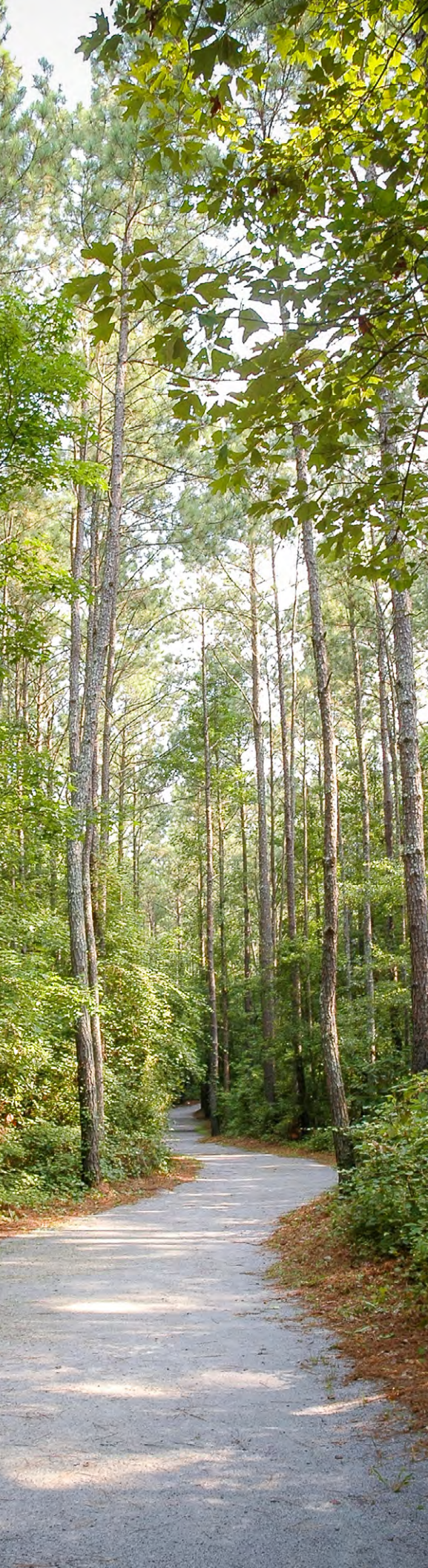




US 21 Corridor Study

Beaufort County
August 2025

25



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EXISTING CONDITIONS

PURPOSE

Transportation is critical to residents and business owners within Beaufort County. It facilitates access to daily needs, tourism destinations, education, job opportunities, and health care facilities. US 21 serves as a gateway to many critical destinations for community members. In order for Beaufort County to identify transportation needs and priorities along the corridor, it is important to understand the state of the existing transportation network.

This US 21 Existing Conditions Report presents a snapshot of the state of transportation along the corridor at the time of the document's production and will be used to inform decision-making for corridor improvements moving forward. It assesses the history of the area, community demographics, the local economy, and the transportation network from a multimodal lens. The report will break down existing conditions of the study area's roadways, bicycle and pedestrian infrastructure, public transportation, and freight movements.

