



2045 METROPOLITAN TRANSPORTATION PLAN UPDATE

Appendix G: Pedestrian Walkways and Bikeways

Prepared for:

GSATS

The Grand Strand Area Transportation Study



Prepared by:



AUGUST 2023

GRAND STRAND AREA TRANSPORTATION STUDY
METROPOLITAN PLANNING ORGANIZATION



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INTRODUCTION

In recent years, communities throughout the United States and particularly in the Carolinas have experienced a growing interest in implementing transportation infrastructure improvements that enhance walking and biking. Towns, cities, counties, and metropolitan planning organizations (MPOs) understand the need to plan, design, and implement non-motorized transportation options as well as increase opportunities for recreation. Advancing bike and pedestrian networks is essential to meeting safety, mobility, livability, environmental, and economic goals. Additionally, active transportation options provide a host of benefits to individual communities and larger regions by connecting destinations and creating enjoyable transportation options that can improve the health of users.

People throughout the Grand Strand Area Transportation Study (GSATS) area have embraced biking and walking as viable forms of transportation and recreation. As the communities within the GSATS region grow, extending a safe and comfortable biking and walking network can encourage more people to walk and bike within the region, particularly for shorter trips.

The purpose of this document is to provide an understanding of the context of biking and walking, or active transportation, within the GSATS area. In addition to documenting existing conditions, this technical memorandum presents an analysis of where and how these facilities should be implemented as well as broader policy recommendations for moving bicycling and walking forward as viable and inviting transportation modes.

FIVE E'S OF WALKING AND BIKING

At the heart of any quality active transportation network are the “Five E’s” - Engineering, Education, Encouragement, Enforcement, and Evaluation. These pillars are often used in Safe Routes to School, Vision Zero, and other transportation plans across the nation, with many jurisdictions, including equity as a factor of the framework as well. The Five E’s provide a thorough understanding of the issues at hand within individual GSATS communities and the region. The E’s lead to the development of comprehensive strategies to improve safety, enhance mobility, and increase the number of people walking and biking. The Five E’s, illustrated in **Figure 1**, are described in more detail below.

Figure 1: The 5 E’s of Transportation Planning



Engineering

Engineering refers to providing physical infrastructure for safe, convenient walking and biking. Engineering the capital improvement recommendations of planning documents or in the actual implementation of active transportation facilities includes:

- On-street bike lanes, crosswalks, and paved shoulders
- Off-street shared-use paths, trails, and greenways
- Sidewalks and curb ramps compliant with the Americans with Disabilities Act (ADA)
- Grade separations, including pedestrian and bicycle tunnels and bridges
- Traffic calming measures, such as speed bumps and tables or roundabouts
- Directional, wayfinding, and traffic control signage related to walking and biking
- Pedestrian and bicycle signals
- Anything physical in nature that makes walking and biking safer and more inviting, such as a tree canopy for shade and separation from roadway vehicles

Education

Education efforts typically focus on teaching all roadway users (i.e., people who drive cars, take transit, ride bikes, and walk) how to safely operate within the transportation network. For instance, training bicyclists, particularly children, how to safely share the road with motorists and how to avoid the most dangerous situations that commonly occur for bicyclists. Motorist education typically focuses on reminding drivers of the rules of the road and how to properly interact with bicyclists and pedestrians. Education efforts include:

- Bike rodeos and helmet fairs
- Safe Routes to School programs
- Public Service Announcements (PSAs)
- Informational brochures and marketing campaigns
- Training programs for drivers, such as driver's education or defensive driving classes
- Training programs for bicyclists

A vital tool for educating roadway users is signage as it directs individuals on where to go and what to do in their given environment. This can be used for traffic regulation and enforcement, or safety purposes such as a sign for drivers indicating that they are passing through a school zone, or traffic signal warning signs indicating that a driver is approaching a signalized intersection outside of their visible range. Signage can also be used to alert roadway users to construction, new traffic patterns, or new laws.

Encouragement

Encouragement activities focus on increasing biking and walking through fun and interesting activities or programs, promotional events, and avenues that make walking and biking more convenient and inviting. Encouragement efforts seek to demonstrate that biking and walking are valid modes of transportation. Encouragement activities include:

- Bike to Work Week and Bike and Walk to School Day activities
- Walk to Lunch Day activities
- Open Streets events (i.e., closing a street for a few hours and allowing biking, walking, skating, etc.)
- Community bike rides (e.g., critical mass events)
- Bike share systems
- Maps, brochures, websites, apps, and other ways of providing information to users

Enforcement

Enforcement activities focus on enforcing the rules of the road for all users (i.e., people who drive cars, take transit, ride bikes, and walk). Enforcement also prioritizes having links between the law enforcement community and the active transportation community.

Enforcement activities include:

- Training programs for law enforcement officers
- Efforts to reduce speeding, red light/stop sign running, distracted driving, and other improper or unlawful road user behaviors
- Efforts to increase yielding to pedestrians
- Efforts to reduce significant bicycle/pedestrian crash types

Evaluation

Evaluation efforts, which seek to quantify the impact of the other “E’s,” occur at the beginning of the planning process, during implementation, and as a follow-up to implementation. Evaluation efforts may include:

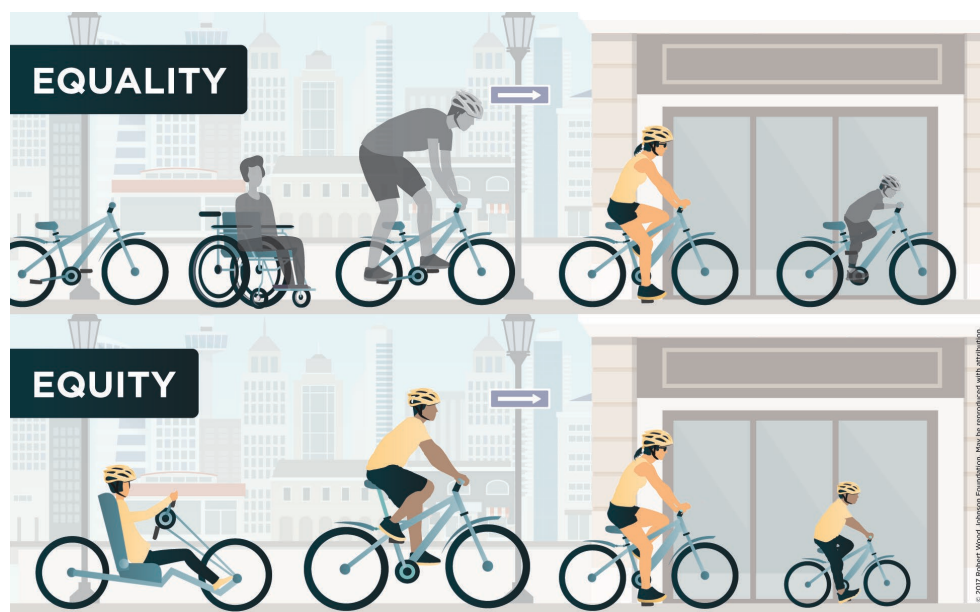
- Measuring the growth of bicycle and pedestrian facilities in a region
- Walkability and bikability audits
- Travel diary surveys
- Measuring the rate of walking or biking in an area or the number of users on a specific facility
- Evaluating the increase of users where new facilities are built
- Evaluating crash data for changes in patterns or frequency

Many transportation interventions that improve the active transportation network may affect all modes, not just those walking and biking. Further, some interventions may fall under more than one of the 5 E’s. For example, installing signage that informs drivers of an upcoming pedestrian crossing directly affects drivers while making the network safer for pedestrians; this intervention would fall under both engineering and education, though it affects enforcement as well by making the law clear to roadway users.

EQUITY IN ACTIVE TRANSPORTATION

In addition to the Five E's, equity is critical to a quality active transportation network. Equity seeks fairness in the distribution of benefits and costs, providing the right solutions for the users based on their circumstances. Equity should not be confused with equality; equality assumes that all needs are the same and provides the same level of resource access for all people, while equity allows resources to be provided based on need, as **Figure 2** illustrates. In active transportation planning and design, a discussion of equity acknowledges that, based on context, different solutions may be appropriate for different populations.

Figure 2: The Difference Between Equality and Equity



Source: Robert Wood Johnson Foundation. Equity. Virginia Department of Health. Retrieved from <https://www.vdh.virginia.gov/west-piedmont/community-health/equity/>

Equity in active transportation can be achieved through filling a critical gap in communities' transportation networks. In some communities, there already exists an extensive walking and biking network or some people may only walk or bike for recreation or tourism. In other communities, the walking or biking infrastructure is in poor condition, or it is nonexistent, even if the residents who live there rely on walking and biking to get around. Such differences among built environments and needs of residents are inequities. Eliminating inequities to ensure that individuals can get to where they need to go by the means that they want to get there, no matter what neighborhood they live in, achieves equity in transportation. This includes providing a quality network that is comfortable for all users, including providing physical separation between vulnerable road users and motor vehicles, as discussed in the Appendix D: Level of Service Standards Technical Memorandum.



EXISTING CONDITIONS

To establish a baseline for future improvements to the active transportation network, existing plans and conditions regarding bicycle and pedestrian transportation were reviewed. The following sections outline existing active transportation conditions in the GSATS region.

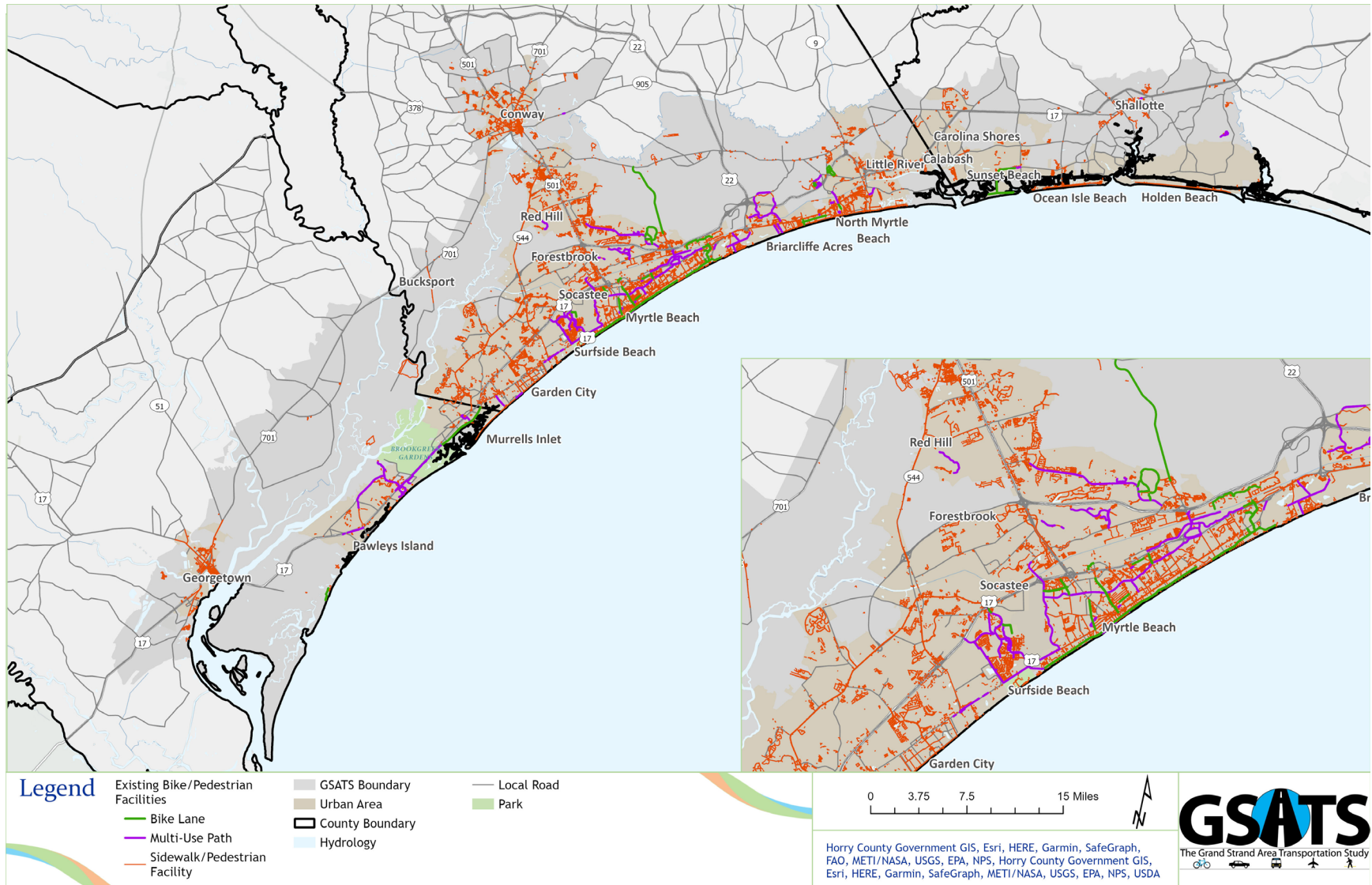
EXISTING INFRASTRUCTURE

The GSATS region currently has a number of bike and pedestrian facilities throughout the jurisdictions of its member governments. **Figure 3** shows the existing active transportation facilities throughout the region, including an inset map of Myrtle Beach. Sidewalks are present in several municipalities. Predominantly, sidewalks exist within urban areas and, due to development regulation requirements, sidewalks are found in newer residential areas as well. Bike facilities primarily exist alongside sidewalks along some corridors within city centers. Many major roadways and connecting corridors lack bicycle and pedestrian facilities altogether. The coastal nature of the GSATS area may encourage walking due to the climate and number of visitors that travel to the area annually. The bicycle and pedestrian facilities shown were derived from the previous GSATS 2040 Metropolitan Transportation Plan (MTP),¹ and the North Carolina Department of Transportation (NCDOT) Pedestrian and Bicycle Infrastructure Network (PBIN).²

¹ GSATS 2040 MTP (2017), <https://gsats.org/wp-content/uploads/2018/06/GSATS-2040-MTP-Plan-Update.pdf>

² Connect NCDOT (2023), <https://connect.ncdot.gov/projects/BikePed/pages/pbin.aspx>

Figure 3: Existing Bicycle and Pedestrian Facilities





Active Transportation Equity in the GSATS Region

It is important to identify any inequities or disparities in a transportation system and then address them so that recommended improvements benefit all community members. In 2021, EO 14008 was passed to create the Justice40 Initiative (Justice40) to further transportation equity.³ This program seeks to identify community disadvantages and identify projects that create benefits or mitigate those disadvantages, all in an effort to improve the quality of life and economic prosperity across the country.⁴ There are many facets to the Justice40 program, including requirements and greater consideration for the use of federal funds towards the goals of the program. USDOT has also created the Equitable Transportation Community (ETC) Explorer to geospatially explore various disadvantage indicators across five components: Transportation Insecurity, Climate and Disaster Risk Burden, Environmental Burden, Health Vulnerability, and Social Vulnerability. **Figure 4** on the following page overlays existing walking and biking facilities in the GSATS region with Disadvantaged Census tracts and Areas of Persistent Poverty (APP), as identified by the USDOT ETC tool.

In the GSATS region, portions of the urbanized areas are not considered disadvantaged nor APP, with exception to Conway, which is largely disadvantaged. Most of the APP and disadvantaged areas within the region are in the rural or unincorporated areas of the region, including large portions of Georgetown County. Despite these trends, much of the region's active transportation network is located within Justice40-designated disadvantaged areas and APP, particularly in Myrtle Beach, Surfside Beach, North Myrtle Beach, and Ocean Isle Beach.

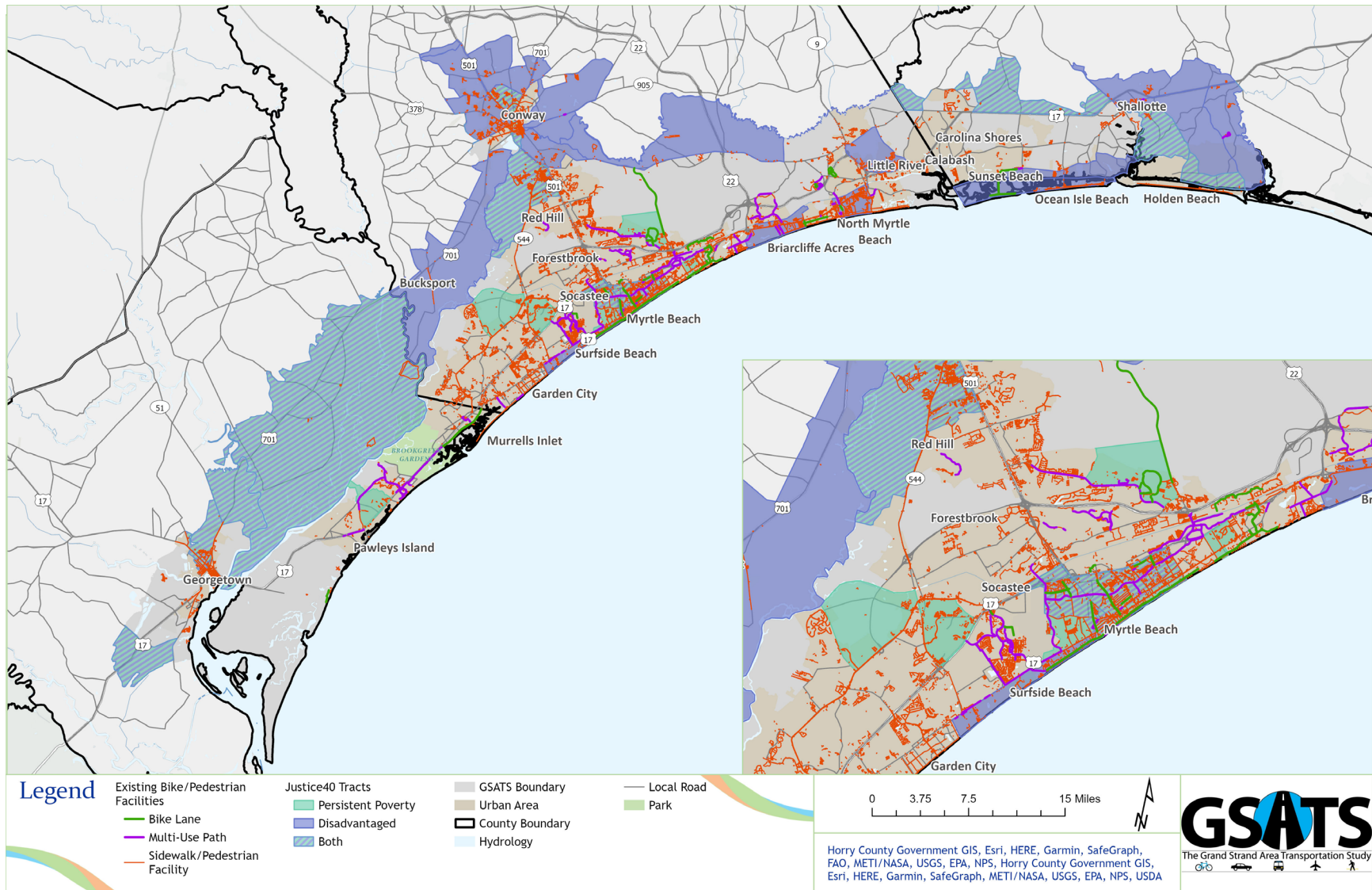
While these datasets indicate few disparities according to Justice40 programs, it is recommended that GSATS and member jurisdictions examine other potential disparities as well. Firstly, the Justice40 dataset is at the Census Tract scale and may obscure more detailed socioeconomic characteristics or transportation burdens at smaller scales. Practitioners can utilize Census data at the block and block group levels to analyze how equitably their active transportation networks serve residents. Second, there are other variables that can be indicative of disparities in the region, such as mode and geography. For instance, there are far more active transportation facilities present in the portion of the GSATS region that is within South Carolina. Practitioners may want to examine the barriers to building out an active transportation network across the whole region to ensure that residents have access regardless of the stateside they live on.

To improve active transportation equity in the region, transportation decisionmakers should seek to improve the connectivity of the existing network and seek opportunities to create multiuse connections between rural areas and urbanized communities.

³ USDOT. Justice40 Initiative. <https://www.transportation.gov/equity-Justice40>

⁴ USDOT. 2023. ETC Explorer. Justice40 Initiative. <https://www.transportation.gov/priorities/equity/justice40/etc-explorer>

Figure 4: Existing Bicycle and Pedestrian Facilities and Justice40 Areas



PLANNED IMPROVEMENTS

While bike and pedestrian facilities exist in the GSATS study area, there are opportunities to strengthen connectivity within individual communities and throughout the region. The planning and design of bike and pedestrian infrastructure should build upon the existing networks and fill gaps in the network to attract new users. In many cases, the planned facilities not only provide active transportation corridors within a single community but also connect to neighboring communities and contribute to an overall regional active transportation network.

Building upon the work that local governments within the GSATS region have completed to date is essential to build a connected bike and pedestrian network. Local communities recognize the importance of improving the quality and connectivity of walking and biking facilities for both transportation and recreation.

Numerous planning efforts have been completed by GSATS member governments, laying the foundation for what is to come. Each of these planning efforts received feedback from their respective communities and developed strategies based upon the goals and desires of the public. In addition, communities formed bicycle and pedestrian committees that act as local champions for new facilities and network enhancements. Planning documents should continue to be living documents that are updated regularly to ensure that the planned facilities will meet community needs, increase safety, and improve accessibility for community members.

The plans included in **Table 1** indicate the existing plans and their respective projects that affect the GSATS bicycle and pedestrian networks, per the plans' latest versions. Some of these plans affect the whole of Brunswick, Georgetown, or Horry County, although only portions of these counties are within the GSATS planning area. The proposed bicycle and pedestrian facilities, as data is available, are mapped in **Figure 5**. Some of the recommended facilities outlined in the existing plans are included in the map, such as the East Coast Greenway multi-purpose trails, and the previous GSATS 2040 MTP. Data was also derived from the NCDOT PBIN, specifically the Ocean Isle Beach Bicycle and Pedestrian Plan for the projects within the North Carolina boundary.⁵ The projects recommended in the existing plans detailed in the following sections contribute to overall improvements in the GSATS region.

