GPATS

LONG-RANGE TRANSPORTATION PLAN

Horizon 2045 UPDATE

Adopted November 14th, 2022
Greenville-Pickens Area Transportation Study (GPATS)
Long-Range Transportation Plan Update (LRTP) Update of Horizon2040 Plan

GPATS LONG-RANGE TRANSPORTATION PLAN Horizon 2045 UPDATE

Acknowledgments

On behalf of the project team, the Greenville-Pickens Area Transportation Study (GPATS) thanks the diverse group of participants whose input was instrumental to creating the blueprint for a safe, multimodal, and interconnected transportation system for this portion of the Upstate. The efforts of everyone are greatly appreciated.

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GPATS LONG-RANGE TRANSPORTATION PLAN Horizon 2045 UPDATE

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List of Figures

List of Tables

1. Introduction

Transportation is a critical part of a region's physical and social infrastructure. It is a fundamental part of daily life that affects everyone in the region. Horizon 2045, the Long-Range Transportation Plan for the Greenville-Pickens area, outlines a regional strategy for a connected transportation system that accommodates existing and future mobility needs. Horizon 2045 is a financially constrained plan, meaning it identifies projects and programs that can reasonably be implemented through the year 2045. In response to federal mandates and the desire of residents, the Long-Range Transportation Plan addresses all modes of transport, including driving, biking, walking, riding transit, flying, and moving freight.

BACKGROUND

The scope for Horizon 2045 includes establishing goals, reviewing current plans and studies, analyzing transportation conditions, engaging residents and stakeholders, identifying multimodal recommendations, and developing a financially-constrained plan. GPATS' Study Team and Policy Committee offered feedback throughout the plan's development.

About GPATS

GPATS stands for the Greenville-Pickens Area Transportation Study, the Metropolitan Planning Organization (MPO) for the Greenville Area, which includes a significant portion of Greenville and Pickens Counties, and smaller portions of Anderson, Laurens, and Spartanburg counties. GPATS facilitates a regional, cooperative planning process for a 905 square-mile area that's home to more than 700,000 residents. This process serves as the basis for spending the region's state and federal transportation fund for improvements to roadways, bridges, public transit, bikeways, and sidewalks.

Reason for the Plan

GPATS reviews the long-range transportation plan every five years and updates it every 10 years. Horizon 2045 is the review to the region's Long-Range Transportation Plan from 2017. The plan fulfills federal requirements and serves as the region's transportation vision. It characterizes current and future transportation needs, outlines the region's long-range transportation vision, documents multi-modal transportation strategies to address needs through the year 2045, and identifies long-term opportunities beyond the current ability to fund projects. Federal funding cannot be allocated to transportation projects unless they are included in the financially-constrained plan. GPATS cannot plan to spend more money than it reasonably expects to receive.

Bipartisan Infrastructure Law

Horizon 2045 is shaped by several elements, including federal legislation and the direction of state and local agencies. The plan is governed by the Bipartisan Infrastructure Law, which was signed into law on November 5th, 2021. The goals of the Bipartisan Infrastructure Law include strengthening America's highways, establishing a performance-based program, creating jobs and supporting economic growth, supporting the United States Department of Transportation's aggressive safety agenda, streamlining Federal Highway Administration transportation programs, accelerating project delivery, and promoting innovation.

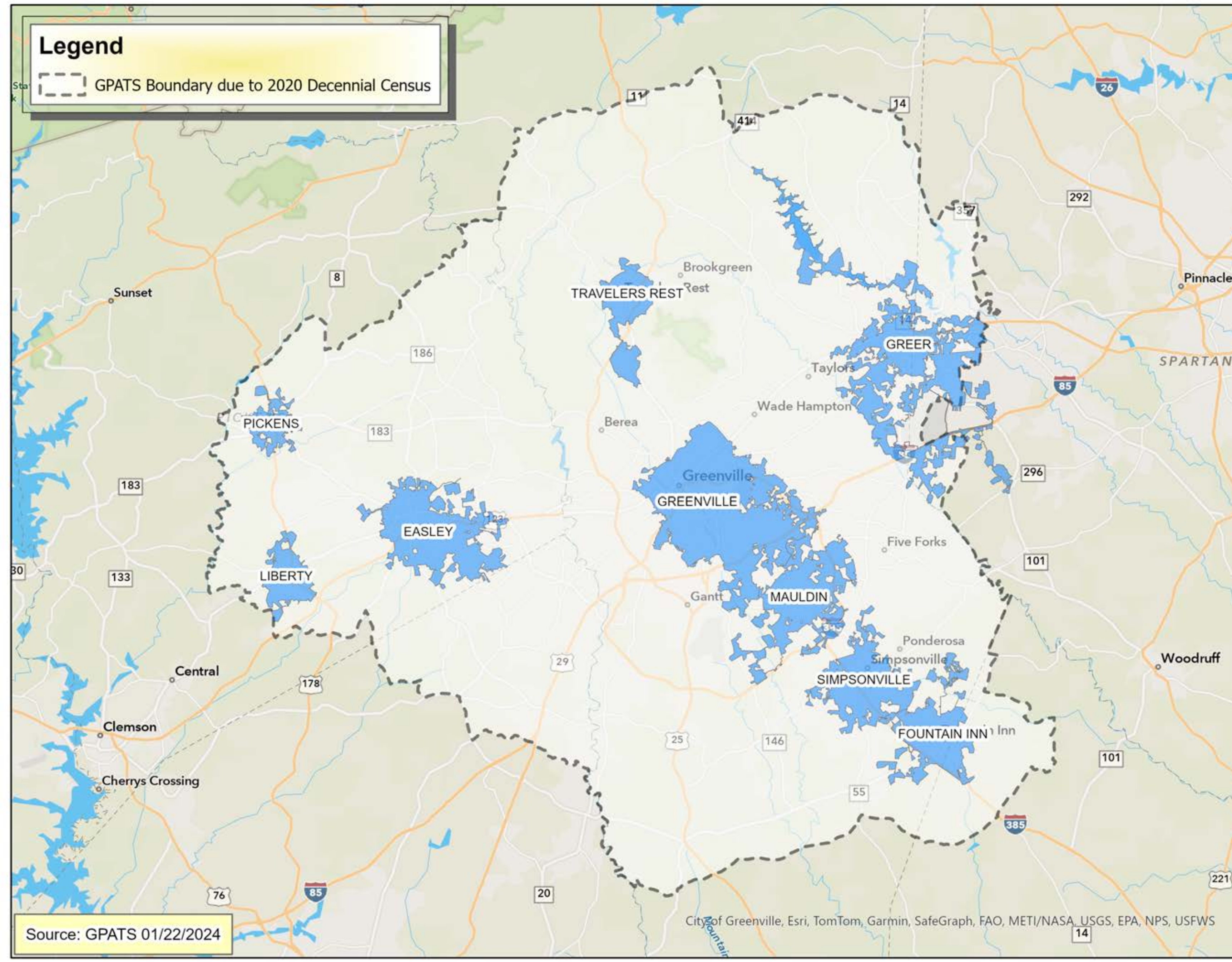
Study Area

GPATS, as shown in Figure 1, is responsible for transportation policy development, planning, and programming for 905 square miles of the Upstate, including portions of Greenville, Pickens, Anderson, Laurens, and Spartanburg Counties. The planning area includes locations in which growth is likely to occur through 2045. MPOs are required to evaluate their boundary after each U.S. decennial census to ensure the planning area is inclusive of all future urbanized areas. As of 2022, more than 700,000 people reside in the GPATS region.

GPATS is just one of several regional entities tasked with transportation planning in the Upstate. The Spartanburg Area Transportation Study (SPATS) is the MPO for the Spartanburg urban area, which includes Spartanburg and seven other cities and towns as well as portions of unincorporated Spartanburg County. Anderson Area Transportation Study (ANATS) is the MPO for the Anderson urbanized area, which includes the cities of Anderson and Belton along with portions of Anderson County. Areas of the Upstate outside of the three MPOs are assisted by the Appalachian Council of Governments (ACOG).

The 2020 Census decreased the GPATS Boundary. The GPATS area lost Norris, Central, Clemson, Pendleton, Williamston, Pelzer, and West Pelzer. These areas were taken over into the Anderson Clemson Area Transportation Study (ACATS). The Spartanburg Area Transportation Study (SPATS) took over the Woodruff area in Spartanburg County. While much of this LRTP still covers the pre-2020 Census Study Area, projects that have been lost have been noted. The next full LRTP Update will fully incorporate the new Study Area.

Figure 1: GPATS Study Area



Planning Process

Horizon 2045 represents a coordinated effort to establish a transportation vision for the region and identify multimodal projects to achieve it. The planning process requires cooperation between multiple jurisdictions, key stakeholders, and citizens to accurately reflect the needs of the region. Horizon 2045 is an important step toward ensuring the region's limited transportation dollars will address the most critical needs.

The Horizon 2045 process started with a review of socioeconomic and transportation conditions. Guiding principles and goals were established prior to identifying multimodal recommendations. Once the recommendations were developed, a prioritization process was created and available resources through the year 2045 were identified. The financially constrained plan provides a blueprint of transportation projects over the next 25 years and is re-evaluated in 5 years.

2. Demographics

GPATS covers a significant portion of Greenville County and Pickens County, and smaller portions of Anderson, Laurens, and Spartanburg counties. It contains the municipalities of Central, Clemson, Easley, Fountain Inn, Greenville, Greer, Liberty, Mauldin, Norris, Pelzer, Pendleton, Pickens, Simpsonville, Travelers Rest, West Pelzer, and Williamston. It covers an area of 905 square miles and is home to more than 700,000 residents.

In Greenville County alone, the population is expected to grow by 222,000 residents and 86,000 new jobs by 2040. With the projected growth in population and jobs, this will add stress to current transportation infrastructure. To cope, GPATS recognizes the need to improve transportation system including walking, biking, and riding transit, while addressing the roadway safety concern that has lead the Greenville-Anderson, to be ranked 17 most deadly metropolitan area.

To address these concerns, GPATS has developed a list of roadway safety treatments that can be incorporated into roadway designs that can be seen in Tables 4, 8, and 10.

Figure 2: Estimated Population Density

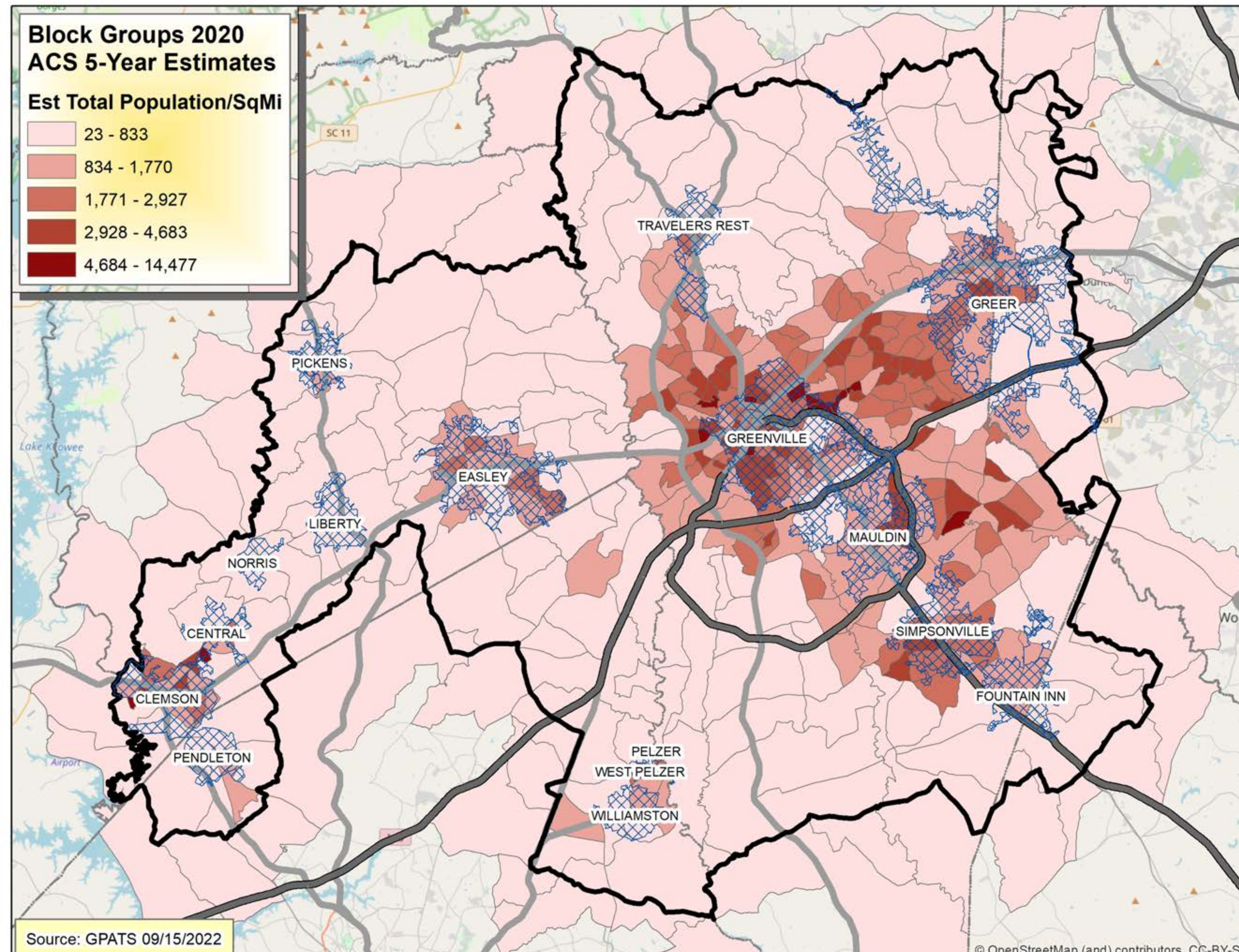


Figure 3: Estimated Non-White Population/SqMi

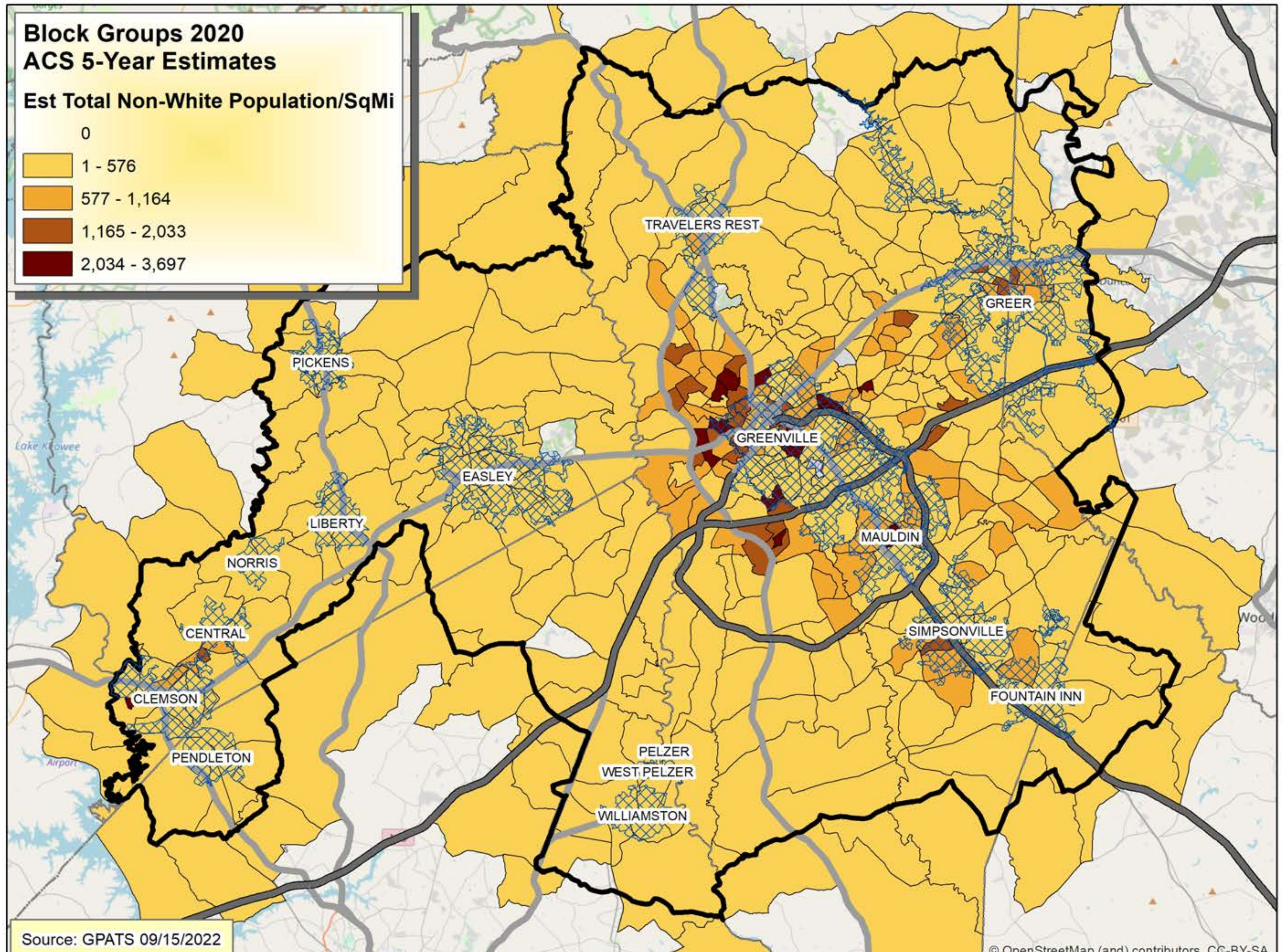


Figure 4: Estimate Percentage Non-White

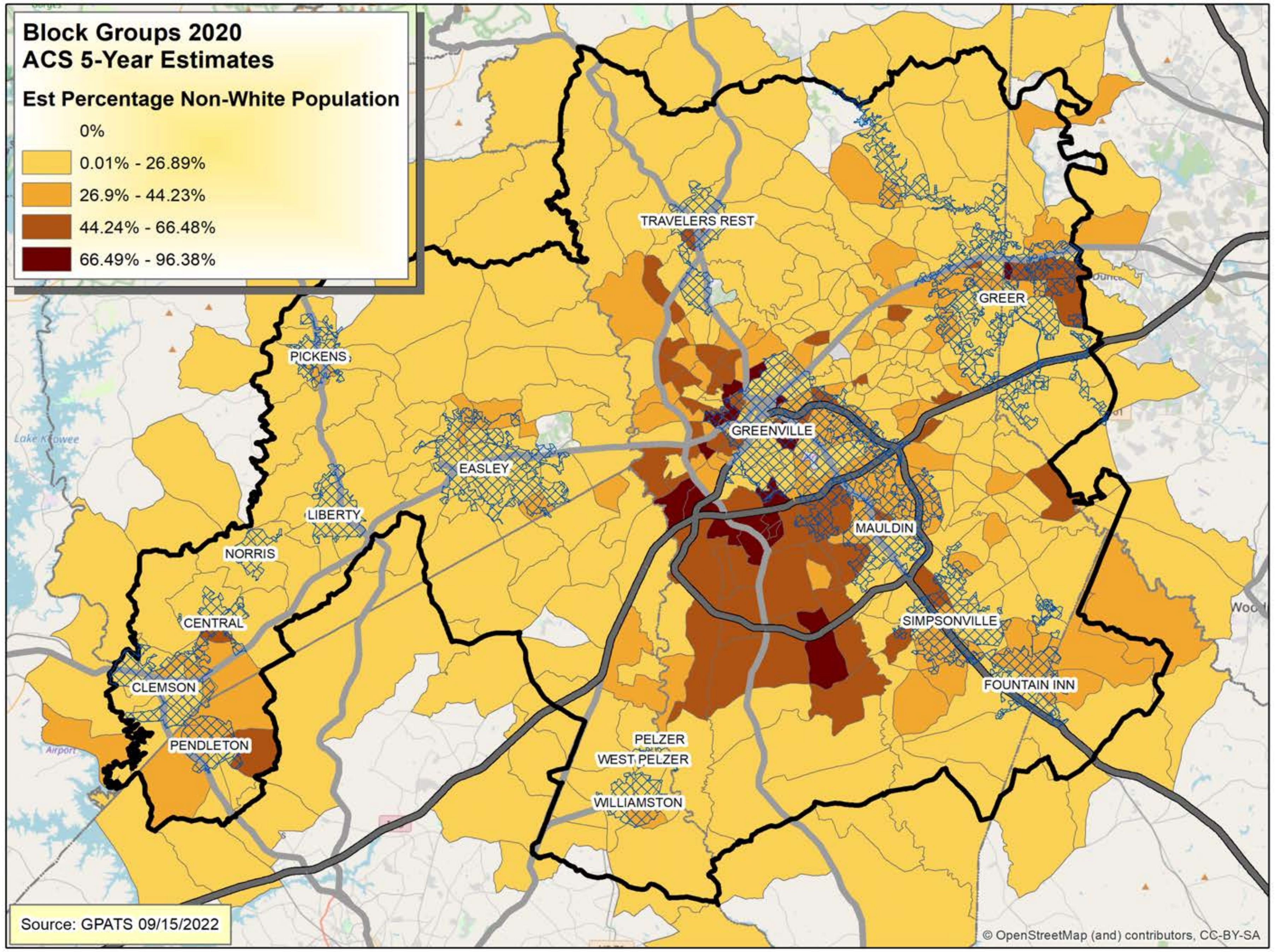


Figure 5: Estimated No Vehicle/SqMi

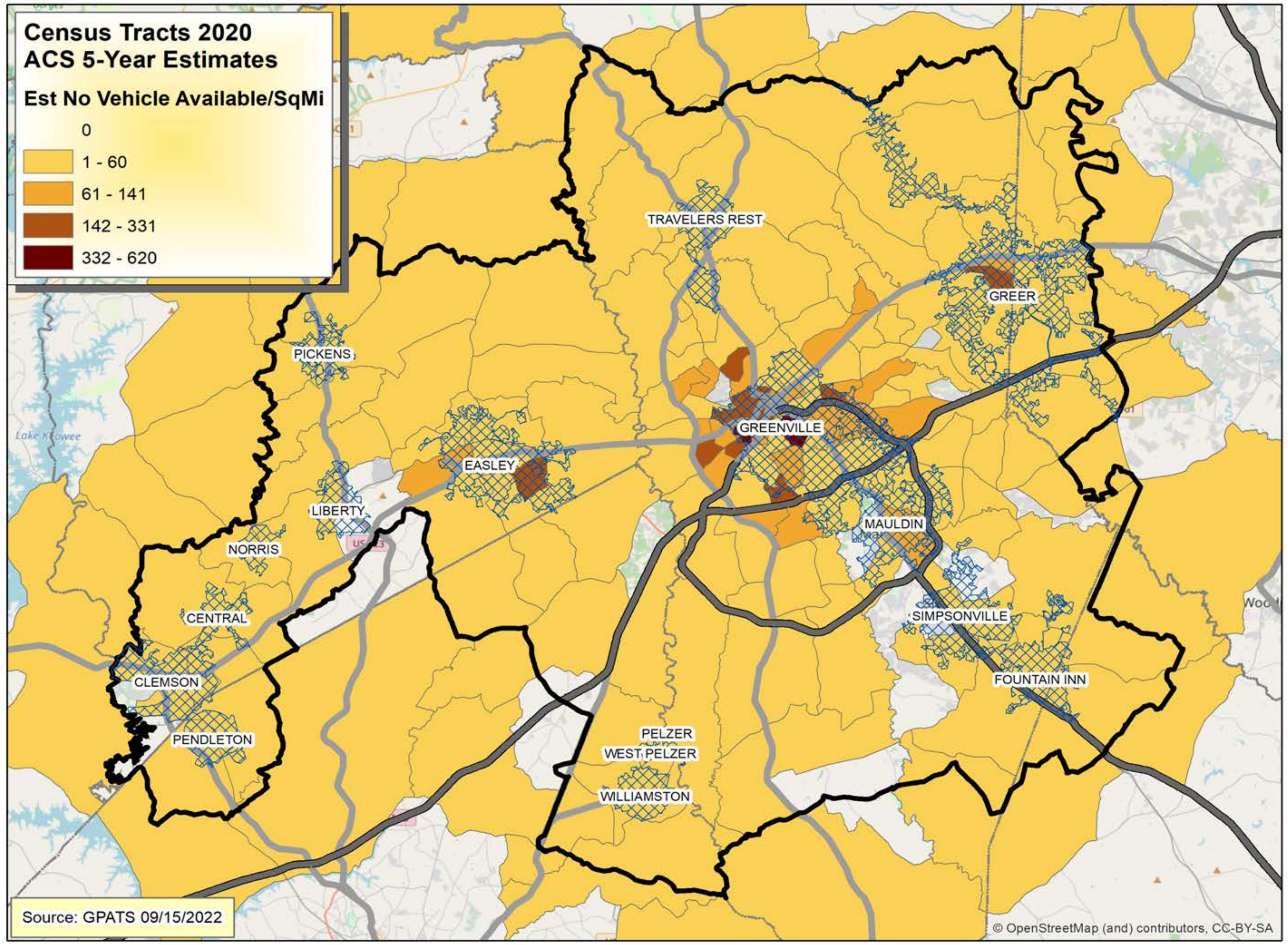


Figure 6: Average Median Income (AMI)

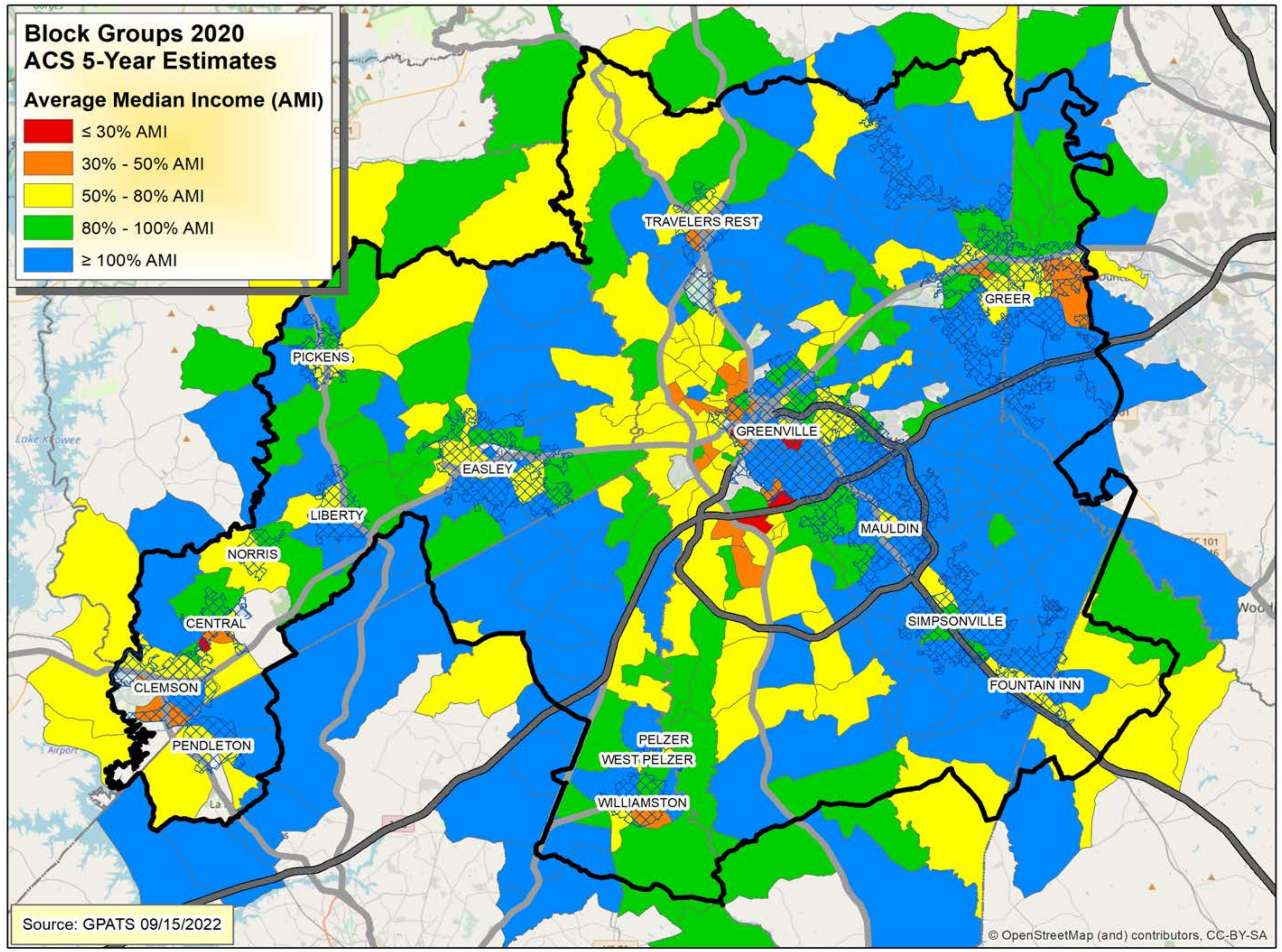
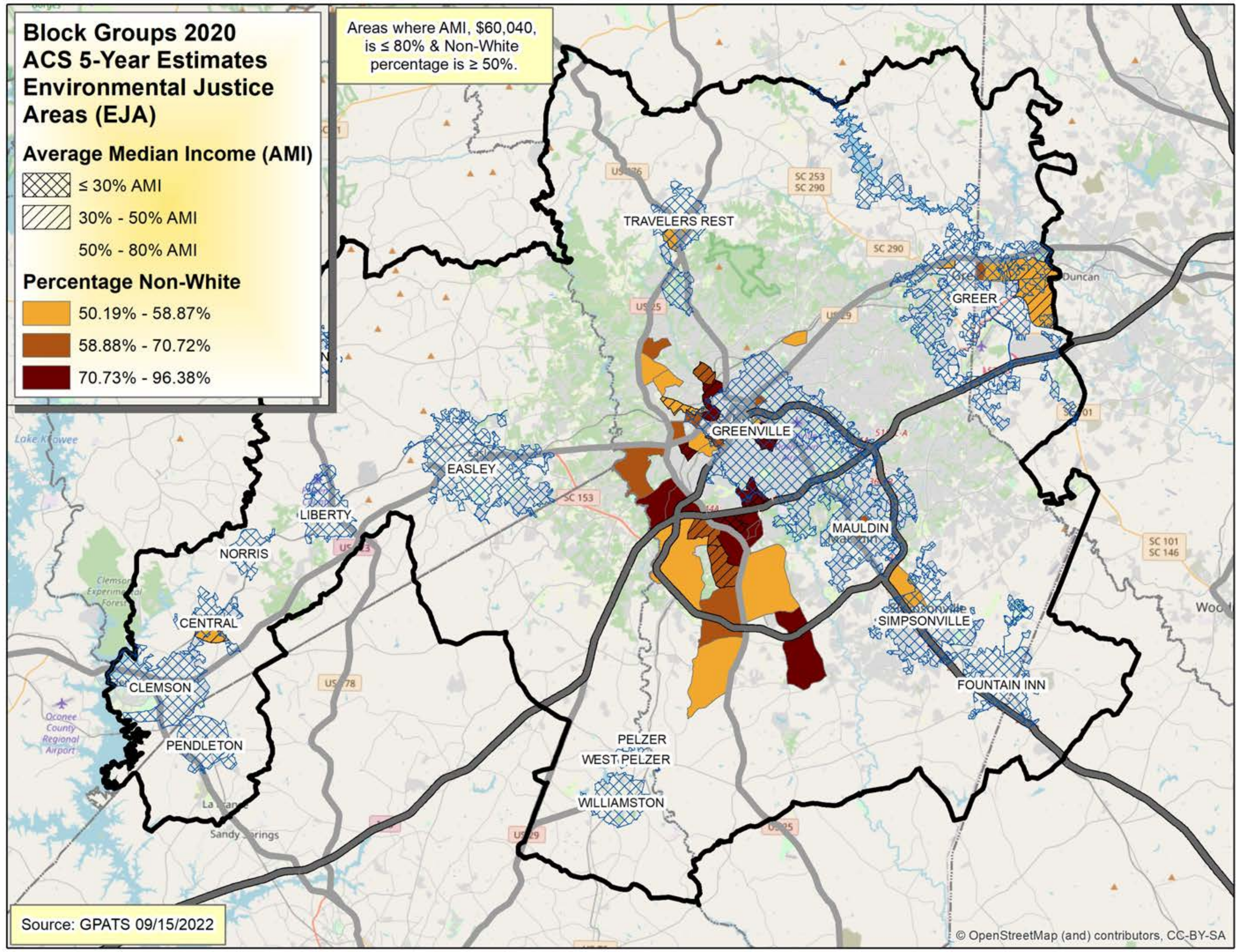


Figure 7: Environmental Justice Areas (EJA)



3. Public Engagement

GPATS makes efforts to reach its Non-White and elderly communities and those with limited English proficiency. GPATS advertises meeting notices in the local Spanish-language newspaper Latino. A staff member of the Greenville County Administration office is able to provide translation of materials into Spanish when needed and has provided assistance with translation at meetings.