Regional Breakdown

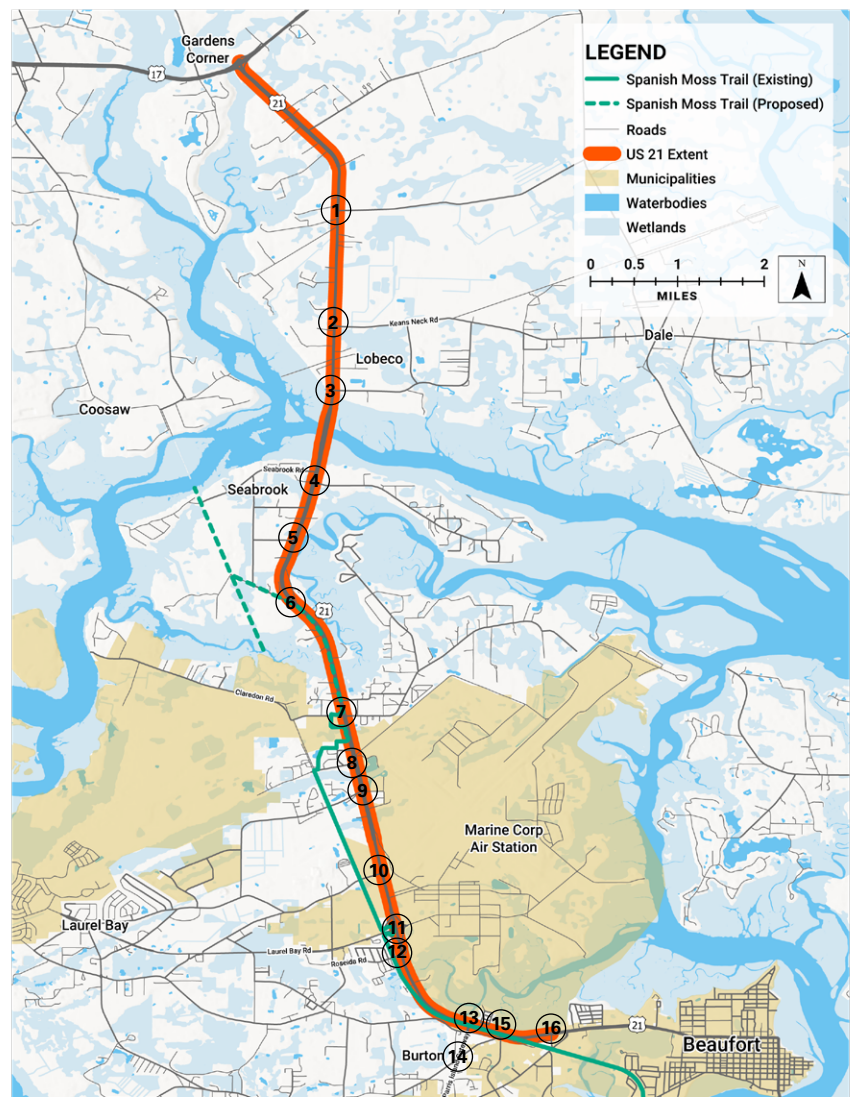
Corridor Overview

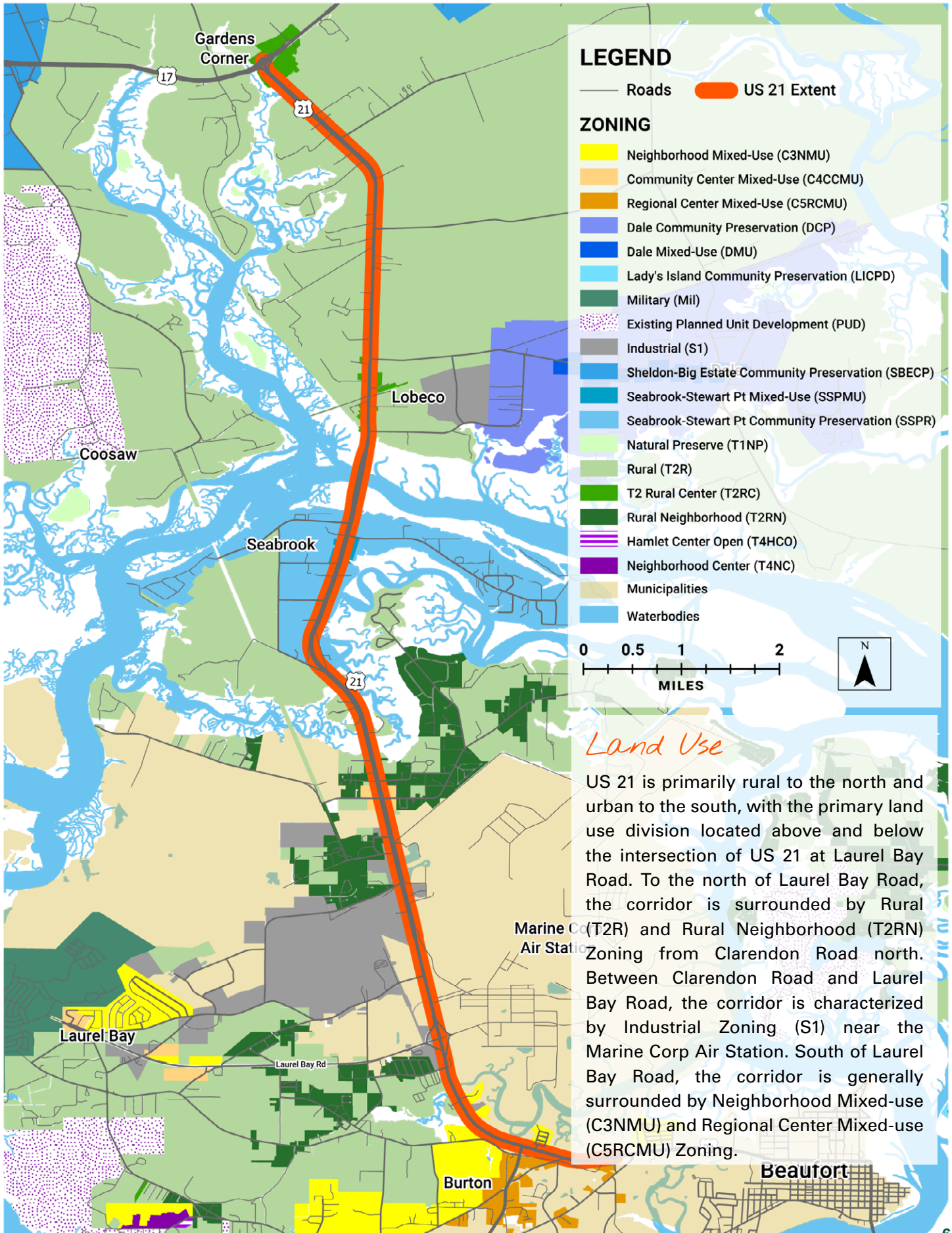
US 21 serves as a gateway into the City of Beaufort and the surrounding area. It has a variety of land uses and densities along its extent, beginning very rural in nature and terminating in a more urban environment. The corridor serves as a connection to the Marine Corp Air Station, Beaufort, providing access to and from the station for the surrounding community. It is also an evacuation route, providing safe passage from the area in an emergency.