⁵ Ocean Isle Beach Bicycle and Pedestrian Plan (2014), <https://walkbikeoceanisle.weebly.com/plan-download.html>

Table 1: Plans from GSATS area with walkway and bikeway recommendations
















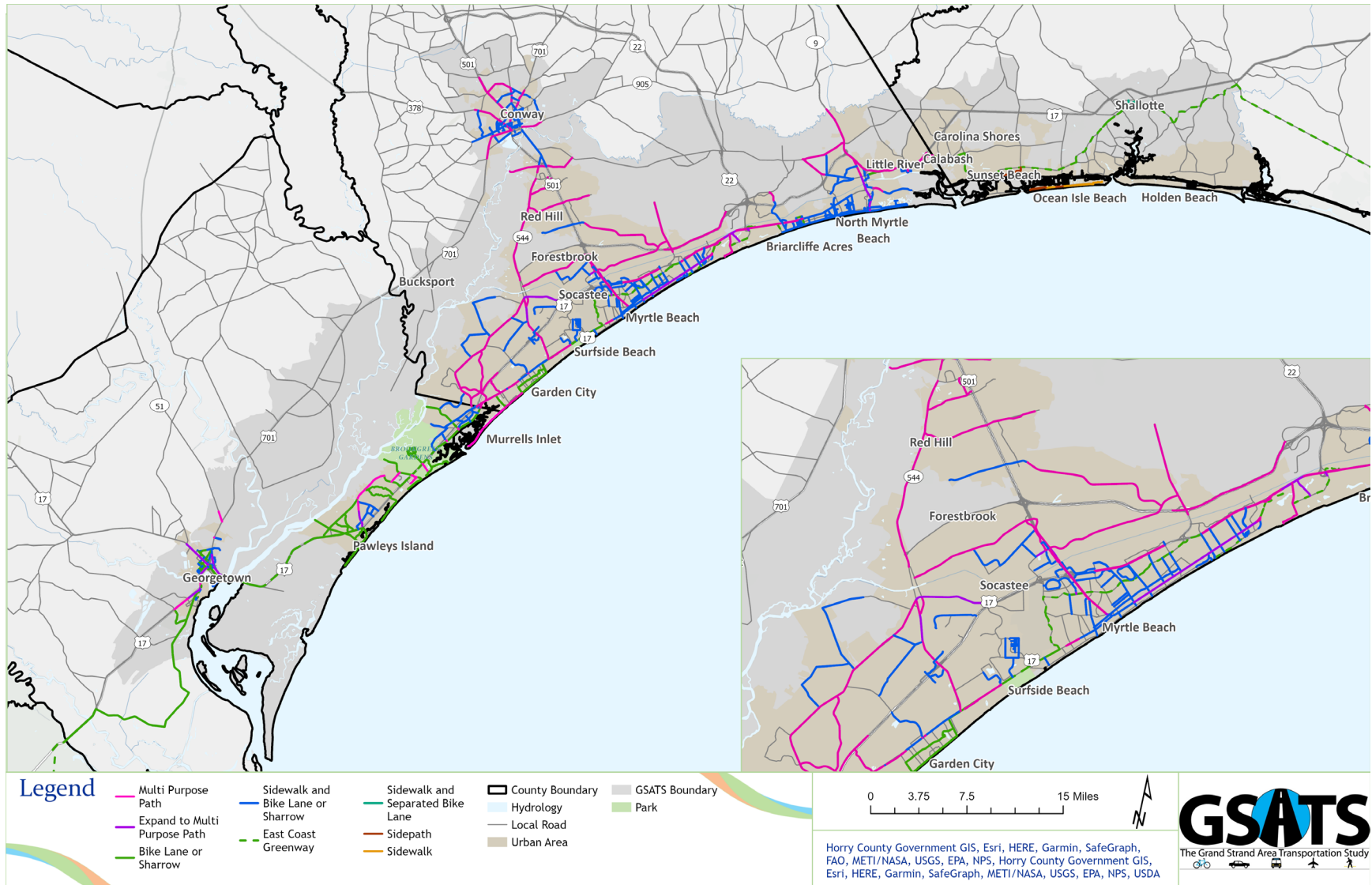
Plan	Jurisdiction	Year of Publication	Modes Affected
Multiple Counties			
GSATS 2040 Long Range Transportation Plan	Horry, Georgetown, Brunswick Counties	2017, update in progress	
East Coast Greenway Master Plan: Horry and Georgetown Counties	Horry and Georgetown County	2003, 2018 updated	
Brunswick County			
Brunswick County CTP	Countywide	2023	
Georgetown County			
Georgetown County US 17 Corridor Study	Countywide	2020	
Georgetown County Bike Paths/Primary Sidewalks and Trails Master Plan	Countywide	2020	
Georgetown County Comprehensive Plan Transportation Element	Countywide	2023	
Horry County			
Conway Pathways and Trails Plan	City of Conway	2022	
City of Conway CTP	City of Conway	2022	
Myrtle Beach Bicycle and Pedestrian Master Plan	City of Myrtle Beach	2018	
North Myrtle Beach Comprehensive Plan	City of North Myrtle Beach	2018	
Atlantic Beach Comprehensive Plan Transportation Element	City of Atlantic Beach	2017	
Burgess Bike and Pedestrian Plan	Burgess Community	2015	
Horry County Bicycle and Pedestrian Plan	Carolina Forest	2013	
North Myrtle Beach Northeast Area Transportation Plan	City of North Myrtle Beach	2009	
Town of Surfside Beach Comprehensive Plan	Town of Surfside Beach	2013, update in progress	

Figure 5: Proposed Bicycle and Pedestrian Facilities



GSATS 2040 Long Range Transportation Plan (2017)

The GSATS 2040 Long Range Transportation Plan is the most recent Metropolitan Transportation Plan (MTP) for the Grand Strand area, which this current planning document updates. The MTP provides a focused and systematic plan for transportation development in the Grand Strand Area, covering four main categories of transportation: roadway improvements, biking and walking, public transportation, and regional mobility.

The proposed projects from the 2040 MTP that involve pedestrian walkways or bikeways are outlined in **Table 2**. One of the funding sources is the Road Improvement and Development Effort (RIDE) program initiated to address transportation infrastructure needs in Horry County. The third phase of the program (RIDE III) was funded by a One-Cent Capital Projects Sales Tax, which is applied to retail sales and restaurants. In addition to the local RIDE III funding source, other public and private funding sources can be used, which are indicated in **Table 2** as ‘Non-Traditional.’ Twenty-five projects were proposed in the 2040 LRTP, either countywide or at the city level. The costs provided in the table are total roadway project costs, which includes bicycle and pedestrian project costs.

Table 2: GSATS 2040 Long Range Transportation Plan

Project ID	Location	Description	Potential Funding Source	Total Cost Est. (millions)
Horry County				
40	Hwy 17 Bypass & Hwy 544	Interchange and intersection improvements at Hwy 17 Bypass & Hwy 544 interchange from Beaver Run Blvd to South Strand Commons including bike/ped facilities	TBD	\$10.0
41	Hwy 501 Corridor	Extend Middle Ridge Ave to E from Myrtle Ridge Dr to West Perry Rd and W from Walmart to Singleton Ridge Rd, including bike/ped facilities and transit potential (<i>currently underway</i>)	RIDE III, Non-Traditional	\$9.0
42	SC 9	Access management improvements from SC 56 to US 17 interchange including plantable median between intersections and bike/ped facilities	TBD	\$2.0
43	Tournament Blvd	Improve Tournament Blvd between McDowell Shortcut and Hwy 17 Bypass, including bike/ped facilities and intersection improvements at McDowell Shortcut	TBD	\$11.3

Project ID	Location	Description	Potential Funding Source	Total Cost Est. (millions)
45	Garden City Connector	Widen Garden City Connector to include turn lanes at major intersections and construct multi-use path	TBD	\$5.0
46	Big Block Rd	Widen and realign Big Block Rd and include bike/ped facilities	Developer Participation	\$5.8
47	SC 90	Widen SC 90 from 17 to Robert Edge Pkwy Intersection with bike/ped facilities	TBD	\$15.6
48	Sea Mountain Hwy	Include bike and ped amenities at Sea Mountain Hwy (SC 9 to Intracoastal waterway bridge)	TBD	\$3.1
50	SC 57	Widen SC 57 from SC 90 to SC 9 with bike/ped amenities	TBD	\$13.5
51	River Oaks Drive	Widen River Oaks Dr including turn lanes at major intersections and construct multi-use path	Non-traditional	\$21.4
53	Forestbrook Rd	Widen Forestbrook Rd including turn lanes at major intersections and add multi-use path(<i>currently in land acquiring phase</i>)	RIDE III	\$89.1
55	Scipio Lane	Scipio Lane extension from Holmestown Rd to Big Block Rd with multi-use path	Non-Traditional	\$6.9
56	SC 179	Improve and widen 179 from US 17 to NC 179 to multilane facility with multi-use path	GSATS	\$3.7
58	Singleton Ridge Rd	Widen Singleton Ridge Rd from US 501 to SC 544 with multi-use path in Conway	FHWA, SCDOT	\$10.0
60	Postal Way extension to Atlantic Center	Extend Postal Way N to Atlantic Center, including bike/ped facilities with transit potential	TBD	\$3.8
61	SC 90	Widen SC 90 from SC 22 to International Dr, including bike/ped facilities	Non-traditional	\$29.3
62	SC 90	Widen SC 90 from International Dr to US 501 including bike/ped facilities	Non-traditional	\$34.8
63	US 17 and US 17 Business Connector	Connector between US 17 Bypass and US 17 Business in Garden City N of the Garden City Connector and S of Glens Bay Rd, including bike/ped facilities	Developer Participation	\$10.0
64	Mt. Zion Rd	Include bike/ped facilities at Mt Zion Rd (SC 90 to SC 57)	TBD	\$3.5

Project ID	Location	Description	Potential Funding Source	Total Cost Est. (millions)
122	Fred Nash Blvd extension	New connection to extend Fred Nash Blvd to Harrelson Blvd, includes bicycle facilities	RIDE III (has been funded)	\$19.3
City of North Myrtle Beach				
74	Little River Neck Rd	Widen Little River Neck Rd with multi-use path in North Myrtle Beach and construct roundabout N of Hill St	GSATS	\$12.0
75	Champions Blvd Connector	New road connecting Water Tower Rd and Long Bay Rd, with multi-use path connecting to Water Lilly and Water Tower Rd	GSATS with Developer Participation	\$8.0
76	Sandridge Road Extension	Extend Sandridge Rd/Old Sanders Dr to Bourne Trail all the way to Long Bay Rd, with dedicated bike lanes	GSATS with Developer Participation	\$13.0
98	2 nd Ave N	Widen 2 nd Ave N with bike lane and multi-use path	GSATS	\$3.0
99	Champions Blvd	New Pkwy between Long Bay Rd and Champions Blvd as 2 lanes divided with multi-use path on 5 lane ROW	GSATS with Developer Participation	\$7.5
City of Myrtle Beach				
79	Kings Hwy	Improve Kings Hwy from 67 th Ave N (NB) to 28 th Ave S (NMB) with bike/ped/transit improvements	GSATS/Non-traditional	\$10.4
80	Kings Hwy	Improve Kings Hwy from 31 st N to 67 th Ave N with bike/ped/transit improvements	GSATS/Non-traditional	\$10.4
81	Kings Hwy	Improve Kings Hwy from Farrow Pkwy to 31 st N with Bike/ped/transit improvements	GSATS/Non-traditional	\$10.4
82	8 th Ave N	Improve alignment of 8 th Ave N from N Kings Hwy to Broadway including bike/ped facilities and turning pockets	GSATS	\$1.1
84	B&C Blvd	Widen B&C Blvd from R Grissom Pkwy to Oak St with ped/bike/transit improvements	Developer Participation	\$5.0
86	Broadway Street	Improve alignment of Broadway from Hwy 501 to 9 th Ave N including bike/ped facilities and turning pockets	TBD	\$1.1
87	US 17 Bypass	Widen US 17 Bypass from Back Gate Bridge to Harrelson Blvd with sidewalk	TBD	\$13.2

Project ID	Location	Description	Potential Funding Source	Total Cost Est. (millions)
90	Seaboard St	Widen Seaboard St between US 501 and Mr. Joe White Ave in Myrtle Beach including bike/ped improvements	GSATS	\$8.0
91	38 th Ave N	Widen 28 th Ave N from Robert Grissom Pkwy to N Kings Hwy with bike lane and sidewalk	TBD	\$3.2
92	29 th Ave N	Widen 29 th Ave N from Robert Grissom Pkwy to N Kings Hwy with sidewalk (limit to Oak St)	TBD	\$3.6
96	9 th Ave N	Improve alignment of 9 th Ave B from N Kings Hwy to Broadway include bike/ped facilities	GSATS/Non-traditional	\$2
Town of Calabash				
8	Beach Dr	Add multi-purpose path to NC 179	NCDOT SPOT	\$13.1
City of Conway				
13	Power St Extension	Extend Powell St from 1 st Ave to Marina Dr and install sidewalks in Conway	TBD	\$1.0

Other Pedestrian Walkway and Bikeway Plan Recommendations

The following tables provide active transportation project recommendations from the plans listed in **Table 1**. The reviewed plans below indicate individual projects based on areas of concern while others do not outline specific projects; rather, they outline overall goals for improvement and policy recommendations. Both types of recommendations are provided in the plans mentioned below. Similarly, some plans provide greater project detail than others, such as project costs and extents; this information is provided in the tables below as it appears in the corresponding plans. These plans' recommended projects that have since been completed are included in the existing facilities maps.

Table 3: East Coast Greenway Master Plan: Horry and Georgetown Counties

Location	Description of Improvement
Greenway Area 1	S along NC 179 to US 17
Greenway Area 2	Loop/connector route on E side of Carolina Bays Pkwy
Greenway Area 3	Trailhead proposed at Triangle Park
Greenway Area 4	Interim greenway route that weaves tail S from Willbrook Blvd on W side of US 17. Main route will move along Willbrook Blvd
Greenway Area 5	Connect pedestrian bridge to existing vehicular bridge across Waccamaw River to future Hobcaw Point Park (new trailhead)
Greenway Area 6	Trailhead proposed at Sampit River Park Boat landing. Trail will eventually loop back along US 17

Table 4: Brunswick County CTP

Bike/Ped Class	Project	From	To
Bike	Daws Creek Rd	NC 133	US 17
Bike	SR 1521 (Governors Rd SE)	End of Pavement	Dawsons Creek Rd
Multi-use	NC 133	WMPO boundary	NC 87
Multi-use	NC 87	NC 211	US 17
Multi-use	NC 211, R-5947	Sunset Harbor Rd	NC 906
Multi-use	NC 211, R-5021	Midway Rd	NC 87
Multi-use	NC 211 (North Howe St)	NC 87	9 th St
Multi-use	NC 211	US 17	Sunset Harbor Rd
Multi-use	NC 211	West Bay St	US 17
Bike	NC 906 (Midway Rd)	NC 211	Gilbert Rd
Bike	NC 906 (Midway Rd/Galloway Rd)	Gilbert Rd	US 17
Multi-use	SR 1115 (Stone Chimney Rd SE)	US 17	Sabbath Home Rd
Bike/ped	NC 130 (Whiteville Rd)	McMilly Rd	NC 179/Village Rd
Bike/ped	NC 130	Longwood Rd NW	US 17 Business
Bike/ped	NC 130 (Holden Beach Rd)	Smith Avenue	End of State Maintenance
Bike	US 17 Bus	NC 130	Holden Beach Rd
Bike	US 17 Bus	NC 130/Whiteville Rd	US 17
Multi-use	NC 179 Bus	US 17 Bus	Ocean Isle Beach Rd
Multi-use	NC 179 (Beach Drive SW)	SC State line	Old Georgetown
Multi-use	NC 130 (Whiteville Rd)	McMilly Rd	NC 179/Village
Multi-use	NC 179 (Old Georgetown Rd)	NC 904/Seaside Rd	NC 179 Bus/Beach Dr
Multi-use	NC 179 (Beach Dr SW)	NC 904/Seaside Rd	Ocean Isle Beach Rd
Multi-use	NC 904	NC 179/Beach Dr SW	W First St
Multi-use	179 Bus	NC 179	NC 904/Seaside Rd
Bike	US 17 (Ocean Hwy W)	Red Bug Rd	Royal Oak Rd
Bike	US 17	Old Ocean Hwy	Wilmington MPO Boundary
Bike	NE 58 th St	E Yacht Dr	E Beach Dr
Bike	E Oak Island Dr	Country Club Dr	NE 58 th St

Bike/Ped Class	Project	From	To
Bike	E Oak Island Dr	NC 906/N Middleton Ave	NC 133/Long Beach Rd
Ped	SR 1100 (Country Club Drive)	E Oak Island Dr	Throckmorton St
Bike/ped	SR 1190 (E Oak Island Dr)	NC 906/N Middleton Ave	NC 133/Long Beach Rd
Bike/ped	E Oak Island Dr	E Yacht Dr	NE 58 th St
Bike/ped	W Yacht Dr	Oak Island Dr	NC 133
Bike/ped	NE 46 th St	W Yacht Dr	E Beach Dr
Bike/ped	E Dolphin Dr	Dead end of 43 rd St	Dead end of 49 th St
Bike/ped	74 th St - Ocean Dr - Robert L Jones St	Oak Island Dr	NC 133
Bike/ped	Barbee Blvd	Elizabeth Dr	Ocean Dr
Bike/ped	Banes Bluff Dr Ext	Fish Factory Rd SE	South Scupper Run SE
Bike/ped	Fish Factory Rd	NC 133	Dead end S of O'Quinn Rd
Bike/ped	Country Club Dr	E Oak Dr	Intercoastal Waterway
Multi-use	NC 87	NC 211	US 17
Multi-use	Fifty Lakes Dr	NC 133/River Rd SE	NC 87
Multi-use	Eden Dr/Alton Lennon Rd	E Boiling Spring Rd	Fifty Lakes Dr
Bike	SR 1621 (Doshier Cut-Off)	NC 211	NC 87
Bike	NC 211 (Ferry Rd)	NC 211	Dead End (Fort Fisher)
Ped	J Swaine Blvd	NC 211	Viking Crest Lane
Ped	Robert Ruark Dr	NC 211	Forest Oak Dr
Ped	Owens St - Caswell Ave	NC 211	W 11 th St
Ped	SR 1209 (W 9 th St)	NC 211	Maple Ave
Ped	N Fodale Ave	NC 211	E Moore St
Ped	NC 211 (E Moore St)	E Moore St	Ferry Rd
Ped	Atlantic Ave	E George	E 8 th St
Ped	E West St	N Atlantic Ave	NC 211
Ped	Brunswick St	W West St	W Moore St
Multi-use	NC 179 Bus	NC 179	NC 904/Seaside Rd
Bike/ped	Bridgers Rd Extension	Bridgers Rd	US 17 Bus/Main St
Bike/ped	Main St/Bridger Rd Ext. Loop	US 17 Bus	Copas Rd SW
Ped	Wall St Ext	US 17B	Holden Beach Rd NW
Ped	Smith Ave	Arnold St	Shallotte Crossing Pkwy
Ped	White St, EB-6035	Smith Ave	Mulberry Park
Ped	US 17B (Main St)	S Willing Dr	NC 130
Bike/ped	NC 904 (Causeway Dr)	NC 179	Intercoastal Waterway
Bike/ped	Causeway Dr	Causeway Dr	W First St
Bike/ped	NC 904	NC 179/Beach Dr SW	W First St
Bike/ped	W Fourth St	Third St	Driftwood Dr
Bike/ped	2 nd St, EB-6034	High Point St	1 st St
Bike/ped	SR 1144 (W First St)	Second St	Highpoint St
Bike/ped	4 th St	2 nd St	Dead End
Multi-use	E Boiling Spring Rd	NC 87	Funston Rd

Bike/Ped Class	Project	From	To
Multi-use	Drayton Rd	Pine Lake Rd	Pine Rd
Multi-use	Drayton Rd Loop	E Boiling Spring Rd	E Boiling Spring Rd
Multi-use	Ash Rd/Grace Rd	E Boiling Spring Rd	Pine Rd
Ped	Cougar Rd	NC 87	E of Dix Rd
Multi-use	Virginia Dr/Dam Rd/W South Shore Dr	Sunset Dr	NC 87
Multi-use	Antenna Farm Rd	NC 87	NC 906/Midway Rd
Multi-use	W Ridge Rd	W 17 th Ave	End of Town limits
Bike	Ocean Blvd (SR 1116)	Dead end of town limit	Dead end of town limit
Multi-use	SR 1132 (Civietown Rd) - Turnpike Rd	Stone Chimney Rd	NC 130/Holden Beach
Bike	NC 906 (E F Middleton Blvd)	NC 211	E Yacht Dr
Bike	NC 133 (Long Beach Rd)	Old Long Beach Rd SE	Vanessa Dr
Bike	NC 133	NC 211	Intercoastal Waterway
Bike	Caswell Beach Rd	NC 133	End of Caswell Beach Rd
Bike/ped	NC 904 (Longwood Rd NW)	US 17	Etheridge Rd
Bike/ped	NC 904 (Seaside Rd)	US 17	NC 179
Ped	Winston Salem St	E 4 th St	E 1 st St
Ped	W 3 rd St	NC 904 (Causeway Dr)	W Fourth St
Ped	Troy St	W 3 rd St	W 1 st St
Ped	W 1 st St	NC 906	Concord St
Multi-use	Shallotte Blvd	E 2 nd St	Ferry Landing Park
Multi-use	NC 130	Shell Point Rd	Shallotte Crossing Pkwy
Multi-use	NC 130 (Holden Beach Rd)	Smith Ave	End of State Maintenance
Ped	US 17 Bus (Old Ocean Hwy)	US 17	Gilbert Rd

* Cost data unavailable for these projects

Table 5: Georgetown County US 17 Corridor Study

Proposed Projects
Establish mixed use requirements for Planned Unit Developments (transit and pedestrian network)
Provide incentives for pedestrian & transit-oriented development in activity centers
Include multi-use path separated from roadway by a buffer area on east side of US 17
Recognize existing pedestrian activity areas and install streetscape elements along US 17 at SC 707, Willbrook Blvd, Litchfield Dr, and N Causeway Rd
Monitor future pedestrian activity areas and install streetscape elements at Wachesaw Rd, Sandy Island Rd, MLK Rd, and S Causeway Rd
Coordinate with development of East Coast Greenway regional bike routes
Install multi-use path or bike lanes/sidewalk east of US 17 on N and S Causeway, Litchfield Rd, Kings River Rd from US 17 to Willbrook Blvd, Kings River Rd extension from Willbrook Blvd to Sandy Island Rd, Waverly Rd from US 17 to Kings River Rd, Petigru Rd from MLK Jr. Rd to Waverly Rd, Old Kings Hwy from SC 707 to new connection to Wesley Rd near Turntable Rd, Wesley Rd from Old Kings Hwy connection to US 17
Create signed bike routes with “share the road” signage such as Parkersville Rd, Library Rd, Myrtle Ave, and Pendergrass Ave
Install multi-use path along SC 707 and Wachesaw Rd from Old Kings Hwy to US 17
Install pedestrian crossing phases at all US 17 signalized intersections

Table 6: Georgetown County Bike Paths/Primary Sidewalks and Trails Master Plan

Project #	Project Type	Location	From	To	Tier
A1	Multi-purpose path	Waverly Rd	Waccamaw Elementary School	Highway 17	1
A2	Sidewalk and bike lane	Petigru Rd	Tiller Dr (across from the proposed Mercom facility), across Waverly	Highway 17	2
A3	Sidewalk	Grate Ave	Petigru Rd west	County Recycling Center	2
A4	Sidewalk and bike lane	Martin Luther King Rd	Intersection with Waverly	Highway 17	1
A5	Sidewalk and bike lane	Petigru Rd	Tiller Dr (across from Mercom) north	Martin Luther King Rd	1
A6	Sidewalk and bike lane	Recreation Dr	(Off Petigru) to Parkersville Rd north	Martin Luther King Rd	2
A7	Multi-purpose path	Highway 17	South Causeway South	Hobcaw Barony	2
A8	Multi-purpose path	Kings River Rd	Waverly Dr	South through Hagley neighborhood	2
A9	Bike lanes	South Causeway	Highway 17	Town of Pawleys Island	1
A10	Bike lanes	North Causeway	Highway 17	Town of Pawleys Island	1
B1	Multi-purpose path	Santee Cooper powerline	Trace Dr	Boyle Dr	1

Project #	Project Type	Location	From	To	Tier
B2	Multi-purpose path	Providence Dr	Crooked Oak Dr	Behind church and stores to Country Club Dr	2
B3	Shared road	West along Hawthorne Dr	Through Litchfield Country Club	Kings River Rd	2
B4	Bike lane or shared road	Litchfield Dr	Highway 17	Sportsman Dr	1
C1	Multi-purpose path	Old Kings Rd	South to Roundabout at Wachesaw Rd	Back east on Wachesaw to Business 17	2
C2	Multi-purpose path	Wachesaw Rd	W	Wacca Wache Marina	2
C3	Multi-purpose path	Old Kings Rd	N from Wachesaw Park	Highway 707 (Burgess Rd)	2
D1	Bike lanes or shared road	Highway 17 S or South Island Rd S	Continue East Coast Greenway	Georgetown Charleston County Line	3
D2	Bike lanes or shared road	Plantersville Rd	Plantersville store at Plantersville Rd and Highway 701	Northern intersection at 701	3