To better foster communication with Non-White, Low-Income, and LEP populations, GPATS continues to build its list of organizations GPATS can partner with so these populations can be informed of upcoming meetings and plans.

INTRODUCTION

Public involvement—whether through direct contact or indirect contact with citizens, stakeholders, elected officials and other community representatives—is an important part of successful transportation planning. Horizon 2045 relies on the notion that fully understanding the community's vision for transportation and the dynamics involved in achieving it requires a collaborative approach. As a result, local staff and the project team reached out to the community throughout the planning process and in a variety of ways.

More information regarding public engagement can be found at http://www.gpats.org/Plans/LRTP.aspx

Public Engagement

As part of Horizon 2045, GPATS staff engaged municipal and county staff, elected officials, SCDoT, FHWA, State and Federal agencies, public transportation providers and users, freight operators, public service officials, employers, chambers of commerce, economic development agencies, bicycle and pedestrian advocates, community leaders, minority and low income communities, and the public in a variety of ways.

The first phase of engagement asked participants to identify needs to be addressed in the plan. To communicate with the public, the primary strategies was posting about meetings on the GPATS website, social media (Facebook), and emails. And for people who were unable to attend the public meetings, we provided a link to a MetroQuest survey.

Throughout the process, the public saw how their input informed the development of the plan and decision-making process. Initial feedback was combined with technical data to create the draft multimodal recommendations presented to the public.

MetroQuest Survey

The MetroQuest survey was launched on June 24th, 2022 and closed on August 30th 2022. Through the MetroQuest survey, participants were allowed to identify transportation issues, suggest new projects, and prioritize transportation topics. 281 people participated in the MetroQuest survey, generating 5,889 individual data points, and 484 written comments. From participants' surveys and comments, GPATS compared citizens' preferred projects compared to currently ranked projects. Then, new projects from citizen input, along with currently ranked projects were reevaluated using Performance Measures from Appendix D. Emphasis was added to potential projects that were called out by citizens to raise these potential projects to the top of the list for funding. The full MetroQuest report can be found at the end of this document.

Public Meetings

GPATS held seven public meetings around the study area to give the public access to at least one meeting. In total, 81 people participated. The full list of meetings and attendance are listed below:

- Greer – July 7, 2022 (7 participants)
- Simpsonville – July 8, 2022 (11 participants)
- Greenville – July 11, 2022 (17 participants)
- Travelers Rest – July 14, 2022 (7 participants)
- Williamston – July 19, 2022 (5 participants)
- Clemson – July 21, 2022 (16 participants)
- Easley – July 25, 2022 (18 participants)

4. Sidewalks & Crosswalks

Pedestrian Infrastructure Design

The proper design of walking infrastructure is an essential component of a safe, efficient, active transportation network. Gaps in the sidewalk network, demonstrated by Figure 8, along with traffic speeds and volumes, discourage people from walking. This diminishes transit ridership and affects those who have no other forms of transportation. Gaps also include the lack of high visibility crosswalks at intersection and midblock crossings that allow people walking to be seen while crossing the street.

Design for Pedestrians

The GPATS regional transportation network should accommodate pedestrians with a variety of needs, abilities, and possible impairments. Age is one major factor that affects pedestrians' physical characteristics, walking speed, and environmental perception and should be taken into consideration when designing pedestrian infrastructure.

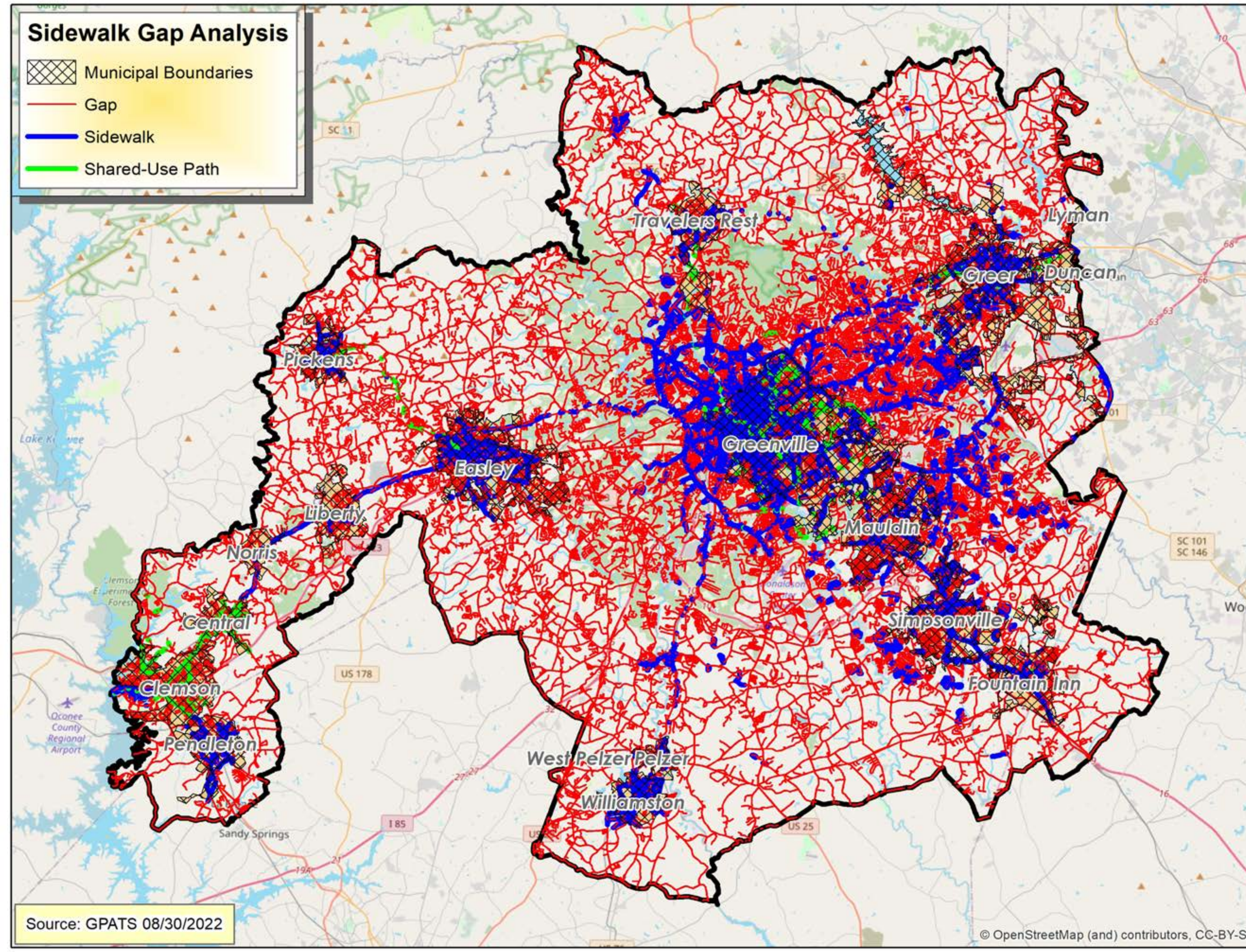


Figure 8: GPATS Sidewalk Gap Analysis

Table 1: Gap, Sidewalk, and Shared-Use Path Miles by Functional Classification System (FCS)

	Type	Functional Classification System	Length (mi)	Total (mi)
Rural	Gap	Principal Arterial	39.62	2,806.84
		Minor Arterial	143.92	
		Major Collector	517.68	
		Minor Collector	57.97	
		Local	2,047.64	
	Sidewalk	Principal Arterial	0.98	16.67
		Minor Arterial	4.36	
		Major Collector	1.86	
		Minor Collector	0.27	
		Local	9.20	
	Shared-Use Path	Principal Arterial	0.07	5.11
		Minor Arterial	0.95	
		Major Collector	0.70	
		Minor Collector	-	
		Local	3.39	
Urban	Gap	Principal Arterial	127.85	6,667.95
		Minor Arterial	381.06	
		Major Collector	834.35	
		Minor Collector	13.89	
		Local	5,310.79	
	Sidewalk	Principal Arterial	110.41	1,036.25
		Minor Arterial	251.67	
		Major Collector	179.92	
		Minor Collector	-	
		Local	494.25	
	Shared-Use Path	Principal Arterial	10.42	111.85
		Minor Arterial	30.12	
		Major Collector	26.25	
		Minor Collector	0.25	
		Local	44.82	

Sidewalks

Sidewalks should be provided on both sides of major roadways. Sidewalks are typically constructed out of concrete and are separated from the roadway by a curb and gutter, and preferably a landscaped planting strip area. Table 1 and 2 shows the total number of gap, sidewalk, and shared-use path miles by Functional Classification System (FCS).

Table 2: Gap, Sidewalk, and Shared-Use Path Miles

	Type	Length (mi)	Total (mi)
Rural	Gap	2,806.64	9,474.78
Urban		6,667.95	
Rural	Sidewalk	16.67	1,052.91
Urban		1,036.25	
Rural	Shared-Use Path	5.11	116.96
Urban		111.85	

Intersections

Pedestrian safety must be a priority at intersections, with well thought-out design utilized to increase visibility, accessibility, separation from traffic, and lighting.

Figure 9 shows the total 2016-2020 traffic crashes for those walking around GPATS, 336, while Table 3 shows a breakout of the total and percentage of those walking Killed or Seriously Injured (KSI) at Intersections.

Figure 9: Walking 2016-2020 Crash Data

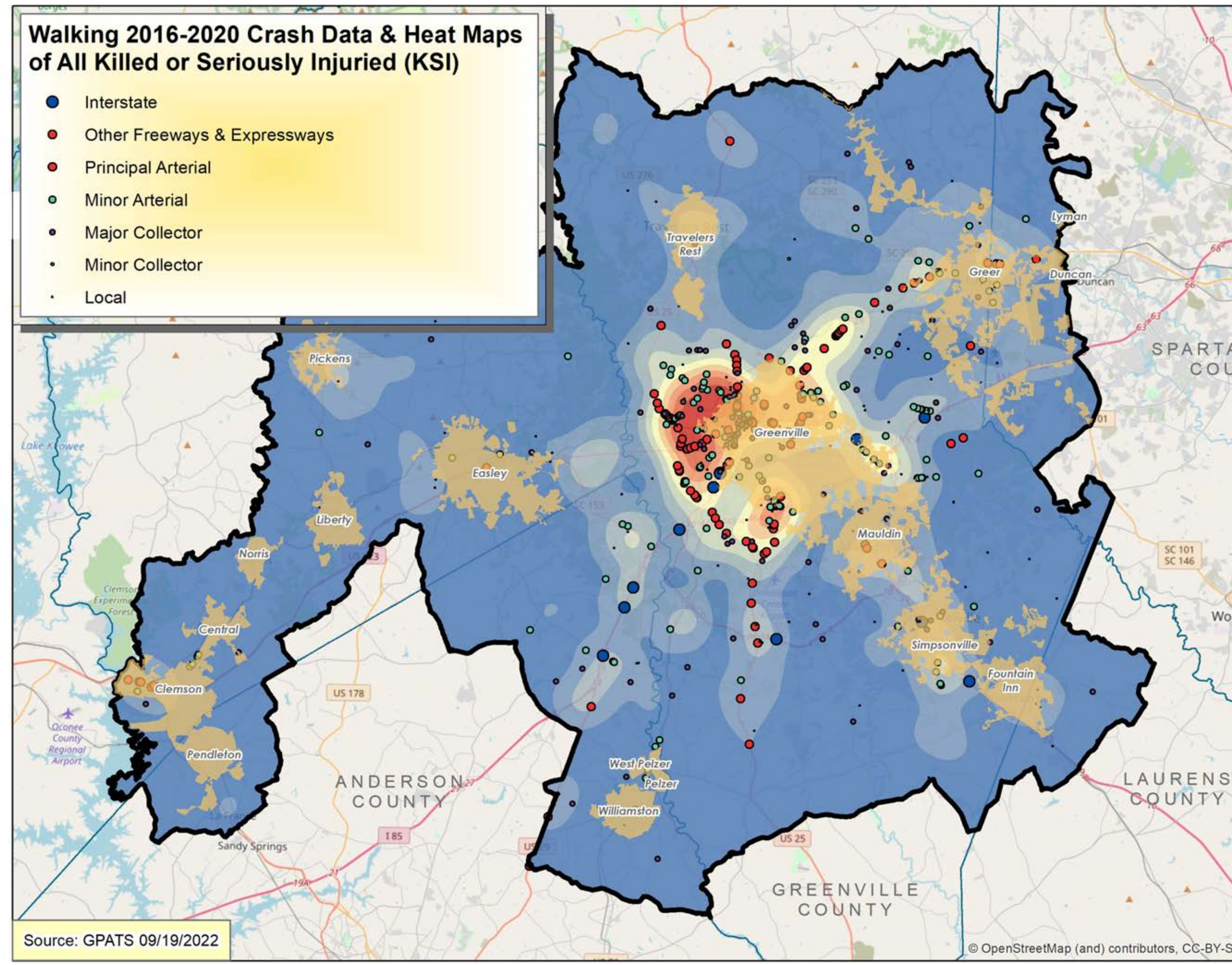


Table 3: Total & Percentage of People Walking Killed or Seriously Injured (KSI) at Intersections

	Total Intersection Crash	Total Intersection KSI	Total Crash	Total KSI	Percentage Crash at Intersection	Percentage KSI at Intersection
Walking	336	101	527	184	63.76%	54.89%

Table 4 shows counter measures to improve safety for people walking.

Table 4: Safety Toolkit for People Walking

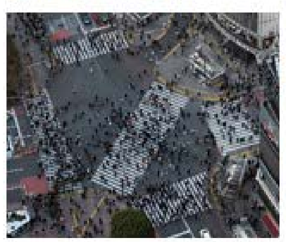
Safety Toolkit for People Walking

Refuge islands and medians create a safe space for people crossing the roadway, especially on high-speed roadways with multiple travel lanes in one direction. Can be painted or concrete. *Crashes reduced by 56%* [1].

Source 1: flickr

High-visibility crosswalk styles have been shown to improve yielding behavior. *Crashes reduced by 48%* [1].

Source 2: commons.wikimedia



Scramble intersections gives people walking exclusive full access to an intersection by stopping people driving on all approaches, allowing people to cross diagonally or conventionally. *Crashes reduced by 35%* [2].

Source 3: commons.wikimedia

Countdown Signals discourages people walking from crossing late by showing how much time they have until the light changes. *Crashes reduced by 25%* [1].

Source 4: commons.wikimedia

Rapid Flashing Beacons paired with warning signs at crosswalks increase safety for people walking at uncontrolled crossings by increasing the awareness of people driving. *50% improvement in people driving yielding* [3].

Source 5: flickr

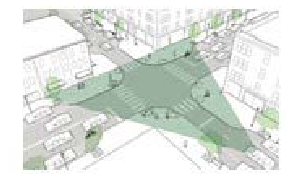
Increased crossing time for children and seniors who may need more than the minimum required time (7 seconds) to cross the roadway safely. *Crashes reduced by 51% [1].*

Source 6: flickr

Safety Toolkit for People Walking

Neighborhood traffic circles lower the speeds of people driving at minor, uncontrolled intersections and can help beautify the street. *Crashes reduced by up to 90%, people driving speeds reduced by 11%* [4] [5].

Source 7: flickr

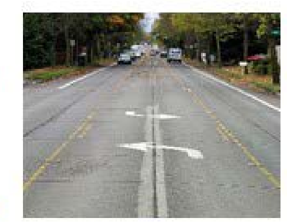


Daylighting intersections removes visual barriers by converting parking spaces to non- parking areas so people driving and walking have a clear view of the intersection. Can be combined with bulb-outs to reinforce daylighting. *Crashes reduced by 30%* [1].

Source 8: NACTO

Painted Bulb-Outs widens the sidewalk to shorten distance for people crossing, increasing visibility, and slowing the turning speeds of people driving. *Turning speeds decreased by 55%* [6].

Source 9: flickr

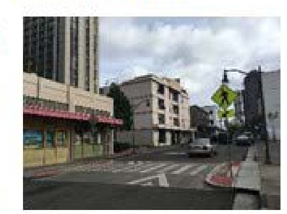


Road diets decrease the number of through- traffic lanes and conflicts and reduce the speed of people driving, making crossing safer for people walking. *Crashes reduced by 50% [4].*

Source 10: flickr

Left turn traffic calming reduces the left turn speed of people driving lessening the risk of collision with people walking. *Decreases left turn speeds by 20%* [7].

Source 11: NYC



Raised crosswalks, a combination of speed tables and high-visibility crosswalks, can be used at midblock or intersections and in controlled or uncontrolled locations. *69-91% improvement in people driving yielding* and*

Reduces vehicle speeds to 20-30 mph [8].

Source 12: flickr

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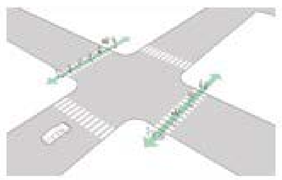
Safety Toolkit for People Walking



Leading Intervals gives people walking a minimum 3–7 second head start entering the intersection, enhancing visibility and reinforcing their right- of-way by delaying the turns of people driving. *Crashes reduced by up to 60%* [9].

Source 13: NACTO

Intersection lighting to allows people driving better visibility of people walking and biking at night. *Nighttime crashes reduced by 42% [10].*

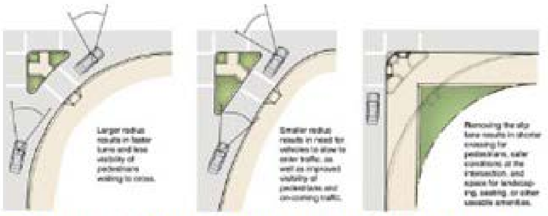
Source 14: pixabay

Flashing arrow turn signals increases awareness, when making left turns, for people driving to yield to people walking and biking. *Yield rate of 70%. Crashes reduced by 10%* [11].

Source 15: Faborplumbs

Reconfigured Complex Intersections simplify intersection design can result in more clarity for people driving and more spaces for people, reducing conflicts *[10]*.

Source 16: NACTO



Slip lane removal converts the right turn slip lane into a sharper turn that requires people driving to slow down before turning, and the crosswalk is moved to the safest and shortest point of the intersection where people walking will be the most visible [12].

Source 17: pikedistrictpeds

Shared Streets eliminate rights-of-way distinctions between people driving, walking, and biking for street activity and keeps people driving alert, by slowing down people driving. *Slows vehicle traffic to under 10mph [13].*

Source 18: Global Designing Cities Initiative

Safety Toolkit for People Walking

Street trees protects people walking from moving traffic along with calming traffic by slowing people driving while demarcating the walking zone helping people driving to stay on the roadway *[14]*.

Source 19: flickr

Mountable dual radius truck aprons improves visibility and reduce crossing distances for people walking while providing space for larger vehicles to traverse and providing a tighter turning path to slow the turning speed of people driving *[15]*.

Source 20: Alta

5. Bikeways

Design for Bicyclists

Figure 10 shows existing and proposed bikeways through the GPATS region. Tables 5 and 6 show the total number of bikeway miles by Functional Classification System (FCS).

Figure 10: GPATS Bikeways

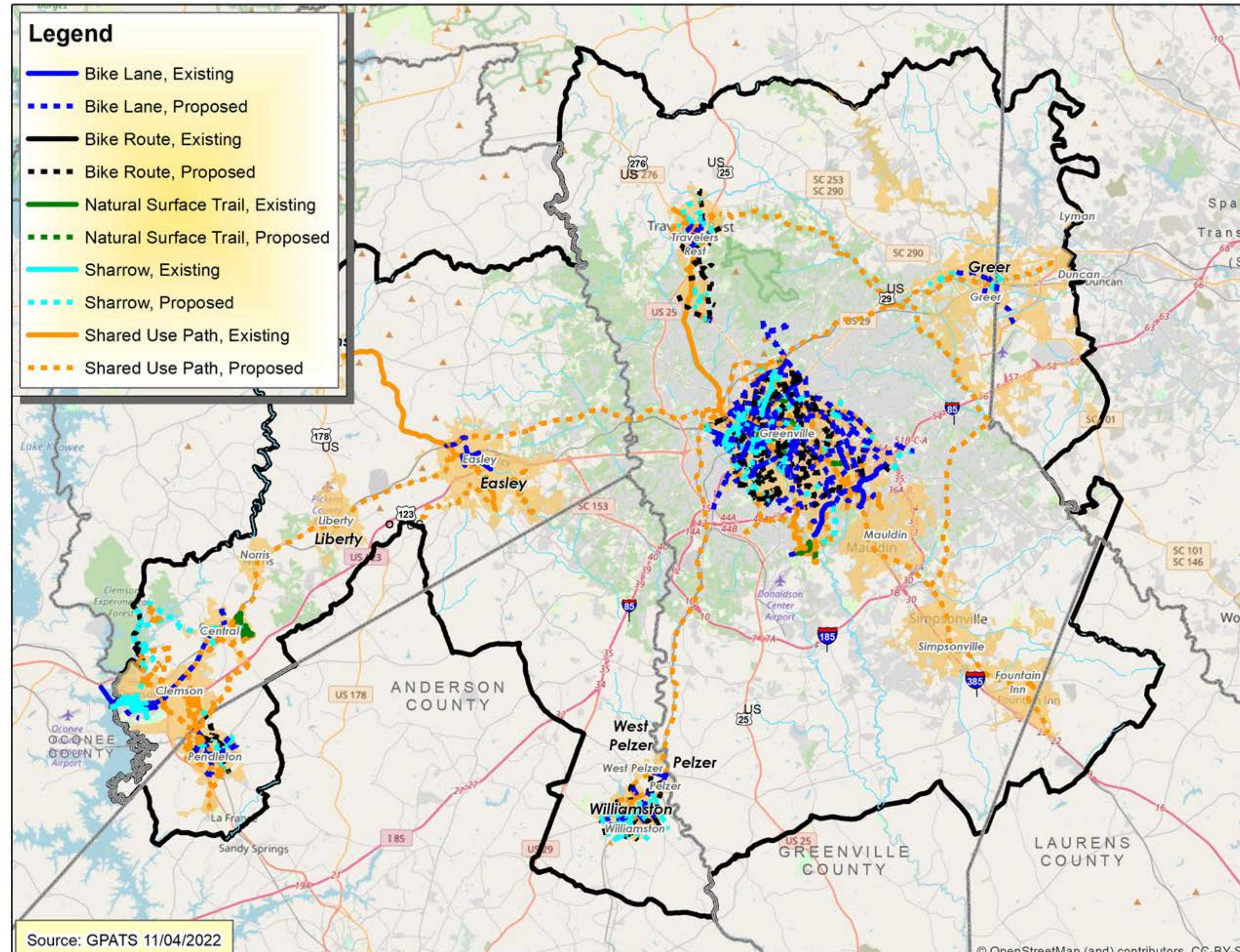


Table 5: Bikeways by Functional Classification System (FCS)

	Type	Functional Classification System	Length (mi)	Total (mi)
Rural	Sharrow	Principal Arterial	-	2.07
		Minor Arterial	-	
		Major Collector	-	
		Minor Collector	-	
		Local	2.07	
	Bike Lane	Principal Arterial	-	1.50
		Minor Arterial	-	
		Major Collector	-	
		Minor Collector	-	
		Local	1.50	
	Bike Route	Principal Arterial	-	-
		Minor Arterial	-	
		Major Collector	-	
		Minor Collector	-	
		Local	-	
Urban	Sharrow	Principal Arterial	1.40	41.25
		Minor Arterial	19.44	
		Major Collector	8.33	
		Minor Collector	-	
		Local	12.08	
	Bike Lane	Principal Arterial	3.78	83.98
		Minor Arterial	27.15	
		Major Collector	19.13	
		Minor Collector	-	
		Local	33.92	
	Bike Route	Principal Arterial	-	1.48
		Minor Arterial	1.48	
		Major Collector	-	
		Minor Collector	-	
		Local	-	

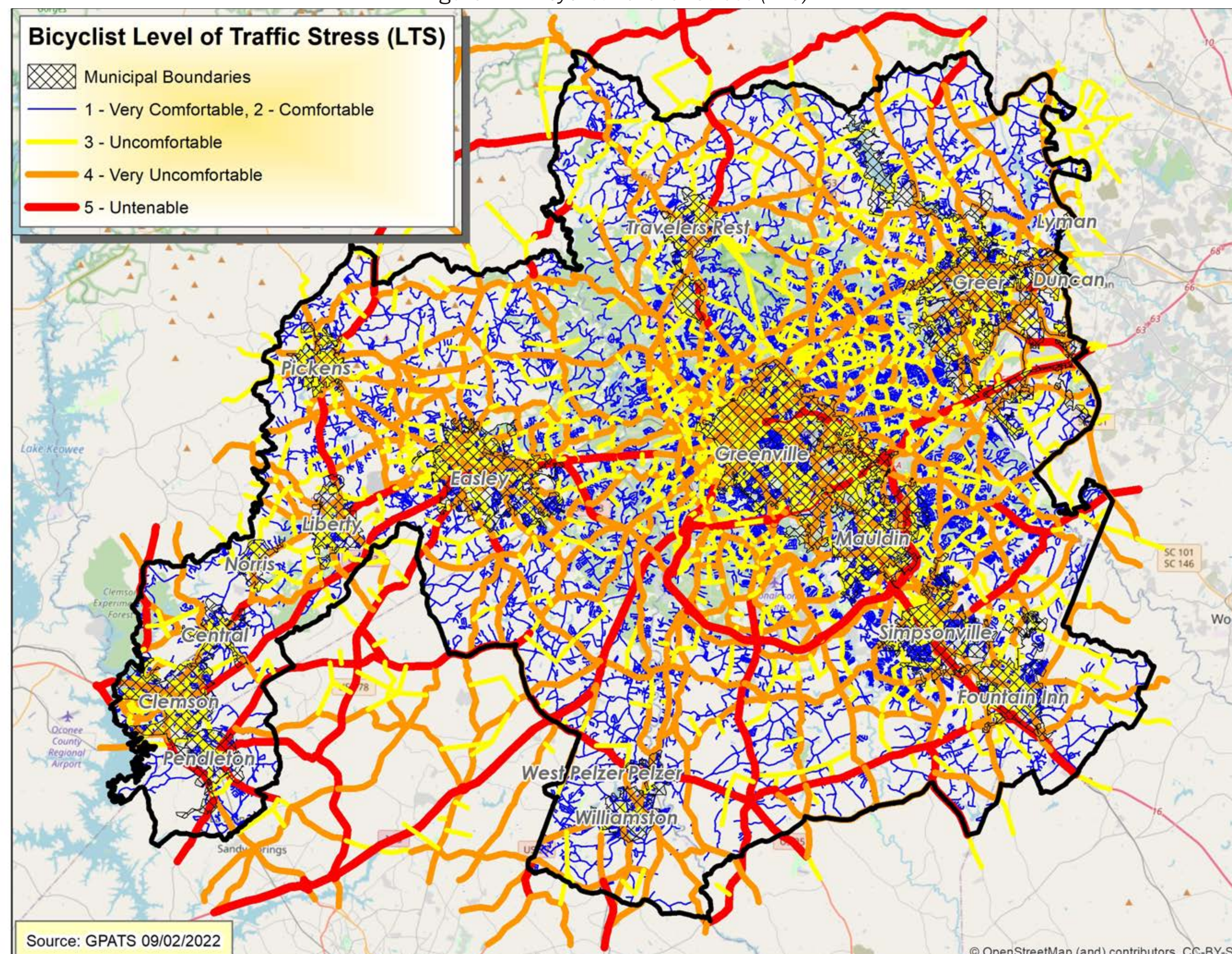
Table 6: Bikeway Miles

	Type	Length (mi)	Total (mi)
Rural	Sharrow	2.07	43.33
Urban		41.25	
Rural	Bike Lane	1.50	85.48
Urban		83.98	
Rural	Bike Route	-	1.48
Urban		1.48	

Bicyclists and their bicycles exist in a variety of sizes and configurations. These variations occur in the types of vehicle (such as a conventional bicycle, a recumbent bicycle or a tricycle), and behavioral characteristics (such as the comfort level of the bicyclist). The design of a bikeway should consider reasonably expected bicycle types, skill levels, traffic levels, and Bicyclist Level of Stress (LTS) as demonstrated in Figure 11, on and around the facility and utilize appropriate dimensions.