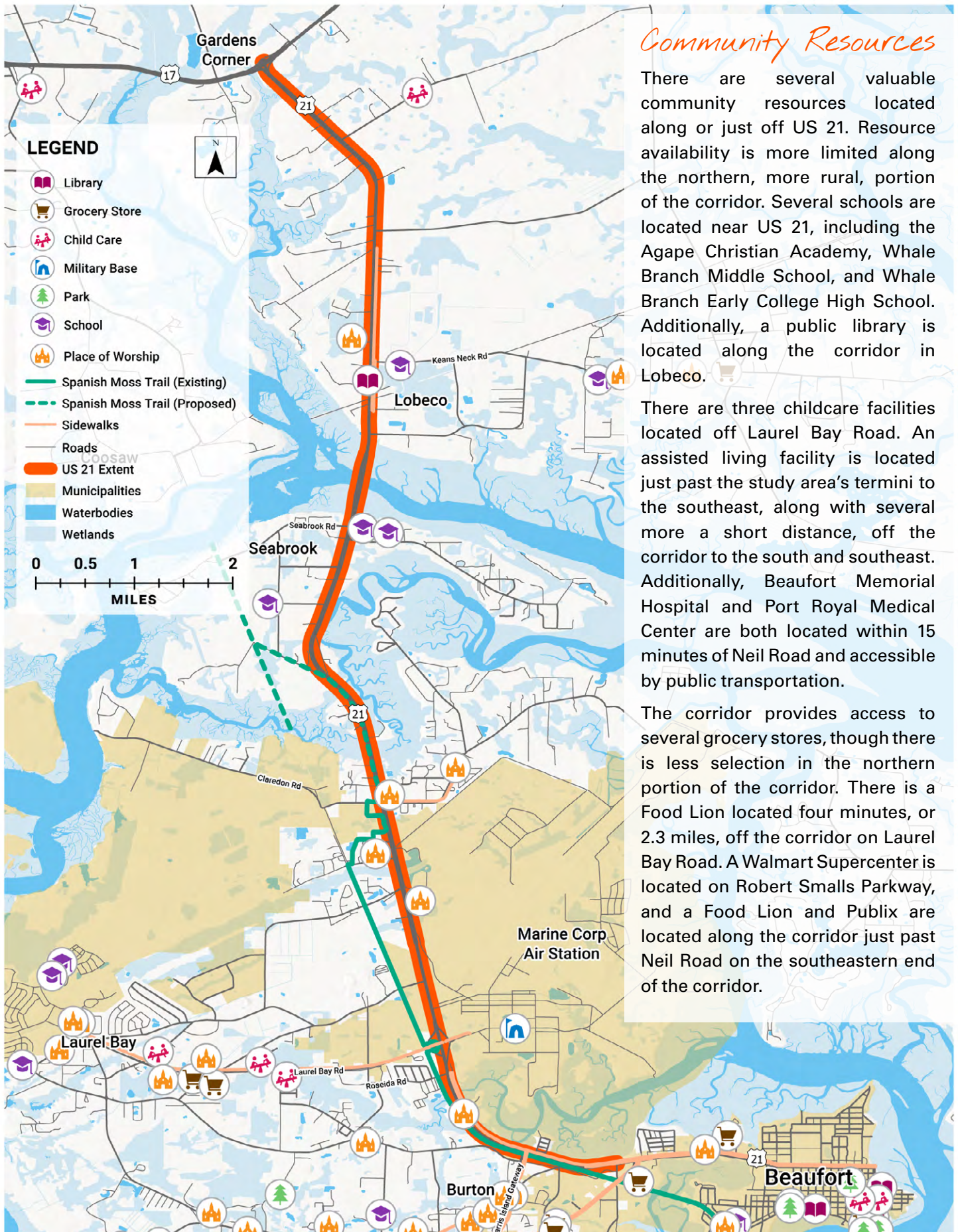
The US 21/US 21 Business corridor has been the subject of planning initiatives, with previous public meetings being held to identify corridor needs. A corridor study for US 21 Business in Lady's Island, just beyond the Vicinity Map's extent, was conducted in 2017 and updated in 2019. The study's segment, from Woods Memorial Bridge to Chowan Creek Bridge including Lady's Island Drive/Sam's Point Road from Rue Du Bois to Miller Drive, connects to the segment focused on in this study through Downtown Beaufort. More recently, a virtual public meeting was held between February 8 and March 7, 2021, considering the needs for the same area. In acknowledgement of the continuing importance of this corridor and to continue momentum from previous planning efforts, Beaufort County has initiated this corridor study of US 21 from US 17 to Neil Road to identify corridor needs, assess possible alternatives to address those needs, and establish quality recommendations for the corridor moving forward.

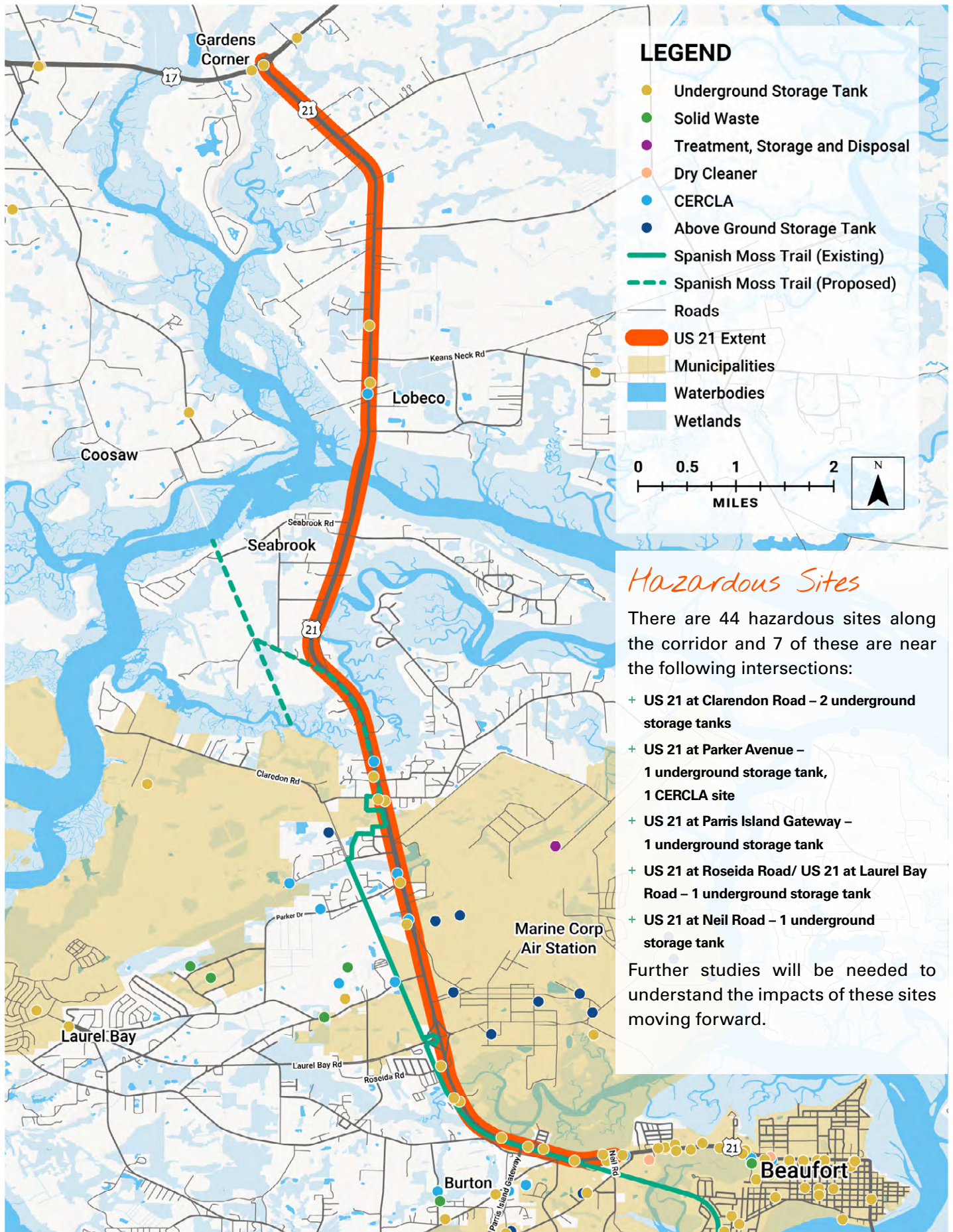
This corridor study will focus on 16 intersections along the corridor:

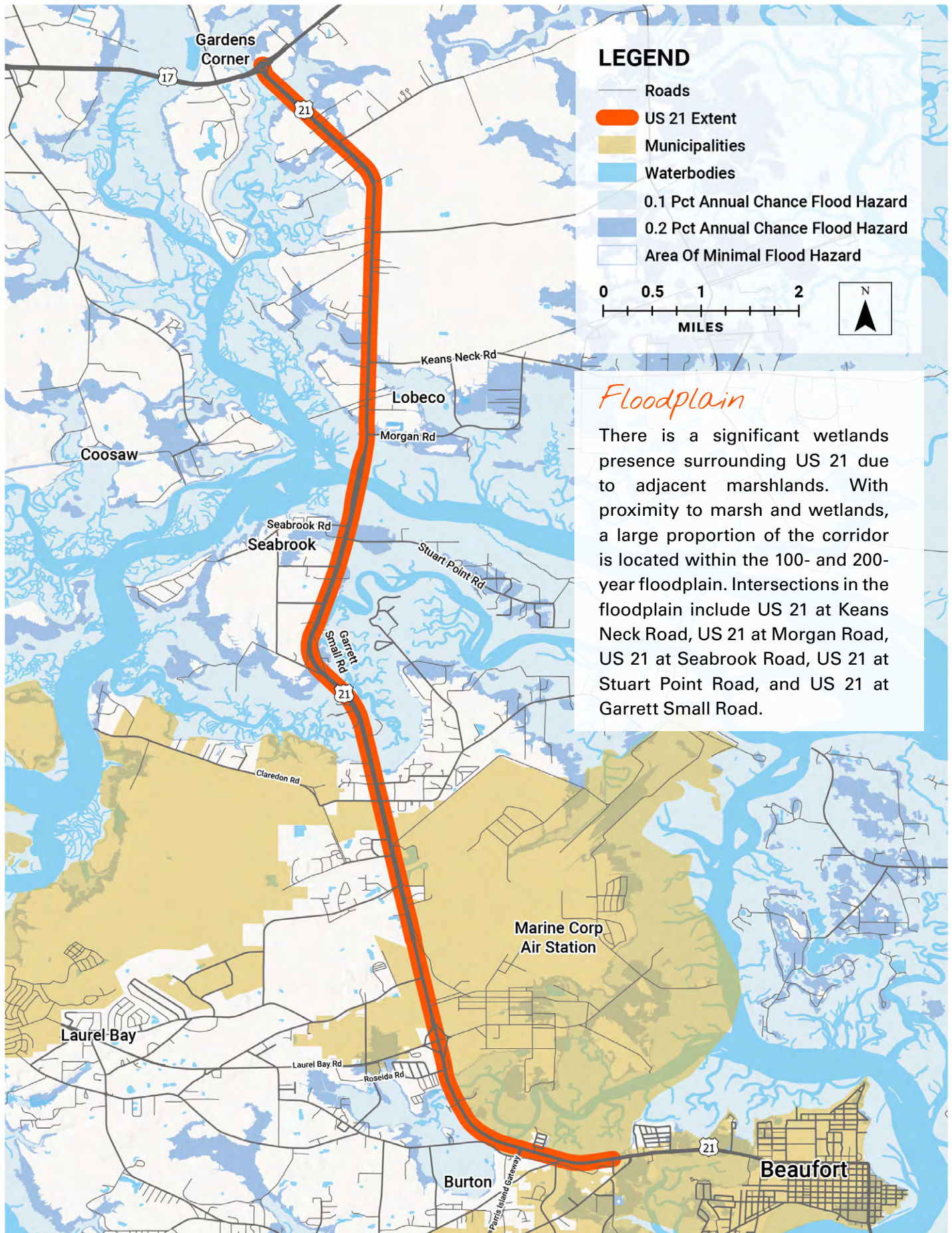
- + US 21 at Washington Farm Road ①
- + US 21 at Keans Neck Road ②
- + US 21 at Morgan Road ③
- + US 21 at Seabrook Road and Stuart Point Road ④
- + US 21 at Martin Lane ⑤
- + US 21 at Detour Road/Garrett Smalls Road ⑥
- + US 21 at Clarendon Road/Bruce K. Smalls Drive ⑦
- + US 21 at Poppy Hill Road ⑧
- + US 21 at Parker Drive ⑨
- + US 21 at Shanklin Road ⑩
- + US 21 at Laurel Bay Road ⑪
- + US 21 at Roseida Road ⑫
- + US 21 at Paris Island Gateway ⑬
- + Paris Island Gateway at Broad River ⑭
- + US 21 at Broad River Road ⑮
- + US 21 at Neil Road ⑯











Demographics

The US 21 5-mile buffer indicated in the map below has a population of 59,821 according to the 2021 American Community Survey, with a median household income of \$59,578. This is significantly lower than the median household income of Beaufort County, which is \$83,323. 17 percent of the buffer area population has a bachelor's degree or higher compared to 46.5 percent of the County as a whole. Following a similar trend, 12.86 percent of households in the study area are below the poverty level compared to 9.66 percent of households in the County. A further illustration of the corridor's community profile is illustrated below:

Key Facts



59,821

Total Population
(2021 ACS)



34.7

Median Age
(2023 Esri)



2.4

Average
Household Size
(2023 Esri)



\$59,578

Median
Household Income
(2021 ACS)

Housing Stats



\$291,738

Median Home Value
(2023 Esri)



