfair Street, Augusta, GA 30901
Tel: (706) 821-1796
Website: www.augustaga.gov/arts