Refer to appendix (see http://www.gpats.org/Plans/LRTP.aspx) for greater detail about the planning process used to determine the infrastructure types seen in these recommendations.

Figure 11: Bicyclist Level of Stress (LTS)



GPATS LONG-RANGE TRANSPORTATION PLAN Horizon 2045 UPDATE

Bicycle Facility Types

Horizon 2045 recommends the following facility types for implementation in the GPATS region:

Bike Routes
Marked by bicycle wayfinding signage along roadway networks, these facilities may not exhibit other infrastructure improvements beyond environmental graphics.

Bicycle Boulevards
Enhanced bike routes on local street networks, at a minimum, are designated by pavement markings and bicycle wayfinding signage. Traffic calming devices, such as traffic diverters, chicanes and chokers, may also be used in conjunction with bicycle boulevards to reduce vehicle speeds and volumes while maintaining bicycle access.

Buffered Bike Lanes
Conventional bicycle lanes paired with a designated buffer space, separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane.

Separated Bike Lanes or Cycle Tracks
Exclusive bike facilities that combine the user experience of a separated path with the on-street infrastructure of conventional bike lanes. These are also referred to as protected bicycle lanes. Cycle tracks are either raised or at street level and use a variety of elements for physical protection from passing traffic.

Shared Use Paths or Multiuse Paths
Facilities separated from roadways for use by bicyclists and pedestrians. Sidepaths usually refer to shared use paths immediately adjacent to the roadway. Greenways refer to shared-use paths that don't necessarily follow a roadway alignment. Greenways typically follow other features such as railroads, utility lines, or streams.

Bicycle Parking

In order to encourage bicycling, plentiful, convenient and attractive bicycle parking should be provided. This may be short-term parking of two hours or less, or long-term parking for employees, students, residents, and commuters. While specific bicycle parking locations are not identified in this planning effort, ample bicycle parking should be provided at popular bicycling destinations such as parks, schools, retail areas and other gathering places. The town could better insure this by including bicycle parking as part of their requirements for new development.

Intersections

Intersections can either be facilitators of or barriers to bicycle transportation. If a potential bicyclist knows that they have to cross an uncomfortable intersection to get to their destination, they will be less apt to choose to bicycle there. Well thought-out design must be utilized to promote safety through increased visibility, accessibility, separation from traffic, and lighting.

Figure 12 shows the total 2016-2020 traffic crashes for those walking around GPATS, 146, while Table 7 shows a breakout of the total and percentage of those biking Killed or Seriously Injured (KSI) at Intersections.

Figure 12: Biking 2016-2020 Crash Data

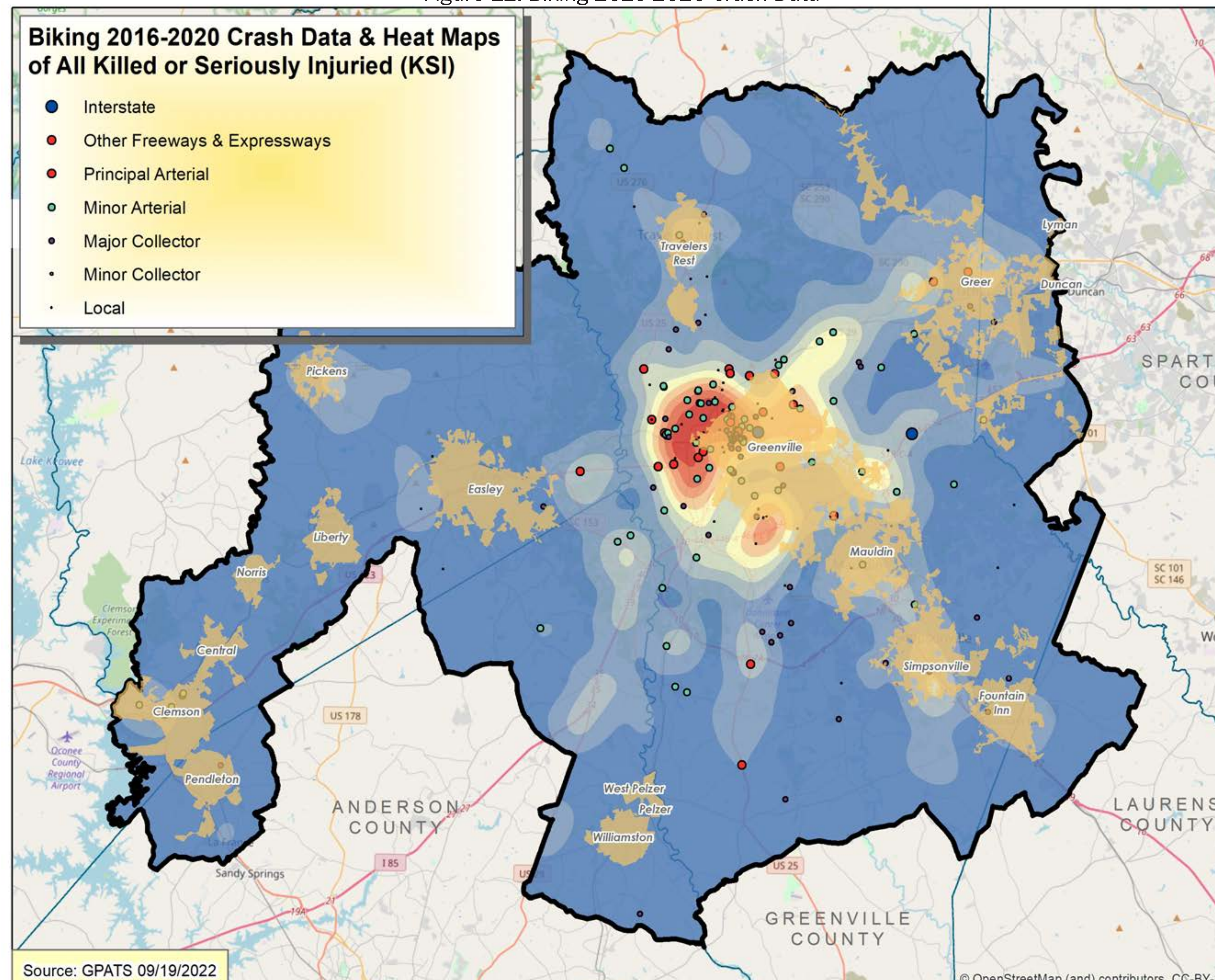


Table 7: Total & Percentage of People Biking Killed or Seriously Injured (KSI) at Intersections

	Total Intersection Crash	Total Intersection KSI	Total Crash	Total KSI	Percentage Crash at Intersection	Percentage KSI at Intersection
Biking	146	14	204	24	71.57%	58.33%

Table 8 shows counter measures to improve safety for people biking.

Table 8: Safety Toolkit for People Biking

Safety Toolkit for People Biking

Bike boulevards streets with low numbers of people driving and driving slow, designated and designed to give people biking priority through use of signs, pavement markings, and speed and volume management. *Crashes reduced by 63%* [16].

Source 21: flickr

Protected (Dutch) intersections maintains the separation of protected bike lanes through intersections to improve sight lines for people driving and biking, slows the turning speed of people driving, and to give people biking a head-start. *Crashes reduced by 63%* [17].

Source 22: protectedintersection

Buffered bike lanes paired with a designated buffer space separating people biking in bike lane from people driving in adjacent travel lane and/or parking lane. *Injury crashes reduced by 40%* [17].

Source 23: flickr

Contra-flow bike lanes in the opposite direction of people driving can reduce wrong-way and sidewalk riding on one-way streets and help connect parts of the bike network. *Can reduce sidewalk riding by 20%* [18].

Source 24: commons.wikimedia

Cycle track separate people biking from moving traffic with by buffering material that deters parking and other intrusions onto the cycle track. *89% reduction in injury risk* [17].

Source 25: flickr

Back-in angled parking is more space- efficient and allows greater visibility of people biking and driving. Shown to reduce vehicle/ bicycle crashes [19].

Source 26: FHWA

Safety Toolkit for People Biking

Bike box pavement marking designed to give priority to people biking over people driving at signalized intersections, while also increasing visibility between people walking and driving. *70% improvement in people driving yielding* [20].

Source 27: NACTO

Bicycle signals used in conjunction with bike lanes or other facilities, can give people biking their own signal phase to avoid conflict with people driving and increased signal compliance for people biking [21].

Source 28: pixabay

Two-stage turn queue box offers a safe way to make left turns at multi-lane signalized intersections from a right side bike lane, or right turns from a left side bike lane [22].

Source 29: NACTO

Bike lanes are designated by striping, signage, and pavement markings for the preferential or exclusive use of people biking.

Improves perception of safety, but actual effectiveness varies [17].

Source 30: unsplash

Advisory bike lanes encourages people driving to share the roadway by merging into the bike lane to pass oncoming traffic while yielding to people biking in the bike lanes and only passing people biking when there's no oncoming traffic [23].

Source 31: alexandriava

Traffic diverters Reduce cut-through traffic on neighborhood streets reduces total number of people driving, slows speed of people driving, and eliminates points of conflict [24].

Source 32: NACTO

6. Public Transit

INTRODUCTION

The Transit element of Horizon 2045 evaluates recent and on-going transit planning efforts, and recommends policy-based strategies and system-level service improvements to enhance access and mobility for residents throughout the area.

The transit recommendations build upon previous and ongoing planning efforts and evaluate opportunities to create a coordinated system that serves existing and potential needs of the area while satisfying Federal and State eligibility requirements for financial assistance. The plan's recommended improvements for Greenville Transit Authority (GTA) dba Greenlink and Clemson Area Transit's (CAT) dba CATbus existing service and programs were guided by the Horizon 2045 guiding statements and input received from the community throughout the planning process.

Transit Overview

Transit operators play an important role in the region's transportation system, which seeks to offer choice in how people move within the region. Given limited resources available for transit, these operators seek to balance ridership (maximizing the amount of riders that can be attracted and served, not necessarily where people feel entitled to it or where they need it badly) with geographic coverage (how much service area is covered with the resources available even if people around the service don't and won't use the service). These objectives often conflict, as a focus on increasing ridership may require allocating resources on more densely populated areas thereby limiting the total area the system can serve.

Transit riders are generally considered to fall along a spectrum ranging from captive riders to choice riders:

- Captive riders do not have access to or the ability to use a personal vehicle. Transit options for them are essential. These riders include persons too young to drive, the elderly, persons with disabilities, and those without the financial means to own and operate a personal vehicle.
- Choice riders otherwise could have access to a personal vehicle but instead choose to use transit. These riders include persons who decide not to own a personal automobile and those who decide to use transit for work, social, medical, or personal trips. Reasons choice riders use transit include saving money, convenience, comfort, or environmental principles.

This theory traditionally assumes that the best way to improve transit is to increase the amount of choice riders in order to increase revenues and provide improved service to captive riders. However, choice riders usually make up a small portion of overall ridership and the resources used to attract choice riders can reduce services for captive riders who depend on transit.

Before people become willing choice riders, transit service must be reliable and convenient. There are certain things that even choice riders must do, like get to work on time. Therefore, a transit system's goal should be to provide service that is useful – service that gets people where they need and want to go. By focusing on making transit both useful and convenient it will better accommodate all users; captive, choice, and all others.

As an update to the traditional rider classifications, transit riders can be considered to fall under the following categories:

- Occasional riders use transit infrequently, for diverse reasons; some use transit to go “downtown” or another transit-accessible place, while others use transit as a backup mode.
- Commuters take transit regularly but almost exclusively for work trips.
- All-purpose riders take transit regularly, for multiple reasons.

This theory recognizes that useful transit is simply a question of whether transit fits a rider’s transportation needs. Growth patterns in the study area make convenient transit service more complex and expensive to operate. To encourage transit use and provide more choice in transportation, a safe, comfortable customer delivery system with attractive and convenient amenities must be developed around bus stops. The customer delivery system requires a network of sidewalks, safe street crossings, and lighting. The efficiency of transit also depends on an interconnected street network suitable for bus traffic and convenient ways for riders to shift between public transportation modes. For these reasons, transit cannot be considered in isolation.

Types of Transit

People are more likely to use transit when service is convenient, dependable, and easy to use. While this level of service requires a complete network of roads, sidewalks, and bikeways, it also demands that the type of transit service matches the surrounding development context and ridership types and levels. Numerous types of transit exist:

- Bus: A common frequent-stop transit service using rubber- tired passenger vehicles powered by diesel, gasoline, battery, or alternative fuels within mixed traffic on streets; Service includes standard, circulator, and express (or commuter).

Figure 13: Bus

- Trolley: A variation of bus transit that uses rubber- tired passenger vehicles powered by diesel, gasoline, battery, or alternative fuels within mixed traffic on streets; vehicle design mimics vintage streetcars.
- Light Rail Transit (LRT): An electric railway with lighter volumes compared to heavy rail transit and characterized by one- or two-car passenger rail cars on fixed rails in shared or exclusive rights-of-way; Power typically drawn from an overhead electric line.

Figure 14: Trolley

Figure 15: Light Rail Transit (LRT)

- Heavy Rail Transit (HRT): An electric railway characterized by high speed passenger rail cars operating on fixed rails within separate rights-of-way from all other modes.
- Personal Rapid Transit (PRT): Small automated vehicles operating on specially-built fixed guideways with vehicles sized for individual or small group travel.

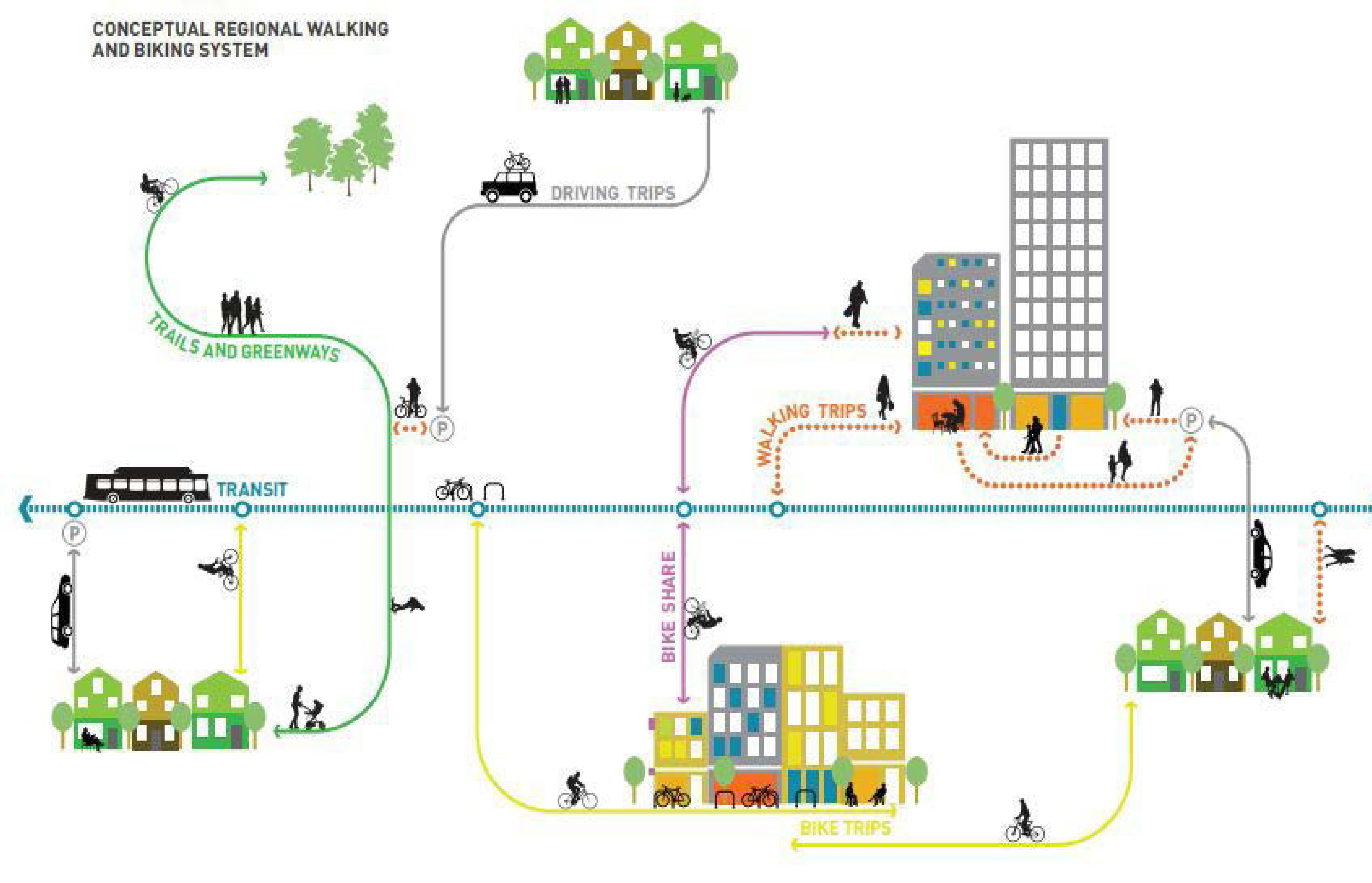
Figure 16: Heavy Rail Transit (HRT)

Figure 17: Personal Rapid Transit (PRT)

Last Mile Problem

Unfortunately, transit services are usually unable to drop riders off at the front door of their destinations, creating something called the “last mile” problem. Transit riders rely on a good network of sidewalks, trails, and bike ways to be able to move between transit services and their final destinations. The sidewalk network in the GPATS region is dilapidated, disjointed, and disconnected. In many places where sidewalks do exist, there is often adjacent traffic moving so fast it discourages use. Therefore, planning for active transportation infrastructure in tandem with transit routes is a critical part of the system’s success.

Figure 18: Atlanta Regional Comission



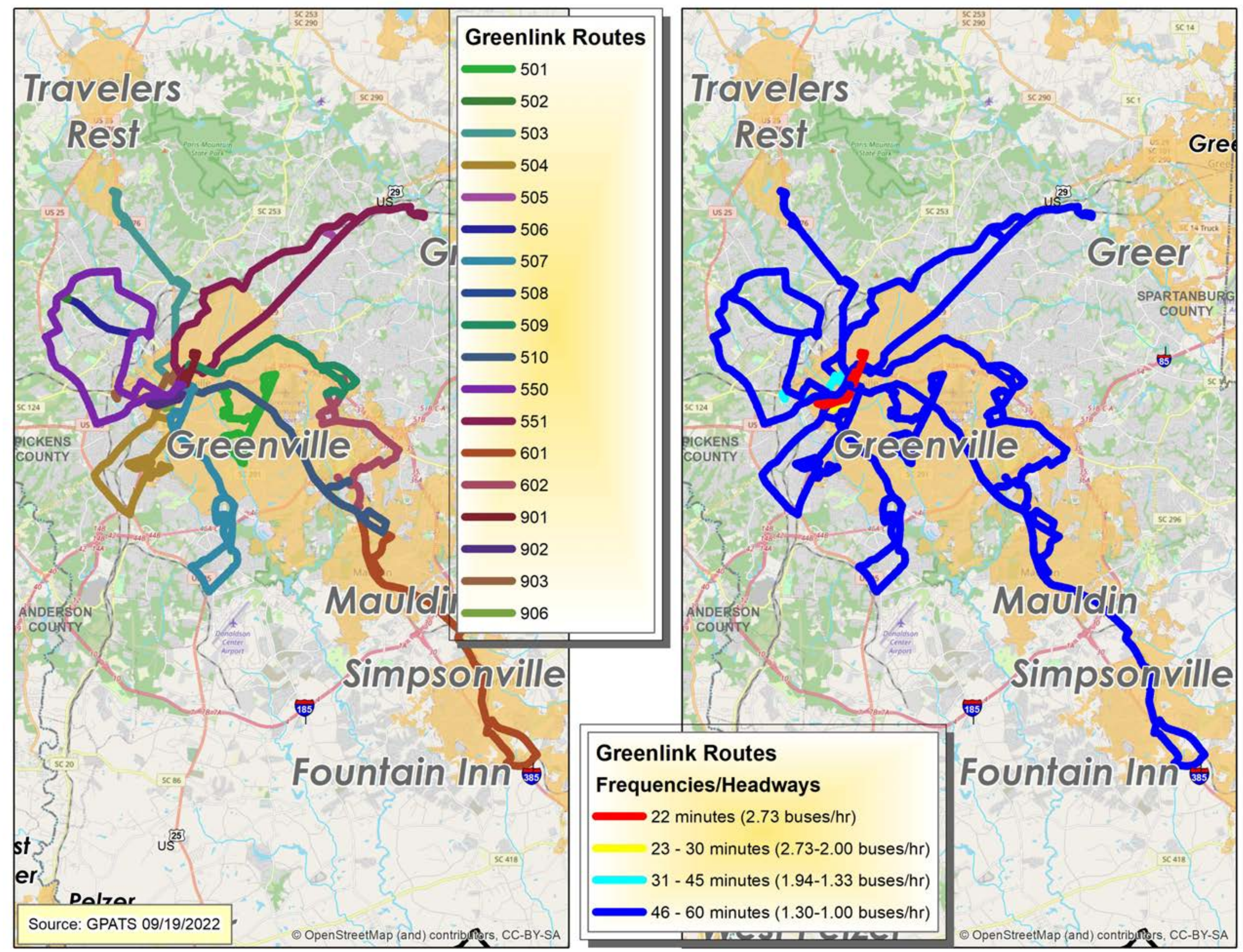
GTA

Figure 19 shows Greenville Transit Authority (GTA dba Greenlink) primarily serves the Cities of Greenville, Mauldin and Simpsonville, along with unincorporated Greenville County with twelve (12) fixed routes. Depending on the route, the frequency of the service ranges from 30 – 60 minutes (2-1 buses/hr). The vast majority of its services occur on weekdays, with fewer service hours on Saturdays.

Outside of the downtown trolley, no service is provided on Sundays and Holidays. Greenlink conducted a Comprehensive Operational Analysis (COA) which ended in 2017. One of the biggest challenges Greenlink faces is lack of funding, while paratransit costs are continually increasing.

Greenlink currently operates on a “hub and spoke” system centered on the Downtown Transit Center in Greenville. Routes serve much of the City of Greenville, as well as areas of Mauldin, Simpsonville, and Travelers Rest, as well as part of the unincorporated area surrounding Greenville.

Figure 19: Greenville Transit Authority (GTA) dba Greenlink

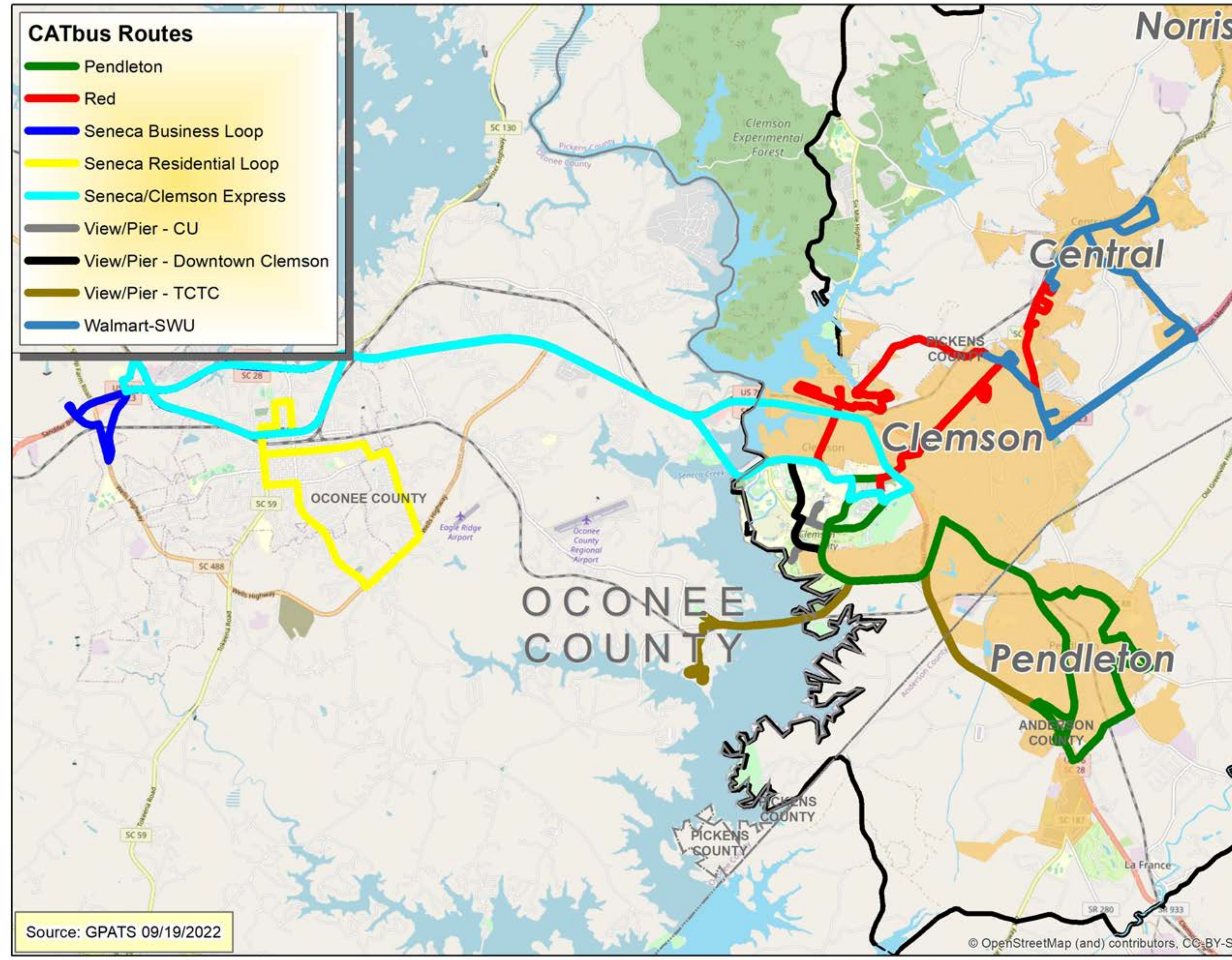


CAT

Figure 20 shows Clemson Area Transit (CAT) primarily serves the city of Clemson and Clemson University with nine (9) routes. This includes service to Seneca, Central, Southern Wesleyan University, Pendleton, and Tri-County Technical College. Depending on the route, the frequency of the service ranges from 7 – 60 minutes (8.57-1 buses/hr). The vast majority of its services occur on weekdays, with sparse service on Saturdays and even less on Sundays and Holidays. CAT concluded a study that examined the state of its current service and ways to improve. One of the biggest challenges that CAT faces is local traffic congestion, which causes delays along the routes. The Clemson Commuter route, which runs from the Clemson campus to Greenville, was previously operated by GTA before being taken over by Clemson University, who closed it to the public allowing only Clemson students & staff to ride the route at this time.