Table 7: Georgetown County Comprehensive Plan Transportation Element

Location	Description	Plan
Grate Ave	Install a sidewalk from Petigru Rd to the County Recycling Center	Bike Path, Sidewalk, and Trail Master Plan
Greentown Sidewalks	Add additional sidewalks along McDonald Rd and construct sidewalks on Greentown Rd and connecting roadways to provide safe access to McDonald Elementary School.	New
Highway 17 (S Causeway to Hobcaw Barony) - East Coast Greenway	Construct multipurpose path along Highway 17 ROW or adjacent powerline easements	East Coast Greenway Master Plan
Highway 17 or South Island Rd to Charleston County Rd - East Coast Greenway	Multipurpose path, bike lanes or shared road improvements to complete the southernmost portion of East Coast Greenway in the County	East Coast Greenway Master Plan
Inlet to Intracoastal Ph 2	Construct multipurpose path along Old Kings Highway from Riverwood Dr to Wachesaw Rd	I2I Plan
Inlet to Intracoastal Ph 3	Construct multipurpose path along entire length of Wachesaw Rd	I2I Plan
Journeys End Rd	Construct multipurpose path along Journeys End Rd, connecting from Wachesaw Rd to Prince Creek Pkwy	Burgess Bicycle and Pedestrian Plan
Kings River Rd (Blue Stem Dr to Highway 17)	Install multipurpose path from Blue Stem Dr to Highway 17	East Coast Greenway Master Plan



Location	Description	Plan
Kings River Rd (Waverly Rd to Blue Stem Dr)	Extend multipurpose path from Waverly Rd to Blue Stem Dr, connecting to Waccamaw High School	East Coast Greenway Master Plan
Litchfield Dr	Bike lanes from Highway 17 to Sportsman Dr	Bike Path, Sidewalk, and Trail Master Plan
Martin Luther King Rd	Construct multipurpose path or sidewalk with bike lanes from Highway 17 to Waverly Rd	Bike Path, Sidewalk, and Trail Master Plan
N Causeway	Install bike lanes from Highway 17 to Town of Pawleys Island	Bike Path, Sidewalk, and Trail Master Plan
Old Kings Highway	Multipurpose Path from Burgess Rd (Highway 707) to Wachesaw Park	Bike Path, Sidewalk, and Trail Master Plan
Petigru Dr	Construct multipurpose path or sidewalk with bike lanes from Martin Luther King Rd to Ocean Highway (Hwy 17)	Bike Path, Sidewalk, and Trail Master Plan
Plantersville Rd and Choppe Rd	Install multipurpose path along Plantersville Rd and Choppee Rd along the Plantersville Scenic Byway	Bike Path, Sidewalk, and Trail Master Plan
Providence Dr to Country Club Sr	Install multipurpose path along powerline easement, connecting to existing multipurpose path in Litchfield	Bike Path, Sidewalk, and Trail Master Plan
Recreation Dr to Parkersville Rd	Install a sidewalk with bike lanes to connect to the Waccamaw Recreation Center	Bike Path, Sidewalk, and Trail Master Plan
S Causeway	Install bike lanes from Highway 17 to Town of Pawleys Island	Bike Path, Sidewalk, and Trail Master Plan
Waverly Rd - East Coast Greenway	Install a multipurpose path along full length of Waverly Rd	East Coast Greenway Master Plan



Table 8: Conway Pathways and Trails Plan

Tier	Pathway & Trail Corridor	Length (miles)	Cost (\$ million)
1	Main St. to Crabtree Swamp Trail	1.8	\$1 - 3.6
1	Loris to Myrtle Beach Trail (with 12 th to Main Connector)	8.0	\$4.2 - 16
1	River Park Look West Spur and Cox Ferry Lake Connector	3.6	\$1.9 - 7.2
1	Lake Busbee and Ash Pond 2 Circuit / Riverwalk Ext.	6.2	\$3.3 - 12.4
1	Church St - Rec Loop East Spur	2.6	\$1.4 - 5.2
1	9 th Ave / Boulevard Improvements (Church to Main)	0.7	\$0.4 - 1.4
1	4 th Ave (Church to Main)	0.7	\$0.4 - 1.4
1	16 th Ave / Collins Park Connector (Church to Sherwood Park)	1.5	\$0.8 - 3
1	Crabtree Swamp Trail	3.6	\$1.9 - 7.2
1	Outer Belt - Perimeter Road Segment	2.8	\$1.5 - 5.6
1	Outer Belt - Cultra Road to Hwy 378 Segment	4.0	\$2.1 - 8
1	Outer Belt - Perimeter Road to Lake Segment	0.9	\$0.5 - 1.8
2	Homewood Connector	1.0	\$0.5 - 2
2	Chestnut Bay Loop and Collins Jolly Spur	9.1	\$4.8 - 18.2
2	Campus Loop Connector	2.2	\$1.3 - 4.8
2	4 th Ave to Outer Belt	2.2	\$1.2 - 4.4
2	Rec Loop West Spur and Outer Belt Connector	2.4	\$1.3 - 4.8
2	Dunn Short Cut Road to Crabtree Swamp Trail/ Oakey Swamp	0.9	\$0.5 - 1.8
County Wide	Crabtree Swamp to 501	3.3	\$1.7 - 6.6
County Wide	Homewood to Aynor	15+	\$0.5 - 1.3/mile
County Wide	Loris to Myrtle Beach Rail with Trail	18.5	\$0.5 - 1.2/mile
County Wide	Wildlife Refuge Trail	22.4	\$0.5 - 0.5/mile
County Wide	Waccamaw River Crossing - Bike/Ped Ferry with Landings	0.71	\$1.3 - 3
County Wide	Waccamaw River Crossing - Pedestrian Bridge	0.71	\$5 - 7

Table 9: City of Conway CTP

Location	Description of Improvement
Powell Street Extension	Extend Powell Street from 1 st Ave to Marina Drive and install sidewalks
Cultra Road	Widen Cultra Road from Church to Main Street with center median and multi-use path

Table 10: Myrtle Beach Bicycle and Pedestrian Master Plan

Project	Description
Improve Kings Hwy with continuous and consistent bicycle and pedestrian facilities	Conduct traffic study to determine feasibility of reducing number of lanes on Kings Hwy and utilize excess ROW for wider sidewalks, bike lanes, landscaping, and on-street parking
	Reduce speed limits to between 15-25 mph
	Construct a 10' wide multipurpose path along the east side between Ocean Blvd and 17 th Ave S.
	Reduce travel lanes to 11' and install 5' bike lanes in both directions between Ocean Blvd/Farrow Pkwy and Cove Dr.
	At intersection of Farrow Pkwy/Ocean Blvd/Kings Hwy, upgrade existing crosswalks to stamped asphalt or colored concrete sidewalks
	Fill in all sidewalk gaps between 17 th Ave S and 67 th Ave N.
	Install high-visibility crosswalks and an on-demand pedestrian-only signal cycle on all four sides of the 8 th Ave N intersection
	As the Burroughs and Chapin Pavilion Place redevelops, provide shade trees along Kings Hwy sidewalk
	Expand existing sidewalk to a 10' multipurpose path along the east side between 31 st Ave N and Cove Dr.
	Expand existing sidewalk to a 10' multipurpose path along the west side between 67 th Ave N and Cove Dr.
	Consolidate curb cuts when installing sidewalks
	Between 31 st Ave N and 67 th Ave N install 8' landscape buffers along both sides between the sidewalk/multipurpose path and roadway
Reconfigure Broadway St between Hwy 501 and Mr. Joe White Ave to include continuous and consistent bicycle and pedestrian facilities	Reduce lanes to two, providing additional parking areas and plenty of space for extending the sidewalk down the east side of Broadway St and adding bicycle lanes
Reconfigure Oak St/Pine Lakes Dr to include continuous and consistent protected bike lanes and pedestrian facilities	Install sidewalk on east side between 21 st Ave N and 38 th Ave N
	Install high visibility crosswalks in all four directions at all intersections between 31 st Ave N and 37 th Ave N to accommodate children walking to school
Make improvements to Hwy 15	Widen existing 3' sidewalk to a 10' multi-purpose path to connect with ECG at Harrelson Blvd.
	Lower speed limit to 25 mph
	Install high visibility crosswalks at Rosehaven Dr, Session St, Ellington St, Horn St, Kirkley St, Adams St, Dew St, Patrick St, Mobile St, Pinegrove Dr, Owen St, Page St, Pine Dr, Park Dr, Cannon Rd, and Owens Dr to alert drivers to increased pedestrian activity and allow people to cross safely to multipurpose paths
	Install high visibility crosswalks across at 17 th Ave, Periwinkle Pl, Pridgen Rd, 9 th Ave S, 5 th Ave S, and Boundary St, and ahead of each stop sign install a pedestrian crossing sign to facilitate safe travels along the multi-purpose path



Project	Description
	Program a pedestrian-only cycle into the traffic light at Pine Island Rd to be activated when the pedestrian button is pushed.
Reconfigure Seaboard St to include continuous and consistent bicycle and pedestrian facilities.	Install a high visibility crosswalk at the intersection of 21st Ave N.
	Install a multipurpose path along both sides between 21st Ave N and Mr. Joe White Ave to accommodate workers coming to the area and shoppers trying to walk from one establishment to another across the road
	Install high visibility crosswalks at Commons Ave.
	Install high visibility crosswalks at the Seaboard St intersection with the “frontage road” between Pier One and Sonic
	Add pedestrian signals to accommodate the three crossing movements at the intersection with Mr. Joe White Ave where there is currently only one signalized pedestrian movement, on the east side of the intersection crossing Mr. Joe White Ave. and add activated pedestrian signal
	Install bike lanes and sidewalks along both sides between Mr. Joe White Ave and Hwy 501.
	Install a sidewalk along the west side between Hwy 501 and Oak Forest Ln - a sidewalk already exists on the east side.
	Install sidewalks along both sides between Oak Forest Ln and Pine Island Rd to continue existing sidewalks south of Pine Island Rd.
	Install bike lanes along both sides between Hwy 501 and Pine Island Rd, to continue existing bike lanes south of Pine Island Rd.
	Install high visibility crosswalks and pedestrian signals in all four directions at the intersection of Hwy 501 and activated pedestrian signal
Install a continuous and consistent multipurpose path along Hwy 17 Bypass.	<i>No additional description provided.</i>
Make improvements to 79th Ave N	Fill in the sidewalk gaps along both sides between Beach Dr and Hwy 17 Bypass.
	Add crosswalks and pedestrian signals to the three crossings and activated pedestrian signal
	Install consistent pedestrian signals in all four directions at Hwy 17 Bypass and activated pedestrian signal
Make improvements to 62nd Ave N	Install a protected intersection per NACTO Guidelines at the intersection of 62nd Ave N and Hwy 17 Bypass.
	Install sidewalks and crosswalks along the south side between Ocean Blvd and Epps Dr.
	Install a sidewalk along the south side between Hwy 17 Bypass and Epps Dr.
	Install a fourth crosswalk and signals to accommodate pedestrian movement in all 4 directions, at the intersection of Kings Hwy, and activated pedestrian signal
	Install high visibility crosswalks in all four directions at Calhoun Rd.

Project	Description
	Install a sidewalk along the north side between Frontage Rd and Hwy 17 Bypass. Install high visibility crosswalks in all four directions at the Frontage Rd.
Make improvements to 48th Ave N	Install sidewalks where lacking along both sides of Kings Hwy and Ocean Blvd, 47th and 48th Ave N to continue existing sidewalks At Kings Hwy, install pedestrian signals and activated pedestrian signal Install a ½-block sidewalk along the south side between Kings Hwy and Pine Lakes Dr to match up with the partial sidewalk that already exists. Install a sidewalk along the north side between Kings Hwy and Robert Grissom Pkwy Install sidewalks along both sides between Robert Grissom Pkwy and Hwy 17 Bypass Install a sidewalk along the north side between Hwy 17 Bypass and Wild Iris Dr Install high visibility crosswalks and activated pedestrian signals in all four directions at the intersection of Hwy 17 Bypass.
Improve 38th Ave N to include	Installing continuous and consistent bike lanes and sidewalks between Robert Grissom Pkwy and N Kings Hwy Installing a high-visibility crosswalk on the south side of the intersection with Ocean Blvd. Installing sidewalks or “walk lanes” on both sides between Kings Hwy and Ocean Blvd. Installing activated pedestrian signals and buttons on all four corners, and leading in all four directions, at the intersection of Kings Hwy. Install pedestrian signals and buttons on all four corners, and leading in all four directions, at the intersection of Oak St/Pine Lakes Dr Add high visibility crosswalks in all four directions at the intersection of Hwy 17 Bypass. Install activated pedestrian signals in all four directions Extend bike lanes across Hwy 17 Bypass onto Arundel Rd, with a ramped connection to the multipurpose path on Wild Iris Dr.
Install sidewalks along both sides of 37th Ave N, 36th Ave N, 35th Ave N, 34th Ave N, 33rd Ave N, 32nd Ave N, and 31st Ave N between Kings Hwy and the school complex	<p><i>No additional description provided.</i></p>
Reconfigure 29th Ave N to include continuous and consistent bike lanes and sidewalks.	Add activated pedestrian signals that cross 29th Ave N Program an activated pedestrian-only cycle at the intersection of Hwy 17 Bypass Fill in the sidewalk gaps along both sides between Ocean Blvd and Kings Hwy.

Project	Description
	<p>Install a sidewalk along the south side between Kings Hwy and Robert Grissom Pkwy</p> <p>Add an additional two crosswalks at Oak St and the activated pedestrian signals to accommodate them</p> <p>Add an additional two crosswalks at Resort Dr and the activated pedestrian signals to accommodate them</p>
Reconfigure 21st Ave N.	<p>Install sidewalks and bike lanes or sharrows along both sides of 21st Ave N Ext.</p> <p>Add sharrows between Kings Hwy and Ocean Blvd.</p> <p>Install protected intersections between Kings Hwy and Hwy 17 Bypass.</p> <p>Install protected bike lanes between Kings Hwy and Hwy 17 Bypass.</p> <p>Add a pedestrian-only cycle, activated by the push of a button, with diagonal crosswalks, at the Oak St intersection.</p> <p>Add a pedestrian-only cycle, activated by the push of a button, at the intersection of Hwy 17 Bypass.</p>
Make improvements to Mr. Joe White Ave	<p>Install sharrows between Kings Hwy and Ocean Blvd to accommodate cyclists traveling through the bike lanes that are west of Kings Hwy.</p> <p>Add bike lanes between Seaboard St and the end of Mr. Joe White Ave near the Intracoastal Waterway</p> <p>Add diagonal crosswalks and a pedestrian only cycle to the intersection of Ocean Blvd.</p> <p>At the intersection with Oak St, pedestrian signals are only currently in position to cross Oak St. Add pedestrian signals across Mr. Joe White Ave</p> <p>Install pedestrian signals at intersection with Seaboard St and Mr. Joe White Ave</p>
Make improvements to 9th Ave N	<p>Reconfigure the entire length of 9th Ave N with continuous and consistent bicycle and pedestrian facilities. Include a reconfigured intersection of 9th Ave N/Broadway St/Oak St that safely accommodates all modes of transportation.</p> <p>Conduct a traffic study to determine the feasibility of closing 9th Ave N between Kings Hwy and Broadway St, and reconfiguring the right-of-way as a pedestrian plaza</p> <p>Install high visibility crosswalks at the intersection of 9th Ave N and Ocean Blvd</p>
Install a multipurpose “Rails-To-Trails” or “Rails with Trails” within the railroad right-of-way between Broadway St and the Intracoastal Waterway.	<p><i>No additional description provided.</i></p>

Project	Description
Advocate for a multi-purpose path to parallel the Hwy 501 bridge that crosses the Intracoastal Waterway to improve pedestrian and bicycle safety.	<i>No additional description provided.</i>
Make improvements to 8th Ave N	Reconfigure 8th Ave N from Kings Hwy to Broadway St to include continuous and consistent bicycle and pedestrian facilities.
	Conduct a traffic study to determine the feasibility of closing 8th Ave N between Kings Hwy and Oak St and reconfiguring the right-of-way as a pedestrian plaza.
Make improvements to Hwy 501	Reprogram the signal at the intersection with Robert Grissom Pkwy to include activated only pedestrian signal
	Install activated pedestrian signal at Canal St, Cedar St, Balsam St, and Alder St
	Install activated pedestrian signal at Cedar St
	Realign Hwy 501 with 7th Ave N between Broadway St and Kings Hwy, to include continuous and consistent bicycle and pedestrian facilities.
	Reconfigure Main St and its intersections with Oak St, 8th Ave N and Kings Hwy, upon completion of realignment, to prioritize pedestrian activity,
	Create south end connectivity along the avenues between Kings Hwy and Ocean Blvd.
Make Improvements to 3rd Ave S	Install sharrows in both directions between Kings Hwy and Ocean Blvd to accommodate cyclists coming from and going to the bike lanes west of Kings Hwy.
	Reconfigure the intersection with Hwy 501 so that pedestrians do not find themselves stranded on a “merge island” with free-flowing traffic between them and the sidewalk. Add activated pedestrian signal
	Remove the fence along the Woodland Path and install a bicycle and pedestrian only connection between the Woodland Path and Moonlight Dr

Table 11: North Myrtle Beach Comprehensive Plan

Project	From	To	Description	Cost (\$ million)
Champions Blvd Ext.	Current Terminus	Long Bay Rd	New West of Waterway Pkwy; 2 lanes divided with multi-use path on 5 lane ROW	\$7.5
Champions Blvd Ext.	Long Bay Rd	Water Tower Rd	New connecting road with multi-use path connecting Waterlily to Watertower Rd	\$8.0
Little River Neck Rd	Full extent		Widen Little River Neck Rd to 3 lanes with multi-use path	\$12.0
2 nd Ave N	Full extent		Widening to 3 lanes, with bike lane, and multi-use path	\$3.0
Sidewalk/Bicycle Path	Citywide		<i>No additional description provided.</i>	\$0.2/year

Table 12: Atlantic Beach Comprehensive Plan Transportation Element

Project	Description
US 17	Buffer pedestrian walkway from roadway
30 th Ave South	Elevated Boardwalk along main street

Table 13: Burgess Bike and Pedestrian Plan

Project	Description	Length
Bay Road Phase I	5' sidewalk on N side of Bay from Hwy 707 to Grand Oak Blvd. Connect Grand Oak Blvd sidewalks to Bay Rd	4,447 ft
Bay Road Phase I	Sidewalk from Grand Oak Blvd to Enterprise Landing N side of Bay, transitioning to S side at Henry Middleton Blvd. Ped signal and crosswalk at Henry Middleton Blvd	1.5 mi
Big Rock Road	5' sidewalk on S side of Big Block Rd between Hwy 707 and Hwy 544.	4,035 ft
Burgess Elementary Spur	10' multi-use path on N side of RoW connecting Scipio Ln to Burgess Elementary. Crosswalk and Ped signal at Scipio Ln.	2,950 ft
Cameron Village	Connecting existing sidewalk to new sidewalk on SC 707. Applies to Eaddy Ln and Merry Ln	317 ft
Collins Creek Trail Phase I	Trail and trailhead improvements. 10' multi-use path using Old-Murrells Inlet Rd meeting at sidewalk system on Hwy 707	4,880 ft
Enterprise Road Phase I	5' sidewalk. Ped bridge across creek on Waccatee property	2,500 ft
Enterprise Road Phase II	5' sidewalk from Hwy 707 to Butler Rd. 10' multi-use on Butler Rd to NW property corner of Socastee Park.	1.8 mi

Project	Description	Length
Freewoods Rd Phase I	5' sidewalk on W side of Freewoods from Bay Rd to Carolina Woods. 5' sidewalk on S of Bay from Baywood Cir to Freewoods Rd. Crosswalk and ped signs at Freewoods and Bay Rd, Schwartz Plant Rd, Rahnavard Blvd, Sunnehanna Dr, Seagull Landing Ct, Footy Dr, Avery Dr, Leadoff Dr, Southbury Dr, Carolina Woods Dr, Ascott Dr. Connect to sidewalks at The Diamond and Southbury subdivision	2.0 mi
Freewoods Rd Phase II	5' sidewalk on W side of Freewoods from Carolina Woods Dr to Red Cedar Ave. Crosswalk and ped signs at Salem Rd, St. Peters Church	2,625 ft
Holmestown Rd Phase I	10' multi-use path on S side of Holmestown from Hwy 707 to Scipio Ln. Ped signal and crosswalk at Scipio Ln, crosswalk and ped sign at Rutledge Ln, Edenborough Dr, Appian Way, Dave Carr Ct. Connect Edenborough Dr and Appian Way sidewalks	1.2 mi
Holmestown Rd Phase II	5' sidewalk on N side of Holmestown from Scipio Ln to Hwy 17 Bypass @ Glenss Bay sidewalk system. Crosswalk and ped sign @ Blue Jay Dr. Align with sidewalk in Glenss Bay	3,085 ft
Holestown Rd Phase III	5' sidewalk on S side of Holmestown from Scipio Ln to Hwy 7 Bypass @ Glenss Bay Sidewalk system. Crosswalk and ped sign @ Meyers Ln Ricks Industrial Park Dr.	2,525 ft
Hunters Grove Connection	Connect existing internal neighborhood sidewalk on N side of Hunters Grove Dr to proposed Prince Creek Pkwy sidewalk	TBD
Inlet Estates Connection	Connect existing internal neighborhood sidewalk to new sidewalk on SC 707. Apply to both sides of Hollady Dr	TBD
Longwood Dr	10' multi-use path on S side of Longwood Dr from Hwy 707 to Waterhall Dr. Crosswalks and ped sign S Blackmoor Dr intersections, Wilderness Ln, and Sunnyside Dr. Connect to Western Trail trailhead @ Blackmoor 10 th tee	3,365 ft
McDowell Shortcut Phase I	5' sidewalk on both sides of McDowell Shortcut from Hwy 707 to St James Dr. 5' sidewalk on St James Rd by both schools. Connect with planned Hwy 707 sidewalks. Ped signal and crosswalk installed on McDowell at St James Rd. Crosswalk and ped sign at all road crossings fronting schools	2,865 ft
McDowell Shortcut Phase II	5' sidewalk on both sides of McDowell Shortcut from St James Rd to Sebastian Dr. Crosswalk and ped sign at Southborough Ln.	765 ft
McDowell Shortcut Phase III	5' sidewalk on west side of McDowell shortcut from McDowell Shortcut Phase I signal at St James Rd to Deer Tree Dr. Ped bridge across Collins Creek. Crosswalk and ped sign @ McDowell and Daybreak Rd, Rosehall Dr, Pickering Dr, Molinia Dr, Stone Throw Dr. 5' sidewalk on east side of McDowell Shortcut between Muscari Dr and Stone Throw Dr. Ped signal and crosswalk at Stone Throw Dr and McDowell	1.9 mi 1,024 ft (Muscari-Deer Tree)
McDowell Shortcut Phase IV	5' sidewalk on west side of McDowell Shortcut from Stone Throw Dr to Tournament Blvd. Ped sign and crosswalk @ Ashbourn Dr, Vista Oaks Ct, Tournament Blvd	3,910 ft
McDowell Shortcut Phase V	5' sidewalk on west side of McDowell shortcut from Tournament Blvd to Hwy 707. Crosswalk and ped sign @ Carolina Dr	3,615 ft