4%

Population in
Group Quarters
(2020 Census)



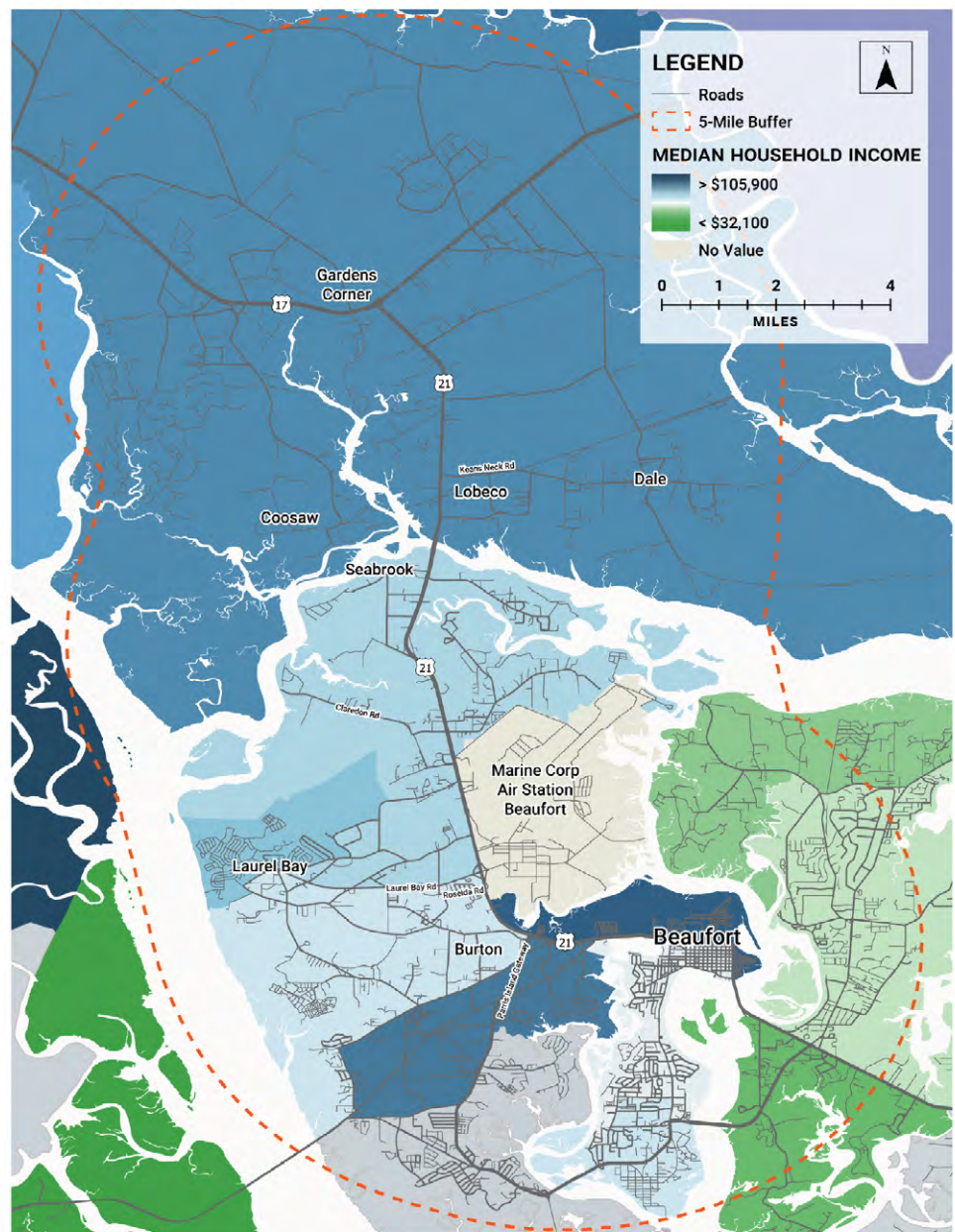
\$973

Median Rent
(2021 ACS)



63% 37%
Own Rent

Median Household Incomes





Education

5%

Population over 25:
9th-12th
No Diploma

27%

Population over 25:
High School
Diploma

24%

Population over 25:
College/
No Degree

17%

Population over 25:
Bachelors
Degree

Source: 2023 ACS

Justice 40 Disadvantaged Census Tracts



At Risk or Underserved



17%

Senior Population
(Age 65+)



97.0

Senior
Dependency Ratio

Source: 2023 Esri

2023 Households by Income (ESRI)

The largest group: \$50,000–\$74,999 (22.2%)

The smallest group: \$150,000–\$199,999 (5.9%)

Indicator	Value	Diff *	
<15,000	9.9%	-1.1%	
\$15,000 – \$24,999	6.9%	-1.6%	
\$25,000 – \$34,999	9.5%	+1.0%	
\$35,000 – \$49,999	12.7%	-0.2%	
\$50,000 – \$74,999	22.2%	+3.9%	
\$75,000 – \$99,999	9.0%	-3.6%	
\$100,000 – \$149,999	17.5%	+2.3%	
\$150,000 – \$199,999	5.9%	-0.6%	
\$200,000 +	6.5%	0	

*Bars show deviation from South Carolina.

Economic Breakdown

The 5-mile buffer area has an unemployment rate of 3.5 percent according to 2023 ESRI data compared to the 3.3 percent unemployment rate of Beaufort County. The primary industry sectors of those living and working along the corridor are educational services, health care and social assistance, retail trade, and accommodation and food services. There are 2,103 businesses within the area and 21,918 total employees according to 2023 ESRI data. Of these employees, more than half of workers are between the ages of 30 and 54. The economic breakdown of the corridor is further illustrated below:

Employment

White Collar



Blue Collar



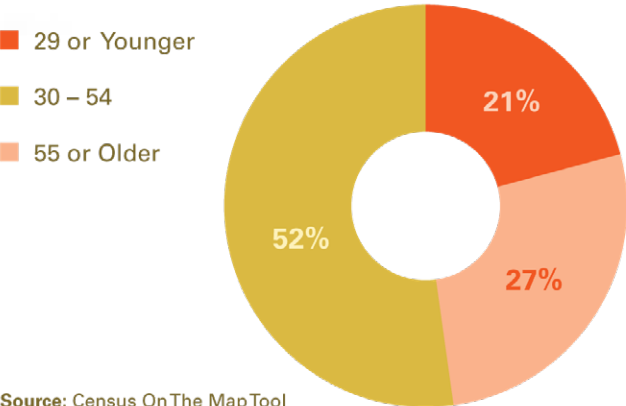
Services



Business



Worker Age Range

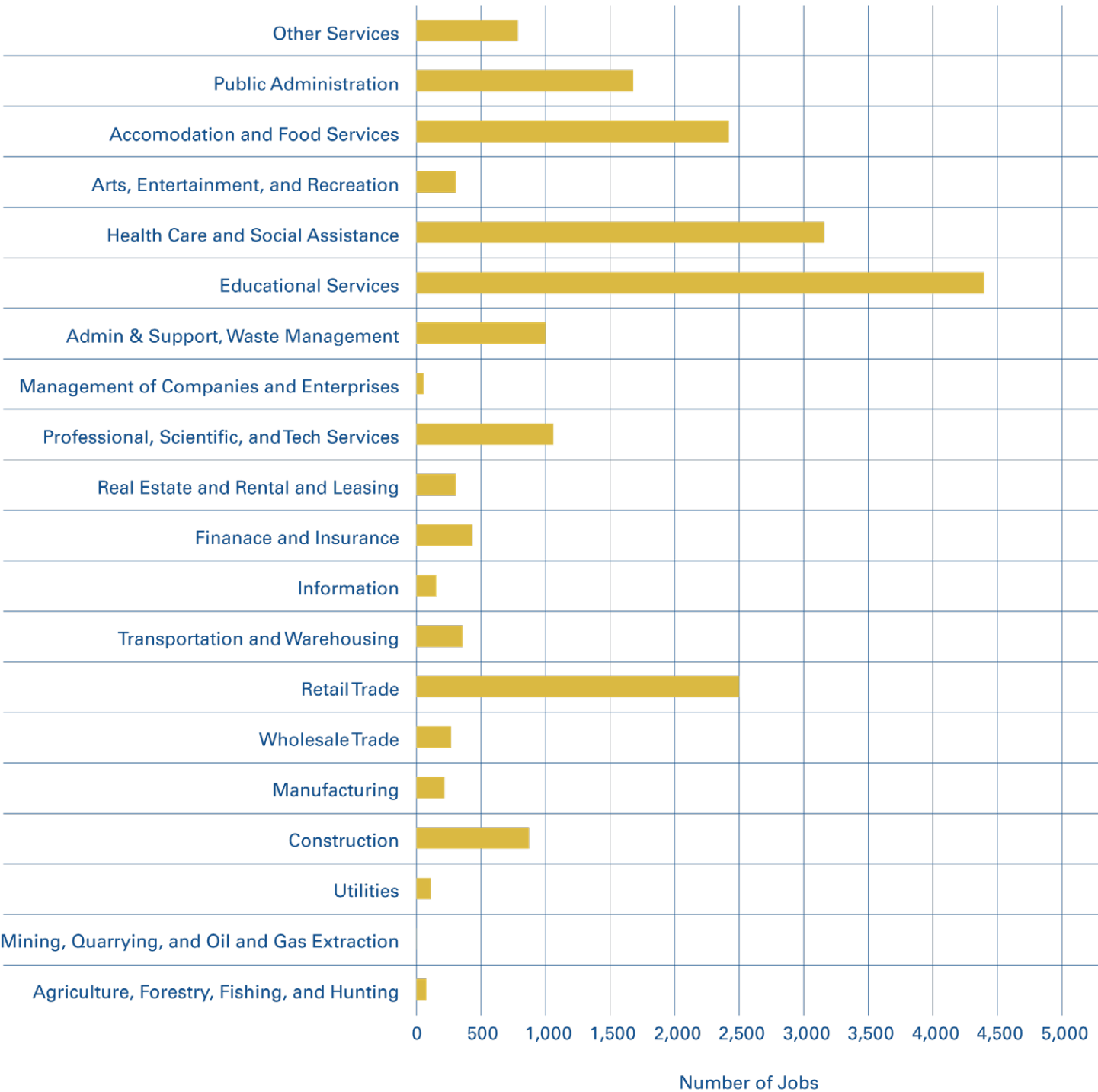


Source: 2023 Esri

Source: Census OnThe MapTool

Industry Sectors