Clemson Area Transit operates nine (9) routes in the area around Clemson University. The Red Route, Seneca and Pendleton routes operate all year, while the campus routes only operate during the fall and spring academic semesters.

Figure 20: Clemson Area Transit (CAT) dba CATbus



Challenges

Funding for capital improvements and operations remains one of the biggest constraints for CATbus and Greenlink. Aging fleets and the need for vehicle replacement is a continual challenge as each system seeks to continue to provide safe and reliable service for the foreseeable future.

Additionally, population in the GPATS region is largely dispersed, making the provision of convenient transit service more complex and expensive to operate. To encourage transit use and increase transportation options, the transit system must develop in tandem with a comprehensive network of sidewalks, safe street crossings, and bicycle infrastructure to allow riders easy travel to and from stop locations. The efficiency of transit also depends on an interconnected street network suitable for bus traffic and convenient for riders shifting between public transportation modes. For these reasons, transit cannot be considered in isolation, and the strategies presented in this chapter support improvements to the larger transportation system.

Land Use Connection

In order to support higher transit ridership within the region, land use controls should encourage higher- density, mixed-use development within proximity to transit corridors. Among the most important investments will be Transit-Oriented Development (TOD), which is characterized by walkable, mixed-use development focused around transit service. These types of development support increased transit ridership, the efficient use of land, and are a tool for economic development within the region.

In addition, pedestrian and bicycle connections near transit facilities must be prioritized to ensure the success of the overall system. A high quality sidewalk, trail, and bicycle network allows passengers to easily transfer between services or reach their final destination, and encourages convenient and accessible use of public transportation.

Regional Passenger Rail

Role in the Region

Passenger Rail service is currently supplied to the GPATS region through Amtrak, which utilizes the Norfolk-Southern-owned “Crescent Corridor” with stops in Clemson and Greenville. Currently, service is provided at off peak times north-bound and southbound trains passing between 2-3am.

Current ridership of passenger rail is minimal, and therefore not modeled or factored into current regional travel patterns. Land uses around the Crescent Corridor have developed independently of the service over the past decades, and the Clemson and Greenville stations are isolated from compatible uses such as higher density residential and mixed-use commercial.

Planning for the Future

The prospects for improved regional Passenger Rail service have been explored for decades, but it has been the focus of two major planning efforts:

- Georgia Department of Transportation’s (GDOT) Passenger Rail Corridor Investment Plan, Tier 1 Environmental Impact Statement (EIS) – Initiated in 2013, the an environmental study is currently analyzing potential routes for improved passenger rail service between Atlanta, GA and Charlotte, NC. All three of the proposed routes pass through the GPATS Region. The analysis is scheduled to be completed in 2018, with additional analysis following immediately to analyze alignments and stations. GPATS regional planning for passenger rail will follow suit as GDOT’s efforts progress.
- The Federal Railway Administration (FRA) is developing a nation-wide Passenger Rail Network for federal funding prioritization, starting with region-wide planning efforts. Throughout 2017, meetings have been held for the Southeast Regional Rail Plan, with a report released in 2018. GPATS has served in a stakeholder capacity for this plan, with the results to be incorporated into future planning efforts.

As this regional system will be planned, decided upon, constructed, and operated by forces outside of GPATS and largely beyond its decision-making process, no recommendations regarding routes and stations are being made. However, this LRTP is in full support of the development of improved regional passenger rail systems.

Mobility Options

With the future potential for improved Passenger Rail service to connect the GPATS region with Atlanta, Charlotte, and points beyond, GPATS recognizes the need to coordinate transportation systems and land use developments to accommodate potential regional systems. Should improve Passenger Rail service be implemented throughout GPATS, the intensity of the chosen rail type will have a direct correlation on the impact to existing infrastructure.

Improved Standard Amtrak Service

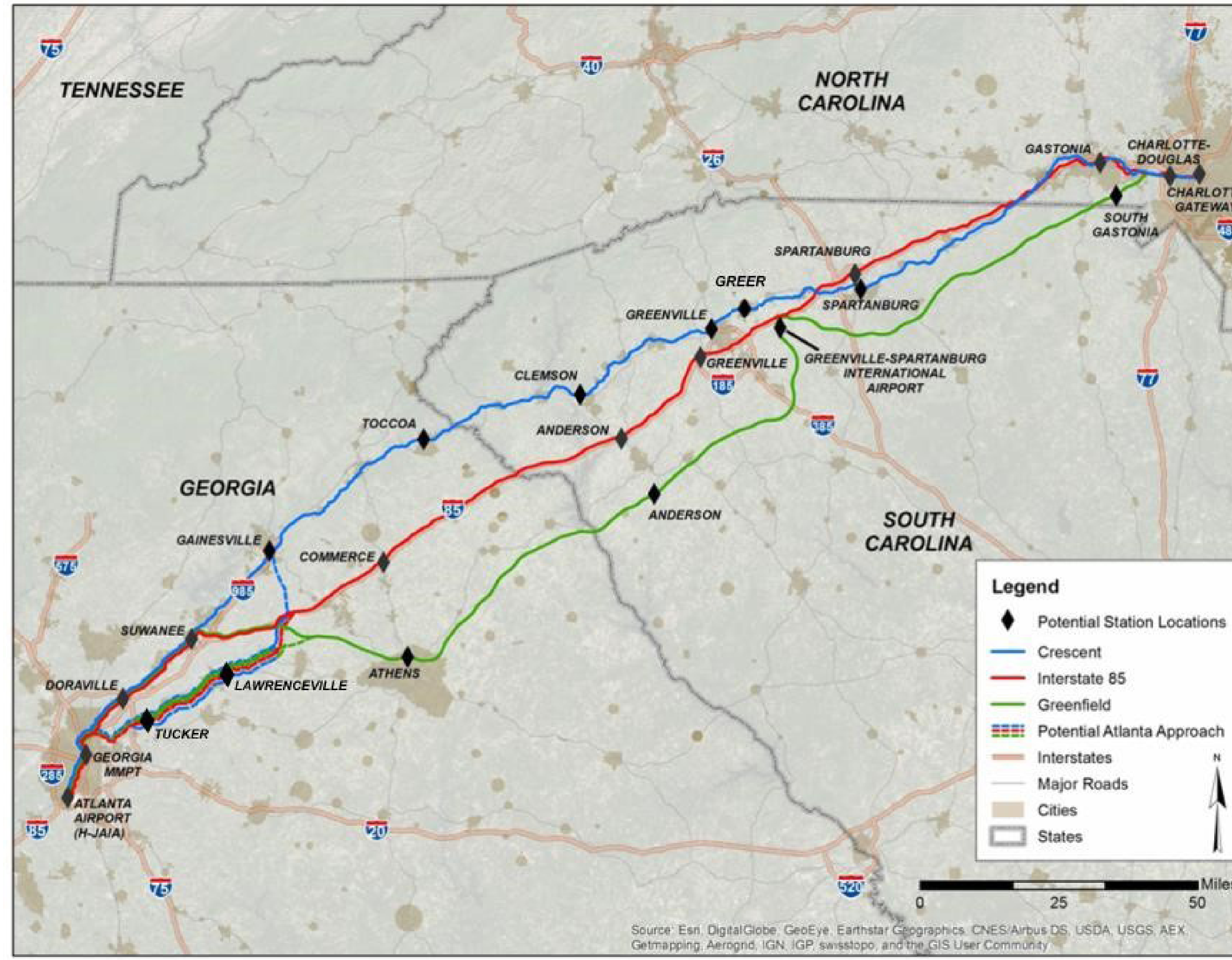
Upgrades to the Crescent Corridor, increased service, and shorter travel times could result in Passenger Rail assuming some inter-city commuting traffic, particularly between Greenville, Clemson, and Spartanburg.

Figure 21: Amtrak Train

New Amtrak Services

Establishment of new lines dedicated to passenger rail service would improve the system and increase ridership. New service should focus on linking commutersheds, particularly to Columbia, SC, Charleston, SC, and Asheville, NC.

Figure 22: New Amtrak Services



INTRODUCTION

The Upstate's transportation system must strike a balance between serving the current mobility needs of existing residents, businesses and visitors, while planning for the region's future growth and economic well-being. The GPATS area will face a continued rise in travel demand, placing pressure on the roadway network to accommodate more trips each year. A balanced program should seek to plan for the future through a mix of capacity improvements, access management, active transportation, and operational improvements that improve safety and travel efficiency for all users.

The Horizon 2045 roadway recommendations are a crucial component of building and maintaining a safe, efficient, and accessible transportation network that accommodates all users. An existing network assessment allowed the Horizon 2045 team to fully understand the region's profile and challenges and to be better stewards of limited resources.

This chapter describes the region's existing roadway network, the planning process that led to the creation and prioritization of roadway improvement recommendations, and a series of general planning recommendations that can be incorporated into future efforts to allow GPATS to plan for future growth in a flexible and efficient manner.

Network Assessment

Functional Classification Systems (FCS)

Functional classifications are defined by the Federal Highway Administration (FHWA) and used by policy makers, planners, engineers, and citizens to designate the characteristics and purposes of the roadways in a system. The functional classification system categorizes streets along a general hierarchy that is used to identify each roadway's importance to the overall transportation system for planning purposes. The study area has 5,634.18 center line miles of functionally classified public roads.

Crash Data

Figure 23 shows the total 2016-2020 traffic crashes for those driving around GPATS, 108,448, while Table 9 shows a breakout of the total and percentage of those driving Killed or Seriously Injured (KSI) at Intersections.

Table 9: Total & Percentage of People Driving Killed or Seriously Injured (KSI) at Intersections

	Total Intersection Crash	Total Intersection KSI	Total Crash	Total KSI	Percentage Crash at Intersection	Percentage KSI at Intersection
Driving	70,162	945	108,448	1,668	64.70%	56.65%

According to information provided by the South Carolina Department of Transportation, South Carolina had the highest fatality rate in the nation at 1.84 per 100 million vehicle miles of travel in 2020, while the GPATS area had a fatality rate of 1.67. Based on this data, it is essential to look at potential solutions for mitigating some of these issues in the GPATS region to improve the safety of the overall transportation system.

According to SCDoT data, the region's urbanized areas are also the most dangerous. Conflicts occur when the roadway is designed to serve mobility and access simultaneously, also known as a stroad – a street/road hybrid.

Arterials and collectors are categorized as stroads because they're designed to balance street access and road mobility. These stroads, in GPATS, make up 18.11% of the total roadways within GPATS while accounting for 65.03% of all people Killed or Seriously (KSI), as demonstrated in Table 11.

Figure 23: Driving 2016-2020 Crash Data

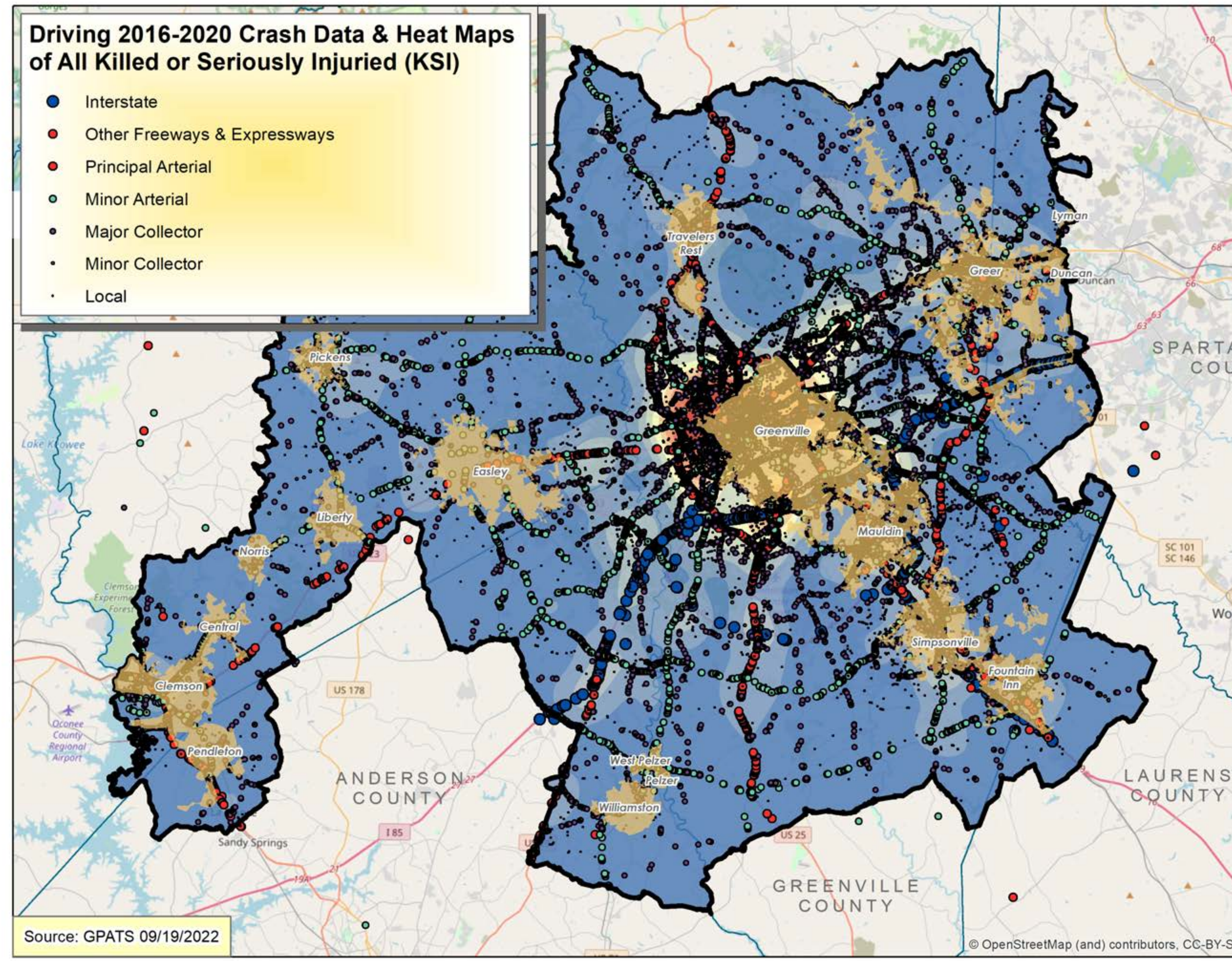
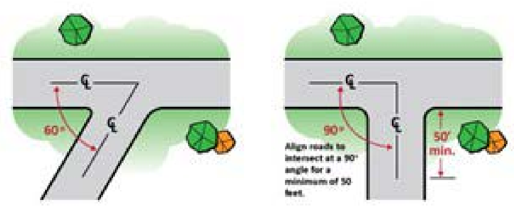


Table 10 shows counter measures to improve safety for people biking.

Table 10: Safety Toolkit for People Driving

Safety Toolkit for People Driving

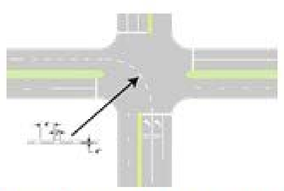


Roadway realignment redesign the roadway to meet as close to a 90-degree angle as possible. *This improves visible and turning radius* [29].

Source 33: chescoplanning

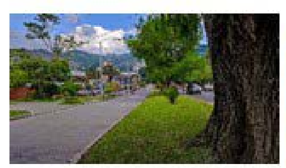
Roundabouts replace a signalized intersection with a roundabout reduces the number of serious incidents while improving traffic flow. 78% reduction in fatal and injury crashes [30].

Source 34: FHWA



Dotted line markings reduce confusion for people driving and increase safety by guiding people driving through complex intersections [31].

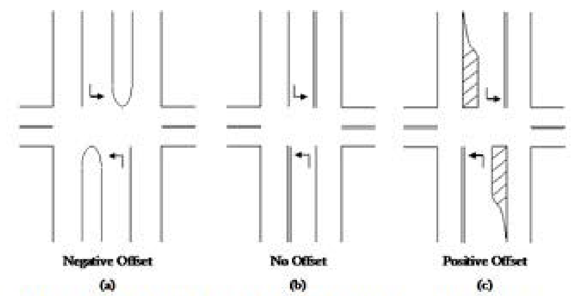
Source 35: SDDC



Non-traversable medians restricts left-turns access to a limited number of locations, usually intersection reducing the potential for head-on collisions and decreasing the number of vehicle conflict points *[32]*.

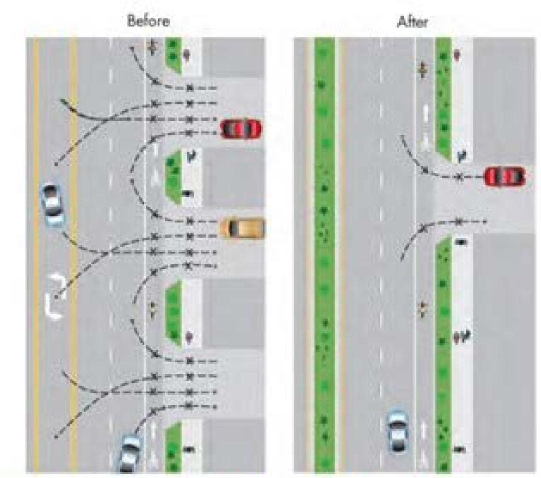
Source 36: flickr

Safety Toolkit for People Driving



Offset left-turn treatments shift the left-turn lanes to the left, which reduces crossing and exposure time and improves sight distances and gap recognition [33].

Source 37: FHWA



Driveway consolidation and relocation minimizes curb cuts and reduces traffic conflicts [34].

Source 38: pedbikesafe

GPATS LONG-RANGE TRANSPORTATION PLAN Horizon 2045 UPDATE

Table 11: GPATS 2016-2020 Crash Data

<table>
<tr><th rowspan="2"></th><th colspan="4">Total Incidents</th><th colspan="4">Killed or Seriously Injuried (KSI)</th><th colspan="4">Deaths</th><th colspan="4">Amount of Roadway</th></tr>
<tr><th colspan="2">Counts</th><th colspan="2">Percentages</th><th colspan="2">Counts</th><th colspan="2">Percentages</th><th colspan="2">Counts</th><th colspan="2">Percentages</th><th colspan="2">Miles</th><th colspan="2">Percentage</th></tr>
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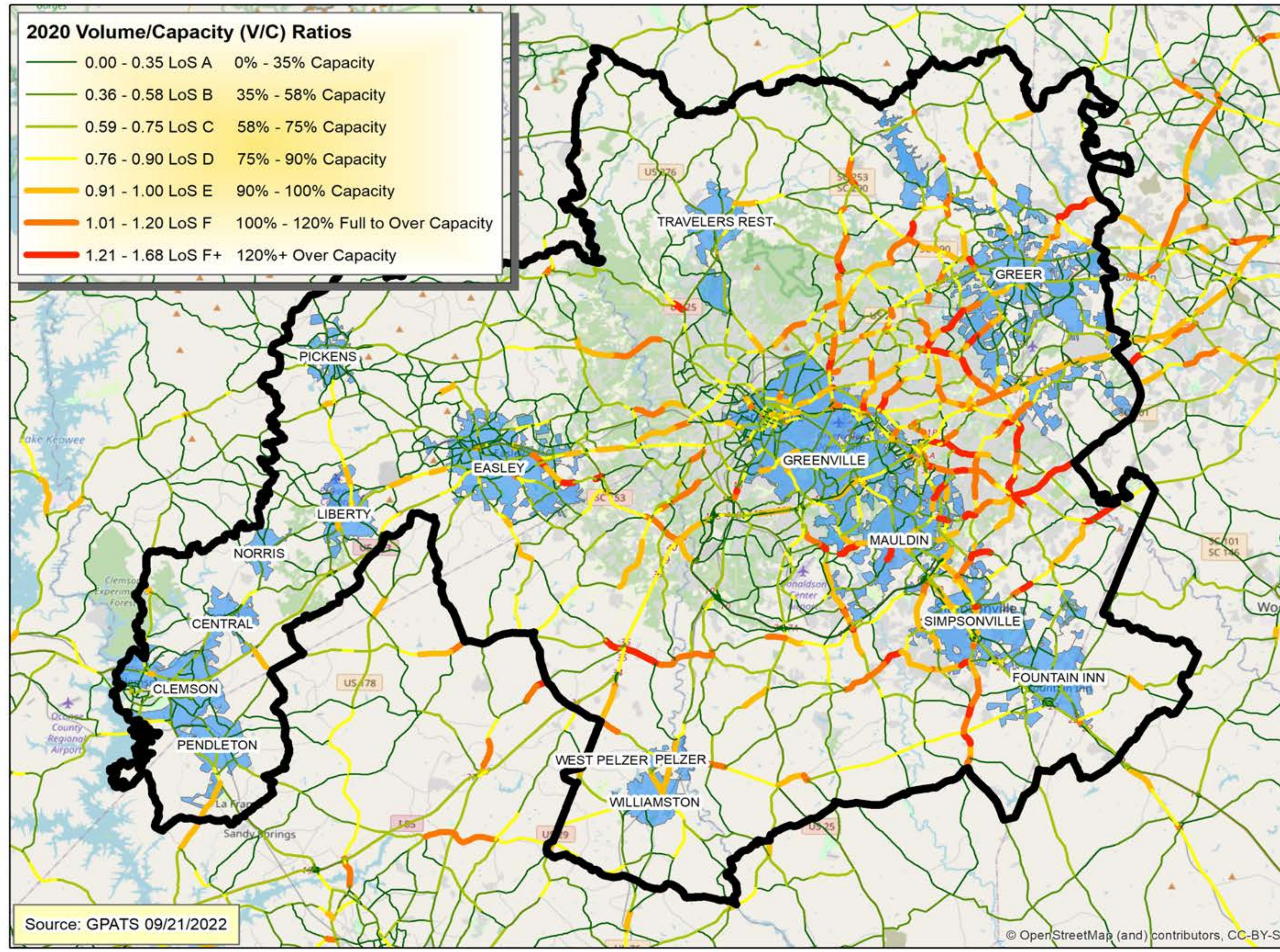
<tr><td>Rural -- Minor Collector</td><td colspan="2">161</td><td colspan="2">0.15%</td><td colspan="2">13</td><td colspan="2">0.69%</td><td colspan="2">3</td><td colspan="2">0.63%</td><td colspan="2">28.58</td><td colspan="2">0.51%</td></tr>
<tr><td>Rural -- Major Collector</td><td colspan="2">2,233</td><td colspan="2">2.05%</td><td colspan="2">97</td><td colspan="2">5.17%</td><td colspan="2">27</td><td colspan="2">5.67%</td><td colspan="2">255.44</td><td colspan="2">4.53%</td></tr>
<tr><td>Rural -- Minor Arterial</td><td colspan="2">1,806</td><td colspan="2">1.65%</td><td colspan="2">64</td><td colspan="2">3.41%</td><td colspan="2">29</td><td colspan="2">6.09%</td><td colspan="2">67.18</td><td colspan="2">1.19%</td></tr>
<tr><td>Rural -- Principal Arterial</td><td colspan="2">622</td><td colspan="2">0.57%</td><td colspan="2">35</td><td colspan="2">1.87%</td><td colspan="2">12</td><td colspan="2">2.52%</td><td colspan="2">14.83</td><td colspan="2">0.26%</td></tr>
<tr><td>Rural -- Other Freeways & Expressways (Controlled Access)</td><td colspan="2">372</td><td colspan="2">0.34%</td><td colspan="2">5</td><td colspan="2">0.27%</td><td colspan="2">3</td><td colspan="2">0.63%</td><td colspan="2">10.02</td><td colspan="2">0.18%</td></tr>
<tr><td>Rural -- Interstate</td><td colspan="2">321</td><td colspan="2">0.29%</td><td colspan="2">10</td><td colspan="2">0.53%</td><td colspan="2">2</td><td colspan="2">0.42%</td><td colspan="2">4.82</td><td colspan="2">0.09%</td></tr>
<tr><td>Urban -- Local</td><td colspan="2">12,335</td><td colspan="2">11.30%</td><td colspan="2">204</td><td colspan="2">10.87%</td><td colspan="2">34</td><td colspan="2">7.14%</td><td colspan="2">3,148.51</td><td colspan="2">55.88%</td></tr>
<tr><td>Urban -- Minor Collector</td><td>98</td><td rowspan="4">76,094</td><td>0.09%</td><td rowspan="4">69.70%</td><td>1</td><td rowspan="4">1,220</td><td>0.05%</td><td rowspan="4">65.03%</td><td>-</td><td rowspan="4">306</td><td>0.00%</td><td rowspan="4">64.29%</td><td>13.46</td><td rowspan="4">1,020.11</td><td>0.24%</td><td rowspan="4">18.11%</td></tr>
<tr><td>Urban -- Major Collector</td><td>15,677</td><td>14.36%</td><td>302</td><td>16.10%</td><td>66</td><td>13.87%</td><td>558.42</td><td>9.91%</td></tr>
<tr><td>Urban -- Minor Arterial</td><td>33,858</td><td>31.01%</td><td>505</td><td>26.92%</td><td>120</td><td>25.21%</td><td>332.30</td><td>5.90%</td></tr>
<tr><td>Urban -- Principal Arterial</td><td>26,461</td><td>24.24%</td><td>412</td><td>21.96%</td><td>120</td><td>25.21%</td><td>115.93</td><td>2.06%</td></tr>
<tr><td>Urban -- Other Freeways & Expressways (Controlled Access)</td><td colspan="2">673</td><td colspan="2">0.62%</td><td colspan="2">25</td><td colspan="2">1.33%</td><td colspan="2">5</td><td colspan="2">1.05%</td><td colspan="2">16.35</td><td colspan="2">0.29%</td></tr>
<tr><td>Urban -- Interstate</td><td colspan="2">12,868</td><td colspan="2">11.79%</td><td colspan="2">131</td><td colspan="2">6.98%</td><td colspan="2">38</td><td colspan="2">7.98%</td><td colspan="2">62.28</td><td colspan="2">1.11%</td></tr>
</table>

The GPATS region performed worse than the South Carolina state average on the rate of fatal and injury crashes related to young drivers (ages 15-24), intersections, motorcyclists, older drivers (age 65+) and mopeds. By contrast, the region performed better than the statewide average, with fewer fatal and severe injury crashes related to roadway departures, unrestrained occupants, speed, heavy trucks, and bicyclists.

Base Year Travel Demand Model (TDM)

Figure 24 and 25 shows projected increases in traffic projected from baseline 2020-2045 respectively. Figures 27 and 28 shows the population change for White and Black people respectively drom 2010-2020. Figures 29 and 30 shows where White people are displacing Black people by causing rising housing cost, and where Black people are potential being displaced to as White people move into city downtown areas respectively. Figures 26, 31, 32, and 33 shows projected population, household, dwelling units, and employment increases from baseline 2020-2045 respectively. The TDM was calibrated to include ranked intersection and corridor projects. Currently, GPATS is partnering with SCDoT to update GPATS' Congestion Management Plan (CMP) which is an ongoing project and therefore was not incorporated in to this LRTP update.