Project	Description	Length
Prince Creek Pkwy	5' sidewalk on east side of Prince Creek Pkwy from SC 707 sidewalk to Hunters Grove Dr	1426 ft
Prince Creek Trail Phase I	Trailhead at terminus of West Creek Dr. and Wilderness Ln multi-use path. Look and connect to Prince Creek Trail Phase II. Complete existing sidewalk on West Creek Dr. Convert 10' multi-use path to current terminus of West Creek Dr	1.5 mi
Prince Creek Trail Phase II	Trailheads @ Blackmoor 10 th fairway and/or Prince Creek Park District. 1100 ft (Blackmoor TH), 1575 ft (Prince Creek TH)	3.0 mi
Salem Rd	5' sidewalk on north side of Salem Rd from Freewoods Rd to Hwy 707. 5' sidewalk on south side of Salem Rd from St James HS entrance to Hwy 707	1.0 mi
Scipio Ln Phase I	10' multi-use path on east side of Scipio from Holmestown Rd to existing entrance to S Strand Recreation Senter. Path connects to trail system at S Strand Recreation. Shift path out of Scipio RoW	3,380 ft
Scipio Ln Phase II	10' multi-use path to coincide with Scipio extension to N terminus. Connect to Big Block Rd (1.62 mi) or S Strand Commons (2.12 mi)	1.62 -2.12 mi
Socastee Park Connector	10' multi-use path from Tern Hall to Socastee Park through GSWSA and SCDOT Property	1.5 mi
Socastee Park Tr	Potential expansion of internal trail system (<i>TBD</i>) based on park expansion utilizing Hwy 31 buyout properties	<i>TBD</i>
Summer Lakes Connector	Connect existing internal neighborhood sidewalk to new sidewalk system on SC 707. Improvement on Eaddy Ln and Merry Ln	<i>TBD</i>
Tern Hall Connector	5' sidewalk from Hwy 707 to road terminus. Crosswalk and ped sign at Pintail Ct, Teal Ct, Pelican Lake Ct, Marsh Hawk Dr, Caspian Tern Dr	4,350 ft
Tournament Blvd Phase I	10' boardwalk multi-use path on south side from Hwy 707 to McDowell Shortcut. 5' sidewalk on N side former Hwy 707 to Founders Bay Rd. 5' sidewalk from Founders Bay Rd to Craven Swamp Dr. Crosswalks and ped sign @ Wynbrooke Blvd, Park West entrance, Leeward Ln, Keyes Cir, Wren St, Founders Bay Rd, Craven Swamp Dr. Crosswalk and ped sign across Tournament @ Parmelee, Int. Club	1.4 mi
Tournament Blvd Phase II	5' sidewalk on south side of Tournament from McDowell shortcut to Hwy 17 bypass	1,160 ft
Wilderness Ave Phase I	10' multi-use path on west side of Wilderness Ave from Longwood D to TPC Blvd. Crosswalk and ped sign at Marcliffe Dr. W, new entrance to Marcliffe West, Hidden Park Cir, Simplicity Dr, Creekhaven Dr, W Creek Dr	1.2 mi
Wilderness Ave Phase II	10' multi-use path on west side of Wilderness Ave from W Creek Dr to Western Trail trailhead past Chanted Dr	2,000 ft

Table 14: Horry County Bicycle and Pedestrian Plan

Section #	Description	Cost (\$Millions)
Section 1A and 1B	1A) Construct a 10' wide multi-use path from Carolina Forest elementary school to existing walking path at Quinn Rd. 10' wide multi-use path to connect existing sidewalk at Gateway Dr and Carolina Forest Blvd with Schoolhouse Rd to close sidewalk gap. 1B) 10' wide multi-use path from Railroad Crossing to Postal Way, between existing 5' sidewalk around Canterbury apartments.	1A) \$0.6 1B) \$0.3
Section 2	Extend existing path from Quinn Rd along N side of Carolina Forest Blvd to Stoney Falls Blvd. A part of the continuation of the 10' wide asphalt multi-use path along N side of Carolina Forest Blvd	\$0.8
Section 3A and 3B	3A) from Stafford Dr at Summerlyn to Willow Bend Dr at Bellegrove Preserve 3B) from Willow Bend Dr to River Oaks Dr with crosswalk at intersection of Carolina Forest Blvd and River Oaks Dr. Then a 5' wide sidewalk on N side of Carolina Forest Blvd to Forest Village Shopping Center	3A) \$1.7 3B) \$0.4
Section 4	From E side of Socastee Greenway crossing and Summerlyn	\$0.5
Section 5	Crossing at Socastee Greenway built along with Road Widening Project at Carolina Forest	\$1.5
Section 6	Sidewalks along both sides of Postal Way from intersection with Carolina Forest Blvd to current end of the development. Sidewalks along Renee Dr from Postal Way as well	\$0.2
Section 7	Multi-use path along S side of Gardner Lacy Rd between Postal Way and Reed Brook Dr	\$0.8
Section 8	Multi-use path to link Railroad Crossing at Carolina Forest Blvd and Gardner Lacy Rd	TBD

Sections 1-5 are complete

Table 15: North Myrtle Beach Northeast Area Transportation Plan

Route	Roadways Utilized	Facility Type	Length	Connection
Barefoot Neighborhood Loop	Barefoot Resort, Bridge Rd; Marsh Glen Dr, Club Course Dr	Signed bike route	1.03 mi	East Coast Greenway
Carolina Bays Loop	Water Tower Rd; Various collector streets SE of SC 90	Wide outside lane or paved shoulder	3.26 mi	East Coast Greenway
City connector	SC 90	Wide outside lane	2.75 mi	East Coast Greenway; Carolina Bays loop
Intracoastal Connector	New Intracoastal Parkway	Bike lane	1.04 mi	North Myrtle Beach Loop; Carolina Bays Loop
Little River Neck Spur	Little River Neck Road; Hill Street	Bike lane	0.96 mi	East Coast Greenway
Main Street Spur	Main Street Extension	Bike lane	0.53	North Myrtle Beach Loop
North Myrtle Beach School Loop	Sandridge Rd; Lincoln Heights Rd; Bonaire Lane	Multi-use path	1.76 mi	East Coast Greenway; Intracoastal Loop

EAST COAST GREENWAY

The East Coast Greenway is an urban trail system planned to link 25 major U.S. cities from Calais, Maine to Key West, Florida. The main spine of the trail will stretch 3,000 miles along the East Coast, with an additional 2,000 miles of alternate routes to provide connectivity to towns, cities, parks, and natural areas. The trail is designed to accommodate pedestrians, cyclists, and other non-motorized modes of transportation. The segments of the ECG that pass through the GSATS region are shown in **Figure 6**.

Each segment of the trail is master planned, designed, constructed, and maintained by local governments. The East Coast Greenway Master Plan for Horry and Georgetown Counties was developed in 2003, detailing a 90-mile route through both counties and many of their municipalities. According to the East Coast Greenway website, there are 59 miles of protected greenway in South Carolina out of a planned 256-mile spine route. Currently, the trail is a mix of on- and off-road facilities.

GSATS and its member governments support the implementation of the ECG; representatives from Myrtle Beach, North Myrtle Beach, Murrells Inlet, Horry County, and Waccamaw Regional Council of Governments (WRCOG) are active participants on the South Carolina ECG Steering Committee. Additionally, GSATS has dedicated 80% of their Transportation Alternatives Program (TAP) funds over approximately 20 years to realizing the ECG within the South Carolina portion of GSATS' study area.⁶ This commitment has resulted in implemented facilities along approximately 50% of the ECG alignment within Horry and Georgetown counties. Key accomplishments include the first ECG trailhead in South Carolina at the Horry County Bike and Run Park, another trailhead being developed by the City of Myrtle Beach just south of Market Common, and the completion of the entire greenway route within the municipal limits of the City of Myrtle Beach.

It is important to note that to receive the official designation as part of the ECG the constructed path must be separated from the roadway and be 10 feet in width to accommodate both bicyclists and pedestrians. In some instances, an 8-foot path may be accepted if physical constraints prevent a wider path. These design criteria directly impact project costs. While there are several segments of the route that are still routed along streets in South Carolina, the GSATS region has become a leader in developing the ECG per the required specifications.

Currently, there are not any completed sections of the ECG within the North Carolina portion of the GSATS region, and incomplete portions of the greenway are rerouted onto low-traffic roadways. Brunswick County in North Carolina was recently incorporated into the GSATS study area and will be included in the amendment to the existing ECG Master Plan for the region.

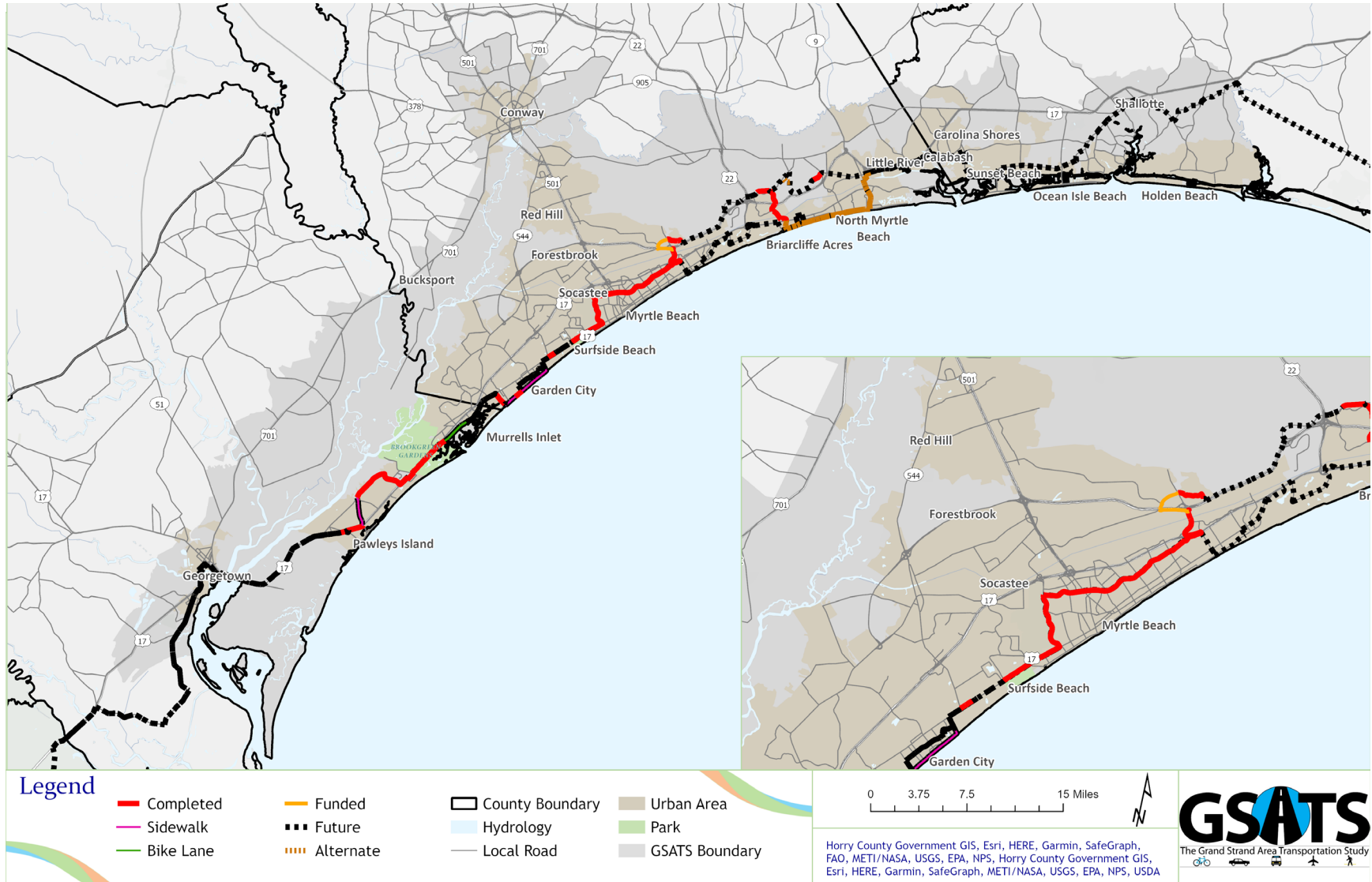
⁶ Under the FAST Act, adopted in 2016, TAP became a set-aside of the Surface Transportation Block Grant program, and this practice was continued through the BIL passed in 2021; however, most MPOs continue to refer to it as TAP.

The East Coast Greenway website reports that 28% of North Carolina’s 372-mile spine route is complete.⁷

While a conceptual alignment has been created within the GSATS region in North Carolina, GSATS has not adopted a route for the North Carolina portion of its study area. A grant was previously awarded by the National Park Service, through the Rivers, Trails, and Conservation Assistance Program (RTCA), to assist with the development of a detailed study of a route for the ECG through Brunswick County, North Carolina. As part of this process, alternative alignments should be considered that keep the greenway closer to the Atlantic Ocean, as an alignment that is truly along the coast may benefit local economies and make the GSATS area more of a regional destination for long distance cycling. Note, however, that Holden, Ocean Isle, and Sunset Beaches are islands without existing bridge connections; proposed ECG routes to these locations would have to provide linkage between the islands and the mainland.

⁷ East Coast Greenway (2017), <http://www.greenway.org/explore-by-state/nc>

Figure 6: East Coast Greenway Status, 2022



RAILS-TO-TRAILS

A project type of great interest to the GSATS area is Rails -to-Trails. Specifically, a 34-mile rail-trail project, called the “Seaboard Coast Line Trail Project,” connecting Myrtle Beach to the cities of Conway and Loris has been identified to include in future project recommendations that would increase commuter and recreational opportunities.⁸ Myrtle Beach has proposed a Rail-Trail Master Plan to create trails from existing inactive rail routes that would connect to the East Coast Greenway trail system. The Rail-Trail Plan has referenced the Swamp Rabbit Trail that runs from Greenville to Traveler’s Rest, South Carolina as a model for what they are planning for Myrtle Beach.⁹ This plan and associated feasibility studies are still in development and will connect to other existing and planned pedestrian and bicycle facilities from the Myrtle Beach Bicycle and Pedestrian Master Plan.

Mentioned in the Horry County Parks and Open Space Plan is the opportunity to use existing rail line infrastructure to expand the trail network and address the demand for more commute and recreation travel options.¹⁰ South Carolina currently has 33 total rail-trails, 9 current projects, and 49 miles of potential rail-trail in the whole state. Funding for fiscal year 2023 has been reserved from the TAP that can be used for this expansion.¹¹ North Carolina currently has 34 total rail-trails, 22 current projects, and 188 miles of potential rail-trail in the whole state with funding also from the TAP.¹² The plans for rail trails in North Carolina currently do not include expansion in the GSATS area, and therefore should be taken into consideration for future project recommendations.

SAFE ROUTES TO SCHOOL

The Safe Routes to School (SRTS) program was developed to encourage school children to walk and bike to school through a variety of strategies, including the development of safe, dedicated bicycle and pedestrian facilities in the direct vicinity of schools. Since 2012, funding for SRTS has come out of TAP from the state’s Surface Transportation Block Grant (STBG). The 2021 Bipartisan Infrastructure Law (BIL) codified SRTS, increased TAP funding as a percentage of STBG funds, and expanded eligibility to include high schools. GSATS dedicates 80% of their TAP funding¹³ in South Carolina to the completion of the East Coast Greenway. The BIL’s SRTS and TAP updates provide more funding for the SRTS and walking and biking programs.¹⁴

GSATS has completed two successful SRTS projects in the past that can be held up as models for the rest of the region:

⁸ Horry County Government Parks and Open Space Board, 2022. [Microsoft Word - 12.6.2022 POSB Packet \(granicus.com\)](#)

⁹ Studio Main, [Myrtle Beach Rail-Trail Master Plan - Studio Main LLC](#)

¹⁰ Horry County Parks and Open Space Plan, 2019. [draft-parks-and-open-space-plan.pdf \(horrycountysc.gov\)](#)

¹¹ Rails to Trails Conservancy, 2023. [South Carolina | Rails-to-Trails Conservancy \(railstotrails.org\)](#)

¹² Rails to Trails Conservancy, 2023. [North Carolina | Rails-to-Trails Conservancy \(railstotrails.org\)](#)

¹³ SCDOT. 2023. SCDOT’s Transportation Alternatives Set-Aside Program (TAP). <https://www.scdot.org/projects/community-transportation-alternatives.aspx>

¹⁴ Safe Routes Partnership. [Bipartisan Infrastructure Law Background and Resources | Safe Routes Partnership](#)

- **Waccamaw Elementary School** - A multipurpose path along Waverly Road was implemented to enhance access to the elementary school as part of this SRTS project. The multipurpose path is approximately 0.5 mile in length and is parallel to Waverly Road from Shipmaster Avenue to Kings River Road. Other infrastructure improvements enhanced crossings for the path along the corridor.
- **Georgetown Middle School** - A multipurpose path along Church Street, along with other infrastructure and non-infrastructure improvements to enhance safety and access to the school, have been recommended in previous plans. Approximately 0.1 mile of multipurpose path was implemented from Anthuan Maybank Drive to IP Canal Road.

The GSATS region would benefit from pursuing more SRTS projects. Based on limited existing resources, interest in pursuing SRTS projects should originate at the local level. Through partnerships, TAP funds can be applied for and used on SRTS projects that may also improve safety and connectivity for surrounding neighborhoods.

To generate more interest in SRTS projects, GSATS should consider advancing broader Transportation Demand Management plans for schools. These would focus on all modes of school transportation (e.g., walking, biking, student drop-off/pickup by personal automobile, buses, etc.), and how best to coordinate those modes to allow for the most efficient internal and external transportation network surrounding one or more schools. Additionally, local development regulations should be considered to support SRTS. For example, Horry County's land development regulations require that new subdivisions built within 1.5 miles of a school or park include external sidewalks or the developer may pay a fee in lieu to fund future sidewalks.

PUBLIC INPUT

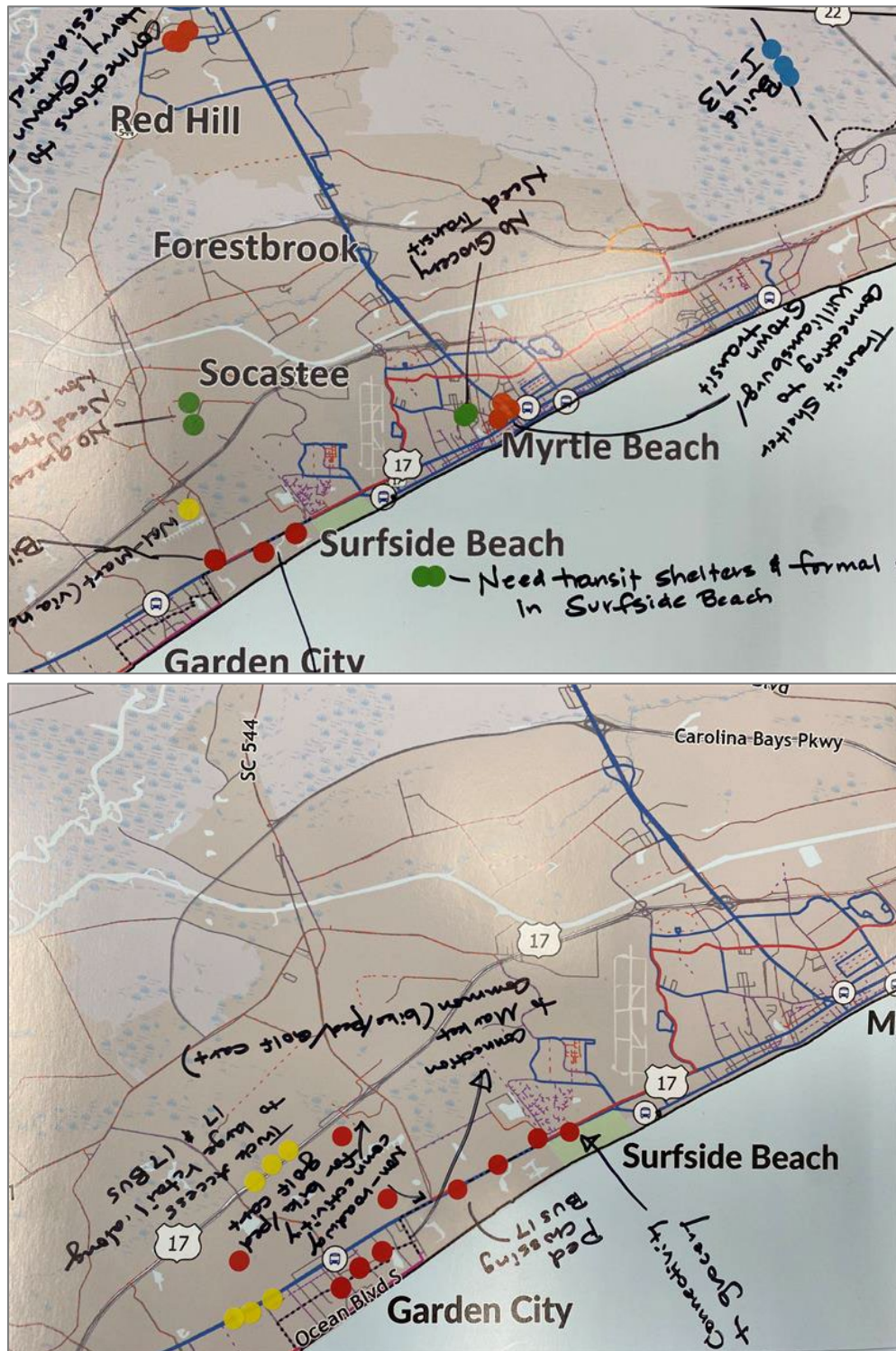
Biking and walking are not only recreational pastimes in the Grand Strand area but continue to gain momentum as viable transportation modes. Public participation during the MTP update has reinforced the excitement and opportunity for improvements to the bike and pedestrian network. Community members were able to provide input for all modes of transportation at public open house meetings and through MetroQuest, an online interactive mapping and survey tool. Comments received through both methods of outreach have been reviewed and incorporated into this MTP update.

Participants of both activities were asked to identify locations where they have mobility challenges and where they would like to see improvements in the network. Participant feedback reflected national trends regarding “interested but concerned” populations for biking and walking in the GSATS study area.

The MetroQuest survey received 243 survey submissions and closed in late July 2023. Participants identified dangerous intersections for pedestrians along North Main Street in Conway and a desire for bicycle and pedestrian infrastructure along Causeway Drive and Beach Drive SW, East Cox Ferry Road in Conway, and East SC-51.