Source: Census OnThe Map Tool



22.1%

in Educational Services

15.9%

in Health Care &
Social Assistance

12.7%

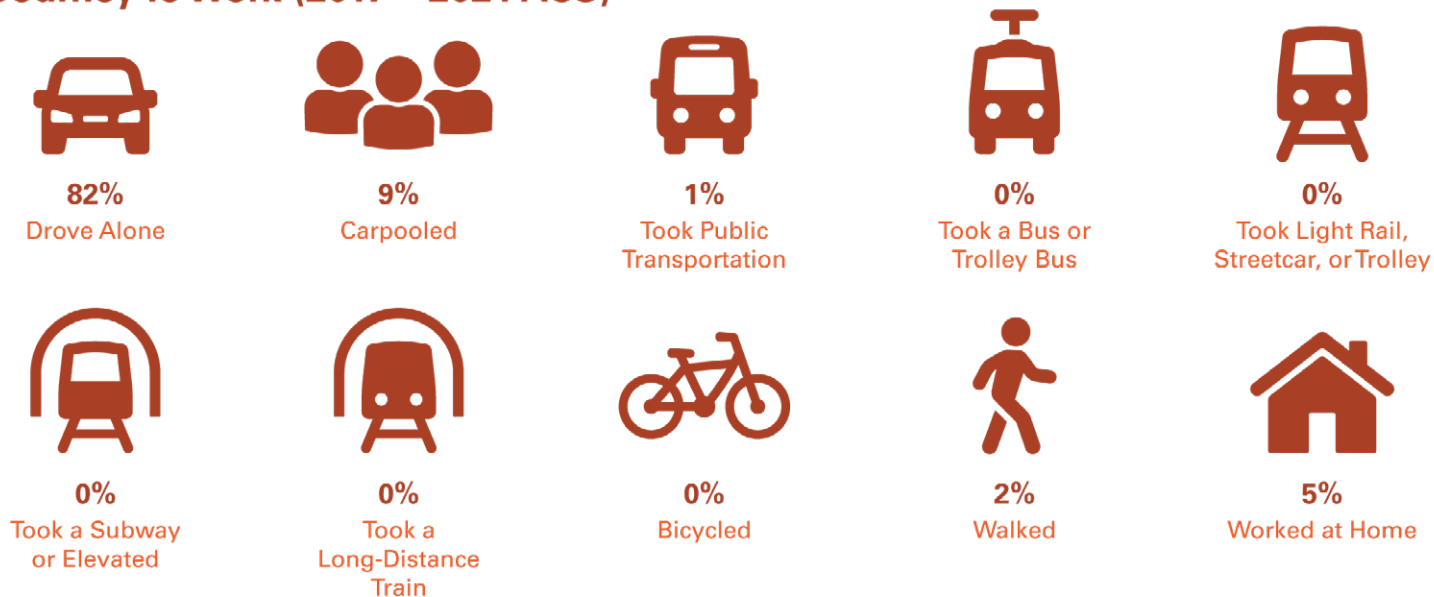
in Retail Trade

12.2%

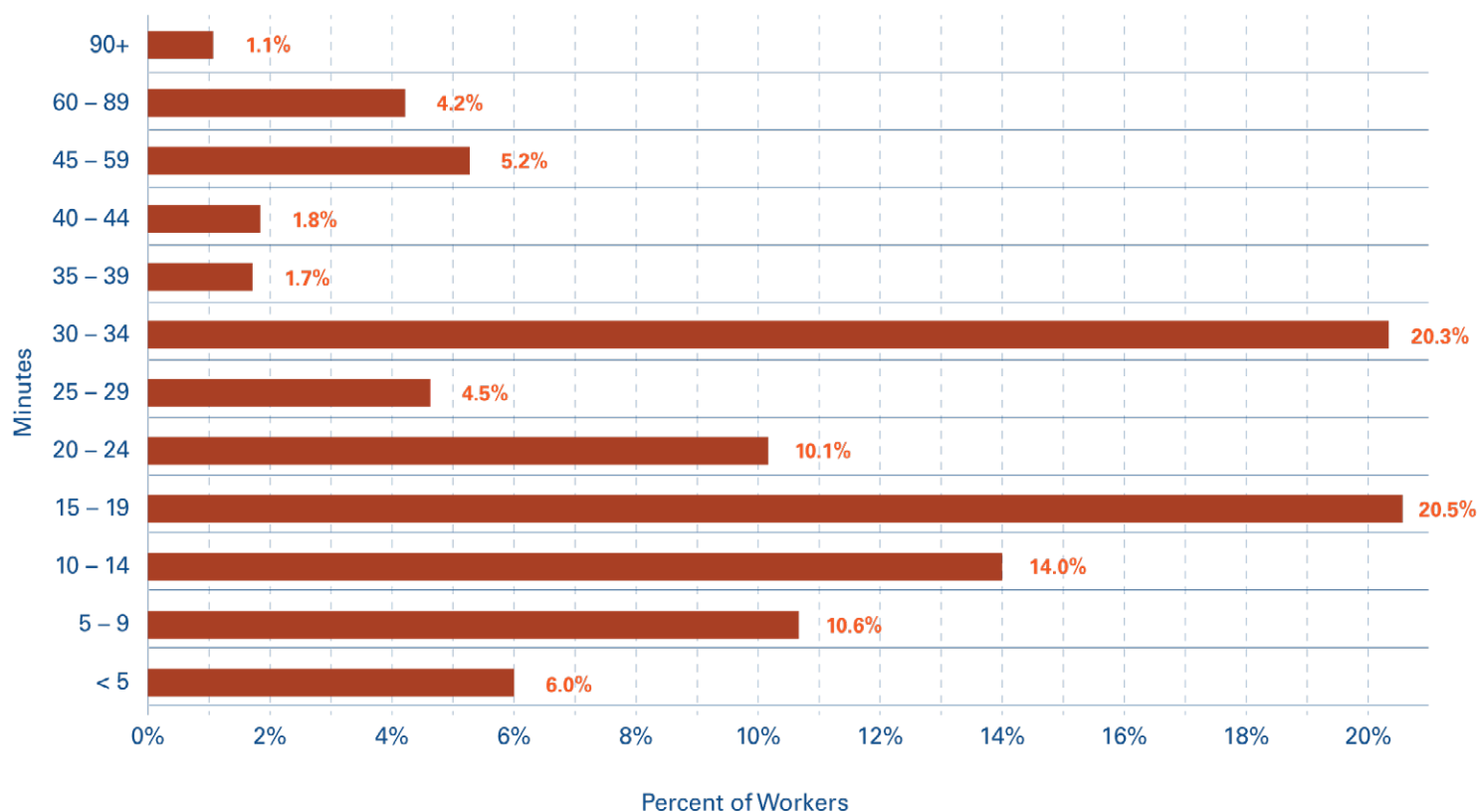