Figure 24: 2020 Volume/Capacity (V/C) Ratios



Projected Travel Demand Model (TDM)

Figure 25: 2045 Volume/Capacity (V/C) Ratios

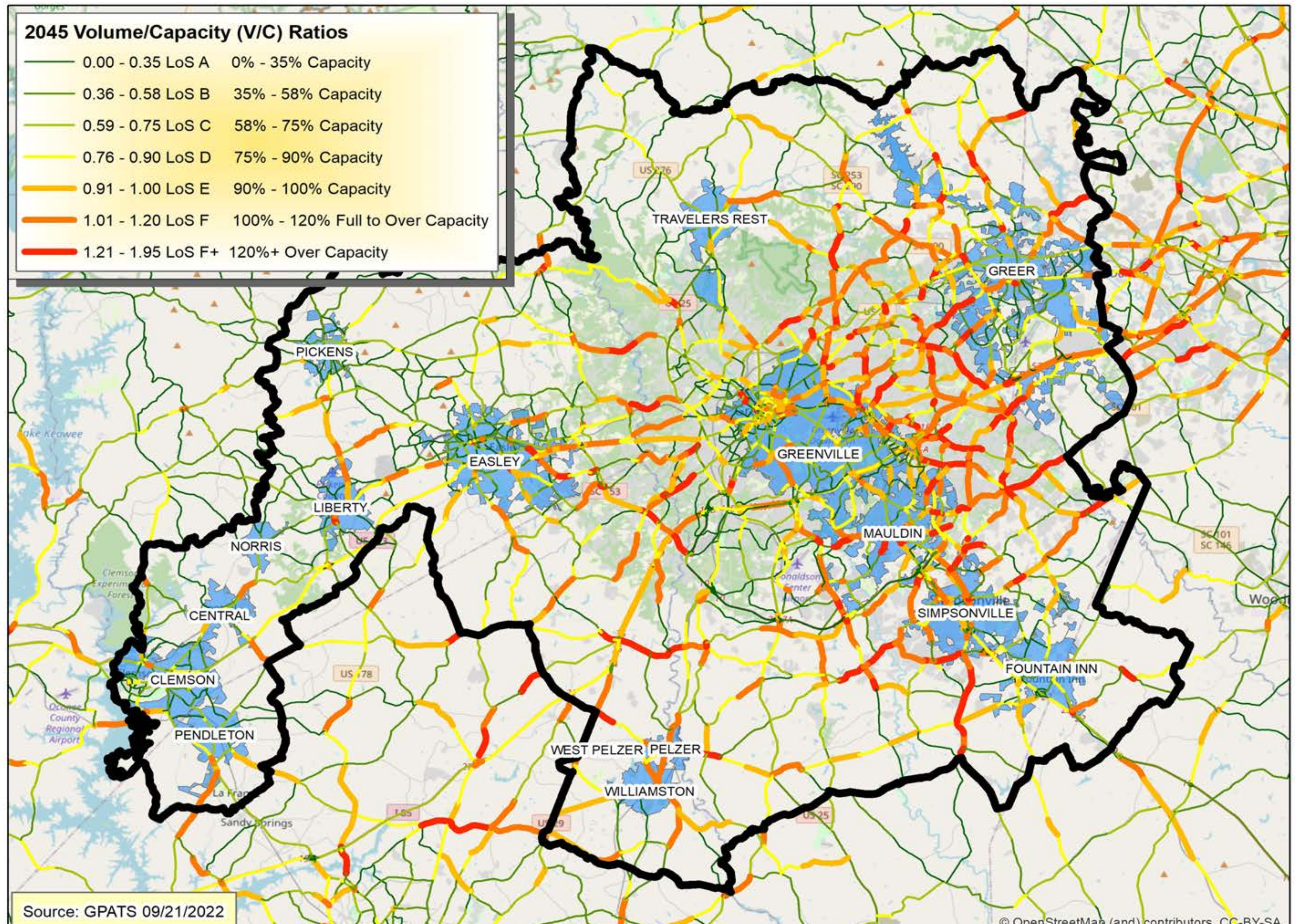


Figure 26: Projected Population Change

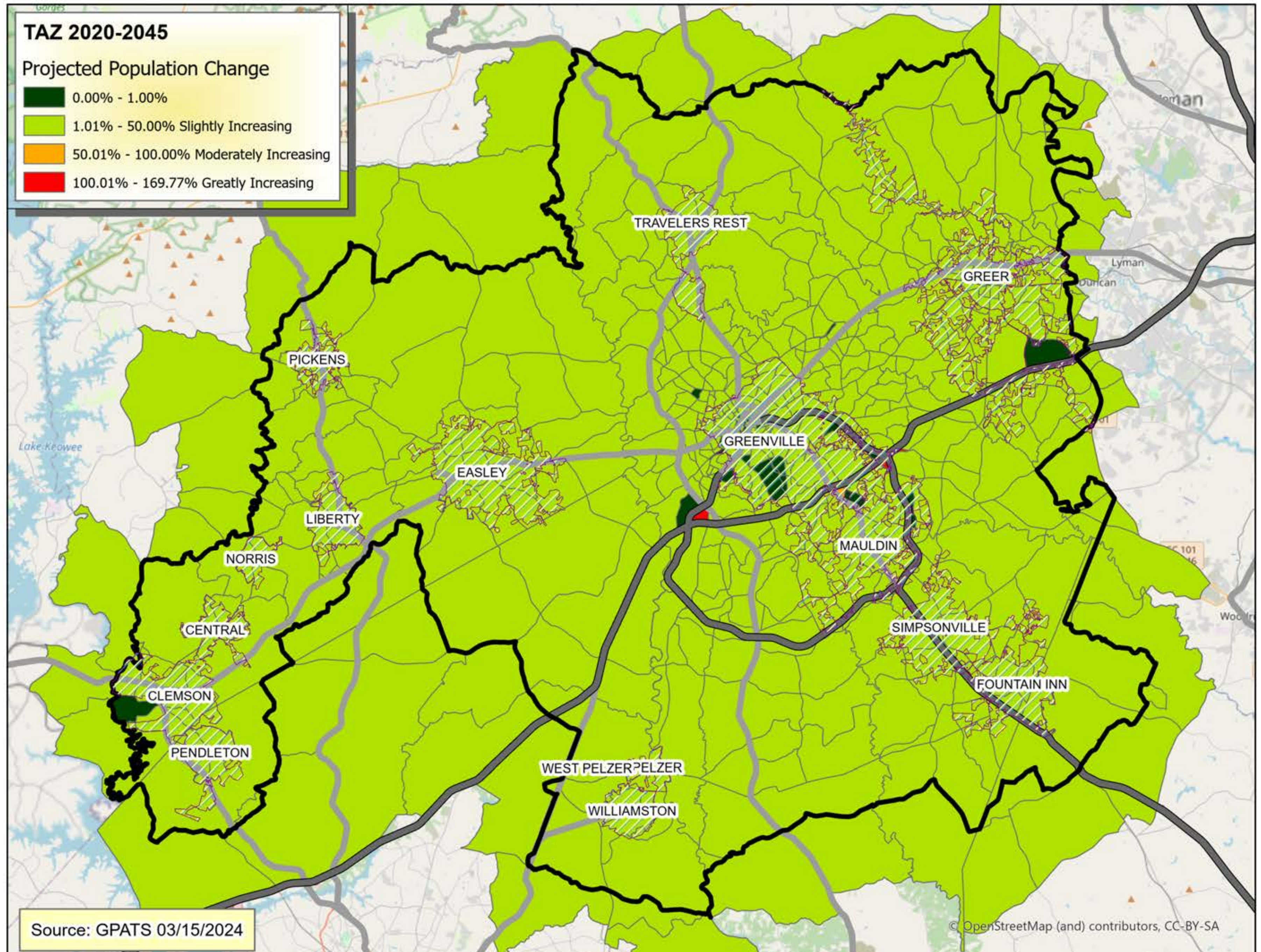


Figure 27: White Population Change

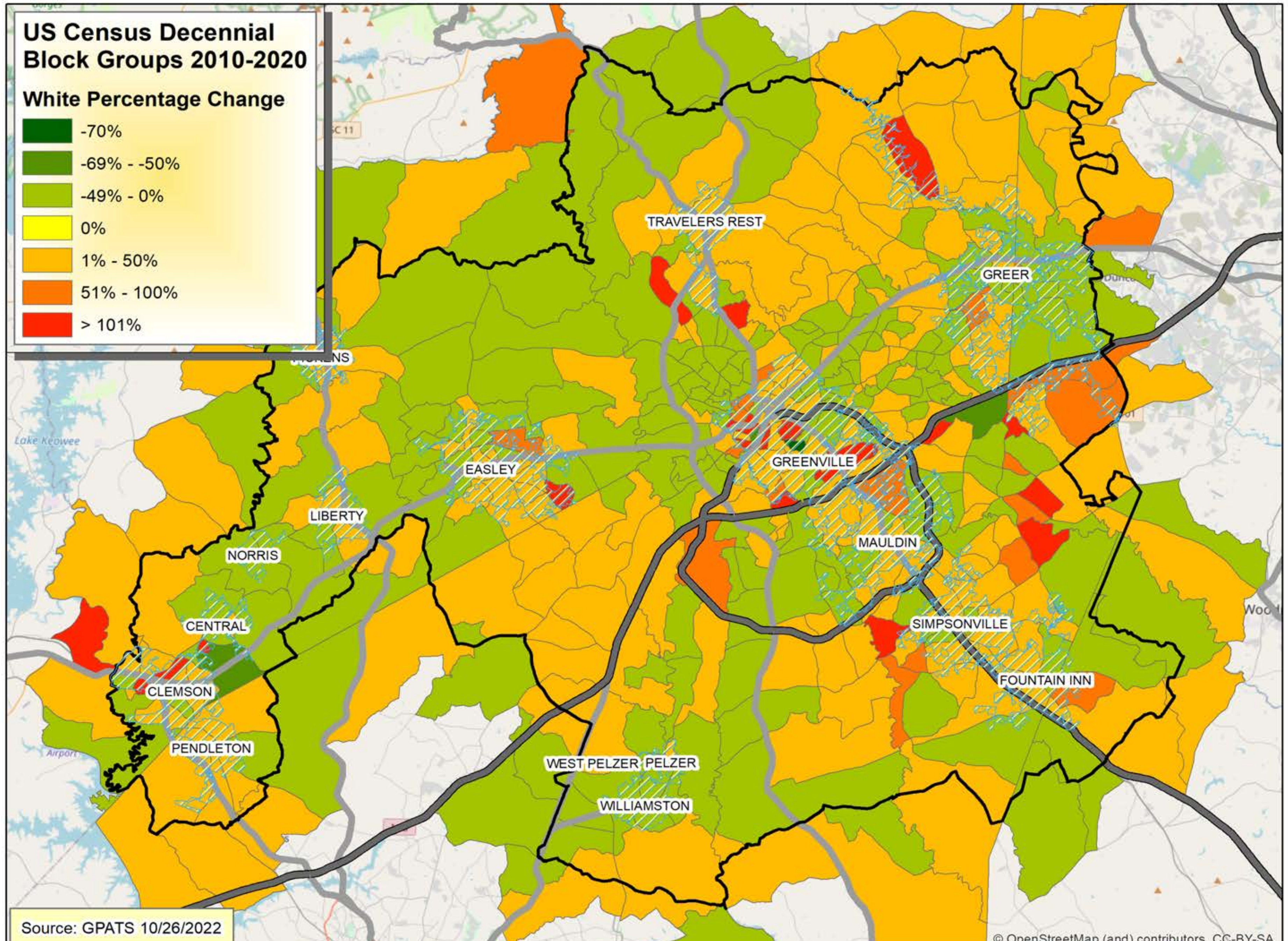


Figure 28: Black Population Change

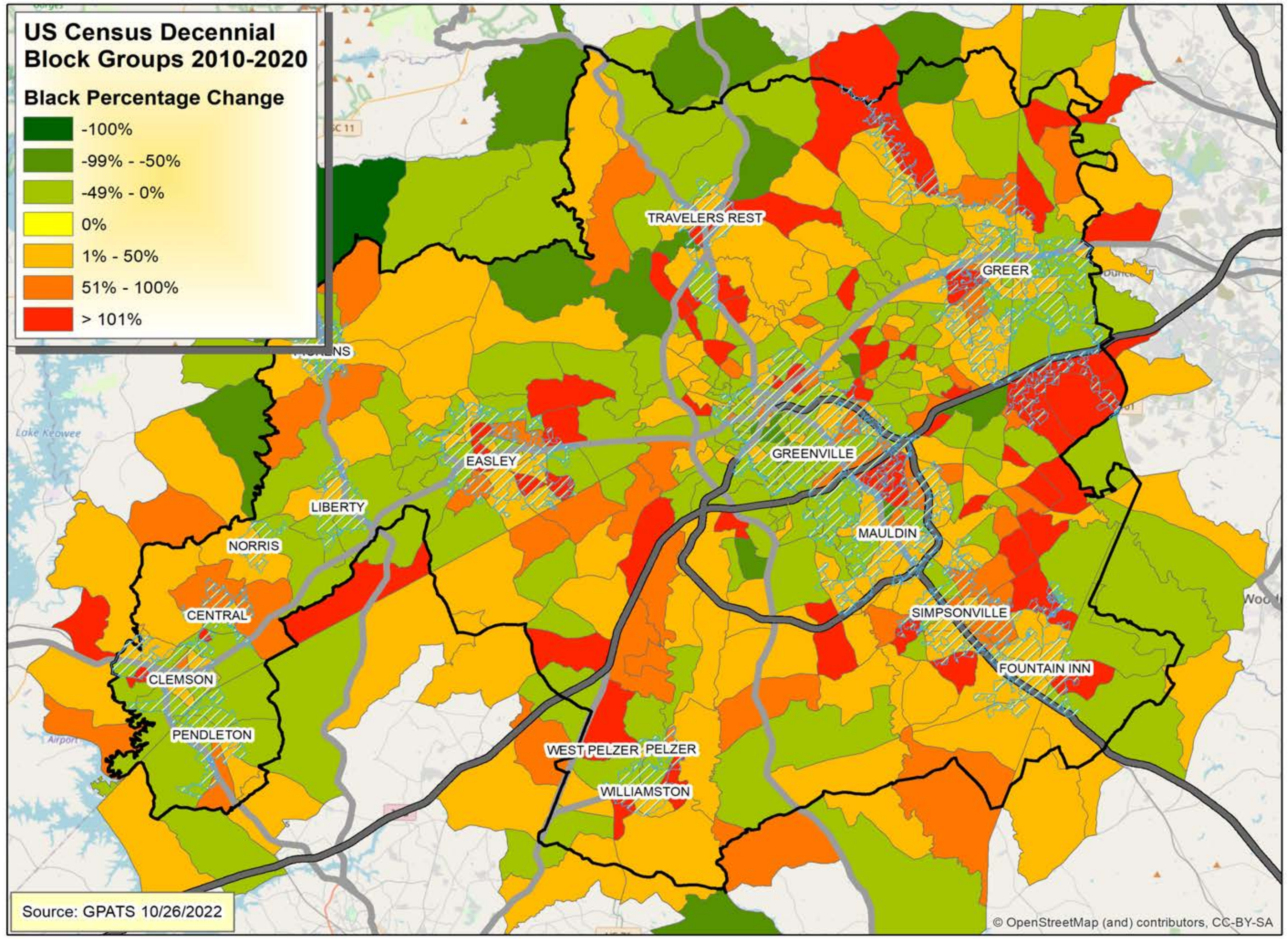


Figure 29: White Population Increased & Black Population Displaced

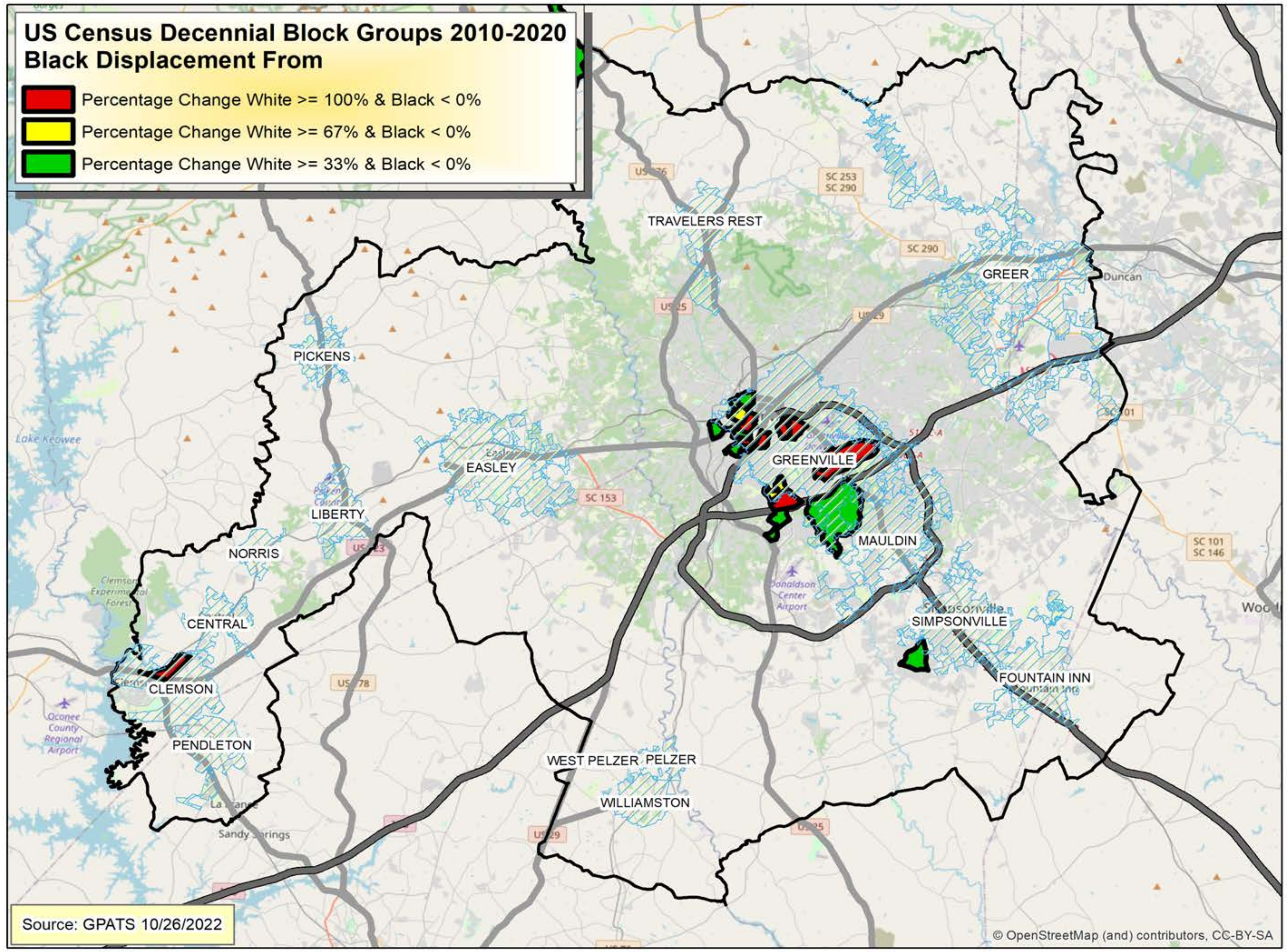


Figure 30: White Population Decreased & Black Population Increased

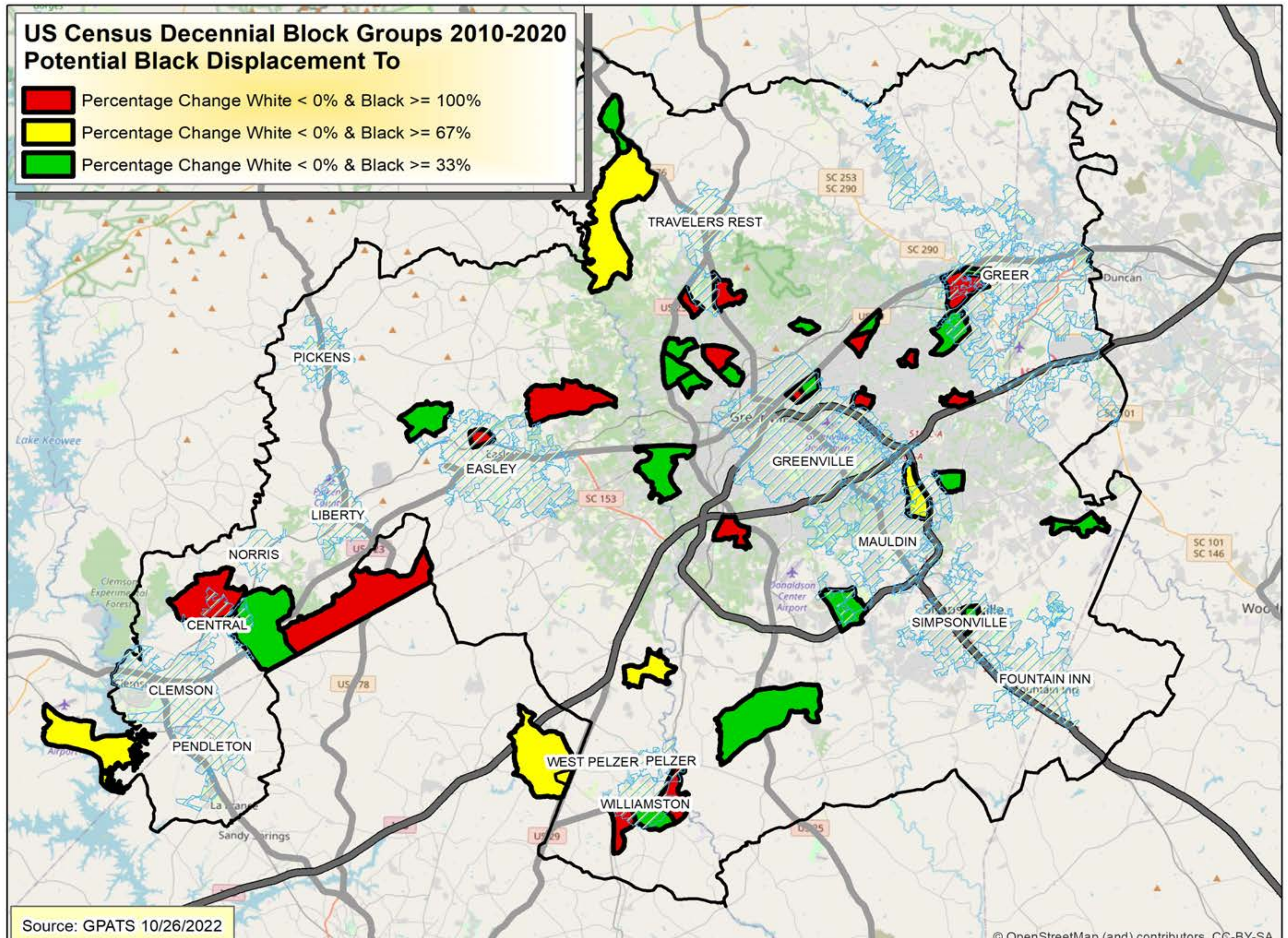


Figure 31: Projected Household Change

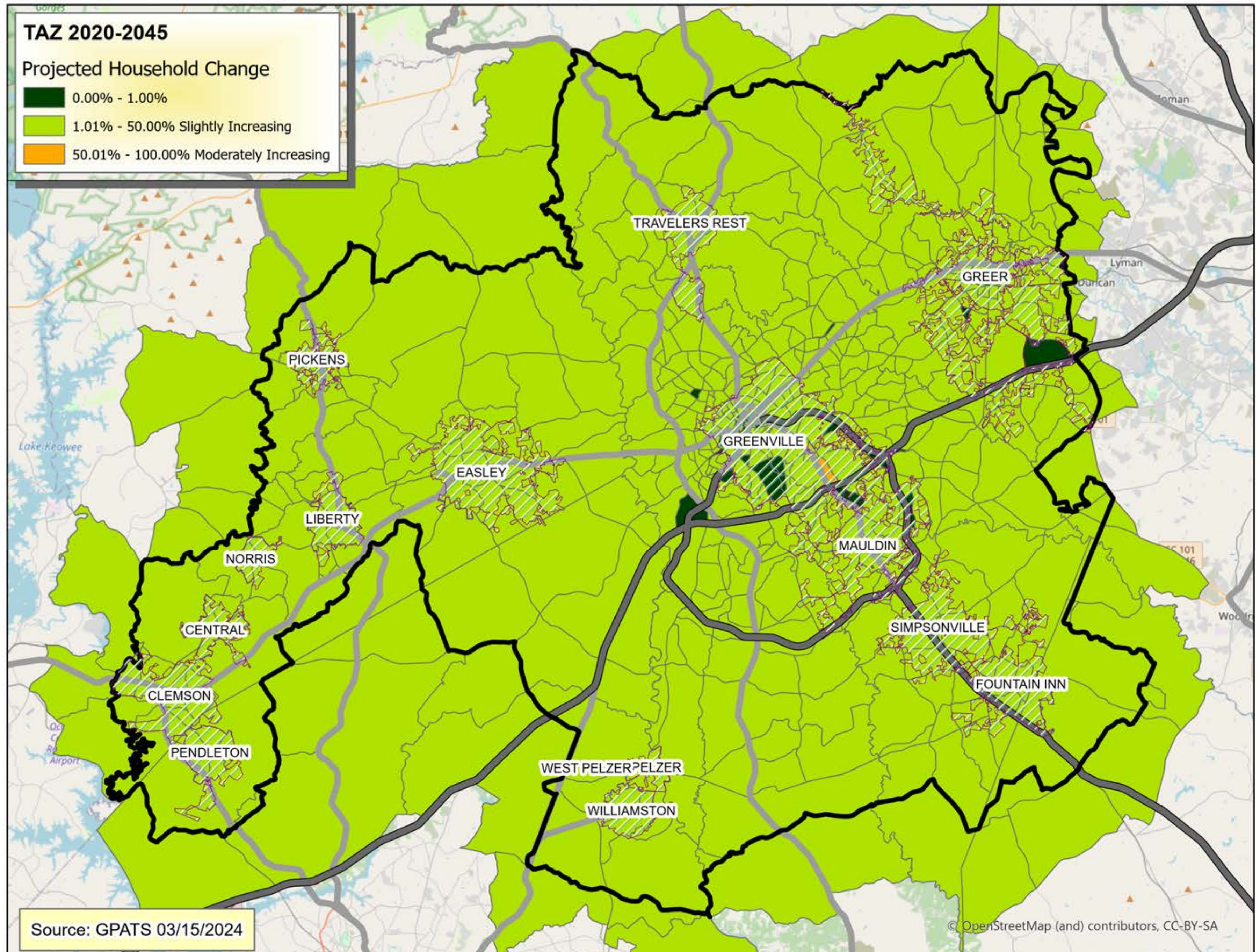


Figure 32: Projected Dwelling Unit Change

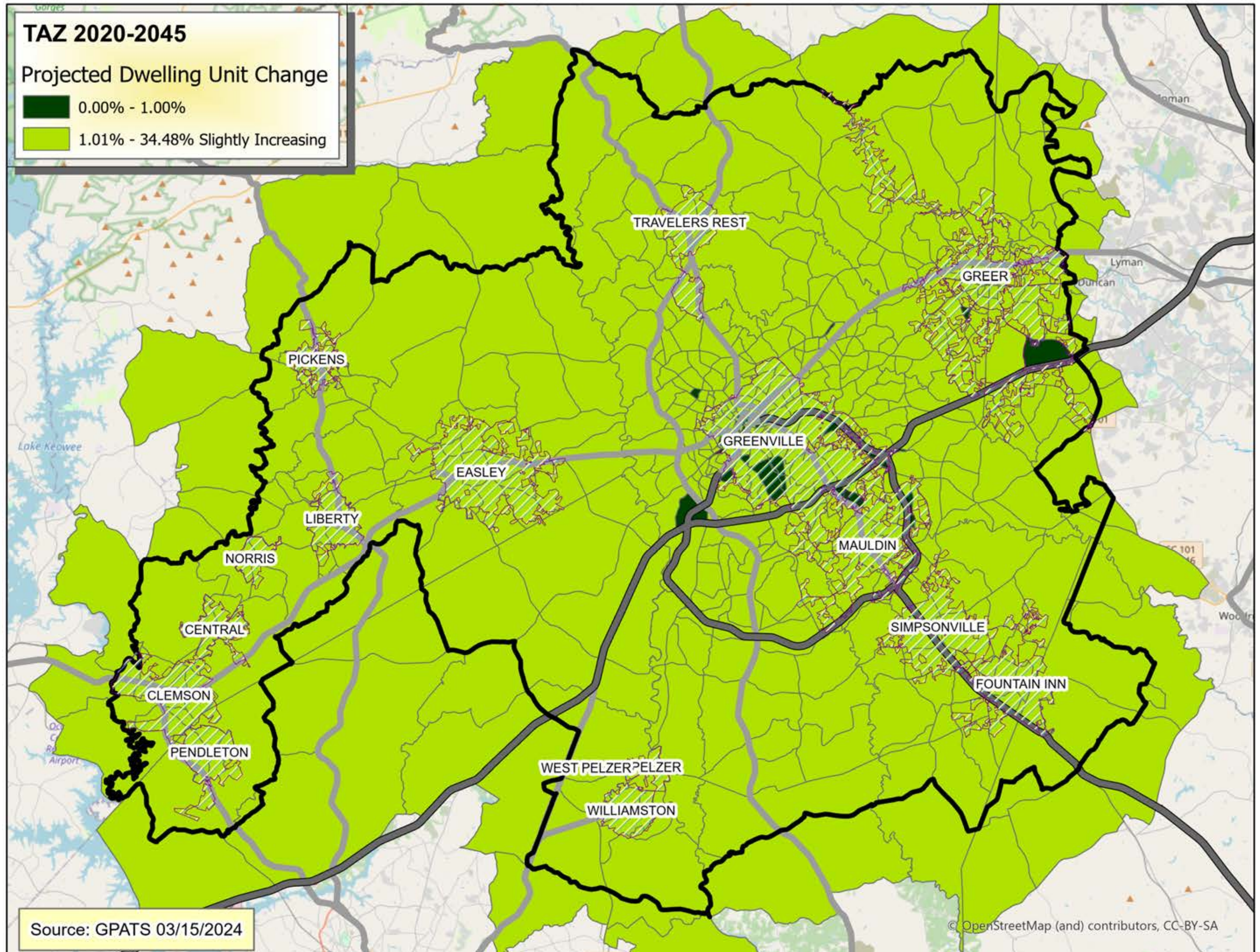
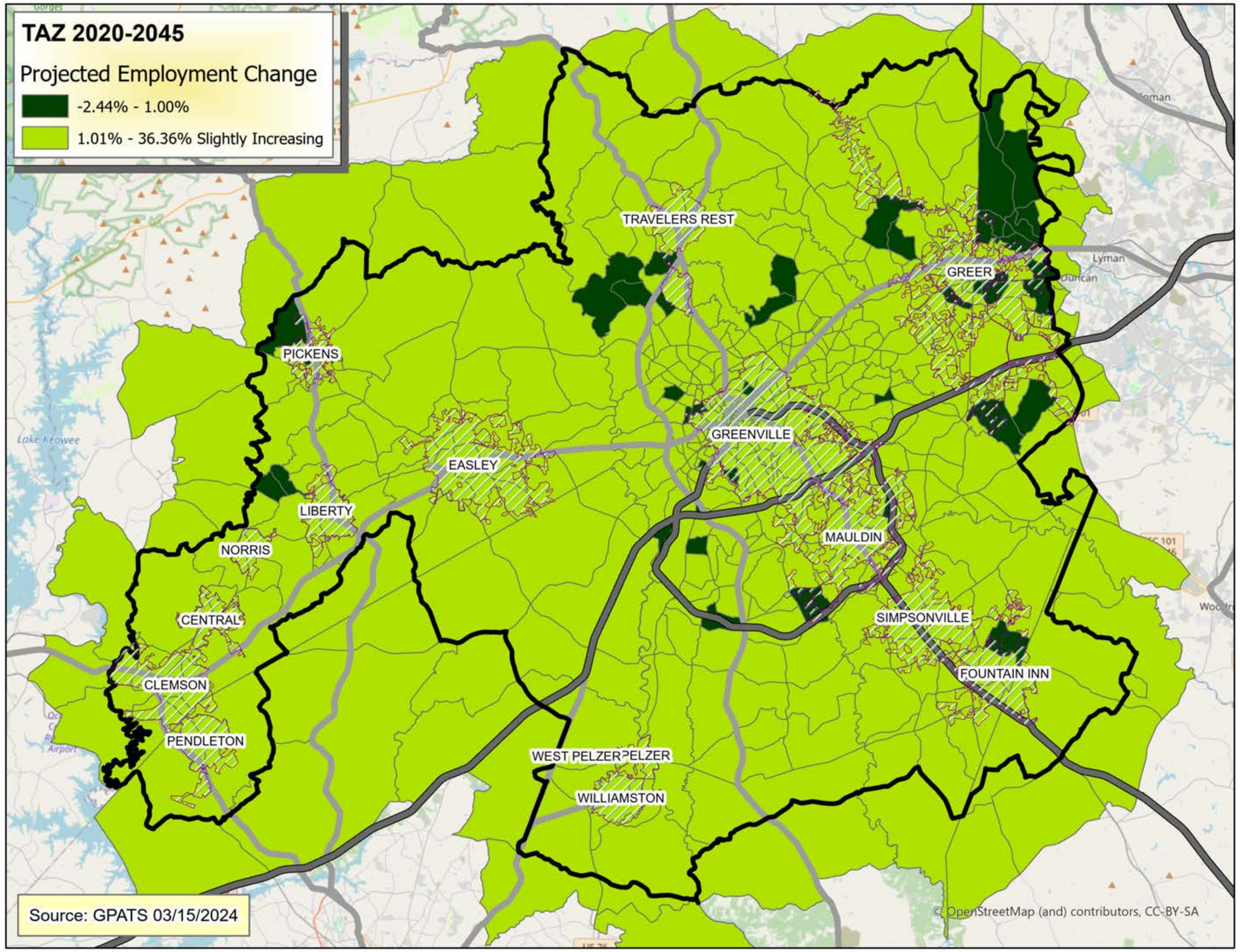


Figure 33: Projected Employment Change



Shortcomings

The Level of Service (LoS) metrics from the GPATS Travel Demand Model (TDM) shouldn't be used because the metric for volume to capacity (V/C) ratios of drivers on a road were meant to be used for highways, not local streets where people walk, bike, ride transit or engage in human activity. The TDM applies the metric for highway evaluation to all streets.