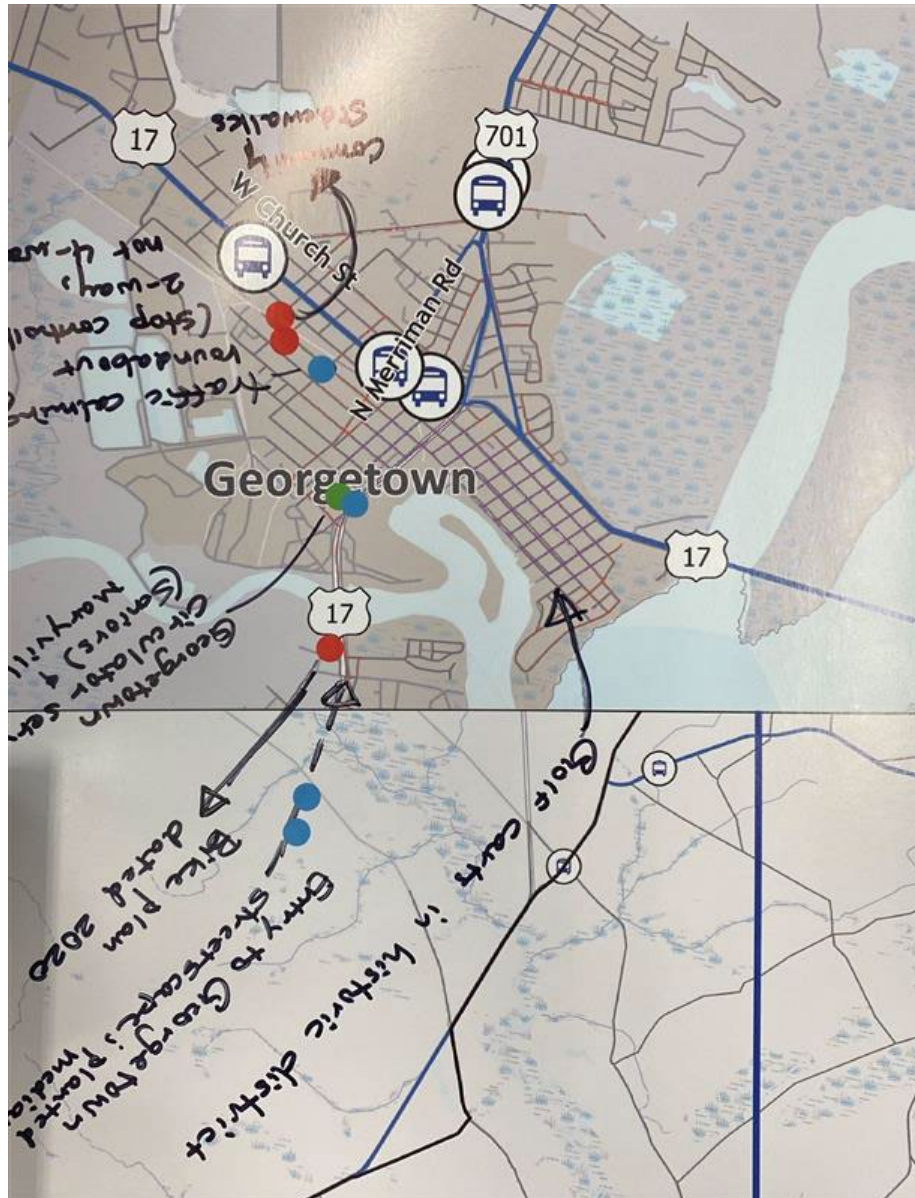
The public open house meetings included an activity replicating the MetroQuest platform with printed maps and stickers for participants to indicate their challenges and desired improvements. The majority of desired improvements marked on the maps suggested concerns with bicycle and pedestrian facilities, especially in Myrtle Beach and Surfside Beach where there are high traffic volumes. New facilities and the expansion of the ECG will address the concerns for the safety and comfort for users and enhance the experience of residents and visitors within the GSATS study area. In the dot exercise shown in **Figure 7** and **Figure 8**, the red indicates bicycle and pedestrian facility improvements, yellow is truck/freight access, and green is for transit concerns.

Figure 7: Desired Improvement Responses from In-Person Meeting, Myrtle Beach and Garden City



Note: Green indicates transit improvements, red indicates walking and biking improvements, and yellow indicates freight and truck access improvements.

Figure 8: Desired Improvement Responses from In-Person Meeting, Georgetown



Note: Green indicates transit improvements, red indicates walking and biking improvements, and yellow indicates freight and truck access improvements.

Not only were participants concerned with bike and pedestrian safety, but the intersection of vehicular traffic and bicycle and pedestrian facilities is mentioned numerous times as a root of the safety concerns. Comments provided insight into the barriers that exist within the region along with existing routes and destinations that are used by cyclists and pedestrians. Public input was essential to understanding the value that communities place on active transportation. The existing and planned bike and pedestrian infrastructure within the GSATS study area are perceived as assets by those that live and work within the region.

Based on the in-person exercise where residents were able to indicate what type of improvement was most important to them, for Myrtle Beach the highest number of votes were for providing more frequent bus services. In Shallotte, most people wanted to widen existing roads or build new roads. When asked which improvements would increase their ease in getting where they want to go, sidewalks and bike lanes rated lower than widening existing roads or building new roads. When asked which planning goals were most important to them, they indicated a reduction of congestion and improved reliability of transportation. Additionally, in Myrtle Beach, many people indicated it was important to increase mobility and accessibility throughout the region, and overall people wanted a safe and secure transportation system. This input indicates that there is a discrepancy or variation in the recognized needs of residents living in the GSATS area. It is important to emphasize that making improvements to bicycle and pedestrian facilities will help to achieve the goals of reducing congestion and creating a safe and secure environment for traveling through the region. Low-stress bicycle and pedestrian facilities and greater accessibility to parks and recreation spaces will encourage more people to utilize these active modes of transportation and reduce the number of cars on the road travelling to these destinations - and therefore reduce congestion.

PEDESTRIAN AND BICYCLE CRASH ANALYSIS

Crash data provided by the South Carolina Department of Public Safety (SCDPS)¹⁵ and North Carolina Department of Transportation (NCDOT)¹⁶ identified the location and nature of bike- and pedestrian-related street crashes. A total of 440 pedestrian crashes occurred in the GSATS region between 2017 and 2021, 412 of which were in South Carolina and 28 in North Carolina. Of the 440 reported pedestrian crashes, 66 crashes resulted in fatalities. One of these crashes, which occurred just north of Old Georgetown Road SW on U.S. Highway 904, killed two pedestrians. Regarding bicycle crashes in South Carolina, 5 out of 295 resulted in fatalities, and in North Carolina there were 3 fatalities out of 22 crashes, resulting in a total of 317 bike crashes in the GSATS region.

Crashes involving cyclists and pedestrians occurred throughout the GSATS region in several of the municipalities and in unincorporated areas, as shown in **Figure 9** and **Figure 10**. These illustrate locations where bike and pedestrian crashes occurred with greater frequency. For instance, the maps show that bike and pedestrian crashes most frequently occur on U.S. Highways 501 and 17 in Myrtle Beach and leading to Conway. In addition to illustrating the locations of crashes, these maps provide insight into the areas that people are already biking and walking within the study area and need additional features to create a safe bike and pedestrian network, such as along major roadways and in urban centers.

15 percent of all pedestrian crashes resulted in fatalities.



In South Carolina, the crashes were categorized into fatalities, suspected severe injuries, suspected injuries, possible injuries, number of injuries, and number of uninjured. North Carolina followed the KABCO categorization method which identifies 5 types of crash results: Killed (K), Suspected Serious Injury (A), Suspected Minor Injury (B), Possible Injury (C), and No Injury (O).

The majority of the pedestrian-related crashes in South Carolina are listed as caused by ‘Lying and/or illegally in roadway,’ possibly indicating frequent jaywalking. For North Carolina, the data indicates ‘walking along roadway’ as the leading cause. The data shows that pedestrian crashes and frequent fatalities occur on travel lanes with little to no traffic control measures in place.

For bicycle-related crashes, South Carolina has found ‘failure to yield right of way’ as the primary factor. In North Carolina, the primary causes are either ‘motorists overtaking’ or motorist/bicyclist taking a left turn in the same or opposite direction. These have occurred mostly in high-speed corridors, with bicycle crashes often happening on no passing zones. From 2017 to 2021, there have not been significant changes in the frequency or severity of

¹⁵ SCDOT GIS Traffic Collisions, <https://scdps-gis-and-mapping-scdps.hub.arcgis.com/>

¹⁶ NCDOT Bicyclist and Pedestrian Crash Map, <https://hub.arcgis.com/maps/NCDOT::ncdot-bicyclist-and-pedestrian-crash-map/about>

reported crashes; however, the underlying cause of these crashes is the lack of appropriate bicycle and pedestrian facilities on high-traffic, high-speed corridors, grouped with the lack of traffic control measures. Providing safe and connected facilities for both motorists and nonmotorists can reduce conflicts between the two types of roadway users and therefore ultimately reduce crashes and fatalities on roadways in the GSATS region.

Using the crash data, areas with greater conflict points are a starting point for proposing improvements to bicycle and pedestrian facilities. There are three domains from which improvements can be made to address the gap in cyclist and pedestrian safety. The first is from the bicycle and pedestrian facility side, which includes ensuring there are connected sidewalks and dedicated - and where feasible, protected - bike lanes. The second is from the roadway side, which includes traffic control strategies such as stop signs, pavement markings, bicycle and pedestrian crossing signage, flashing beacons, and other intelligent transportation system (ITS) improvements. The third domain is from the surrounding environment, such as lighting on roadways and pedestrian walkways.

Figure 9: Pedestrian Crashes and Fatalities, 2017-2021

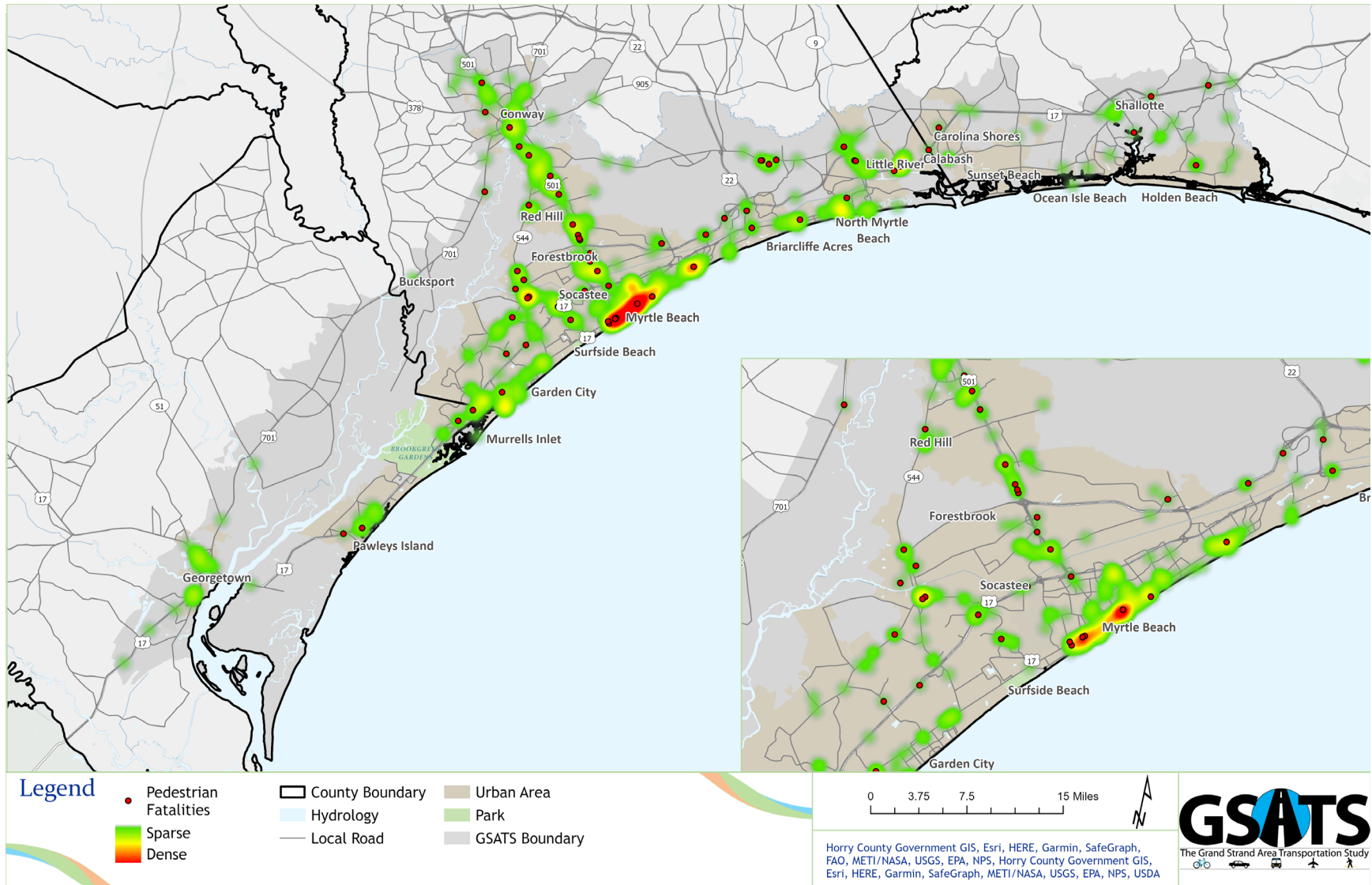
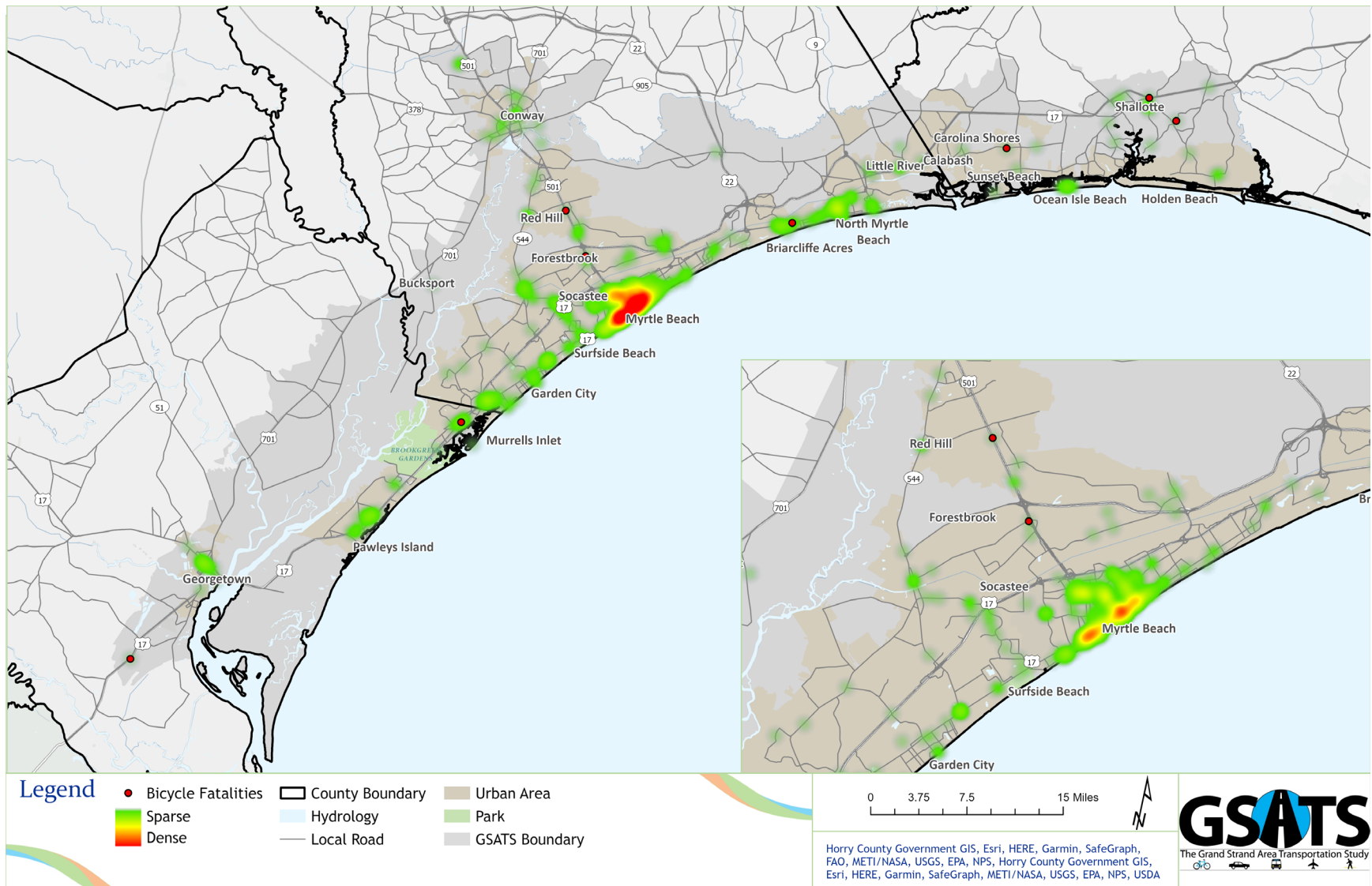


Figure 10: Bicycle Crashes and Fatalities, 2017-2021



LEVEL OF TRAFFIC STRESS

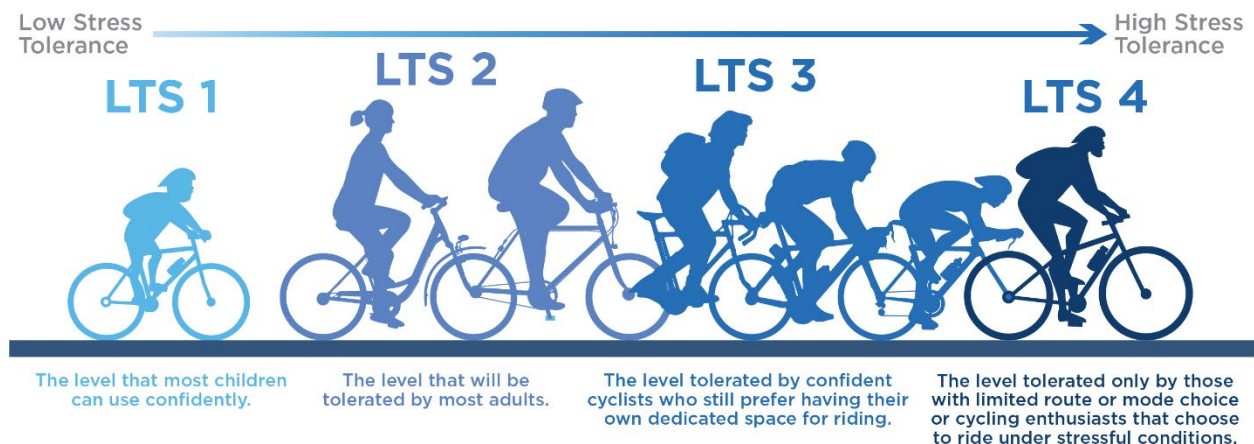
This MTP update includes an analysis of the quality of roadways, including level of service conditions, for all modes. For the purpose of documenting all existing conditions of the region’s bicycle and pedestrian networks, this section provides an overview of the Level of Travel Stress (LTS) analysis.

The purpose of the LTS analyses is to understand how well the existing network provides for safe and comfortable travel for all people walking and biking, not just experienced bicyclists, but also children, families, individuals with disabilities. This is also known as providing an all ages and abilities network. Both the Bicycle Level of Traffic Stress (BLTS) and the Pedestrian Level of Traffic Stress (PLTS) analyses measure the quality of routes and crossings for the bicycle and pedestrian networks, respectively.

BLTS measures the quality of a route or crossing based on the discomfort that people of different riding levels feel when they ride in close proximity to vehicular traffic, as illustrated in **Figure 11**. BLTS is rated on a discrete scale of four levels corresponding to amount of discomfort experienced by bicyclists:

- **BLTS 1:** Roadway segments with this rating are suitable for all users including children. People are likely to feel safe and comfortable riding a bike in this facility.
- **BLTS 2:** Roadway segments with this rating are suitable for most adults.
- **BLTS 3:** Roadway segments with this rating can be tolerated by confident cyclists who still prefer having their own dedicated space for riding.
- **BLTS 4:** Roadway segments with this rating are tolerated only by those with limited mode choice or cycling enthusiasts that choose to ride under stressful conditions.

Figure 11: BLTS Scale, Comfort Levels, and Bicyclist Types¹⁷

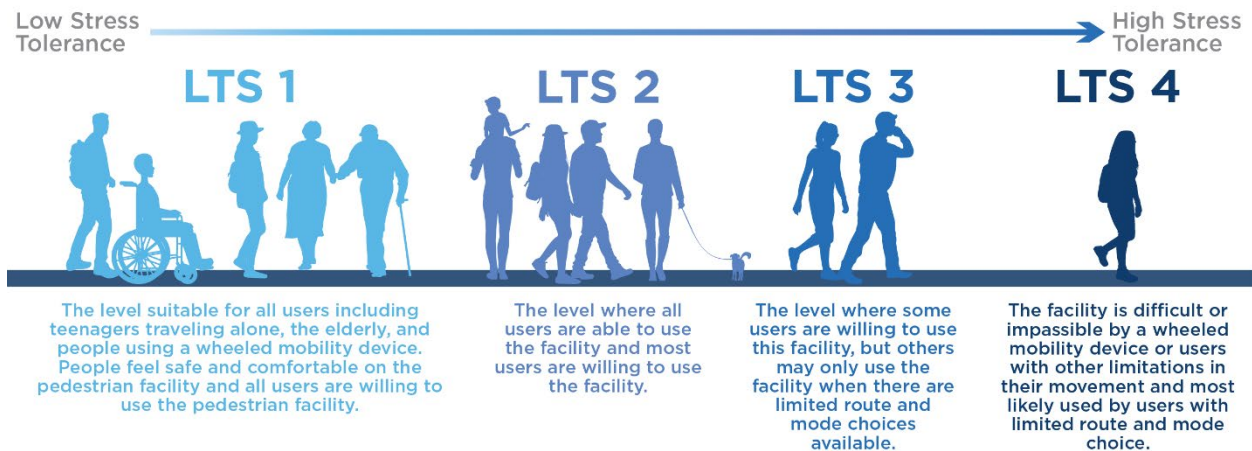


¹⁷ Florida Department of Transportation. 2023. Multimodal Quality/Level of Service Handbook. https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/systems-management/document-repository/qlos/fdot_qlos_handbook_v6-0_clean-june-2023.pdf?sfvrsn=198c6846_2

PLTS is adapted from the BLTS methodology to classify roadways by the level of discomfort pedestrians and other sidewalk users may experience on them. Like BLTS, PLTS ranges from 1 to 4, with a lower rating indicating a more comfortable roadway and a higher rating indicating greater traffic stress for pedestrians, as indicated in **Figure 12**. The ratings are as follows:

- **PLTS 1:** Roadway segments with this rating are suitable for all users including children, groups of people, and individuals using wheeled mobility devices. People feel safe and comfortable on the pedestrian facility.
- **PLTS 2:** Roadway segments with this rating are suitable for children over 10 years of age, teens, and adults. While all users should be able to use the infrastructure, some factors may limit their use, especially for those with disabilities.
- **PLTS 3:** Roadway segments with this rating would make an able-bodied adult feel uncomfortable but relatively safe using this infrastructure. Some users are willing to use this facility, but others may only use it if other routes and mode choices are limited.
- **PLTS 4:** Roadway segments with this rating are difficult or impassable by a wheeled mobility device or users with other limitations in their movement and most likely used by those with limited route and mode choice. Only the most confident or trip-purpose driven users will use this infrastructure.

Figure 12: PLTS Scale, Comfort Levels, and Pedestrian Types¹⁸



On the following pages, **Figure 13** and **Figure 14** provide the BLTS and PLTS maps of the existing and planned bicycle and pedestrian routes, respectively, within the GSATS boundary.