People equate Level of Service (LoS) categories to the letter grades of a report card. But because traffic flow operations are boiled down to a letter grade, LoS doesn't adequately convey the trade-offs associated with roadways designed to speed the flow of drivers through traffic with wide multi-lane roadways and the roadway design's effects on people walking, biking, and using transit. For example "widening a roadway to maintain 'acceptable' traffic flow may involve removing homes, trees, or open space in some cases; things on which a community may place a higher value than travel time."

LoS has been graduated as an evaluation tool for people walking biking and using transit. These evaluation metrics were published in the Highway Capacity Manual (HCM), sponsored by the Federal Highway Administration (FHWA). When walking, biking, riding transit, and driving are all evaluated at the same time along the same roadway, depending on how someone is traversing that roadway, the metric for evaluation have inverse effects on other users. When driving has a low score, walking and biking have high scores and vice-a-versa.

The Federal Highway Administration (FHWA) understands that use of Level of Service (LoS) has created a situation where road widenings and parking mandates lead to more driving trips and congestion. To reverse this trend, FHWA encourages state and local policymakers to consider different performance measures.

Currently, GPATS is still evaluating other potential metrics that can be used in the future as an alternative to Level of Service (LoS).

Corridor Recommendations

In total, Horizon 2045 recommends 391 corridor improvements throughout the region. These are detailed in Figure 34, along with their project ID numbers and the improvement type.

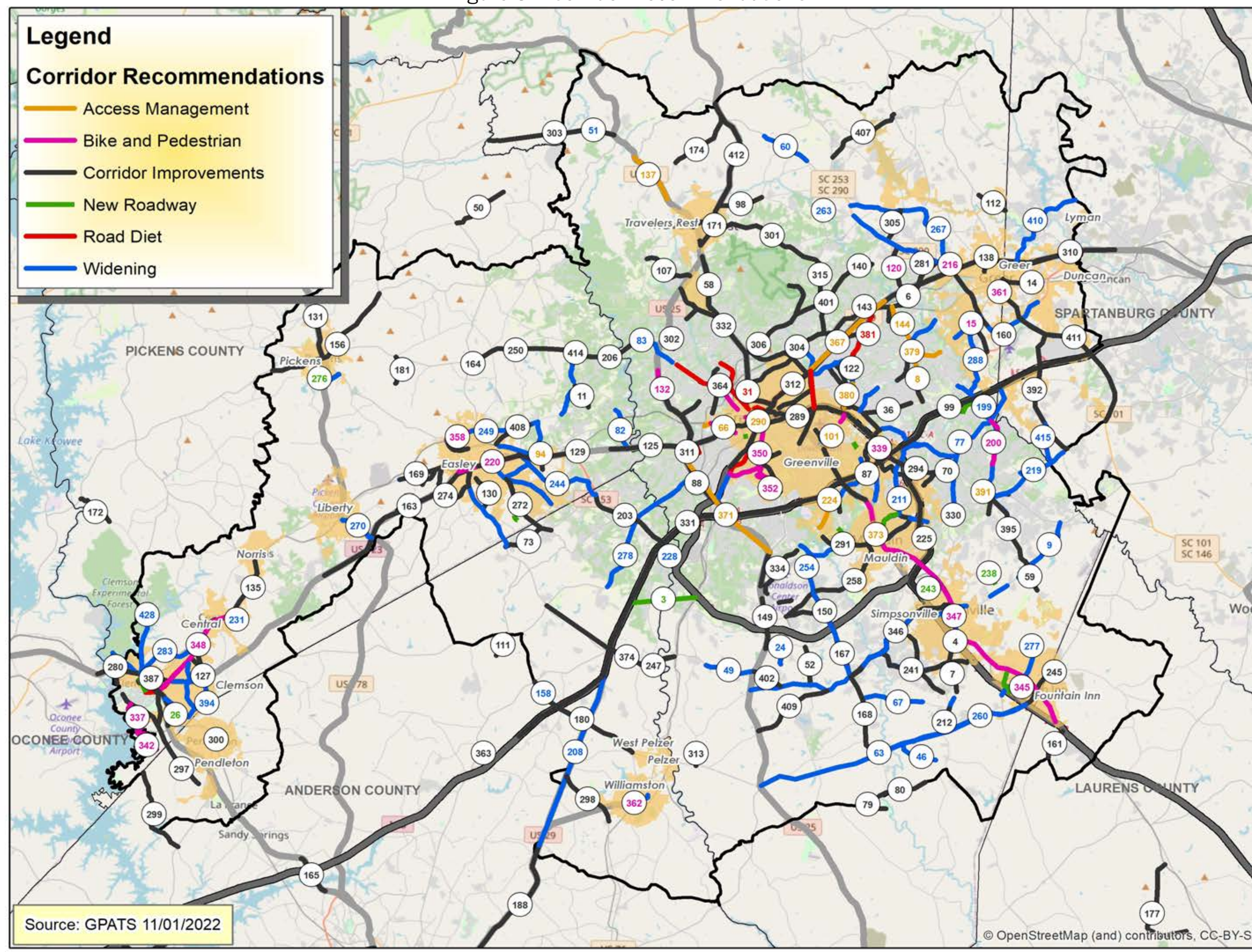
The category definitions are below:

- Access Management – Streamlining traffic flow by proactively controlling or preventing specific roadway maneuvers.
- Bike and Pedestrian – Adding and or improving walking and biking infrastructure.
- Corridor Improvements – General provision of intersection improvements, adding walking and biking infrastructure, widening the roadway, and addressing safety concerns along a roadway.
- New Roadway – Adding capacity to the roadway network by providing additional route options.
- Road Diet – Removing excess roadway capacity to improve safety and improve traffic flow.
- Widening – Adding capacity to the roadway network by adding travel and turning lanes.

* Represents projects that are now part of the Anderson Clemson Area Transportation Study (ACATS). These projects have been added to the unfunded section of ACATS Long Range Transportation Plan.

Please contact Michael Gay with any questions: mgay@cityofandersonsc.com.

Figure 34: Corridor Recommendations



ID	Road Name	From	To
Access Management			
8	Boiling Springs Rd	Pelham Rd	Old Spartanburg Rd
32	Beattie Place	E North St	Buncombe St
34	North St	Academy St	E North St/Beattie Place
66	Pendleton St	S Main St	Draper St
94	Prince Perry Road	SC 153	US 123
101	Haywood Rd	Old Aiport Rd	Laurens Rd
137	US 276/Geer Hwy	New Circle Rd	Cirицle Drive
144	Taylors Rd	Brushy Creek Rd	W Main St
224	Fairforest Way	Mauldin Rd	I 85
290	US 29	Webster St	E McBee Ave
292	US 25 over Saluda River	Saluda River	River Road @ 25
367	Wade Hampton Blvd	N Pleasantburg Dr	Reid School Rd
371	White Horse Rd	US 123	Augusta Rd
373	US 276	Knollwood Dr	Owens Lane
379	Old Spartanburg Rd	Brushy Creek Rd	S Batesville Rd
380	Haywood Rd	E North St	Pelham Rd
391	Woodruff Rd	Woodruff Lake Way	Scuffletown Rd
Corridor Improvements			
4	SC 14	Fairview Rd	Hwy 14
5	Washington St	Martin St	Swamp Rabbit Tail Green Line
6	Main St	Wade Hampton Blvd	Fairview Rd
7	Fairview Rd	Payne Branch	Grandview Dr
11	Antioch Rd	Saluda Dam Rd	Norman Dr
14	SC 290	North Line St	Biblebrook Dr
*15	US 123	College Ave	Anderson Hwy
20	Easley Bridge Rd	North Florida Ave	Washington St
21	N Pleasantburg Dr	E North St	Wade Hampton Blvd
22	E Lee Rd	Wade Hampton Blvd	Brushy Creek Rd
28	E North St	N Pleasantburg Dr	Scott St
36	Pelham Road	Roper Mountain Rd	Lexington Place Way
39	Cedar Lane Rd	Buncombe Rd	West Blue Ridge Dr
41	Smythe St/Woodside Ave	McBeth St	4th St
42	Norwood St	SC 253	Hellams St
45	Ashemore Bridge Rd	River Mist Subdivision	Sonoma Dr
50	Dalton Rd	SC 135	Peters Creek
52	Reedy Fork Rd	West Georgia Rd	Griffin Mill Rd
53	Watkins Bridge Rd	Duncan Chapel Rd	Berea Middle School
54	Duncan Chapel Rd	Old Buncombe Rd	Dins Dr
56	Ridge Rd	Fairforest Way	Dallas Rd
57	Henrietta St	E Stone Ave	Lavinia Ave
58	US 276	US 25	Old Buncombe Rd
59	Scuffletown Rd	Cooper Lake Rd	East Georgia Rd
61	US 25	Saluda Dam Rd	New Easley Hwy
65	Brushy Creek Rd	Sheffield Rd	Crestview Rd
68	Neely Ferry Rd	Rosecrest Ln	Harrison Bridge Rd
69	Harrison Bridge Rd	Harrison Park	Grandview Dr
70	Woodruff Rd	SC 14	Park Woodruff Dr
71	Pelzer Hwy	City Court	Anderson Hwy
73	Saint Paul Rd	Pelzer Hwy	Old Pendleton Rd
74	N Plesantburg Dr	Legrand Blvd	E North St
75	Neely Ferry Rd	Harrison Bridge Rd	Barker Rd
76	S Church St	Augusta St	Coffee St
79	Turner Rd	Fork Shoals Elementary	Cedar Falls Park
80	McKelvey Rd	Berry Rd	Hillside Church Rd
86	Lanneau Dr	McDaniel Ave	E Faris Rd
87	Old Sulphur Springs Rd	Woodruff Rd	Salters Rd
88	White Horse Rd	I 85	Anderson Rd
89	Hudson Rd	Post Dr	Old Spartanburg Rd
90	Corn Rd	E Butler Rd	Miller Rd
91	Pendleton St	Easley Fire Department	US 123
95	Rock Springs Rd	US 123	Rock Springs Athletic Fields
96	US 123	Rock Springs Rd	SC 93
97	Center St	Vest St	S Poinsett Hwy
98	Tigerville Rd	US 25	Jackson Grove Rd
99	Pelham Rd	Old Boiling Springs Rd	Garlington Rd
100	McDaniel Ave	Augusta St	Cleveland St
104	Wade Hampton Blvd	N Pleasantburg Dr	Hampton Park
105	Pelham Rd	Haywood Rd	Pelham Rd
106	Hudson Rd	Pelham Rd	Mitchell Rd
107	Roe Ford Rd	W Duncan Rd	Old White Horse Rd
108	State Park Rd	E Mountain Creek Rd	Tanyard Rd
110	W Washington St	E McBee Ave	US 276
111	Fire Tower Rd	Lowe Rd	Old Greenville Hwy
112	East Gap Creek Rd	Old Wagon Rd	Greer High School
114	Laurens Rd	Haywood Rd	I 85
115	Laurens Rd	US 123	SC 81
116	Industrial Dr	Airport Rd	Industrial Dr
*117	Riggs Dr	Strode Circle	Poole Lane
119	SC 253	Brooks Ave	Edgemont Ave
121	Edwards St	W Main St	E Lee Rd
122	Edwards Rd	E Lee Rd	E North St
123	Fairview Rd	Locust Hill Rd	Wade Hampton Blvd
124	W Main St	Hillcrest Dr	Fleetwood Dr
125	US 123	Old Easley Hwy	White Horse Rd
*126	Cambridge Dr	Issaqueena Trail	W Main St
*127	Issaqueena Trail	US 123	W Main St
*128	W Main St	Issaqueena Trail	Church St
129	US 123	Key Dr	Prince Perry Rd
130	Pope Field Rd	SC 8	Walnut Hill Dr
131	Ann St/Moorefield Memorial Hwy	W Main St	Fox Squirrel Ridge Rd
133	Shannon Dr	E North St	Edwards Rd
134	Richbourg Rd	E North St	Edwards Rd
*135	SC 93	Fernway Dr	Norris Hwy
138	Memorial Dr	W Poinsett St	W Wade Hampton Blvd
139	SC 14	SC 80	South Buncombe Rd
140	Stallings Rd	Stallings Rd	Old Rutherford Rd
141	New Rutherford Rd	Fairview Rd	Locust Hill Rd
142	Wade Hampton Blvd	Saint Mark Rd	Rutherford Hill Rd
143	Indian Trail/East Indian Trail	Eastwood Dr	Indian Trail
145	Scuffletown Rd	Woodruff Rd	Lake Park View
146	Adams Mill Road	Scuffletown Rd	Adams Creek Place
147	Woodruff Rd	Five Forks Rd	S Bennetts Bridge Rd
148	Echelon Rd	Perimeter Rd	Kitty Hawk Rd
149	Augusta Rd	Matrix Pwy	Clearview Dr
150	Fork Shoals Rd	Ashemore Bridge Rd	I 185
151	Antioch Church Rd	Fork Shoals Rd	Ashemore Bridge Rd
152	Perimeter Rd	Fork Shoals Rd	Ashemore Bridge Rd
153	Smith Grove Rd	SC 93	Dance Court
154	Smith Grove Rd and Eighteenmile Creek	Cartee Rd	Bud Smith Rd
155	Liberty Dr	Liberty Dr	Greenville Hwy
156	Walhalla Hwy/SC 183/SC 8	Pumpkintown Hwy	GPATS Boundary
157	West Georgia Rd	E Standing Springs Rd	North Maple Rd
160	South Buncombe Rd	J Verne Smith Hwy	Lancaster Ave
161	Abercrombie Rd	US 14	Bryson Frod Rd
162	Boundary St	Pope Dr	E North St
163	Calhoun Memorial Hwy	Ruhamah Rd	Calhoun Memorial Hwy
164	Cannery Rd	Dacusville Hwy	Farrs Bridge Rd
165	Clemson Blvd	Welpine Dr	Phil Watson Rd
166	Danials St	Stephen St	N Main St
167	Fork Shoals Rd	Log Shoals Rd	West Georgia Rd
168	Fork Shoals Rd	SC 418	West Georgia Rd
169	Greenville Hwy	Amsterdam Rd	Black Snake Rd
170	Harbin Dr	SC 187	Whitehall Rd
172	Jones Mills Rd	Walhalla Hwy	Old Seneca Rd

ID	Road Name	From	To
173	Kennedy St	East River St	East Hampton St
174	Old White Horse Rd Ext	US 25	Collins Rd
175	S Main St	Roe Center Court	Hwy 25
176	Sanders St	Dolley Ave	West Whitner St
177	Sawmill Rd	Trinity Church Rd	South Old Laurens Rd
178	SC 24	SC 187	SC 243
179	SC 56	Willard Rd	US 76
180	SC 8	Palmetto Rd	N Hwy 81
181	Tabor Woods Rd	Farrs Bridge Rd	Rice Rd
182	Tiger Blvd	Old Greenville Hwy	College Ave
183	Tiger Blvd	Wall St	Oconee County Line
184	Torrington Rd	Bellview Church Rd	Mount Vernon Church Rd
185	US 221	East Main St	Fleming Mill Rd
186	US 29	Plantation Rd	Whiten Rd
187	US 29	US 76	Fairway Green
188	US 29	Whiten Rd	Pine Trail
190	Wilson St	Wildwood Dr	Williamston Rd
196	US 123	Corrine St	Prince Perry Rd
197	Roper Mountain Rd Ext	Pelham Rd	Roper Mountain Rd
198	E Butler Rd	N Main St	Corn Rd
201	Woodruff Road Congestion Relief	Verdae Blvd	SC 146
203	SC 153	I 85	Old Pendleton Rd
204	SC 153	I 85	Three Bridges Rd
206	SC 183/Farrs Bridge Rd	West Harris St	Thomas Mill Rd
212	Fairview Rd	SC 418	New Harrison Bridge Rd
223	Main St	Knight St	Hellams St
225	I 385	Kemet Way	Smith Hines Rd
240	Boiling Springs Rd	Pelham Rd	Phillips Rd
241	Rocky Creek Rd/Harrison Bridge Rd	West Georgia Rd	Fairview Rd
245	SC 418	Fairview St Ext	SC 418
247	SC 86	I 85	Piedmont Hwy
250	Farrs Bridge Rd	SC 153	Thomas Mill Road
252	E Butler Rd	Woodruff Rd	Verdin Rd
258	Ashemore Bridge Rd	Fork Shoals Rd	Butler Rd
272	Brushy Creek Rd	Crestview Rd	St. Paul Rd
274	Black Snake Rd	Liberty Dr	SC 8
279	St Mark Rd	Wade Hampton Blvd	Locust Hill Rd
*280	SC 76	Doyle Bottom Rd	Old Greenville Hwy
281	N Rutherford Rd	Locust Hill Rd	Wade Hampton Blvd
289	I 385 rehab from MM 36.69-42.1	Laurens Rd	Roper Mountain Rd
291	Fairforest Way	Ridge Rd	N Main St
294	SC 146/ Woodruff Rd	Verdae Blvd	Bagwell Rd
296	SC 153	Roe Rd	I 85

ID	Road Name	From	To
297	US 76/Hwy76	Press Rd	Woody Rd
298	S-4-77/Beaverdam Rd	US 29	Belton Rd
299	S-4-1098/Fants Grove Rd	SC 187	Twinlakes Rd
300	SC 88 & Queen St	Mechanic St	N Elm St
301	S-23-22	US 25	Sandy Flat Rd
302	S-23-104/Hunts Bridge Rd	Duncan Rd	Hiwassee Dr
303	SC 288/Pumpkintown Rd	US 276	Pickens County Line
304	S-23-21/Rutherford Rd	US 29	US 276
305	S-23-920/W McElhaney	SC 290	Milfrod Church Rd
306	SC 253/State Park Rd	SC 291	Cone St
307	SC 291/N Pleasantburg Dr	Edwards Rd	Piney Mountain Rd
308	SC 291/N Pleasantburg Dr	State Park Rd	Piney Mountain Rd
309	US 29/E Wade Hampton Blvd	Wildwood Dr	Arlington Rd
310	US 29/E Wade Hampton Blvd	Arlington Rd	Pine Rridge Rd
311	US 25/White Horse Rd	I 85	Lily St
312	US 29	Stevens St	GPATS Boundary
313	S-23-52/Eastview Rd	Old Georgia Rd	Hwy 8
314	S-23-170/Duncan Chapel Rd	West Duncan Rd	Old Buncombe Rd
315	SC 253/E Mountain Creek Rd	Cone St	Reid School Rd
316	US 25/Augusta Rd	Donaldson Rd	White Horse Rd Ext
317	SC 29/Mechanic St	College Ave	Old Stone Church Rd
318	Yeoman Dr	Cannery Rd	Farrs Bridge Rd
329	US 29/Mills Ave	Augusta St	Stevens St
330	SC 14/Hwy 14	Five Forks Rd	Bethel Rd
331	I 85 Safety Improvements MM30 to MM60	MM 30	Sc 202
332	US 276/Poinsett Hwy	Rutherford Rd	US 276
334	S-23-1136/Perimeter Rd	North Old Fork Shoals Rd	Cytec
336	S-23-279/Reid School Rd	Wade Hampton Blvd	Lincoln Rd
346	S-23-272 W Georgia Rd	Fork Shoals Rd	Northeast Main St
359	Laurens Rd	Innovation Dr	I 85
360	Academy St/US 123	North Washington Ave	Pendleton St
*363	US 29	Hwy 81 N	Webb Rd
364	SC 183	Clark Dr	Briggs Ave
365	RSA-03 US 29 MP 8.6 to MP 11.3	E Lee Rd	Library Rd
366	RSA-11 US-29 MP 14.4 to MP 17.0	Wood River Way	Brookwood Dr
372	White Horse Rd	Broadway Dr	Pendleton Rd
374	SC 86	Hwy 81 N	SC 20
376	US 123	Prince Perry Rd	Washington Ave
382	US 123	College Ave	Anderson Hwy
383	Stone Ave	Rutherford St	N Church St
385	Augusta St	E Faris Rd	Mauldin Rd
386	W Blue Ridge Dr	White Horse Rd	Agnew Rd
*387	US 76	Pendleton Rd	New Hope Rd

ID	Road Name	From	To
390	E Faris Rd	Cleveland St	Augusta St
392	Brockman McClimon Rd	SC 101	Reidville Rd
395	Scuffletown Rd	SC 146	Lee Vaughn Rd
396	West Georgia Rd	West College St	Kemet Way
401	Stallings Rd	Reid School Rd	Rutherford Rd
402	Sandy Springs Rd	Augusta Rd	West Georgia Rd
404	West Georgia Rd	Fork Shoals Rd	E Standing Springs Rd
406	E Perry Rd	Poinsett Hwy	E Blue Ridge Dr
407	Fewes Bridge Rd	SC 101	SC 253
408	Saluda Dam Rd	W Main St	Prince Perry Dr
409	Garrison Rd	West Georgia Rd	Augusta Rd
411	SC 101	Reidville Rd	West Poinsett St
412	US 25	GPATS Boundary	Tigerville Rd
413	Mauldin Rd	Ridge Rd	N Main St
414	Farrs Bridge Rd	Hamburg Rd	Groce Rd
427	Roper Mountain Road	Roper Mountain Rd Ext	Woodruff Rd
New Roadways			
3	Southern Connector Bypass	I 185	US 29
*26	Clemson Bypass	Pendleton Rd	Anderson Hwy
37	Woodruff Rd/I 385 Connector	Woodruff Rd	I 385
81	University Ridge/Vardry St	University Ridge	Vardry St
92	Sherrif Mill Road/Sheffield Rd	Sherrif Mill Rd	Sheffield Rd
102	Rockmont Rd/Shannon Dr	Rockmont Rd	Shannon Dr
*136	US 123 bypass	Old Greenville Hwy	College Ave
238	Howard Dr Ext	Jonesville Rd	Johnson Dr
243	Pelham St Ext	Old Stage Rd	Kermet Way
251	Salters Rd Ext	Salters Rd	Woodruff Rd
261	Miller Rd	N Main St	Corn St
264	Holly Ridge Rd	Ridge Rd	W Butler Rd
265	Ben Hamby Ext	Ben Hamby Dr	S Batesville Rd
268	East Washington St Ext	Woodlark St	Lowndes Hill Rd
276	LED Rd Ext	S Catherine Ave	McDaniel Ave
287	Valley View Dr Ext	North Main St	Northwoods Dr
Widenings			
2	Butler Rd	Murray Dr	Corn Rd/Bridges Rd
9	Lee Vaughn Rd	Woodruff Rd	Scuffletown Rd
10	Rocky Creek Rd	West Georgia Rd	Harrison Park Subdivision
12	Saco Lowell Rd	Prince Perry Rd	Powell St

ID	Road Name	From	To
13	Crestview Rd	McGregor Lane	Brushy Creek Rd
*16	Tiger Blvd	Issaqueena Trail	GPATS Boundary
24	Carr Rd	Ray Rd	Blakely Ave
25	W Georgia Rd	Fork Shoals Rd	Malibu Lane
27	Fairview Rd	Hwy 418	Neely Ferry Rd
46	Woodside Rd	SC 418	South Shirley Rd
47	SC 80	South Buncombe Rd	Victor Ave
48	SC 101	SC 80	BMW Performance Center
49	SC 86	Augusta Rd	Winterwood Subdivision
51	SC 288	US 276	GPATS boundary
55	SC 81	SC 153	Cely Rd
60	SC 290	Langley Rd	Belvue Rd
63	SC 418	US 25	I 385
64	McAlister Rd	Brushy Creek Rd	Powdersville Rd
67	New Harrison Bridge Rd	Fork Shoals Rd	Richardson Rd
72	SC 93 Greenville Hwy	Amsterdam Rd	Eighteenmile Creek
77	SC 14	I 85	SC 14
78	Batesville Rd	Roper Mountain Rd	SC 14
82	North Fish Trap Rd	Saluda Dam Rd	US 123
83	Farrs Bridge Rd	West Hope St	Eunice St
84	Hamburg Rd	Sickum Rd	Farrs Bridge Rd
85	Norman Rd	Saluda Dam Rd	Sickum Rd
109	Locust Hill Rd	Mountain Valley Dr	Kirklen Lane
*158	SC 8	SC 81	US 29
159	Curits St	North Industrial Dr	Bell Dr
193	Roper Mountain Rd	Garlington Rd	Feaster Rd
194	Salters Rd	Verdae Blvd	Carolina Point Pkwy
195	Woodruff Rd	Scuffletown Rd	S Bennetts Bridge Rd
199	S-23-164/Batesville Rd	Pelham Rd	The Parkway
205	S-23-30/Grove Rd	West Faris Rd	White Horse Rd
207	SC 8	Anderson Hwy	Saint Paul Rd
*208	US 29	Cheddar Rd	I 85
209	Howell Rd	E North St	Edwards Rd
211	Miller Rd	Old Mill Rd	Woodruff Rd
213	Conestee Rd	Fork Shoals Rd	Mauldin Rd
214	S-23-453/Harrison Bridge Rd	Fairview Rd	Neely Ferry Rd
217	Bridges Rd	E Butler Rd	Holland Rd
218	Roper Mountain Rd	Roper Mountain Rd Ext	Garlington Rd
219	SC 296/S Bennetts Bridge Rd	Woodruff Rd	Brockman McClimon Rd
*222	SC 20/W Main St	South Academy St	Pelzer Ave
228	SC 153	SC 153	Saluda River