¹⁸ Florida Department of Transportation. 2023. Multimodal Quality/Level of Service Handbook. https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/systems-management/document-repository/qlos/fdot_qlos_handbook_v6-0_clean-june-2023.pdf?sfvrsn=198c6846_2

Figure 13: BLTS Map of GSATS Designated Bicycle Network

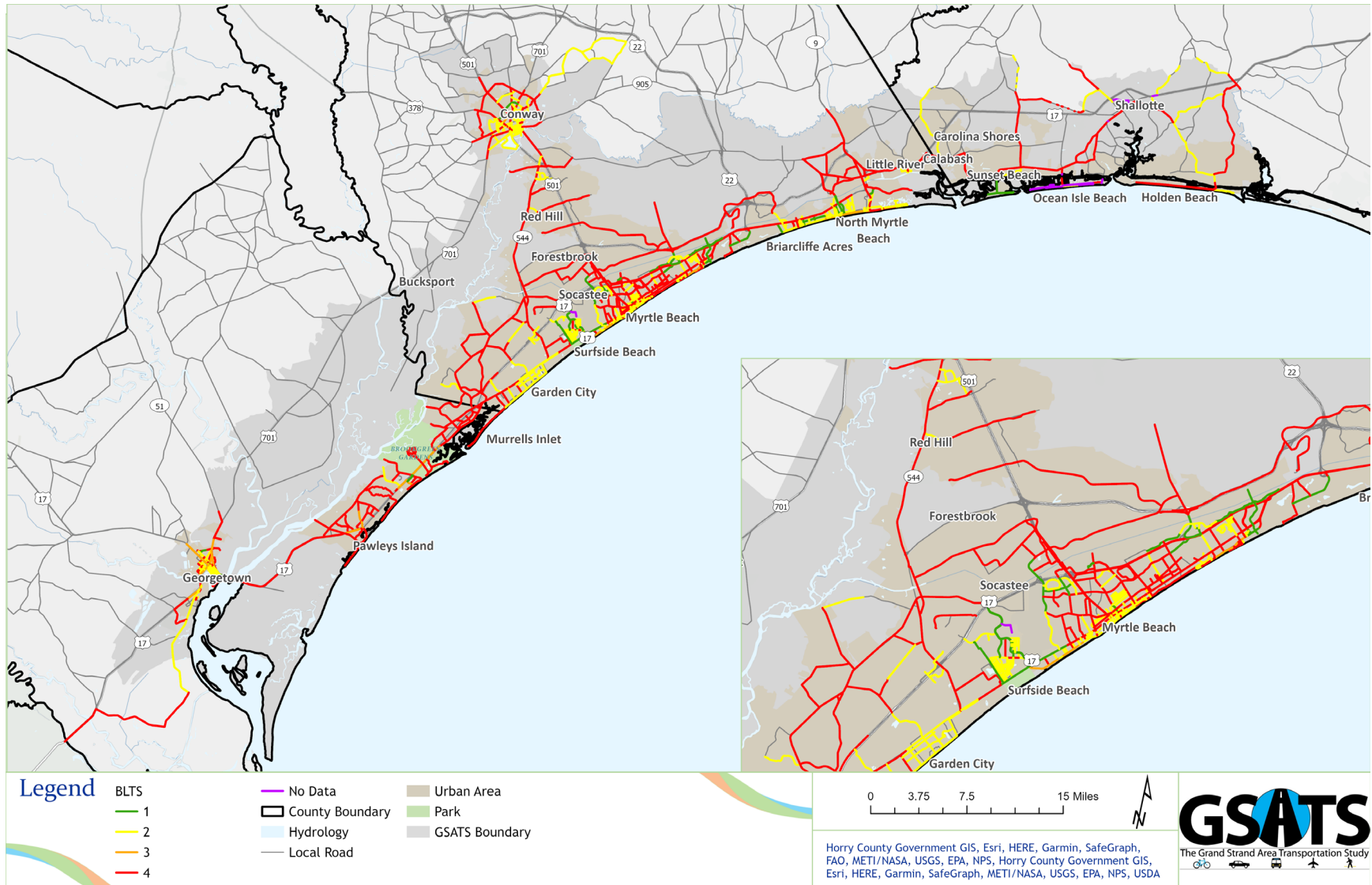
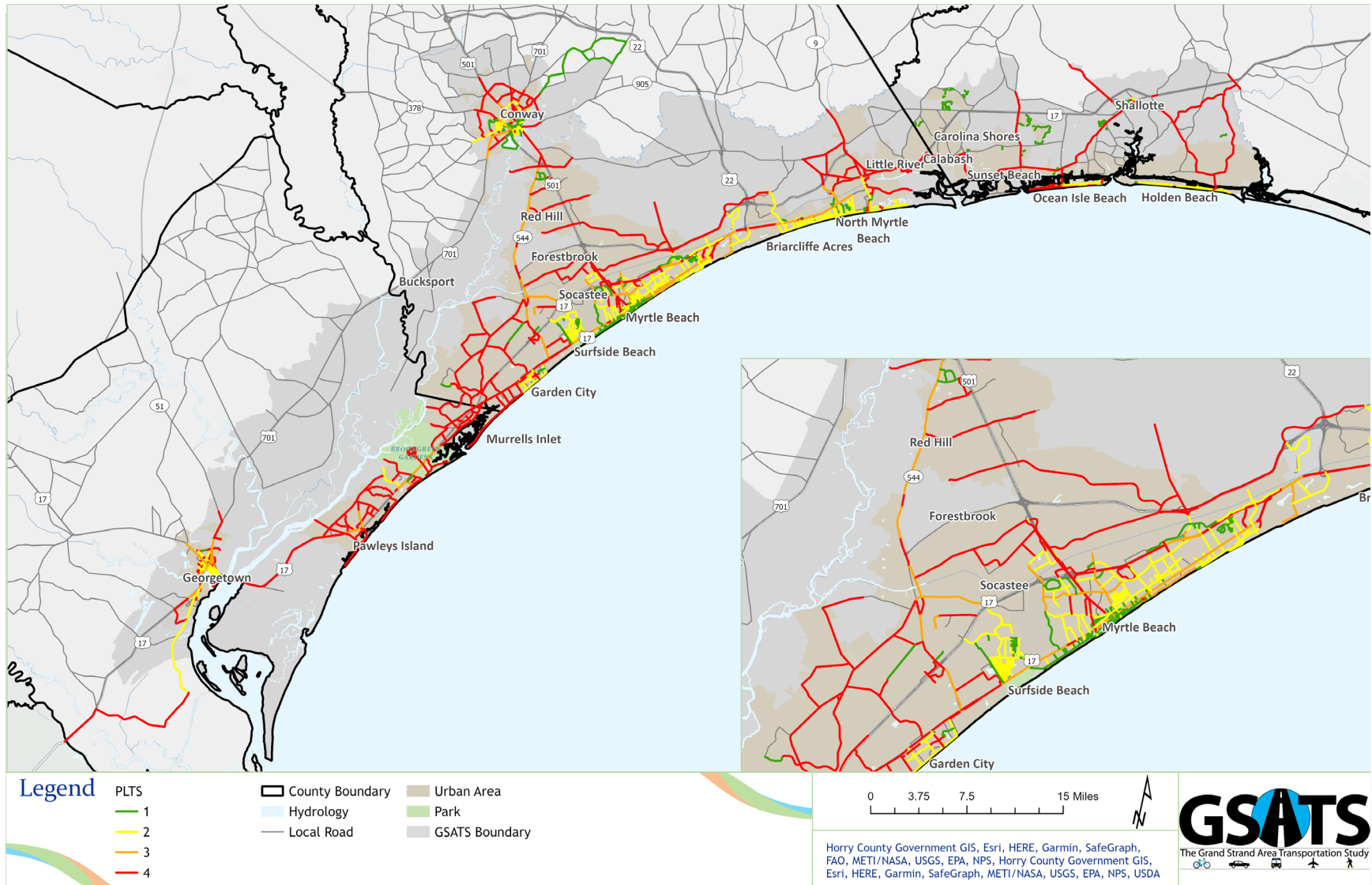


Figure 14: PLTS Map of GSATS Designated Pedestrian Network

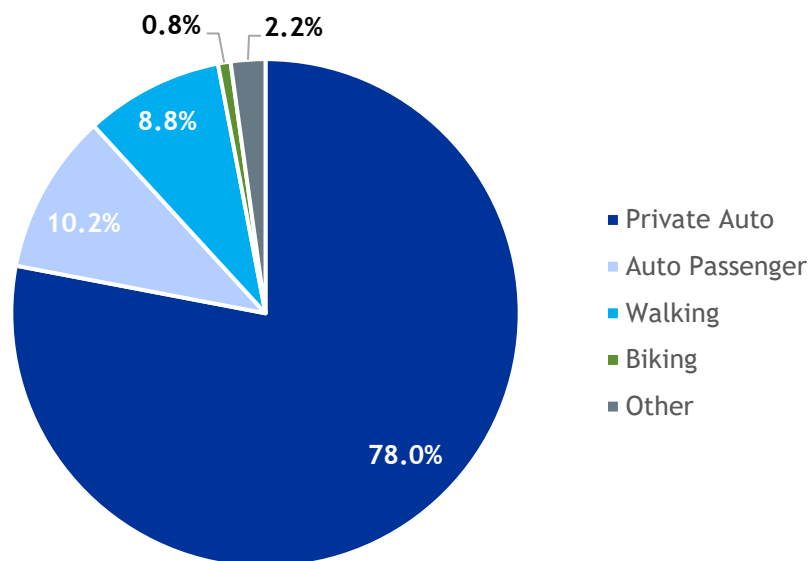


WALKING AND BIKING DEMAND

A key component to identifying the need for bike and pedestrian facilities is to understand where existing and potential biking and walking demand is within the region. Measuring and estimating bicycle and pedestrian demand can help practitioners build a network that will be most useful to the community rather than building pathways that suddenly end or are disconnected from destinations. While there are several indicators that can be used for this analysis, this report utilizes existing walking and biking volumes in the GSATS region to indicate pedestrian and bicycle demand.

The pedestrian and bicycle volume data comes from Replica Studies,¹⁹ a database that provides a snapshot of trips and activities within selected geographies and time periods, similar to but not the same as a travel demand model. The Replica datasets utilize big data, including complete, disaggregate trip and population tables for an average weekday and weekend in the GSATS region for Fall 2022. **Figure 15** and **Figure 16** show the percent of trips among all modes and exclusively for active transportation modes, respectively. Active transportation accounts for approximately 9.6% of all trips in the GSATS region. Of those, most are made by walking at 84.3%, while biking trips account for approximately 15.7%.

Figure 15: All Trips by Mode Split, Fall 2022



¹⁹ Replica, Fall 2022. <https://www.replicahq.com/>

Figure 16: Active Transportation Mode Split, Fall 2022

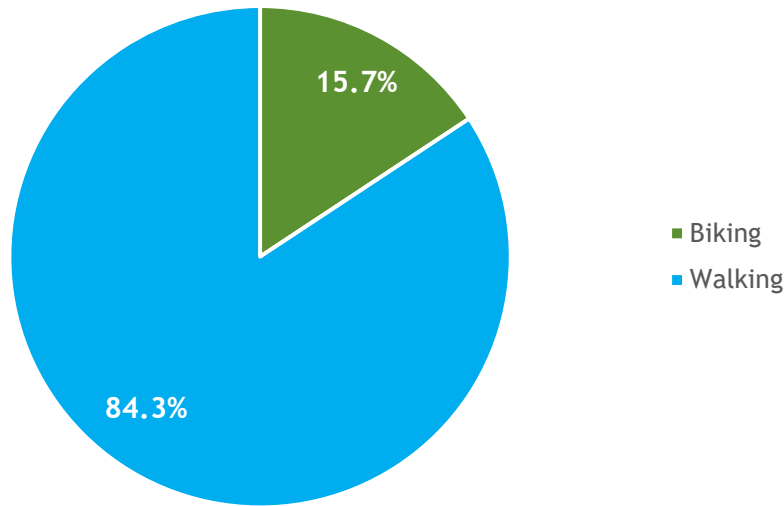


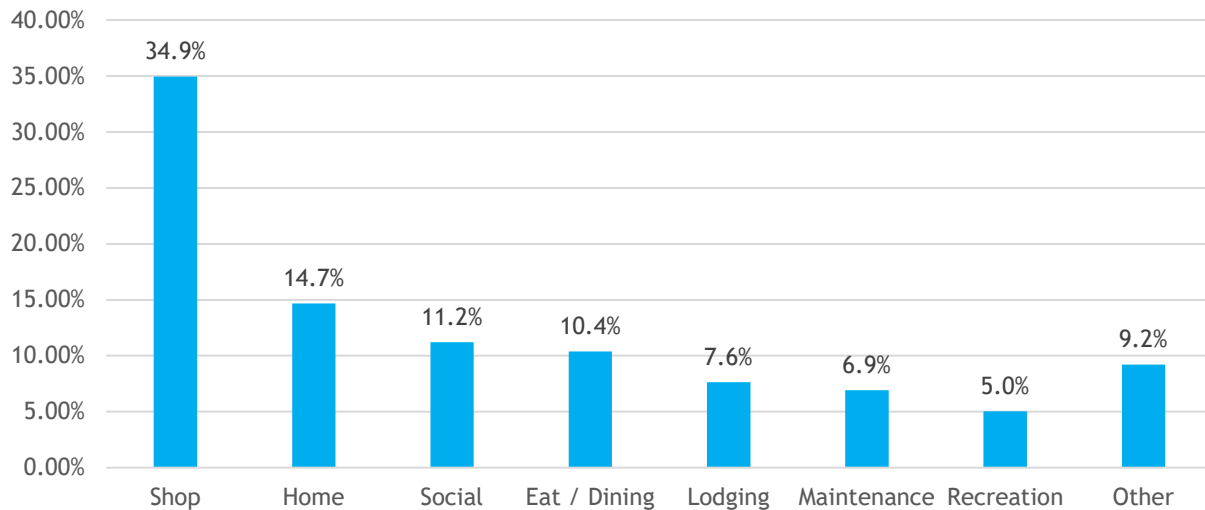
Table 17 provides the details about trip distances by walking and biking. Though walking accounts for the higher number of total active trips, biking accounts for much longer journeys. This behavior is expected given the efficiency of the travel modes. Recommendations for new facilities should consider how to extend existing networks for biking and the safety of pedestrian travel for shorter segments.

Table 16: Active Travel Distance by Mode

	Average of Distance (Miles)	Average Time Duration (Minutes)
Biking	8.8	47.1
Walking	0.9	16.7
Active Transportation Totals	2.1	21.5

This analysis also evaluated walking and biking trip purposes, shown in **Figure 17**. These data were derived from the destination activity for each trip in the Replica dataset. The most frequent purposes for an active transportation trip are shopping (34.9%), traveling home (14.7%), social occasions (11.2%), or traveling to eat (10.4%). Given the high tourist activity in the region, it is not a surprise that these are the primary transportation trip purposes. Individuals residing at temporary stays, hotels, and short-term rental units would likely choose locations because of the ability to walk to nearby destinations for food, shopping, and evening activities. Therefore, the frequency of these trips by potential tourists may outnumber more local-resident trip purposes, like commuting to work.

Figure 17: Active Transportation Trip Purpose



The data from Replica was mapped to show the existing biking and walking volumes. The data provided a geospatial visualization of active transportation demand in the GSATS region. In future analyses, additional data - such as socioeconomic characteristics and development patterns - could provide detailed insights of potential active transportation demand. Such detailed analyses can show where people could walk and bike if adequate infrastructure was provided and help practitioners better prioritize active transportation improvements.

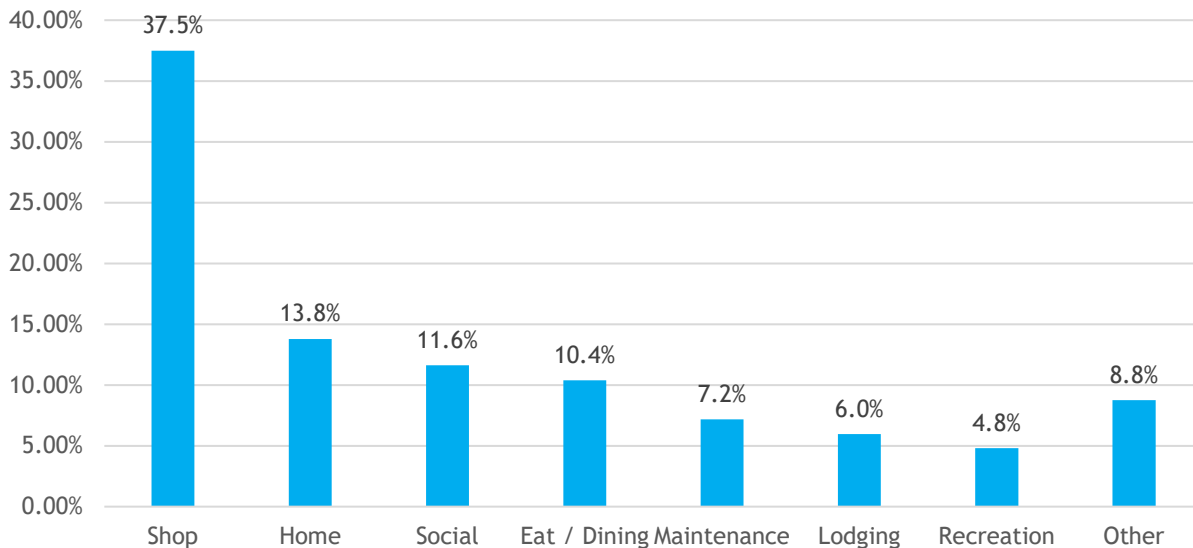
In **Figure 19** and **Figure 21**, the number of trips for each mode is grouped and categorized into Low, Mid-Low, Mid-High, and High, with darker colors indicating greater bicycle and pedestrian volumes. These maps show roadway segments with significantly more bicycle and pedestrian activity to help guide decision-making and prioritize areas where there is much higher demand. The results of the analysis for walking and biking are provided in the following sections, along with a more detailed analysis of trip purpose by each mode respectively.

Walking Demand

The breakdown of walking trip purposes is shown in **Figure 18**. Most commonly, people walk to go shopping (37.5% of trips). Other high trip purposes include going home (13.8%), social activities (11.6%), and going to a restaurant (10.4%).

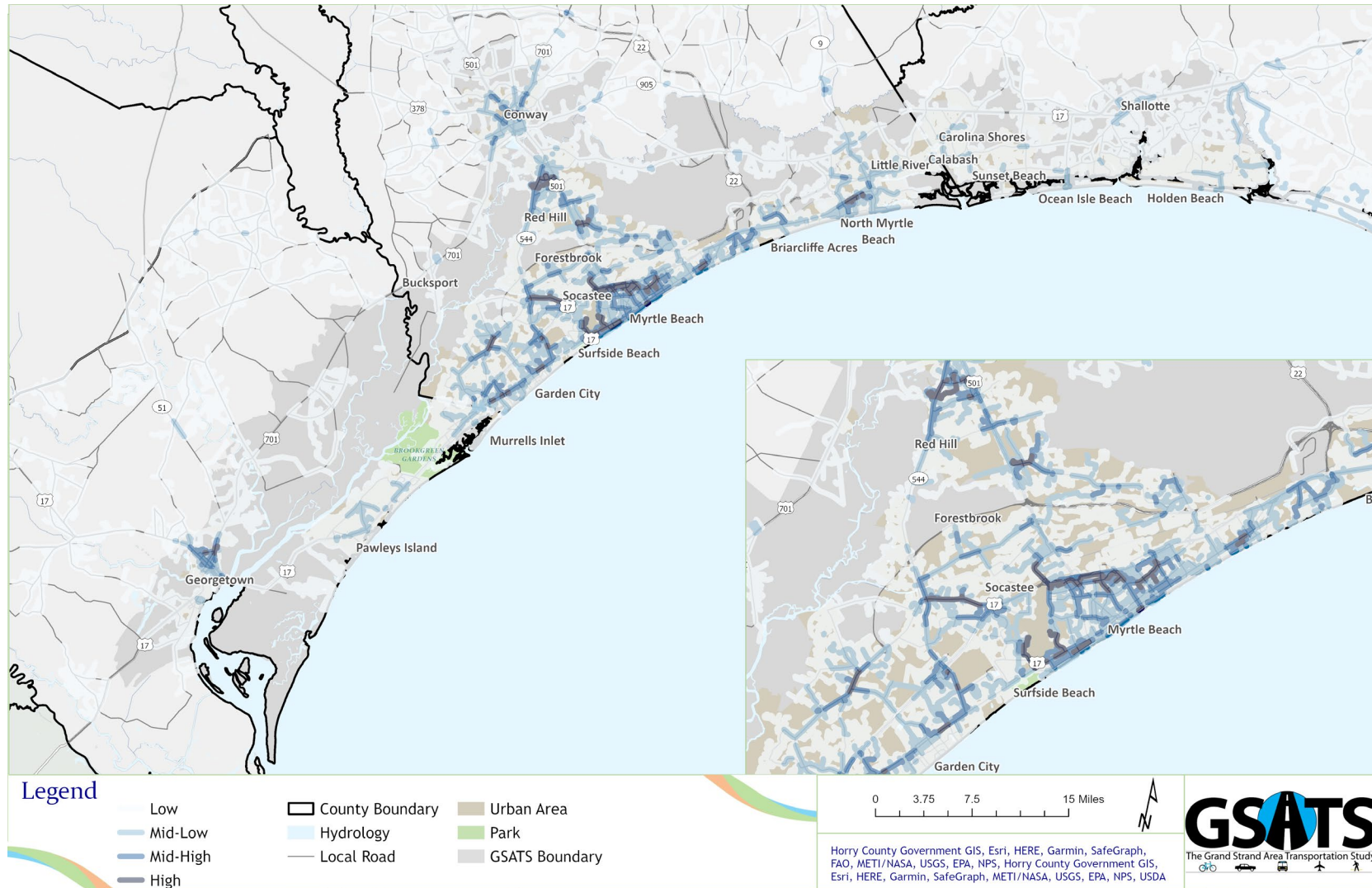
The volume of walking trips made within the GSATS region are mapped in **Figure 19**. Pedestrian demand is higher within urbanized areas like Myrtle Beach, Georgetown, Conway, Red Hill, and North Myrtle Beach. This pattern is expected given that these urban areas have more street connectivity and a greater development density to make walking trips more convenient and accessible. A high amount of pedestrian activity occurs near higher education facilities, such as Coastal Carolina University and the Horry Georgetown Technical College. Increases in walking is common near college campuses likely due to campus designs, abundant pedestrian facilities, and the localized college student travel demands. Other high pedestrian activity areas exist near shopping centers and the Myrtle Beach International Airport. This may indicate that, in the GSATS region, people tend to walk for tourism and commercial activity.

Figure 18: Walking Trip Purpose



While all projects planned in the GSATS region should include pedestrian facilities, particular attention should be given to projects that align with the existing pedestrian activity areas and the common trip purposes. Walking trips align with or connect to existing infrastructure, therefore increased pedestrian demand can be expected to accompany new facilities.

Figure 19: Pedestrian Demand in the GSATS Region

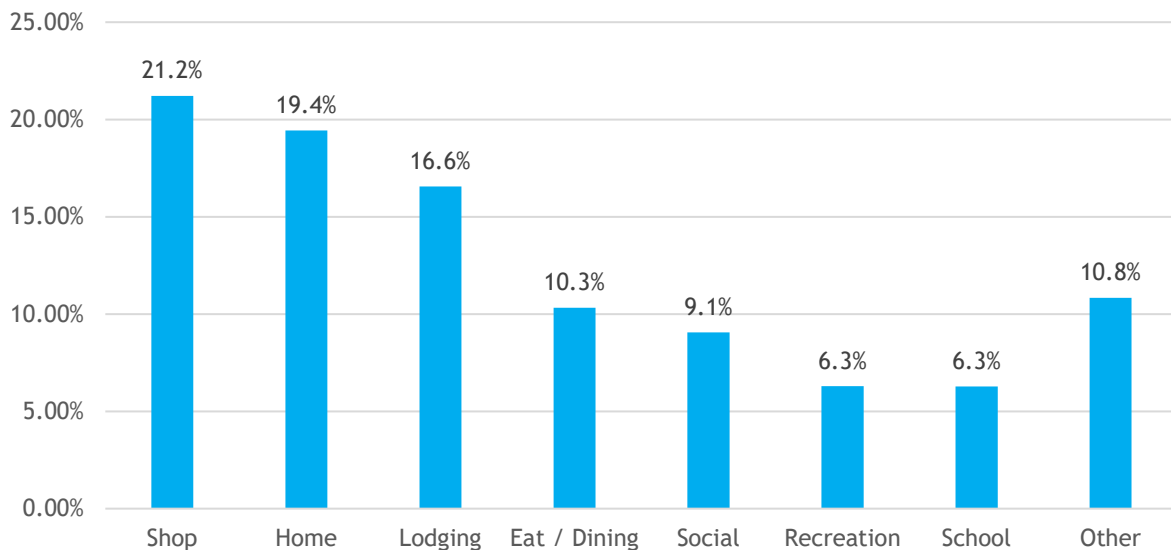


Biking Demand

The purpose for biking trips is shown in **Figure 20**. Overall, most bike trips serve similar purposes as walking trips, with shopping (21.2%), going home (19.4%), and going to restaurants (10.3%) among the highest trip purposes. However, traveling to short-term lodging (16.6%) is a considerably higher trip purpose for biking. Another noticeable difference between walking and biking trip purposes is that biking trip purposes have greater variability, distributing trip purposes amongst more categories, whereas pedestrian activity is more utilized for shopping purposes alone.

The volume of biking trips made within the GSATS region is mapped in **Figure 21**. Contrary to pedestrian trips, biking trips are less clustered around single areas and show linear activity traveling farther distances. Activity is concentrated within Myrtle Beach, with frequent connections made to Red Hill and Conway. A high number of trips exist along Highway 15, Harrelson Boulevard, South Kings Highway, and Carolina Forest Boulevard where bicycle facilities are separated from vehicle travel lanes. This indicates the demand for bike trips increases along the existing facilities that are already safely separated from vehicle traffic.

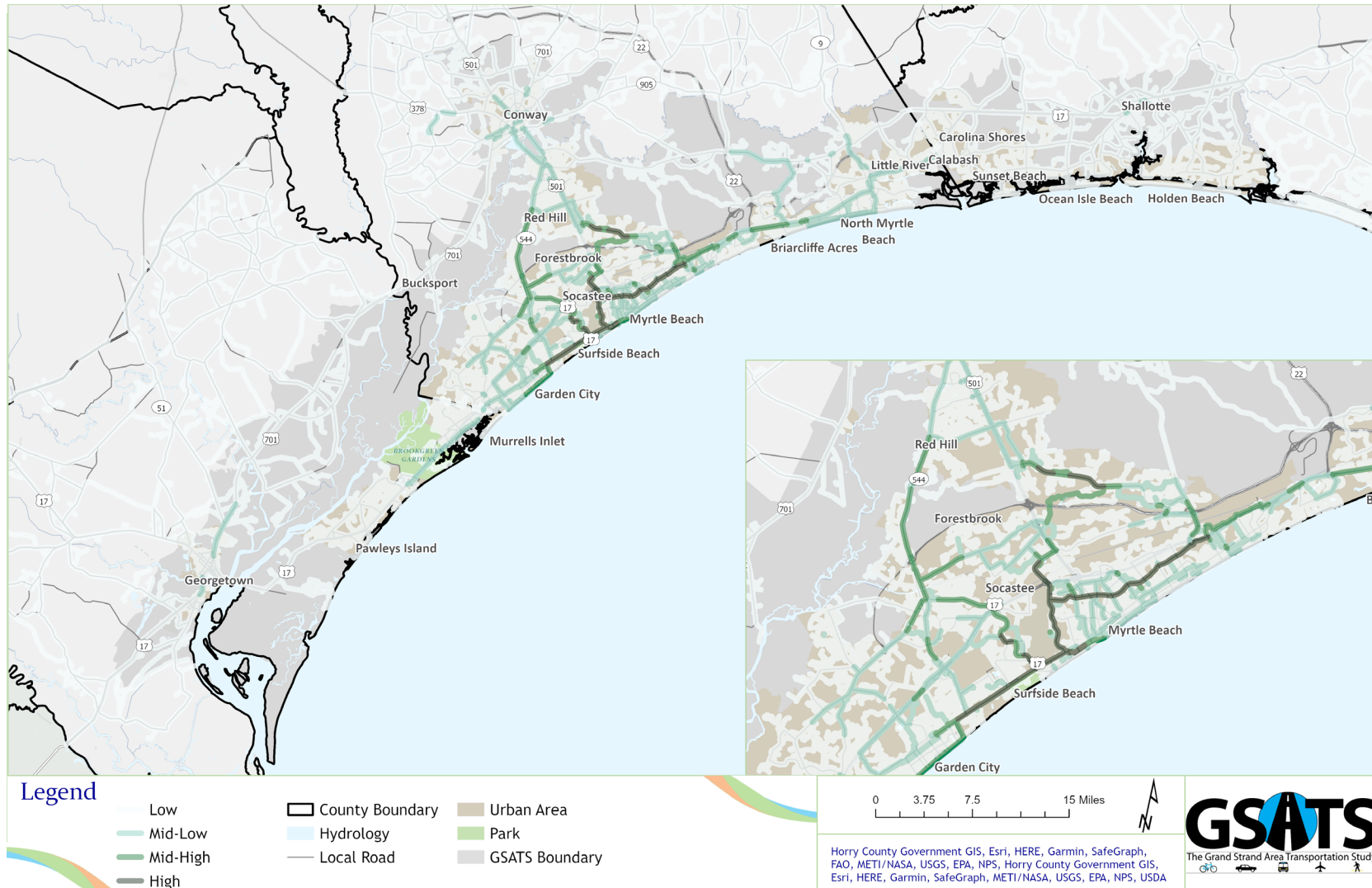
Figure 20: Biking Trip Purpose



Planned and recommended biking facilities should consider that longer trip distances are more common for bike trips and users tend to favor safe and separated facilities. Proposed projects should be adaptable and serviceable to a wide variety of purposes, adding connections between shopping centers, short-term lodging, restaurant, and social activity destinations.

Current biking demand aligns closely with the location of existing facilities; therefore, it can be expected that an increase in biking trips and demand would accompany new facility development.

Figure 21: Biking Demand in the GSATS Region





COMPLETE STREETS POLICIES

“Complete Streets” are streets and roadways planned, designed, and operated for the safe movement of all roadway users, regardless of mode, age, or ability.²⁰ Complete streets are typically implemented through roadway design, but the adoption of complete streets policies at the state, regional, and local levels help ensure that roadway projects meet design criteria and sufficiently meet complete streets goals. Such policies may address a multitude of roadway elements, including:

- Sidewalks
- Bicycle lanes
- Bus stops and shelters
- Crosswalks and other crossing treatments
- Medians and shoulders
- Traffic signals
- Vehicle travel lanes
- Streetscapes and landscaping treatments

USDOT states that “every transportation agency...has the responsibility to improve conditions and opportunities for walking and bicycling” and recognizes Complete Streets as a context-sensitive approach to building an accessible transportation system for all.²¹ FHWA supports complete streets as the default approach to roadway design and implementation.²² There are many federal programs that support the implementation of complete streets, including the Highway Safety Improvement Program (HSIP), Congestion Mitigation and Air Quality Improvement Program (CMAQ), the Surface Transportation Block Grant (STBG), and Safe Streets and Roads for All (SS4A).

At the state level, both North Carolina and South Carolina have statewide complete streets policies. NCDOT first adopted its policy in 2009 and amended it in 2019, requiring that state transportation planners and designers consider and incorporate multimodal facilities in the design and improvement of all transportation projects in the state.²³ The policy strives to address and support safety for all transportation modes and the statewide Vision Zero program for North Carolina through applying to all projects within NCDOT’s jurisdiction.²³ SCDOT adopted its policy in 2021, requiring the agency to work with regional partners to include the needs of those walking, biking, and taking transit in their regional plans. The department will update and modernize its design manuals to accommodate all modes and will establish a council to facilitate ongoing communication to seek continuous improvement opportunities.²⁴ The directive outlined by SCDOT is a complete streets policy for the State of South Carolina, which was created in collaboration with MPOs, Councils of Governments

²⁰ U.S. Department of Transportation. 2015. Complete Streets. Retrieved from <https://www.transportation.gov/mission/health/complete-streets>

²¹ FHWA. 2010. Public Roads. 74(1). Retrieved from <https://highways.dot.gov/public-roads/julyaugust-2010/street-design-part-1-complete-streets>

²² Federal Highway Administration. Complete Streets in FHWA. Retrieved from <https://highways.dot.gov/complete-streets>

²³ North Carolina Department of Transportation. 2019. Complete Streets Policy Guidance. Retrieved from <https://connect.ncdot.gov/projects/BikePed/Documents/CS%20Policy%208.28.19.pdf>

²⁴ South Carolina Department of Transportation. 2021. Establish Guidelines for Inclusion of Multimodal Accommodations (Walking, Bicycling, and Transit) in Projects Undertaken on the State-Owned Highway System. Retrieved from <http://info2.scdot.org/SCDOTPress/PublishingImages/DD%2028%20Complete%20Streets.pdf>

(COGs) and regional transit providers. The document outlines considerations for planning authorities when approaching complete streets projects and identifies funding sources for walking, bicycling, and transit accommodations. Design, work zone traffic control, maintenance, and safety and operations guidelines and documents are noted for reference.²⁴

Regional and local complete streets policies can strengthen the effectiveness of these state policies while ensuring the consideration of unique local contexts. The GSATS 2040 MTP identifies a policy that requires all new road projects in the area to include a bicycle or pedestrian component. In the plan, specific complete streets project recommendations were detailed that include plantable medians and bicycle and pedestrian facilities.¹ In 2015, the City of Myrtle Beach adopted a complete streets policy as part of the Mayor’s Challenge for Safer People and Safer Streets initiative, which required the city’s Planning and Public Works Departments to consider all modes in all municipal transportation projects.²⁵ With the adoption of the 2022 Conway Transportation Plan, the city now requires all new developments and transportation projects to incorporate all ages and abilities walking and biking infrastructure and support transit where possible.²⁶

There are recommendations and strategies for implementing complete streets included in many of the mentioned local and regional policies outlined above.

²⁵ Myrtle Beach. 2015. R2015-35: Resolution Adopting a Complete Streets Policy. Retrieved from <https://wrcog.org/wp-content/uploads/2014/02/21.-R201-5-35-Complete-Streets-Policy.pdf>

²⁶ City of Conway. 2022. City of Conway Comprehensive Transportation Plan.

Table 17 Complete Streets Policies by Governmental Agency

Agency	Policy Description
USDOT	The FHWA provides a breadth of resources for understanding the elements of a complete streets policy, and outlines activities that promote complete streets through the aspects of safety, connectivity, accessibility, equity, management. ²⁷
NCDOT	One key approach to applying the complete streets policy to throughout the state is fully replacing existing complete streets facilities that were disturbed due to highway improvement projects to ensure they are implemented correctly. ²³ The guidelines for planning for complete streets includes collecting data on average annual daily traffic (AADT), speeds, land use, cross sections, and identify planned or scheduled projects to determine where improvements need to be made to meet the complete streets criteria. ²⁸
SCDOT	Strategic planning for different modes of transportation is critical to ensuring a comprehensive approach, and considerations including equity, LOS, freight distribution, worn footpaths, safety audits, and surround land use should be considered to achieve the requirements of the complete streets policy. ²⁴ Funding will be provided for the following programs that include walking, bicycling, and transit accommodations in their project scope: safety, maintenance, capacity, interchange, bridge replacement, pavement improvement, widening, and other related projects. ²⁴
GSATS 2040 MTP	The GSATS 2040 MTP identified potential project recommendations for achieving complete streets in South Carolina’s Grand Strand area. These recommendations intend to improve mobility and alleviate congestion to create safe access for all transportation system users.
City of Myrtle Beach Planning and Public Works Departments	The resolution for the adoption of a complete streets policy introduced by the City of Myrtle Beach identifies a strategy to allocate funding to projects that contribute to a complete streets initiative. ²⁵ New construction and redesign projects should follow the guidelines and all transportation modes should be taken into consideration. High priority projects include: corridors providing primary access to significant destinations such as schools, parks, commercial areas, and employment centers, corridors that experience high traffic counts, and projects improving connectivity to existing bike and ped networks. ²⁵
City of Conway	The comprehensive transportation plan for the City of Conway identified complete streets as a key objective of the goal of accessibility within the transportation network. Recommended projects were based on facilities that can be incorporated into a complete streets initiative, and associated costs included this aspect. The policy is used to facilitate all multimodal project implementation unless they were marked as an exception.

²⁷ USDOT FHWA, 2022. Moving to a Complete Streets Design Model: A Report to Congress on Opportunities and Challenges. Retrieved from <https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-03/Complete%20Streets%20Report%20to%20Congress.pdf>

²⁸ Connect NCDOT, 2022. [https://connect.ncdot.gov/projects/BikePed/Documents/Complete%20Streets%20Project%20Development%20Evaluation%20Methodology%20Guidance%20Slides%20\(Feb2022\).pdf](https://connect.ncdot.gov/projects/BikePed/Documents/Complete%20Streets%20Project%20Development%20Evaluation%20Methodology%20Guidance%20Slides%20(Feb2022).pdf)



DESIGN GUIDANCE

There are a variety of transportation facilities that are constructed specifically for bicycle and pedestrian use to improve safety, provide designated space, and increase comfort for non-motorized users. When planning bicycle and pedestrian facilities, it is important to incorporate equity and consider all user types and their abilities.

To assist with the implementation of these projects, design guidance for a series of bicycle and pedestrian facility types and intersection improvements are provided in this technical memorandum. National best practices, combined with local context and an understanding of federal and state standards, were utilized to develop the design guidance elements presented in this chapter.

Designs presented here provide broad guidance and require some level of adaptation based on site-specific context. Guidance addresses the typical application of improvements and does not provide specifics regarding more detailed elements of design, such as cross-slope, user separation, signage placement, etc. It would be most appropriate for local jurisdictions to consider this guidance a “minimum standard” on which to build more detailed guidance for their individual circumstances.²⁹ Further, guidance for selecting appropriate bicycle facilities based on the existing roadway characteristics are provided in **Table 19**.³⁰

²⁹ Please reference existing design guidance documents for more specific and detailed standards, including the American Association of State Highway Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities, AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities, the National Association of City Transportation Officials (NACTO) Urban Street Design Guide, and the Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way.

³⁰ National Association of City Transportation Officials. *Urban Bikeway Design Guide*. <https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/>



Table 18: Guidance for Selecting All Ages and Abilities Bikeways

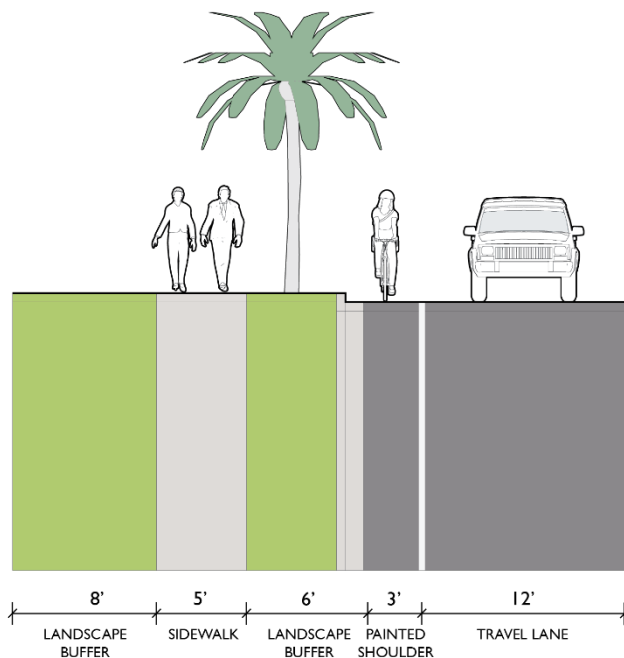
Roadway Context				All Ages & Abilities Bicycle Facility (greater protection and separation highlighted in darker green)
Target Motor Vehicle Speed	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		Any	High curbside activity, frequent buses, motor vehicle congestion, or turning conflicts	Protected Bicycle Lane
≤ 10 mph	Less relevant	No centerline or single lane one-way	Pedestrians share the roadway	Shared Street
≤20 mph	≤ 1,000 - 2,000		< 50 motor vehicles per hour in peak direction at peak hour	Bicycle Boulevard
≤ 25 mph	≤ 500 - 1,500	Single lane each direction, or single lane one-way	Low curbside activity or low congestion pressure	Conventional or Buffered Bicycle Lane or Protected Bicycle Lane
	≤ 1,500 - 3,000			Buffered or Protected Bike Lane
	≤ 3,000- 6,000			Protected Bicycle Lane
	Greater than 6,000			Protected Bicycle Lane
Greater than 26 mph	≤ 6,000	Single lane each direction	Low curbside activity or low congestion pressure	Protected Bicycle Lane or Reduce Speed
		Multiple lanes per direction		Protected Bicycle Lane or Reduce to Lanes and Speed
	Greater than 6,000	Any	Any	Protected Bicycle Lane
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		Any	High pedestrian volume	Bike Path with Separate Walkway or Protected Bike Lane
			Low pedestrian volume	Shared-Use Path or Protected Bicycle Lane

BICYCLE AND PEDESTRIAN FACILITY TYPES

This MTP update provides a menu of possible bicycle and pedestrian facility types that could be implemented to meet the region’s needs. The cross sections below provide design guidance for distinct types of bike and pedestrian facilities in a variety of contexts and settings from urban to rural. A brief description accompanies each cross section to identify potential applications for each treatment as well as anticipated LTS scores, dependent on the characteristics of the roadway on which the treatment is installed. Well-designed roadways that safely accommodate all modes of travel should balance the right-of-way dimensions, facility costs, and mobility impacts to achieve a LTS of 1 to ensure the network is accessible and comfortable for all.

Selecting bike and pedestrian facility types is not a one size fits all proposition. There is a number of contextual and physical issues that play a role in selecting and implementing bike and pedestrian infrastructure; however, it is essential to acknowledge that bikes are not cars and should not be treated as such and that people are more likely to walk and bike when traffic is not directly adjacent to them; therefore, providing separation between cyclists, pedestrians, and vehicles will improve comfort, increase safety, and result in more people using the bike and pedestrian infrastructure that is implemented.

Figure 22: Typical Cross Section - Striped Shoulder with Sidewalk



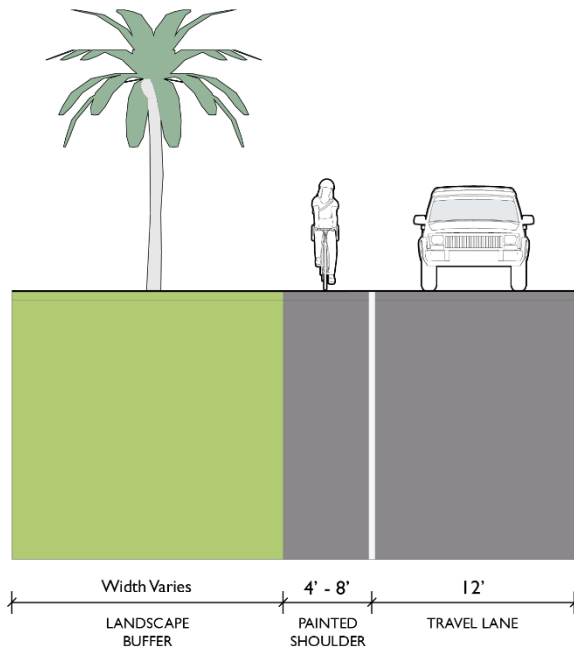
A striped shoulder provides space for confident cyclists to travel within the roadway. A sidewalk is provided for pedestrians behind a landscape buffer to give added comfort and separation from traffic.

Cost: Low

Appropriate For: Low Traffic Volume, Low Speed Roadways

Anticipated LTS: 3 (*lower is better*)

Figure 23: Typical Cross Section - Striped Shoulder, Rural Context



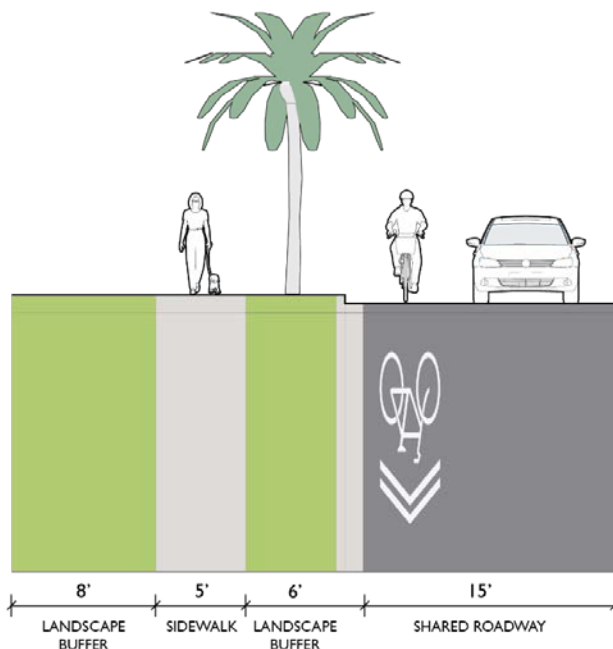
Along rural roadways, a striped shoulder may offer space for cyclists and/or pedestrians to connect to destinations. Often does not include curb and gutter.

Cost: Low

Appropriate For: Rural Roadways

Anticipated LTS: 2-3 (*lower is better*)

Figure 24: Typical Cross Section - Shared Roadway with Sidewalk



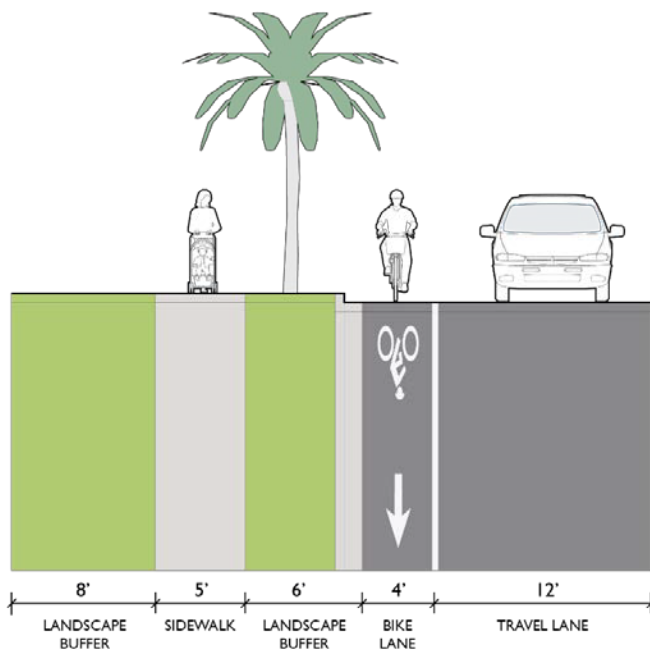
A shared roadway symbol (also known as a sharrow) and signage reminds motorists that cyclists may be present and indicates to cyclists where to ride. Often this facility can be found in residential areas and connecting to other designated bicycle facilities. A sidewalk is provided for pedestrians behind a landscape buffer to give added comfort and separation from traffic.