ID	Road Name	From	To
*231	Clayton St	Greenville hwy	Wesleyan Dr
232	Scuffletown Rd	Jonesville Rd	Woodruff Rd
233	Five Forks Rd	Woodruff Rd	SC 14
234	E Georgia Rd	Hunter Rd	E Georgia Rd
235	Batesville Rd	Woodruff Rd	Roper Mountain Rd
236	Roper Mountain Rd	SC 14	Feaster Rd
237	Anderson Ridge Rd	S Bennetts Bridge Rd	Roper Mountain Rd
239	SC 253	Reid School Rd	Sandy Flat Rd
242	Garlington Rd	Woodruff Rd	Roper Mountain Rd
244	Powdersville Rd	Calhoun Memorial Hwy	SC 153
246	Anderson Rd	US 25	SC 153
248	Pine Knoll Dr/Waddell Rd	Rutherford Rd	Wade Hampton Blvd
249	Saluda Dam Rd/Olive St	SC 8	Prince Perry Rd
254	Fork Shoals Rd	White Horse Rd	Ashemore Bridge Rd
255	Fairview St	N Nelson Dr	N Main St
256	Edwards Rd	Wade Hampton Blvd	Howell Rd
*257	SC 133	Six Mile Hwy	Pike Rd
259	Hudson Rd	Devenger Rd	Pelham Rd
260	SC 418	I 385	Fork Shoals Rd
262	Forrester Dr	Millennium Blvd	BiLo Blvd
263	SC 253	State Park Rd	Reid School Rd
266	Brushy Creek Rd	Calhoun Memorial Hwy	Laurel Rd
267	SC 101	Milfrod Church Rd	Locust Hill Rd
270	US 178	Carolina Dr	US 123
271	Hammett Bridge Rd	E Suber Rd	S Buncombe Rd
275	David Stone Rd	US 178	SC 8
277	Quillen Ave	N Main St	Speedway Dr
278	SC 81	SC 153	Old Williamston Rd
282	Pendleton Rd	Doyle Bottom Rd	College Ave
*283	Old Central Rd	Elm St	W Main St
286	Milford Church Rd	Locust Hill Rd	N Hwy 101
288	Gibbs Shoals Rd	SC 14	S Batesville Rd
335	Fairforest way & Millenium Blvd	Ridge Rd	Research Dr
340	S-23-172/W Georgia Rd	Kettle Oak Way	Rio Grande Place
341	S-23-172/W Georgia Rd	Morning Mist Lane	Malibu Lane
377	Fork Shoals Rd	Ashemore Bridge Rd	W Georgia Rd
378	SE Main St	Fairview Rd	Richardson St
384	S Buncombe Rd	Pleasant Dr	J Verne Smith Pkwy

ID	Road Name	From	To
388	Prince Perry Rd	Saluda Dam Rd	SC 153
389	Brushy Creek Rd	Alexander Rd	Brams Ct
393	Pendleton Rd	Anderson Hwy	Issaqueena Trail
*394	Issaqueena Trail	US 123	Pendleton Rd
*397	Berkley Dr	West Main St	Issaqueena Trail
398	West Georgia Rd	Augusta Rd	Reedy Fork Rd
399	SC 290	Hwy 101	Lyn Rd
403	West Georgia Rd	Reedy Fork Rd	Fork Shoals Rd
405	West Georgia Rd	E Standing Springs Rd	Neely Ferry Rd
410	SC 357	E Wade Hampton Blvd	GPATS Boundary
415	Bennetts Bridge Rd	Woodruff Rd	Brockman McClimon Rd
*428	College Ave	Tiger Blvd	RC Edwards School Rd
Road Diets			
*17	Perimeter Rd	Cherry Rd	Abel Rd
19	S Washington Ave	Easley Bridge Rd	Welcome Ave
29	Stone Ave	Rutherford St	N Church St
30	Academy St	West Elfird St	E North St
31	Rutherford St	W Stone Ave	Buncombe St
33	Wade Hampton Blvd/S Church St	E Coffee St	Dupont Dr
35	Townes St	N Academy St	College St
43	Wade Hampton Blvd	Chirck Springs Rd	Pleasantburg Dr
113	Grove Rd	Augusta St	W Faris Rd
202	Woodruff Rd	Smith Hines Rd	Woodruff Industrial Lane
369	N Pleasantburg Dr/Pine Knoll Dr	Wade Hampton Blvd	I 385
375	Cedar Lane Rd/Pete Hollis Blvd	West Parker Rd	Butler Rd
381	Edwards Rd	Wade Hampton Blvd	Edwards Rd
400	Old Buncombe Rd	West Blue Ridge Dr	Pete Hollis Blvd
Bike and Pedestrian			
15	Hammett Bridge Rd	South Suber Rd	South Buncombe Rd
40	W Washington St	Trescott St	Swamp Rabbit Trail
120	St Mark Rd	Wade Hampton Blvd	Locust Hill Rd
132	White Horse Rd	Piney Rd	Ashe Dr
200	Batesville Rd	Pelham Rd/SC 14	Roper Mountain Rd
216	SC 101	W Wade Hampton Blvd	Taylor Rd
220	US 123	SC 93	Ross Ave
293	Swamp Rabbit Trail Ext	West Trade St	Loma St
337	Clemson University Trail Segment 2	Perimeter Rd	West Queen St
339	Woodruff Rd Sidewalk	Verdae Blvd	I 85

ID	Road Name	From	To
342	Clemson University Trail	Old Cherry Rd	Seed Orchard Rd
344	Haywood Rd Sidewalks	Woods Crossing Rd	I 385
346	Woodside Park Connector	Fowler St	Woodside Park
347	Golden Strip Gateway	I 385	US 276
348	Town of Central Connector	Clayton St	Anderson Hwy
349	McBee Ave	W Broad St	E Washington St
350	McDaniel Ave	Augusta St	E McBee Ave
351	Meyer Dr	Rice St	Waccamaw Ave
352	Long Hill St	Potomac Ave	Rice St
353	W Faris Rd	Augusta St	Grove Rd
354	Waccamaw Dr	Westminster Dr	Meyers Dr
355	Rice St	Meyers Dr	Low Hill St
356	Pendleton St	Lois Ave	S Main St
357	Blythe Dr	Augusta St	Long Hill St
358	Easley Doodle Trail Extension	North A St	SC 8
361	Arts Park Connectivity Trail	Trade St	Poplar Dr

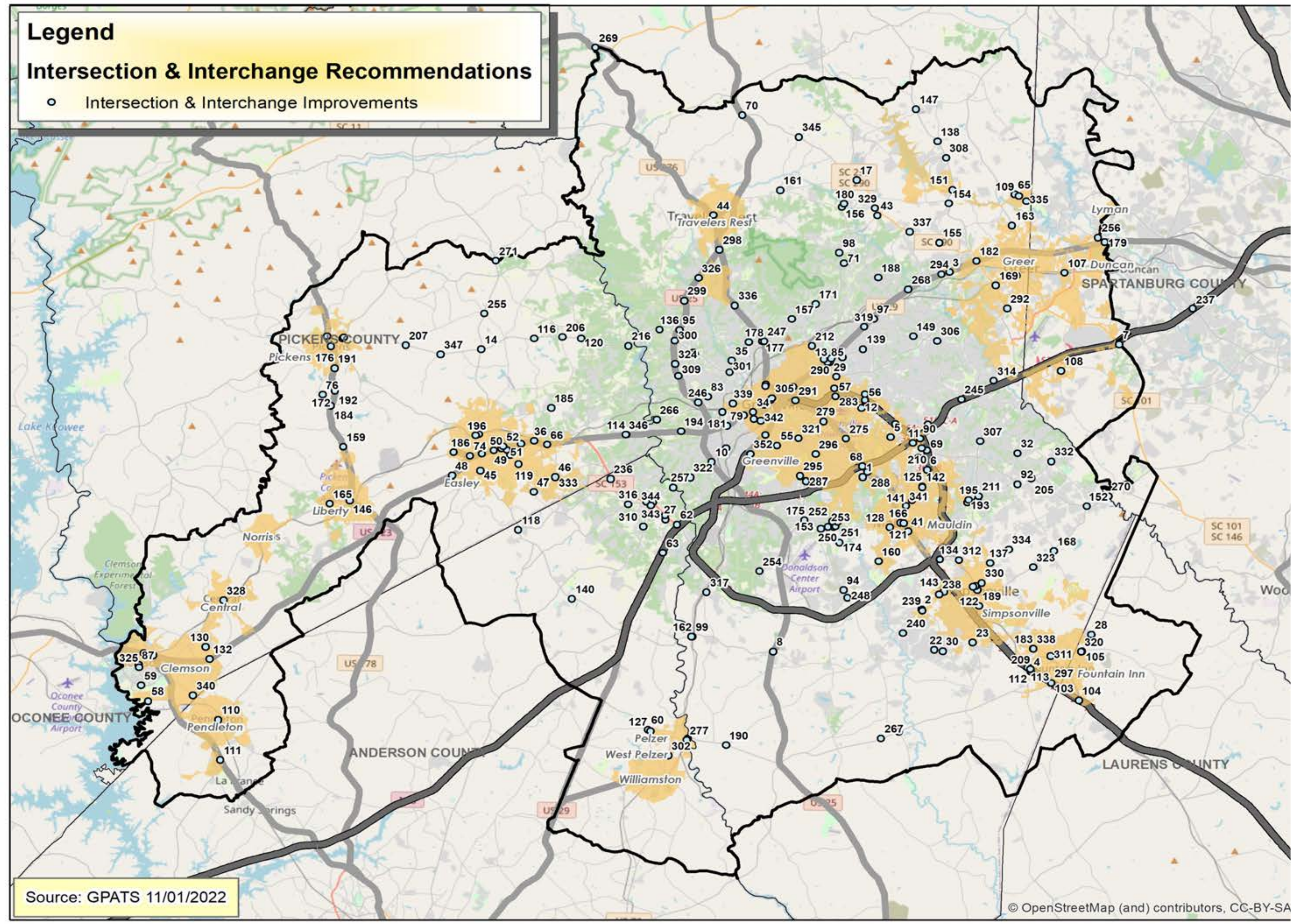
Intersection Recommendations

In total, Horizon 2045 recommends 270 intersection improvements throughout the region. These are detailed in Figure 35, along with their project ID numbers.

* Represents projects that are now part of the Anderson Clemson Area Transportation Study (ACATS. These projects have been added to the unfunded section of ACATS Long Range Transportation Plan.

Please contact Michael Gay with any questions: mgay@cityofandersonsc.com.

Figure 35: Intersection Recommendations



ID	Road 1	Road 2
Greenville County		
1	Fairforest Way	J.L. Mann High School
2	W Georgia Rd	E Standing Springs Rd
3	Wade Hampton Blvd	Town Center Dr
4	N Nelson Dr	I 385 ramp
5	Verdae Blvd	Parallel Blvd
6	Smoth Hines Rd	Exit from 385
8	US 25	Bessie Rd/Sandy Springs Rd
10	White Horse Rd	Augusta Rd
11	Woodruff Rd	I 85
12	Haywood Rd	Woods Lake Rd
13	Wade Hampton Blvd	N Pleasantburg Dr
17	Locust Hill Rd	Sandy Flat Rd
22	Harrison Bridge Rd	Rocky Creek Rd
23	Fairview Rd	Harrison Bridge Rd
29	Wade Hampton Blvd	Pleasantburg Dr/Edwards Rd
30	Harrison Bridge Rd	Neely Ferry Rd
32	Batesville Rd	Roper Mountain Rd
34	US 123	McCall St
35	W Blue Ridge Dr	Over Reedy River
41	US 276	S Main St
43	E Darby Rd	Meece Bridge Rd
44	Center St	Gateway Park
55	Augusta St	McDaniel Ave
56	Haywood Rd	I 385
57	I 385	Pleasantburg Dr
65	E Gap Creek Rd	Greer Middle School
68	I 85	Laurens Rd
69	Woodruff Rd	I 385
70	Locust Hill Rd	Hwy 25
71	Reid School Rd	SC 253
79	Easley Bridge Rd	3rd Ave/Ledbetter St
83	W Blue Ridge Dr	Arch St
85	Wade Hampton Blvd	Edwards Rd
90	I 85	I 385
92	Adams Mills Rd	Scuffletown Rd
94	Antioch Church Rd	Fork Shoals Rd
95	White Horse Rd	Farrs Bridge Rd
97	Wade Hampton Blvd	E Lee Rd
98	State Park Rd	Sandy Flat Rd
100	Wade Hampton Blvd	Church St
101	Wade Hampton Blvd	Over Enoree River
102	I 385	Fairview St
103	I 385	McCarter Rd
109	North Howell Rd	East Gap Creek Rd
112	Golden Strip Fwy	North Woods Dr
113	Golden Strip Fwy	Fairview St
117	Farrs Bridge Rd	Hunts Bridge Rd/W Parker Rd
121	Butler Rd	US 276
122	Main St	Curtis St
124	Wade Hampton Blvd	St. Mark Rd
125	Miller Rd	Hamby Rd
126	Main St	College St
128	Butler Rd	Ashemore Bridge Rd
134	Old Stage Rd	Old Laurens Rd
135	Miller Rd	Oak Forest Rd
136	SC 183	Old Farrs Bridge Rd
137	Jonesville Rd	Stokes Rd
138	SC 101	Pennington Rd
139	Edwards Rd	Botany Rd
141	Miller Rd	Old Mill Rd
142	Miller Rd	Burning Bush Ln
143	W Geogria Rd	Neely Ferry Rd
144	N Maple St	W Georgia Rd
145	Miller Rd	Murray Rd
149	Brushy Creek Rd	Strange Rd/Kimbrell Rd
151	SC 101	S-153
152	Woodruff Rd	Lee Vaughn Rd
153	White Horse Rd Ext	Fork Shoals Rd
155	Locust Hill Rd	N. Rutherford Rd
156	Sandy Flat Rd/SC 253	Jackson Grove
157	State Park Rd/SC 253	Altamont Rd/Piney Mountain Rd
160	Ashmore Bridge Rd	Fowler Circle
161	Tigerville Rd	Jackson Grove Rd
162	SC 20	SC 86/Main St
163	SC 14	Taylor Rd/CCC Camp Rd
166	Butler Rd	Murray Dr
167	Main St	Brushy Creek Rd
168	Lee Vaughn Rd/SC 417	Scuffletown Rd
169	Buncombe St	Brushy Creek Rd
170	SC 418	Fork Shoals Rd
171	State Park Rd	E Mountain Creek Rd
173	Bethel Rd	Bridges Rd
174	5th St	2nd St
175	Augusta Rd	Old Augusta Rd
177	Blue Ridge Dr/SC 253	Perry Rd
178	Blue RIdge Dr/SC 253	N Franklin Rd
180	Sandy Flat Rd	Jackson Grove Rd
181	Main St/SC 93	Pendleton St
182	Wade Hampton Blvd	SC 101
183	Main St/SC 14	Howard Dr
188	Reid School Rd	Edwards Mill Rd
189	Main St/SC 14	Loma St
190	Pelzer Hwy/SC 8	Garrison Rd
193	Bethel Rd	Bridges Rd
194	New Easley Hwy/US 123	Rison Dr
195	Bethel Rd	Tanner Rd
208	Haywood Rd	Pelham Rd
209	I-385	Fairview Rd Bridge
210	Woodruff Rd	Garlington Rd/Miller Rd
211	SC 14	Five Forks Rd/Bethel Rd
212	N Pleasantburg Dr	Rutherford Rd
238	S-23-172/W Georgia Rd	Neely Ferry Rd
239	S-23-172/W Georgia Rd	E Standing Springs Rd
240	S-23-172/W Georgia Rd	Rocky Creek Rd
245	I-85	Rocky Creek Bridge
246	White Horse Rd	W Blue RIdge Rd
247	E Blue Ridge Dr	State Park Rd/Poinsett Hwy
248	Fork Shoals Rd	Reedy Fork Rd
254	S-23-83/Old Grove Rd	L-27/Bracken Rd
257	US-81/Anderson Rd	S-23-327/Old Dunham Bridge
266	New Easley Hwy/SC 124	over Saluda River
267	SC 418	over Huff Creek
268	Wade Hampton Blvd/US 29	over Mountain Creek
269	Geer Hwy/US 276	over Middle Saluda River
272	S-183	Cedar Lane Rd
273	N Pleasantburg Dr/SC 291	White Oak Dr
274	Roper Mountain Rd	I 385
275	Laurens Rd	Woodruff Rd
276	Rutherford St	James St/W Earle St
278	Pelham Rd	E North St
279	Pleasantburg Dr	Antrim Dr
280	Academy St	Pendleton St
281	Laurens Rd	Verdae Blvd
282	Roper Mountain Rd	Independence Blvd
283	Haywood Rd	I 385
284	Academy St	North St
285	Augusta St	Church St
286	Pleasantburg Dr	Century Dr/Villa Rd
287	Pleasantburg Dr	Mauldin Rd
288	Laurens Rd	Milliennium Blvd
289	Wade Hampton Blvd	Rushmore Dr/Balfer Dr
290	Wade Hampton Blvd	Pine Knoll Dr
291	Stone Ave	I 385
292	SC 14	Buncombe Rd
293	Rutherford St	W Stone Ave
294	Wade Hampton Blvd	Fairview Rd
295	Mauldin Rd	Augusta St
296	Pleasantburg Dr	Cleveland St
297	I 385	McCarter Rd
298	US 25	Poinsett Hwy
299	White Horse Rd	Old White Horse Rd
300	Farrs Bridge Rd	White Horse Rd
301	W Blue Ridge Dr	Cedar Lane Rd
305	Academy St	College St
306	Old Spartanburg Rd	Boiling Springs Rd
307	SC 14	Roper Mountain Rd
308	SC 101	Berry Mill Rd
309	White Horse Rd	Lily St
311	Main St	Quillen Ave
312	NE Main St	Pelham Rd

GPATS LONG-RANGE TRANSPORTATION PLAN Horizon 2045 UPDATE

ID	Road 1	Road 2
313	Westfield St	W Broad St
314	Batesville Rd	Dry Pocket Rd
317	Old Pelzer Rd	Piedmont Gold Course Rd
319	Elizabeth Dr	E Lee Rd
321	Faris Rd	Cleveland St
322	Anderson Rd/SC 81	Old Anderson Rd
323	E Georgia Rd	Lee Vaughn Rd
324	White Horse Rd	Berea Dr
326	W Duncan Rd	Duncan Chapel Rd
327	Main St	Pendleton St
329	Lynn Rd	Waters Rd
330	Jonesville Rd	Academy St
331	Edwards Rd	Rushmore Dr
332	S Bennetts Bridge Rd	Anderson RIdge Rd
334	Harts Ln	Jonesville Rd
335	Gap Creek Rd	Country Club Rd
336	US 276	Poinsett Hwy
337	Old Rutherford Rd	Locust Hill Rd
338	Valley View Rd	Howard Dr
339	W Main St	S 1st St
341	Oak Park Dr	Miller Rd
342	August St	Vardry St
345	Locust Hill Rd/SC 290	Tigerville Rd/S-173
352	SC 20	S-23-260
353	SC 81	S-23-149
Pickens County		
14	Farrs Bridge Rd/SC 183	Dacusville Hwy/SC 153
36	US 123	SC 93
45	Pelzer Hwy	Anderson Hwy
46	Crestview Rd	Sheffield Rd
47	Brushy Creek Rd	Sheffield Rd
48	US 123	Adger Rd
49	US 123	Williams Ave

ID	Road 1	Road 2
50	US 123	Gail St
51	Brushy Creek Rd	US 123
52	South B St	US 123
*58	Old Cherry Rd	Cherry Rd
*59	Perimeter Rd	Cherry Rd
66	US 123	SC 93
74	Ross Ave	US 123
76	Belle Shoals Rd	Mauldin Lake Rd
*87	SC 93	College Ave
106	Crestview Rd	Brushy Creek Rd
114	US 123	SC 124
116	SC 183	Jim Hunt Rd
119	Brushy Creek Rd	Crestview Rd
120	Farrs Bridge Rd	Hamburg Rd/Thomas Mill Rd
129	US 123	Dogwood Ln/Pilgrim Dr
*130	Issaqueena Trail	Cambridge Dr
*132	Issaqueena Trail	US 123 Ramps
146	US 178/Anderson Hwy	SC 93
150	Ann St	Jones Ave
158	Main St/Pendleton St	Bryant St
159	Moorefield Memorial Hwy/ US 178	Rices Creek
164	Moorefield Memorial Hwy/ US 178	Mauldin Lake
165	Main St	Summit Dr
172	Moorefield Memorial/US 178	Belle Shoals Rd
176	Main St	Ann St/Pendleton St
184	Moorefield Memorial Hwy/US 29	Mauldin Lake Rd
185	Saliuda Dam Rd	Prince Perry Rd
186	Libertu/SC 93	Ross Ave
191	Moorefield Memorial Hwy/ US 128	Lec Rd
192	Moorefield Memorial Hwy/ US 128	Belle Shoals Rd

ID	Road 1	Road 2
196	5th St	2nd St
197	Farrs Bridge Rd	Jewel St
198	Jewel St	E Jones Ave
199	Jewel St	Woodrow St
206	SC 183	Jim Hunt Rd
207	SC 183	Jameson Rd
216	SC 183	Alex Rd
241	SC 93	Clayton St
255	SC 135/Dacusville Hwy	Jameson Rd
271	SC 135/Dacusville Hwy	over Shoal Creek
303	Calhoun Memorial Hwy	S Pendleton St
*304	Tiger Blvd/US 123	Anderson Hwy/US 76
*315	Tiger Blvd	College Ave
325	Old Greenville Hwy	College Ave
*328	E Main St	Pepper St
333	Crestview Rd	Sheffield Rd
*340	Issaqueena Trail	Pendleton Rd
346	US 123	SC 124
347	Farrs Bridge Rd/SC 183	Ireland Rd/S-39-55
Anderson County		
27	Hwy 153	River Rd
*60	Perimeter Rd	Easley Hwy
61	Bridge @ I 85	over SC 8
62	Frontage Rd	Hwy 153
63	River Rd	US 29
99	SC 20	Main St/Bessie Rd
*110	East Main St	South Broad St
*111	SC 187	US 76
118	SC 8/Pelzer Hwy	St. Paul Rd
*123	SC 8	Courtney St
*127	SC 8/Easley Hwy	Palmetto Rd
133	Three Bridges Rd	SC 153
140	SC 86	Wigginton Rd
235	SC 153	S-4-143/River Rd

ID	Road 1	Road 2
236	SC 153	S-4-94/Old Pendleton Rd
*277	SC 8	Murray St
*302	Hwy 20	Courtney St
310	Hwy 81	Circle Rd
316	Powdersville Rd	Three Bridges Rd
343	SC 81/Anderson Rd	L-183/McNeely Rd
344	SC-81/Anderson Rd	L-912/Cely Ln
Spartanburg County		
7	I 85	SC 101
107	Biblebrook	SC 290
108	Abner Creek Rd	Brockman McClimon Rd
179	Wade Hampton Blvd/US 29	Gap Creek Rd
237	I 85	SC 290
256	S-23-908/Gap Creek Rd	L-745/Hampton Rd
270	SC 146/N Hwy	over Enoree River
Laurens County		
28	SC 418	Pharr Rd
104	I 385	Laurens Rd/Old Laurens Rd
320	Durbin Rd	Hwy 418

8. Freight

INTRODUCTION

SCDoT completed its South Carolina Statewide Freight Plan December 2020. This was bolstered by the ACOG Regional Freight Mobility Plan July 2021.

Horizon 2045 includes an assessment of the existing freight network, trends, and public feedback to develop strategies that enhance the movement of goods within and through the region. As the GPATS region continues to grow and the economy places higher demands on the regional freight network, the condition and efficiency of freight movement, into, out of, and through the Upstate should be considered as a major contributor to regional economic well-being.

The region's major highway freight corridors include I-85, I-185, I-385, US-25, US-29, US-76, US-123, SC-8, SC-153, and SC-418. These corridors connect commercial and economic hubs within the Upstate and to other regions in the state and beyond. These highways are joined by railroads, airports, and pipelines to complete the region's freight network. The network's performance impacts growth and development as well as the economic vitality of the region.

Existing Freight Network

The FHWA-designated freight network in the GPATS region consists of major highways connecting to the Inland Port and several commercial airports. Together, this infrastructure forms a major transportation and logistical connection for the State of South Carolina and the whole southeast.

The GPATS area includes 135 miles of in-use rail. The rail connects the City of Greenville with Charlotte and Atlanta via Amtrak and serves as a major piece of the southeast freight network. Additionally, as previously mentioned, the region is home to the South Carolina Inland Port. The facility opened in 2013 and serves as a major connection point between truck, rail, and air freight shipments due to its proximity to the Greenville- Spartanburg Regional Airport (GSP) and I-85. Rail service at the Inland Port is provided exclusively by Norfolk Southern.

Truck Traffic

As the number of trucks on local roadways increases, it becomes more important to guide trucks to appropriate routes. Several routes through the GPATS study area are identified by SCDOT as part of the state's primary freight network, as identified in Figure 36.

Two major bottleneck points within the GPATS region are also identified in the SCDOT Freight Plan – the I-85/I-385 interchange and the Woodruff Road/I-85 exit.