Cost: Low

Appropriate For: Low Traffic Volume, Low Speed Roadways (*35 MPH or less*)

Anticipated LTS: 1-3 (*lower is better*)

Figure 25: Typical Cross Section - Bike Lane with Sidewalk



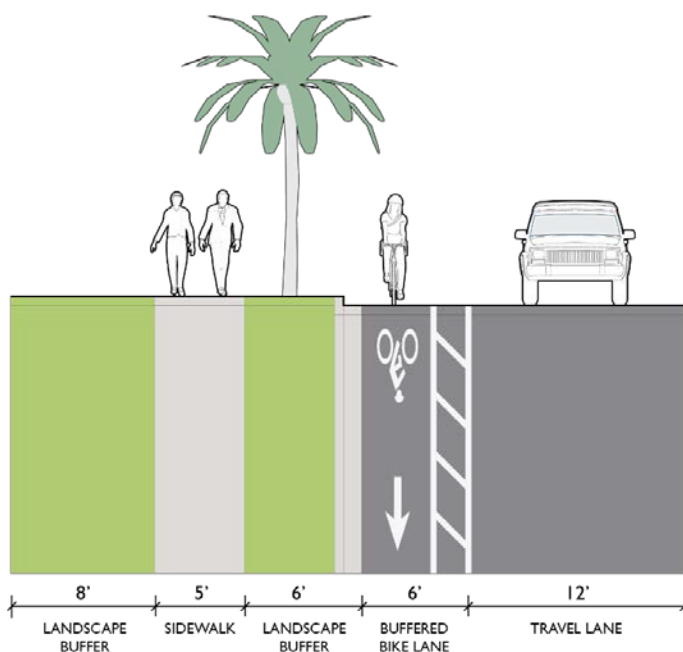
A bike lane provides designated space for cyclists using a solid striped line. Bike lanes should be striped, signed, and include a bike lane symbol. These features adequately make drivers aware that bikes have their own space within the roadway. A sidewalk is provided for pedestrians behind a landscape buffer to give added comfort and separation from traffic.

Cost: Low to Medium

Appropriate For: Roadways with Wide Outside Lanes, Roadways that Connect Destinations, Medium- to Low-Speed Roadways (35 MPH or less)

Anticipated LTS: 1-3 (lower is better)

Figure 26: Typical Cross Section - Buffered Bike Lane with Sidewalk



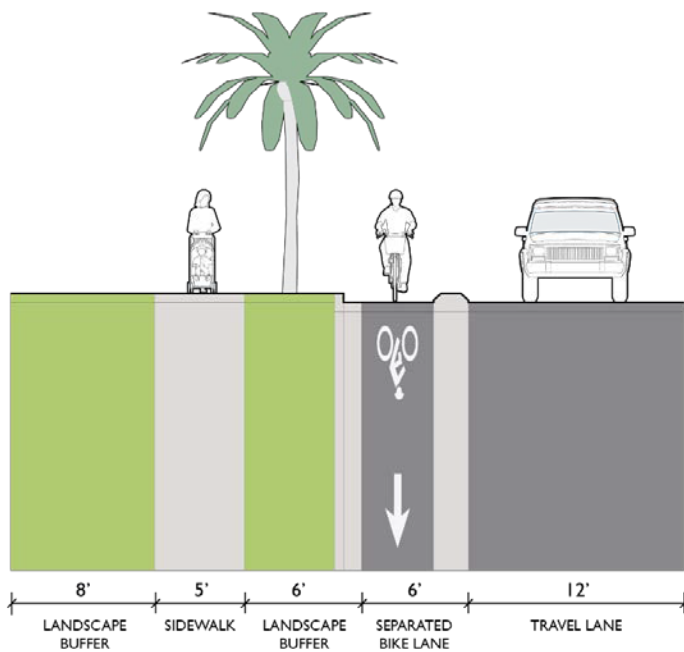
A buffered bike lane provides designated space for cyclists with additional separation from vehicles. The buffer increases comfort for cyclists and drivers. A sidewalk is provided for pedestrians behind a landscape buffer to give added comfort and separation from traffic.

Cost: Low to Medium

Appropriate For: Urbanized Environments, Medium- to Low-Speed Roadways (35 MPH or less)

Anticipated LTS: 2-3 (lower is better)

Figure 27: Typical Cross Section - Separated Bike Lane with Sidewalk



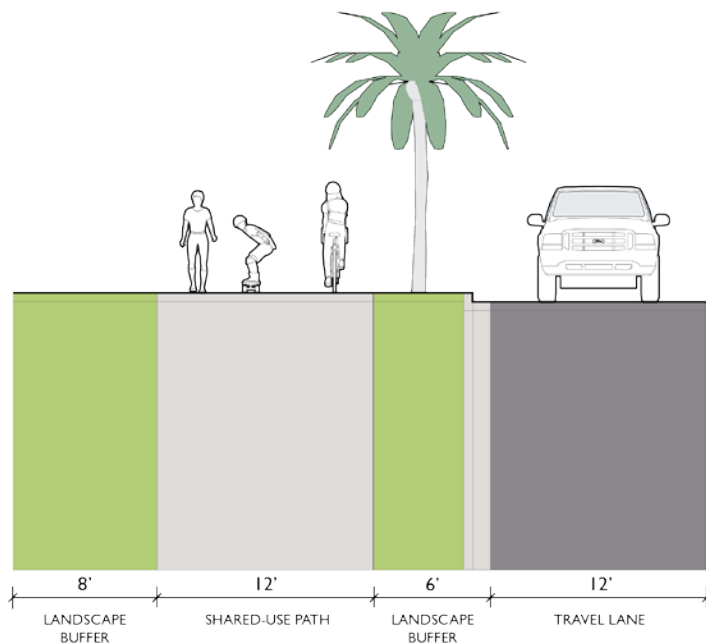
Separated bike lanes increase comfort for cyclists by creating designated space that is adjacent to vehicle travel lanes but separated by a concrete curb, landscaping, flex posts, or other physical barriers. A sidewalk is provided for pedestrians behind a landscape buffer to give added comfort and separation from traffic.

Cost: Medium to High

Appropriate For: Downtown and Urban Neighborhoods, Roadways that Connect Destinations

Anticipated LTS: 1-2 (*lower is better*)

Figure 28: Typical Cross Section Shared-Use Path or Sidepath



A shared-use path or sidepath removes bike and pedestrian travel from the vehicle travel lane. A landscape buffer is provided to give added comfort and separation from traffic. Curb and gutter is typically only provided in urban environments. This treatment attracts both transportation and recreation users and can connect destinations that are farther apart.

Cost: Medium to High

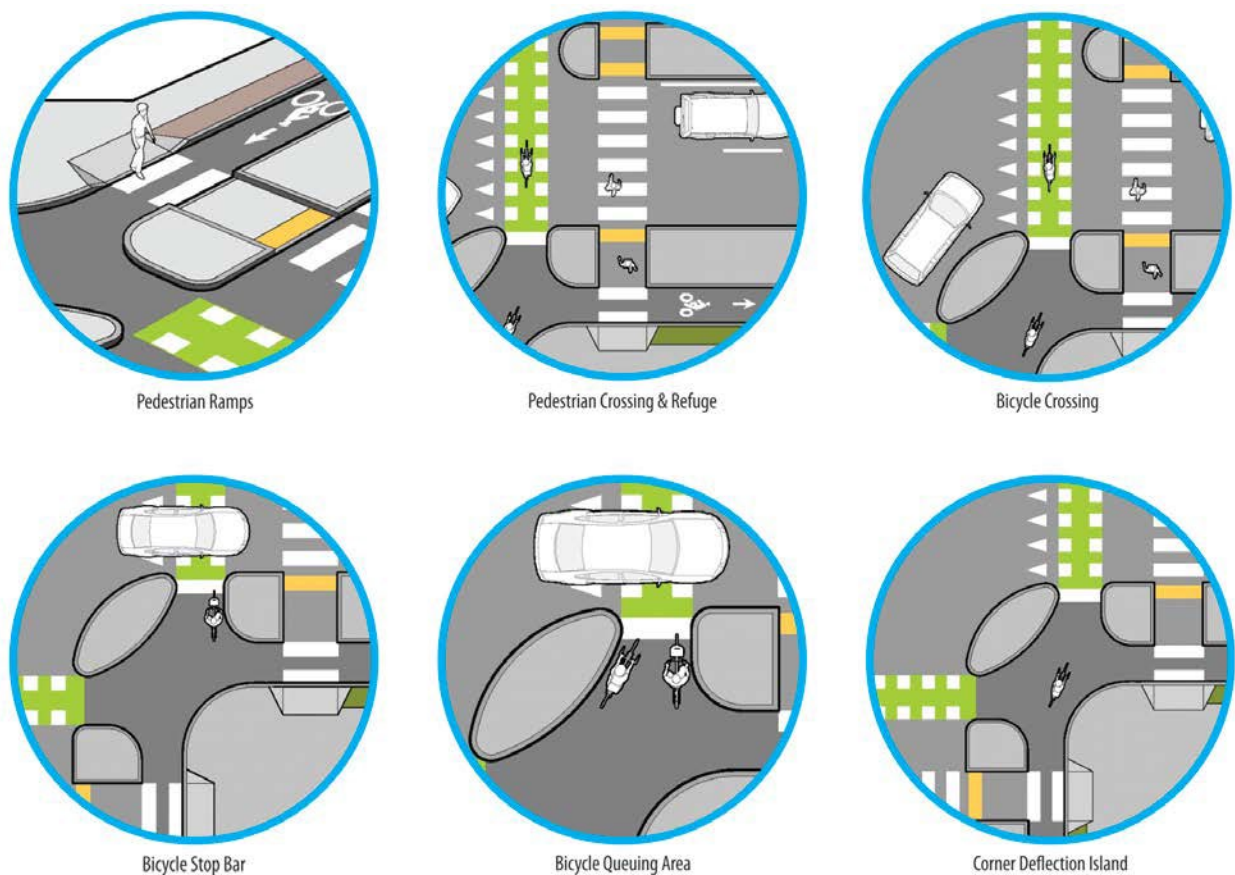
Appropriate For: Both Urban and Rural Settings

Anticipated LTS: 1

INTERSECTION IMPROVEMENTS

Many modal conflicts occur at intersections because this is where all modes come together. Providing separation and protection for cyclists and pedestrians at intersections is of paramount importance. **Figure 29** illustrates several protected intersection treatments that provide additional separation and visibility for people riding bikes and traveling on foot. Each treatment improves the safety of nonmotorized transportation modes; in addition, these treatments may also relieve congestion and can be paired with other intersection improvements to increase safety and functionality for all modes at intersections that can often be pinch points within a transportation network.³¹

Figure 29: Anatomy of a Protected Intersection



The illustrations show green colored pavement within bicycle crossings. It is important to note that green colored pavement is not currently included as a traffic control device in the Manual on Uniform Traffic Control Devices (MUTCD); however, after extensive experimentation, FHWA has provided Interim Approval for its use. “Interim Approval allows interim use, pending official rulemaking, of a new traffic control device, a revision to the application or manner of use of an existing traffic control device, or a provision not

³¹ While the illustrations above depict more urban treatments, the design principles presented can be applied in suburban and rural environments as well.

specifically described in the MUTCD ... The Interim Approval does not create a new mandate compelling the use of green colored pavement, but will allow agencies to install green colored pavement, pending official MUTCD rulemaking, to enhance the conspicuity of a bicycle lane or a bicycle lane extension.”³²

Green colored pavement is an effective treatment for alerting motorists and bicyclists to potential conflict areas. Rather than placing green colored pavement in every bike lane, it should be reserved for accentuating conflict areas. Additionally, as a condition of the Interim Approval, permission must be granted by FHWA for the specific jurisdiction where the green-colored pavement will be applied. If it is to be applied to local streets, the local government must request permission; if it is to be implemented on streets in the state and/or federal network, then SCDOT/NCDOT must request permission for its use. Additionally, the requesting party must agree to monitor and evaluate the success of the application and remove the green-colored pavement if interim approval is rescinded in the future. The Florida Department of Transportation and the Georgia Department of Transportation have provided guidance for green-colored pavement markings.^{33,34}

³² For more information, see https://mutcd.fhwa.dot.gov/resources/interim_approval/ia14/

³³ Florida Department of transportation. Green-Colored Pavement Markings. <https://fdotwp1.dot.state.fl.us/ApprovedProductList/ProductTypes/Index/695>

³⁴ Georgia Department of Transportation. [Section 659-Hot Applied Preformed Plastic Pavement Markings](#)



BICYCLE AND PEDESTRIAN PLANNING PRACTICES

Having a broad vision for active transportation in the GSATS region is important; however, it is equally important to understand that active transportation improvements need to be implemented in an efficient manner. To this end, recommendations have been made that lay the groundwork for realizing a more connected and comfortable active transportation network while increasing the number of users of the network.

Benchmark

As the GSATS region moves toward a more integrated active transportation network, it will be important to be able to measure the effectiveness of the efforts that are undertaken. This helps to achieve the “Evaluation” piece of the 5 E’s approach to active transportation planning. Through partnerships with member governments, nonprofits, and advocacy groups, benchmarking programs should be established. One such program would be recording bicycle and pedestrian counts at regular intervals. Counts will help in quantifying the success of implemented facilities and in determining areas of demand where future facilities may be needed. GSATS should continue to collect and analyze bicycle and pedestrian crashes; understanding locations, frequency, and causes of crashes will assist in determining appropriate education, enforcement, and infrastructure countermeasures to reduce such crashes.

Develop Active Transportation Design Policies

GSATS should partner with member governments and the SCDOT and NCDOT to develop active transportation design policies. At a minimum, the areas of design listed below should be considered, especially in lower density or rural areas. Urban design policies should also be considered and follow federal guidance from the Manual on Uniform Traffic Control Devices (MUTCD), American Association of State Highway and Transportation Officials (AASHTO), and National Association of City Transportation Officials (NACTO) design guides:

- ***Separating Users*** - A key part of providing a safe network for all users is to reduce conflict points. This is especially important for users traveling at different speeds, in different directions, or with various levels of protection (e.g., drivers versus vulnerable road users).³⁵ Separation is a key aspect of Vision Zero efforts and safety planning. Users can be separated in space by providing protective features like sidewalks, bike lanes, and curb extensions separate from the vehicle travel lane. Users

³⁵ Federal Highway Administration. 2017. Improving Intersections for Pedestrians and Bicyclists. <https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/fhwasa22017.pdf>

can be separated in time with signalization treatments, such as leading pedestrian intervals to allow people walking to get into drivers' lines of vision before they begin moving. Left turn lanes with left-signal phasing allows drivers turning left to move out of the way of through traffic while waiting for clearance to turn; when coupled with left-signal phasing, drivers can turn at an intersection without have to make a judgment call about crossing oncoming traffic or anyone in the crosswalk. Roadway improvements should seek to separate users as much as possible to maximize safety and comfort.

- **Paved Shoulders** - Roads having a more rural character (i.e., roads that do not have curb and gutter, lack shoulders, and/or have open ditches) within the GSATS area offer a unique opportunity for biking between coastal communities without traveling along corridors with higher vehicle volumes. Rural roadway designs should include 4- to 8-foot paved shoulders to provide bicyclists and walkers an area of refuge from automobile traffic. Paved shoulders also provide an area where motorists may make course corrections when lane departures occur.
- **Rumble Strips** - While popular on rural roads for vehicular safety, rumble strips create hazards for people riding bikes. When rumble strips are necessary, their design and placement are critical to safe bicycle travel. If rumble strips consume the entirety of the shoulder, or leave little to no shoulder passable, bicyclists are forced to ride in the travel lane, increasing the potential for automobile/bicycle conflicts. Additionally, periodic breaks or “skips” in the rumble strips allow bicyclists to enter and exit the shoulder area when needed.

In 2015, SCDOT adopted Engineering Directive 53 (ED-53), which established new standards for rumble strips. Working with the South Carolina cycling community, SCDOT implemented several rumble strip accommodations to address the presence of cyclists as part of ED-53, including: reducing the maximum depth of the milled groove; providing differing standards based on available shoulder width; establishing minimum average daily traffic and roadway width standards; and inclusion of a skip pattern to allow cyclists to safely enter/exit the rumble strip area.

NCDOT adopted similar accommodations in 2012 with its Rumble Strip Standard Practice (R-44), but these are presented as guidance rather than standards. Additionally, R-44 does not speak to minimum thresholds for shoulder width and the application of rumble strips; rather, it states that, “It is desirable to provide a nominal width of four (4) feet of useable shoulder between the outside edge of the shoulder rumble strip/stripe to the edge of pavement. However, even though a four-foot nominal width is desired, it will not preclude the installation of a proven safety countermeasure where there is the presence of treatable lane departure events.”

Within the South Carolina portion of its study area, GSATS should ensure that ED-53 is followed in all retrofit and new design projects. Similarly, GSATS should ensure that R-44 is followed on North Carolina projects but should also advocate that the



discretionary aspects be removed from the standard practice and that appropriate paved shoulder area be present when rumble strips are implemented.

- **Bridges** - Bridges are classic choke points for pedestrians and bicyclists. When bridges only provide the necessary width for vehicular travel lanes, walkers and bicyclists have no safe travel zone. Whenever possible, bridge replacement projects should include the continuation of shoulder facilities (at a minimum) across their entire length. Even when these shoulders do not presently exist on the approaches, providing them on the bridge is good practice, as many years will pass before the bridge is replaced again.
- **Signage** - Basic signage is a low-cost infrastructure improvement that provides increased safety and comfort to walkers and bikers. By including “Bikes May Use Full Lane” signs in general roadway improvement designs, motorists become more aware of bicyclists even when bikes are not physically present. Improvements that are more directly targeted at bicyclists and pedestrians should include more extensive signage appropriate for the context of the project.
- **Lighting** - In addition to overhead lighting for vehicles, lighting scaled to the pedestrian realm helps ensure that drivers can see vulnerable road users at night. Pedestrian and bicyclist crashes often occur at night when they are less visible to drivers, particularly in rural areas where drivers are not expecting vulnerable road users. A single light placed directly over the crosswalk does not adequately improve visibility of the pedestrian for an approaching driver. It is best to place streetlights along both sides of arterial streets and provide a consistent level of lighting along a roadway. This includes lighting pedestrian crosswalks and approaches to the crosswalks.³⁶

Make Active Transportation Part of Every Project

For far too long, bicycle and pedestrian projects have been considered “alternative transportation” or amenities and viewed as projects that must be tackled independently and as desired. The reality is that active transportation should be an integrated part of the overall transportation network, and it is much more efficient and cost effective to incorporate active transportation facilities into larger roadway and bridge projects. The GSATS region has seen this approach work very successfully with projects like the Robert Grissom Parkway. When pursuing all roadway, intersection, and bridge projects, GSATS will consider how bicyclists and pedestrians will be accommodated in a safe, convenient, and comfortable manner. All new projects must make accommodations for non-motorized modes of transportation throughout the GSATS study area.

³⁶ https://safety.fhwa.dot.gov/roadway_dept/night_visib/docs/Pedestrian_Lighting_Primer_Final.pdf



Incorporating walking and biking facilities into every project is a practice that is consistent with many complete streets policies across the country.³⁷ Smart Growth America provides ten elements of a strong complete streets policy.³⁸ These elements are summarized below.

- The policy establishes a clear commitment and vision
- The policy prioritizes underinvested and underserved communities
- The policy applies to all projects and phases
- The policy allows only clear, specific exceptions with public notice
- The policy mandates coordination between government departments, partner agencies, and private developers
- The policy adopts excellent design guidance
- The policy requires proactive land-use planning to consider the greater context of individual roadway projects
- The policy measures progress to achieve the broader vision, incorporate equity, and regularly report to the public
- The policy sets criteria for choosing and prioritizing projects
- There are specific steps for implementing the policy in ways that will make a measurable impact

Continue and Build Upon GSATS TAP Ranking Criteria

- GSATS existing Transportation Alternatives Ranking Criteria has seven criteria that are used to score applications for TAP funding: 1) Funding Request Amount; 2) Funding Ratio (i.e., percentage of local match); 3) Environmental Benefit; 4) Level of Support; 5) Level of Benefit; 6) Local Commitment to Project; and 7) Connectivity. These criteria can be used to prioritize active transportation projects regardless of the proposed funding source to ensure consistency across GSATS efforts.
- When TAP applications are considered, they are weighed against the above criteria with a numerical score assigned to each. It is recommended that once the overall scoring is complete, additional bonus points should be awarded for projects that fall within the potential demand areas shown in **Figure 19** and **Figure 21**. This could be a lump sum bonus or could be awarded on a sliding scale based on the level of potential

³⁷ Smart Growth America. 2023. The Best Complete Streets Policies. <https://smartgrowthamerica.org/best-complete-streets/>

³⁸ Smart Growth America. 10 Elements of a Complete Streets Policy. <https://smartgrowthamerica.org/10-elements-of-complete-streets/>



demand. This would encourage projects that will meet potential active transportation demand.

- All active transportation projects, regardless of funding source, should also prioritize projects within disadvantaged communities or projects that address identified inequities. Prioritizing disadvantaged communities not only helps make transportation access fairer, but doing so also helps to achieve USDOT goals of investing 40% of project funds in disadvantaged communities.
- More detailed analyses can be conducted to ensure that all neighborhoods and communities have walking and biking access to everyday destinations - particularly for populations who could benefit the most from such facilities, such as low-income and zero car households, disabled populations, and historically marginalized communities of color. Prioritizing walking and biking facilities in these locations can improve connectivity and quality of life for these residents.

Continue to Prioritize Separated Facilities

Through the dedication of 80% of its South Carolina TAP funding to the ECG, GSATS has made a statement about the importance of separated facilities. To meet the needs of all GSATS area residents and visitors, GSATS should continue to prioritize bicycle and pedestrian facilities that are physically separated from motorized traffic. While on-road facilities such as bike lanes are certainly valid in some situations, separated bicycle facilities provide lower-stress environments that 60% of the public desire based on public feedback, as discussed in greater detail in the Level of Service Standards Technical Memorandum. These facilities also provide greater separation for pedestrians, making the walking environment more comfortable as well. Such would include separated bike lanes, shared-use paths, sidepaths, trails, and greenways. Moving beyond just the East Coast Greenway, when new roadway and widening projects are considered, GSATS should advocate for separated facilities over typical roadway cross sections and in compliance with state and local complete streets policies; in many cases, separated facilities require less right-of-way than on-road bike lanes. By providing facilities that everyone can use, especially the most vulnerable users like children and the elderly, GSATS will elevate the perception of active transportation, encourage more people to use the provided facilities, and meet the needs of a greater number of its constituents.

Continue to Connect the Network

GSATS understands the importance of connecting the network, as shown by its focus on connecting the East Coast Greenway. GSATS should continue to direct its attention to connecting the bicycle and pedestrian network as funding allows, including the East Coast Greenway and beyond by prioritizing safety and demand. By providing a better-connected network, facilities will be more useful for transportation trips as more destinations are reachable via active transportation. This in turn will make it more plausible to expand beyond



TAP funding and advocate for the use of Surface Transportation Block Grant Program³⁹ funding and other funding sources for bicycle and pedestrian projects, as they will have a legitimate transportation nexus.

Pursue Expanded Active Transportation Funding Through BIL

BIL created new programs and expanded eligibilities for nonmotorized facilities under existing programs. Walking and biking infrastructure can be funded through programs created explicitly for such facilities, such as TAP or the Active Transportation Infrastructure Investment program. Such projects can also be funded through other programs if the projects support the program goals, such as protected bike lanes under the Safe Streets for All program or projects that substantially advance walking and biking under the Carbon Reduction Program. Lastly, many other highway programs allow active transportation funding, including the Rural Surface Transportation Block Grant and legacy programs like Congestion Mitigation and Air Quality.

³⁹ Per FHWA’s website, “The FAST Act converts the long-standing Surface Transportation Program into the Surface Transportation Block Grant Program acknowledging that this program has the most flexible eligibilities among all Federal-aid highway programs and aligning the program’s name with how FHWA has historically administered it. The STBG promotes flexibility in State and local transportation decisions and provides flexible funding to best address State and local transportation needs.” For more information visit: <https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm>.