Figure 36: GPATS 2020 Truck Volumes

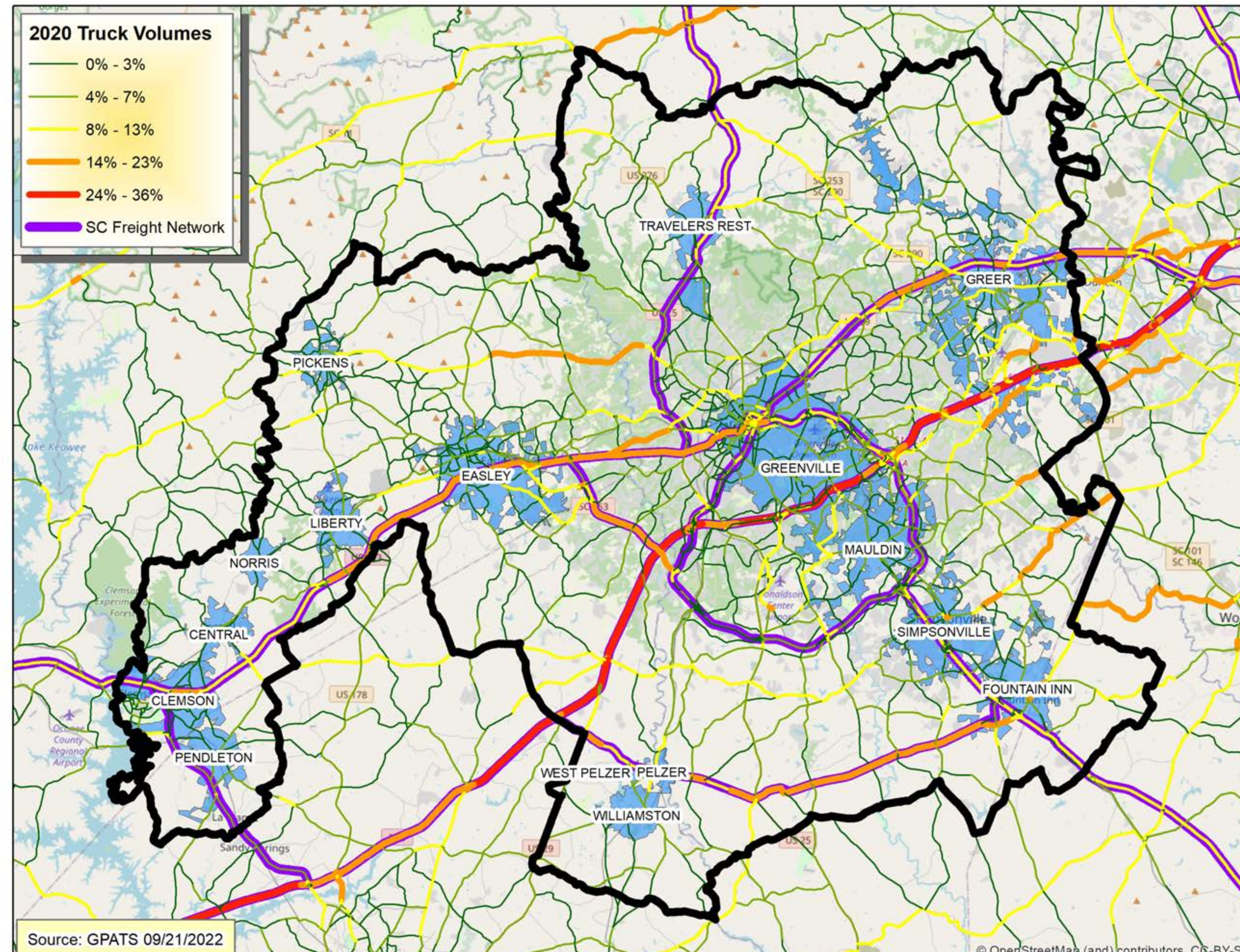
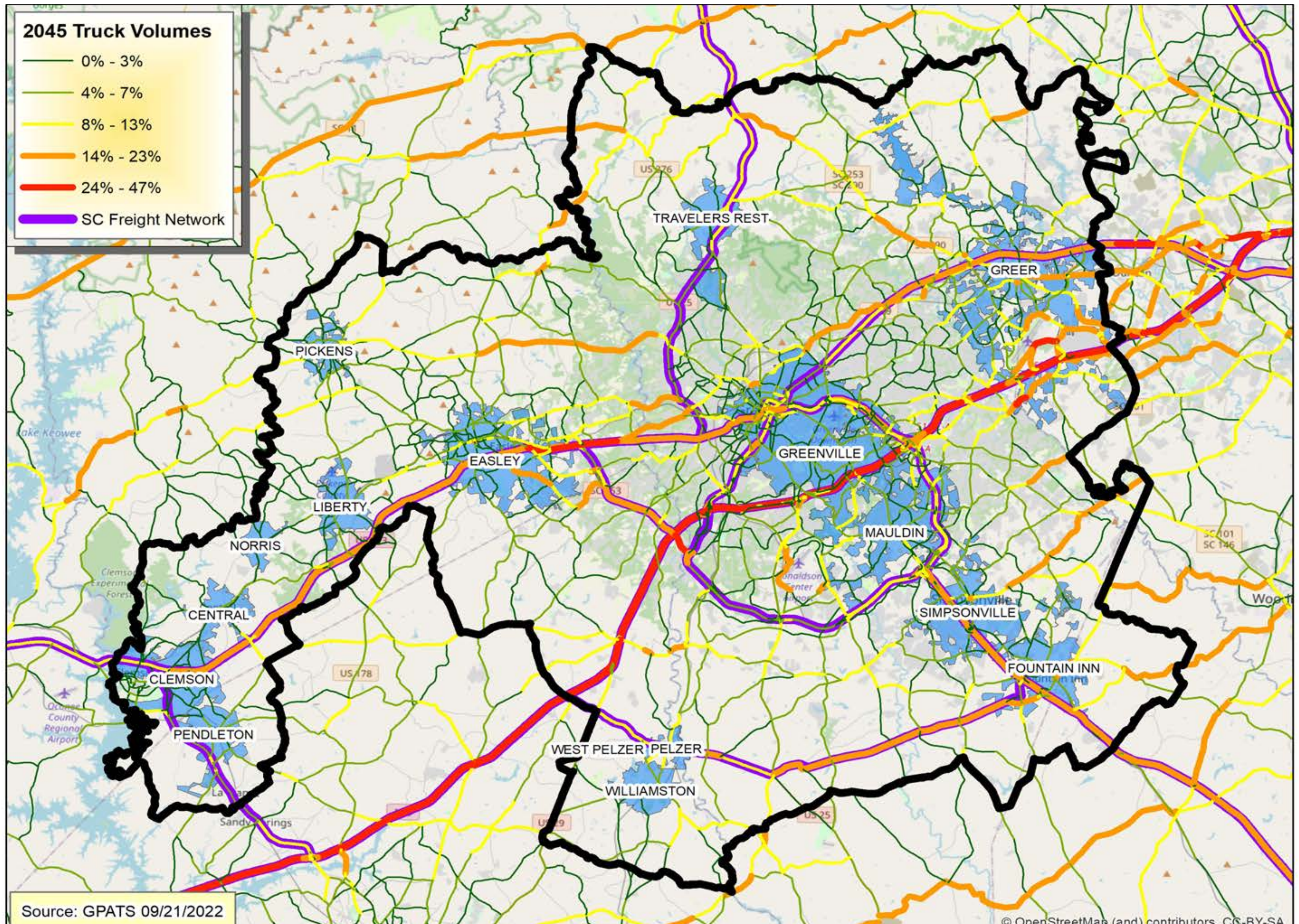


Figure 37: GPATS 2045 Truck Volumes



Relevance to the Region

Freight plays a critical role in the economy due to the large amount of manufacturing within the region and the region's growing role in state and national logistics. Located between Charlotte and Atlanta and with easy access to significant interstate highways, the GPATS area continues to attract industry growth. I-85 is the busiest freight route in the state, with more than 16,000 trucks traveling the route per day in 2010 (more than twice the volume on I-95, the second busiest route). In addition to trucking, the GPATS region has two class I railroads, several short-line railroads, and four airports within its boundaries.

Inland Port

The GPATS study area is home to the South Carolina Inland Port, which connects to an expansive rail network that allows shipping to and from major cities such as Atlanta and Charlotte. As a result, the impact of decisions concerning the local freight network extends beyond the Upstate. According to the SCDOT 2014 Statewide Freight Plan, Greenville and Spartanburg Counties were the second and third largest inbound freight destinations in South Carolina, behind only Charleston County. This was led mainly by port-related traffic and the manufacturing companies headquartered in the Upstate.

Future Trends

As more businesses with shipping needs locate in the Upstate and GPATS study area, truck freight is projected to grow. Continued expansion of southeastern United States ports will put added pressure on the South Carolina Inland Port and associated infrastructure. According to the SCDOT Freight Plan, total freight tonnage is slated to grow 81% by 2045. The South Carolina Ports Authority expects a 23% increase in container volume for the 2016 fiscal year. It is estimated that the South Carolina Inland Port may increase freight traffic on Upstate roadways as those loads are transferred onto trucks to reach final destinations. General growth in traffic volumes throughout the region also will increase potential conflicts at rail crossings. These trends should be continually monitored and roadways targeted for improvement as necessary.

9. Performance Measures

INTRODUCTION

Performance management is a strategic approach that uses system information to make investment and policy decisions to achieve goals set for the multimodal transportation systems in the MPO study area. Performance-Based Planning and Programming (PBPP) refers to transportation agencies' application of performance management as standard practice in the planning and programming processes.

The goal of PBPP is to ensure that transportation investment decisions— both long-term planning and short-term programming—are based on the ability to meet established goals.

As a federal requirement, states will invest resources in projects to achieve individual targets that collectively will make progress toward national goals. MPOs are also responsible for developing LRTPs and TIPs "through a performance-driven, outcome-based approach to planning."

The MPO is now developing its PBPP process to meet federal requirements—including requirements for tracking specific measures and setting targets—and to meet the unique planning needs of the MPO.

This document is meant to serve as a bridge as the MPO transitions to a more strategic PBPP. This document describes:

- National Goal Areas and Measures
- Federal Requirements
- Safety Goal Area and Targets
- Next steps for the MPO

National Goal Areas

Highway Performance

Through the federal rulemaking process, the Federal Highway Administration (FHWA) is requiring state DOTs and MPOs to monitor the transportation system using specific performance measures. These measures are associated with the national goal areas prescribed in MAP-21 and the FAST Act. The following list describes these national goal areas for highway performance as well as measures of performance. It should be noted that the MPO can take on additional measures beyond what is described.

Safety
- Injuries and Fatalities

Infrastructure Condition
- Pavement Condition
- Bridge Condition

System Reliability
- Performance of National Highway System

Freight Movement and Economic Vitality
- Movement on Interstate System

Congestion Reduction
- Traffic Congestion

Environmental Stability
- On-Road Mobile Source Emissions

Reduced Project Delivery Delay

*For GPATS, targets for these measures will be set based on the targets set by the state, and performance reports will be added once data becomes available.

Transit Performance

Recipients of public transit funds—which can include states, local authorities, and public transportation operators—are required to establish performance targets for safety and state of good repair; to develop transit asset management and transit safety plans; and to report on their progress toward achieving targets. Public transportation operators are directed to share information with MPOs and states so that all plans and performance reports are coordinated. The list below identifies performance measures goals outlined in the National Public Safety Transportation Plan, released by the Federal Transit Administration (FTA), and in the final rule for transit asset management. The MPO will be required to coordinate with public transit providers to set targets for these measures.

Safety
- Fatalities
- Injuries
- Safety Events
- System Reliability

Infrastructure Condition
- Equipment
- Rolling Stock
- Facilities

*For GPATS, targets for these measures will be set based on the targets set by the state, and performance reports will be added once data becomes available. For more detailed information on any of these performance measures, see the Horizon 2045 Appendix E.

Federal Requirements

Targets

- The MPO is required to establish performance targets no later than 180 days after SCDOT or a public transportation operator sets performance targets.
- For each performance measure, the Policy Committee will decide to commit to support a statewide target, or to establish a quantifiable target specific to the planning area.
- SCDOT, MPOs, and public transit operators must coordinate targets for performance measures to ensure consistency to the maximum extent practicable.

Reporting

- The LRTP must describe the performance measures and targets, evaluate the performance of the transportation system, and report on progress made.
- The TIP must link investment priorities to the targets in the LRTPs and describe, to the maximum extent practicable, the anticipated effect of the program toward achieving established targets.
- The MPO must also report baseline roadway transportation system condition, performance data and progress toward the achievement of targets to SCDOT.

Assessments

- FHWA and FTA will not directly evaluate the MPO progress towards meeting targets for required performance measures. The MPOs performance will be assessed as part of regular cyclical transportation planning process reviews, including Transportation Management Area certification reviews, small MPO self-certification reviews, and the Federal Planning Finding associated with approval of the STIP.
- FHWA will determine if SCDOT has met or made significant progress towards attaining the selected targets for the highway system.

Safety

The State of South Carolina has the highest fatality rate in the nation. It is 67% higher than the national rate and 40% higher than the states in the southeast. Reducing the number of transportation-related collisions, injuries, and fatalities is the SCDOT's highest priority and makes safety everyone's business. In 2011, the Director of the SC Department of Public Safety (SCDPS), who also serves as the Governor's Representative for Highway Safety in South Carolina, announced the Agency's goal of zero traffic-related deaths for the State. This goal, also strongly supported by the South Carolina Department of Transportation (SCDOT) and the South Carolina Department of Motor Vehicles, became the starting point for the State's update of the Strategic Highway Safety Plan (SHSP), entitled Target Zero. Target zero is an aspirational target for South Carolina based on the philosophy that no fatalities are acceptable for any household. The state will set targets advancing towards this goal over the next 20 years. For more information on statewide efforts to reach this goal, see the Horizon 2045 Appendix E (see http://www.gpats.org/Plans/LRTP.aspx).

Safety Needs within the MPO

SCDOT provided a safety workshop for the MPO with data specific to the MPO's study area boundary. The workshop further examined the crash data just within the MPO area to provide some perspective on what safety problems the MPO is experiencing within the study area boundary. Potential focus areas for our MPO are:

- Roadway Departure
- Intersections
- Access Management
- Non-Motorized Roadway Users

These areas could be influenced by MPO policy as a project moves through the planning, programming, and delivery process.

More detail on these problem areas and traditional engineering countermeasure techniques can be found in the Horizon 2045 Appendix E (see http://www.gpats.org/Plans/LRTP.aspx).

Safety Strategies

The safety of the regional transportation system is a top priority for GPATS. Therefore, additional guideshare funding has been allocated in the Horizon 2045 financial plan for safety and intersection improvements. Making these types of projects a priority should help move the baseline and improve overall safety in the coming years.

Safety Targets

SCDOT was required to evaluate and report on safety targets for the five required measures on August 31, 2017. This action started the 180 day clock for the MPO to take action to evaluate and set regionally specific targets or to accept and support the state's targets.

When setting safety performance targets for the state, statisticians performed extensive analysis of the data related to each measure (traffic fatalities and severe injuries and vehicle miles traveled). South Carolina utilized a seven-data-point graphical analysis with a five-year rolling average. After the data points were plotted and graphical representations of the data were created, a trend line was added that could be used to predict future values. The trend lines were based on linear and non-linear equations with R-squared (best fit measure) values.

Using the statistical models, statisticians were able to predict the values for the current year. Examining current and planned education and engineering safety initiatives, expected reductions in the number of fatalities and severe injuries were estimated, resulting in the calculation of the safety performance targets for the state. Staff from the SCDOT Traffic Engineering Office also met with representatives from the MPOs/ COGs, delivering a presentation on target setting and how the state's targets were established.

10. Financial Plan

INTRODUCTION

Transportation planning has a rich history of balancing a technical approach to transportation planning with the engagement of the public and elected leaders in the decision-making process. However, there is often a disconnect between public policy and these approaches. This can make it difficult to evaluate how well the transportation system addresses the community's needs and how well future transportation projects may improve the quality of life in the community. The GPATS Horizon 2045 Long-Range Transportation Plan serves as the region's long-range transportation strategy.

In accordance with state and federal requirements, this plan is also required to be financially constrained. The intent of this process is to demonstrate how the projects that have been recommended and prioritized can realistically be funded during the life of the plan. Due to limited funding for transportation projects, it is critical that measures be taken to ensure that appropriate projects and programs are prioritized and eventually implemented. To do this, it is essential to pair a reasonable expectation of future funding levels with a series of estimated project costs, and to have a consistent set of assumptions that address needs for all modes of travel. The financially constrained plan allows GPATS and supporting agencies to focus on near-term opportunities and to identify strategies that translate into plan implementation.

This chapter discusses the process used to determine financial constraint, including project prioritization and estimated revenues. The overall condition of the region is also explored through a discussion of performance measurement.

Roadway Project Prioritization

Chapter 4 of the Horizon 2045 Long-Range Transportation Plan introduced the plan's proposed roadway recommendations, along with the methodology that guides their prioritization. Using this combination of qualitative and quantitative metrics, each corridor and intersection project was assessed for its relative performance. It is important to note that the prioritized projects shown here are not financially constrained.

Projects are grouped initially into near-term, mid-term, and long-term improvements regardless of available revenues. The prioritization process is intended to serve as a tool that allows for flexibility in the order in which projects are implemented, rather than proceeding in strict rank order. This flexibility allows GPATS to most efficiently use their available revenues. Finally, recognizing that individual bikeway, sidewalk, and transit projects, never rank highly for transportation projects, begining in 2024, bikeway, sidewalk, and transit projects will have their on allocation category for GPATS transportation projects. This was decided after surveying residents about how best to allocate transportation resources within GPATS during the 2040 LRTP update.

The following tables display the near-term, mid-term, and long-term prioritized projects for both corridors and intersections. Projects are shown in ranked order within each project list.

Project Scoring

Each project was scored based on an SCDOT-driven process, which is standardized across the state. A project receives an individual score in each category according to its performance in that category, scored on a scale of 1 (worst) to 10 (best). Different types of projects are ranked against the same criteria, but each category is weighted differently, providing each project with a separate "weighted score." Projects are then ranked according to this measure. For more information on the prioritization process, see the Horizon 2045 Appendix D (see http://www.gpats.org/Plans/LRTP.aspx).

- Environmental Impacts: based on an assessment of potential impacts to natural, social, and cultural resources.
- Truck Traffic: based on current truck percentages.
- Economic Development: determined using the Transportation, Distribution, and Logistics (TDL) tool developed by Clemson University. The tool assesses the economic development impact of transportation infrastructure projects.
- Located on a priority network: based on a project's location in relationship to defined priority networks.
- Consistency with Local Land Use Plans: Verification of consistency with local land use plans is confirmed during the STIP process.
- Traffic Volume and Congestion: based on current and future traffic volumes and the associated level-of-service condition.
- Alternative Transportation Solutions: confirmed during the National Environmental Policy Act (NEPA) process.
- Public Safety: based on an accident rate that is calculated by the total number of crashes within a given road segment divided by the traffic volume and multiplied by the number of years.
- Geometric Alignment Status: based on an assessment of the intersection's functionality and operational characteristics.
- Financial Viability: based on estimated project cost in comparison to the six-year Statewide Transportation Improvement Program (STIP) budget. Additional consideration will be given to projects supplemented with local project funding and/or other federal and state funding.
- Pavement Quality Index: The PQI score is based on pavement condition assessments.

FINANCIAL PLAN DEVELOPMENT

Financial Plan Overview

Horizon 2045 is shaped by several elements, including federal legislation and the direction of state and local agencies. The plan is governed by the Bipartisan Infrastructure Law, which was signed into law on November 5th, 2021. The goals of the Bipartisan Infrastructure Law include strengthening America's highways, establishing a performance-based program, creating jobs and supporting economic growth, supporting the United States Department of Transportation's aggressive safety agenda, streamlining Federal Highway Administration transportation programs, accelerating project delivery, and promoting innovation.

The financially constrained plan, required by the FAST Act and MAP-21 for regional long-range transportation plans, shows proposed investments that are realistic in the context of reasonably anticipated future revenues over the life of the plan as well as during a series of funding periods. Meeting this test is referred to as "financial constraint." The funding periods identified for the Horizon 2045 Long-Range Transportation Plan are as follows:

- 2029-2035
- 2036-2045

The 2029-2035 funding period includes the committed projects and associated funding from the State Transportation Improvement Program (STIP). Projects and funding levels identified during that time period have already been identified as priority projects through previous planning efforts, and have been discussed in previous chapters of this document. As such, they are not re-evaluated as part of this plan. The 2036- 2045 and 2036-2045 funding periods help divide the remainder of the projected revenues and projects into time bands that are less than or equal to ten years in length. Projects that cannot be funded within the 2045 financially constrained plan are considered part of the unfunded vision plan.

Projected Revenue

SCDOT allocates funding to its member MPOs through a program known as Guideshare funding. SCDOT provides separate funding sources for items like maintenance, safety, and interstates. Those sources are allocated and prioritized at a statewide level. Guideshare funding is allocated by SCDOT by leveraging the MPO planning process, including the LRTP and the MPO Transportation Improvement Program (MTIP). In 2022, the GPATS region received a total of $20.644 million in Guideshare funding. This number is inclusive of a 20% match, which is funded by SCDOT. The 2022 funding amount is expected to stay constant throughout the life of the plan. When inflation is considered, this approach will lead to a decline in the region's purchasing power.

GPATS has the opportunity to consider how best to allocate these Guideshare funds during the life of the plan. To help better understand the optimal allocation of these funds, GPATS reached out to the public through the MetroQuest survey and Public Meetings.

These surveys strongly advocated for enhanced multimodal funding, along with strong funding for safety. These priorities were considered in the allocation of Guideshare funding percentages, as detailed below.

- Roadway Corridors - 50% Guideshare funding. Projects within the roadway category include widening projects, new location projects, access management projects, and road diets.
- Intersections - 25% Guideshare funding. Projects within the intersection category include intersection and interchange projects that have been identified to improve safety or capacity. This Guideshare allocation provides the region added flexibility to focus on its own priorities, while the state continues to address safety concerns using their statewide prioritization method.
- Bike/Ped - 10% Guideshare funding. Projects within the bicycle and pedestrian category include on-street or off-street projects that are independent of other roadway improvements. This Guideshare allocation is in addition to potential Transportation Alternatives Program monies that can be applied for by individual jurisdictions. In order for a bicycle or pedestrian project to be considered for the receipt of Guideshare funding, the project must satisfy a series of criteria set forth by SCDOT. Projects should be vetted against these criteria prior to being advanced for consideration.
- Transit - 10% Guideshare funding. Projects within the transit category would consist of capital projects rather than operations and maintenance. This funding is in addition to transit capital and operations and maintenance funding received through other statewide sources.
- Signal Upgrades - 5% Guideshare funding. Currently, $150,000 annually is being allocated within the GPATS region for signal upgrades. The increase in funding would help accelerate these improvements, including installation of signals, improvement of current signals, signal retiming, or other ITS improvements.

Table 12 shows the proposed allocation of funding for each category for the two planning horizon year periods.

Table 12: GPATS Guideshare Modal Splits

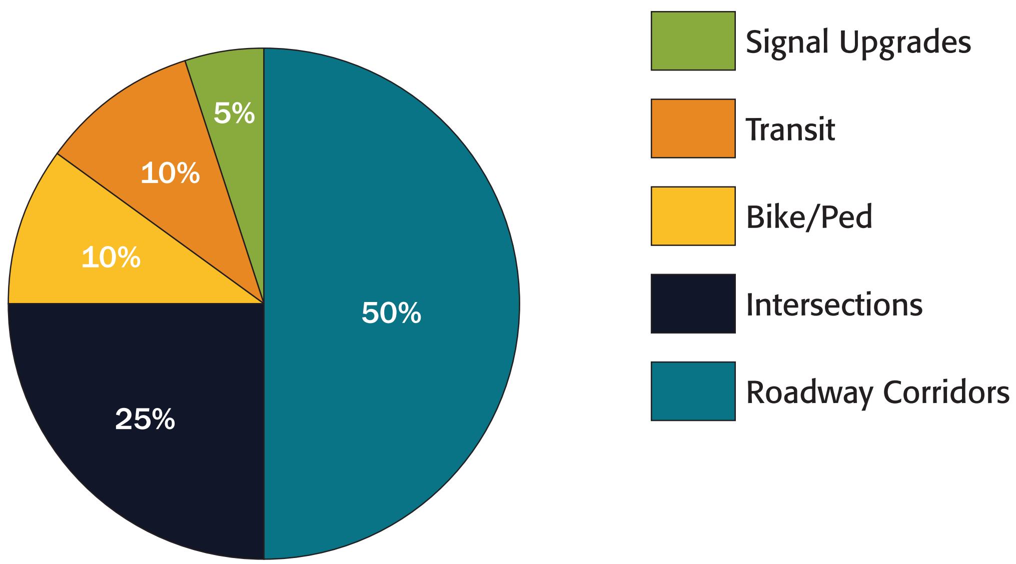
GPATS GUIDESHARE MODAL SPLITS

	Roadway Corridors	Intersections	Bike/Ped*	Transit	Signal Upgrades
2029–2035	$99,197,955.50	$49,598,977.75	$19,839,591.10	$19,839,591.10	$9,919,795.55
2036–2045	$141,711,365.00	$70,855,682.50	$28,342,273.00	$28,342,273.00	$14,171,136.50
Total	$240,909,320.50	$120,454,660.20	$48,181,864.10	$48,181,864.10	$24,090,932.05
Notes	50% allocation	25% allocation	10% allocation	10% allocation	5% allocation

*Bike/Ped separation, ranking, and allocation for projects will be done with the GPATS Bike/Ped Plan by SCDOT.

Financially-Constrained Projects

Figure 38: Guideshare Funding Allocations



Guideshare Funding Allocations

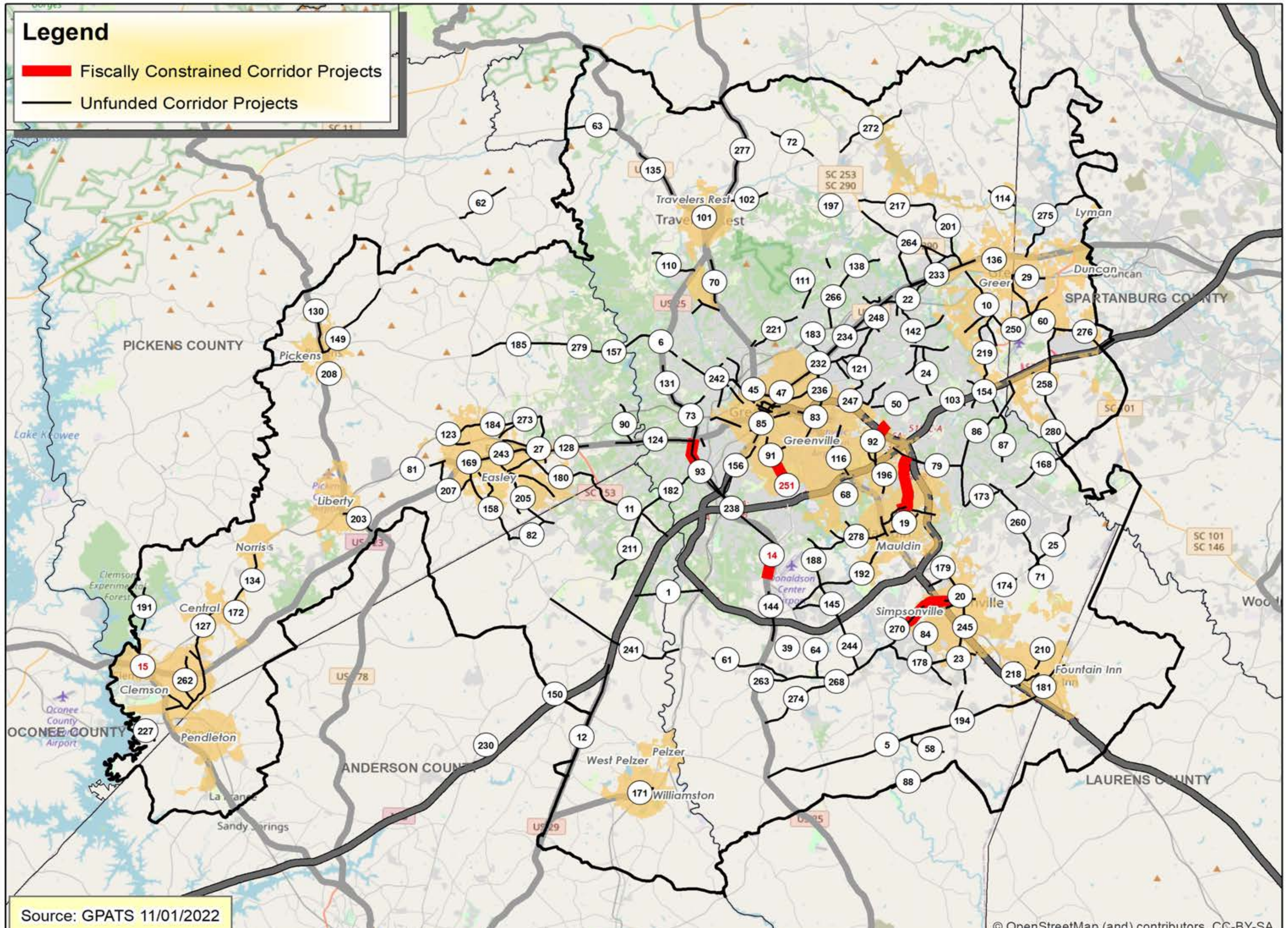
Funded Corridor Projects

Table 13 shows seven corridor projects that can be funded through 2045. Figure 39 shows the locations of the funded corridor projects around the GPATS Study Area.

Table 13: Funded Corridor Improvements

Horizon Years	Object ID	Project Name	From	To	Category	Rank	Total Estimated Cost	Balance
2029-2035	281	Roper Mountain Rd	Roper Mountain Rd Ext	Woodruff Rd	Corridor Improvements	1	$48,600,000.00	$50,597,955.50
	15	US 123	College Ave	Anderson Hwy	Corridor Improvements	2	$16,640,000.00	$33,957,955.50
2036-2045	7	White Horse Rd	US 123	SC 81	Corridor Improvements	3	$51,440,000.00	$124,229,320.50
	251	Augusta St	East Faris Rd	Mauldin Rd	Corridor Improvements	4	$19,140,000.00	$105,089,320.50
	9	West Georgia Rd	East Standing Springs Rd	North Maple Rd	Corridor Improvements	5	$58,210,000.00	$46,879,320.50
	14	US 25	Donaldson Rd	White Horse Rd Ext	Corridor Improvements	6	$34,800,000.00	$12,079,320.50
	161	Miller Rd	Old Mill Rd	Woodruff Rd	Widening	7	$18,350,000.00	-$6,270,679.50

Figure 39: Funded Corridor Improvements



Funded Intersection Projects

Table 14 shows twenty intersection projects that can be funded through 2045. Figure 40 shows the locations of the funded intersection projects around the GPATS Study Area.

Table 14: Funded Intersection Improvements

Horizon Years	Object ID	Road 1	Road 2	Rank	Project Cost	Balance
2029-2035	3	Woodruff Rd	I 85	1	$7,000,000.00	$42,598,977.75
	2	Bessie Rd	Augusta Rd	2	$7,000,000.00	$35,598,977.75
	8	Jewel St	Ann St	2	$7,000,000.00	$28,598,977.75
	9	Miller Rd	Oak Park Dr	4	$6,000,000.00	$22,598,977.75
	4	Daucusville Hwy	Farrs Bridge Rd	5	$6,000,000.00	$16,598,977.75
	36	Woodruff Rd	I 385	6	$3,000,000.00	$13,598,977.75
	7	Hwy 14 N	CCC Camp Rd	7	$7,000,000.00	$6,598,977.75
	35	I 85	Laurens Rd	7	$3,500,000.00	$3,098,977.75
2036-2045	139	Mauldin Rd	Augusta Rd	7	$7,000,000.00	$66,954,660.25
	144	SC 183	White Horse Rd	10	$7,000,000.00	$59,954,660.25
	1	West Georgia Rd	Stenhouse Rd	11	$7,000,000.00	$52,954,660.25
	137	Rutherford St	Poinsett Hwy	12	$7,000,000.00	$45,954,660.25
	145	Cedar Lane Rd	West Blue Ridge Dr	12	$7,000,000.00	$38,954,660.25
	130	SC 291	Greenland Dr	14	$7,000,000.00	$31,954,660.25
	31	Frontage Rd	Hwy 153	15	$3,000,000.00	$28,954,660.25
	60	Tiger Blvd	College Ave	15	$1,500,000.00	$27,454,660.25
	149	Beattie Place	Academy St	15	$7,000,000.00	$20,454,660.25
	158	Tiger Blvd	College Ave	15	$7,000,000.00	$13,454,660.25
	39	Easley Bridge Rd	3rd Ave	19	$7,500,000.00	$5,954,660.25
	64	Farrs Bridge Rd	Groce Rd	19	$6,000,000.00	-$45,339.75

Figure 40: Funded Intersection Improvements