in Accommodation
& Food Services

Commuting Trends

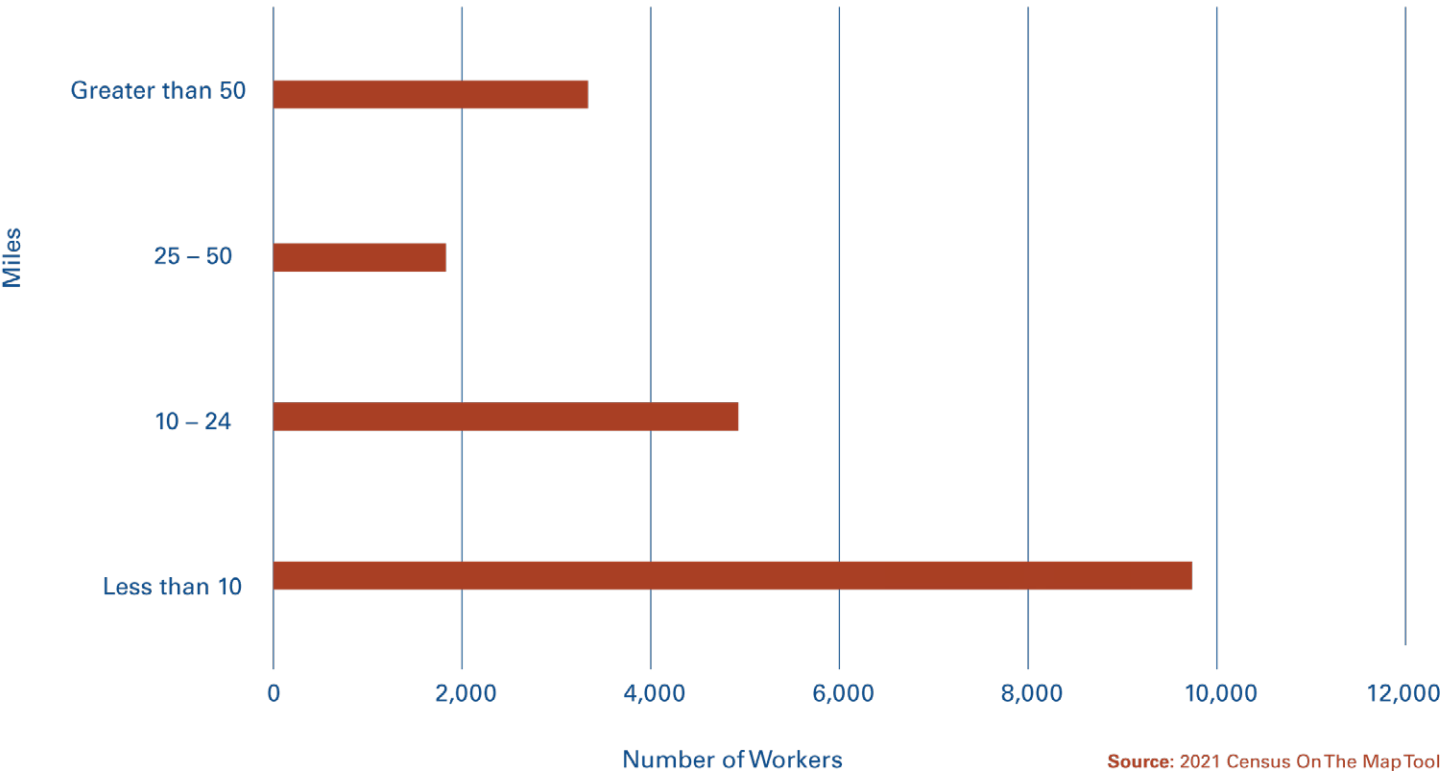
Journey To Work (2017 – 2021 ACS)



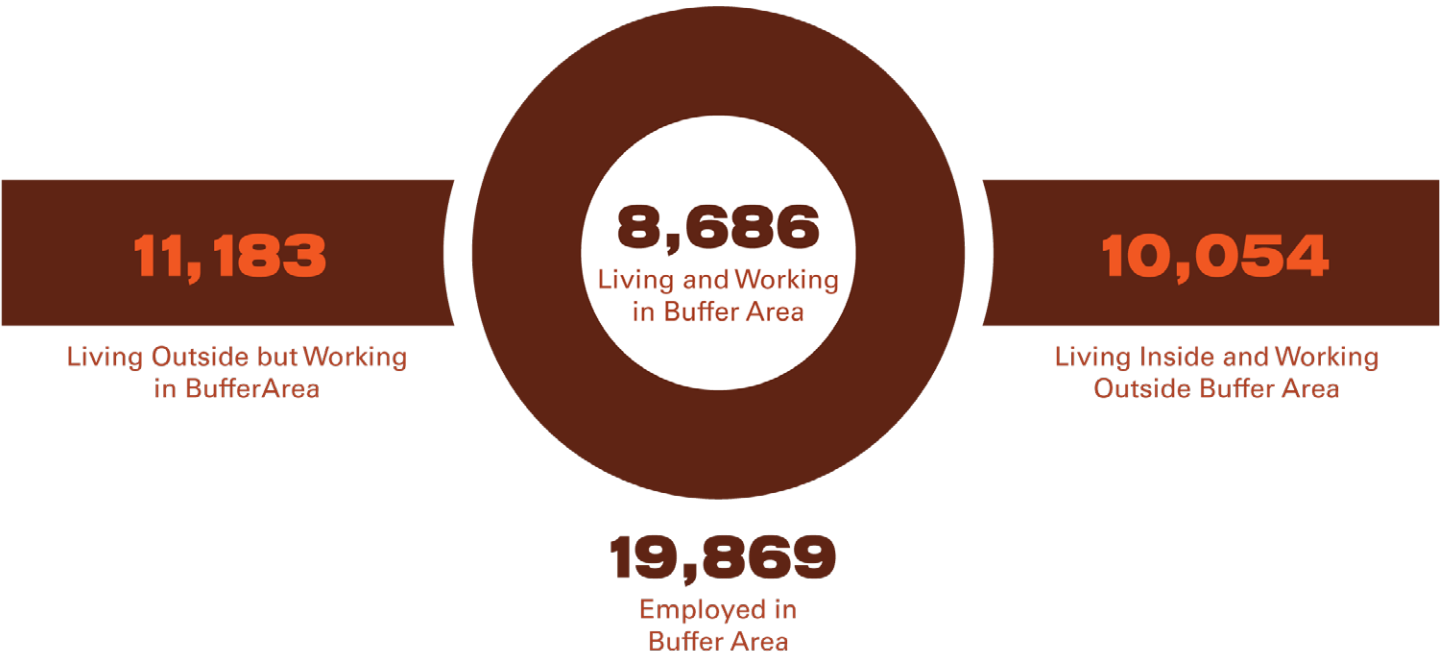
Travel Time to Work



Distance Traveled to Work



Live and Work

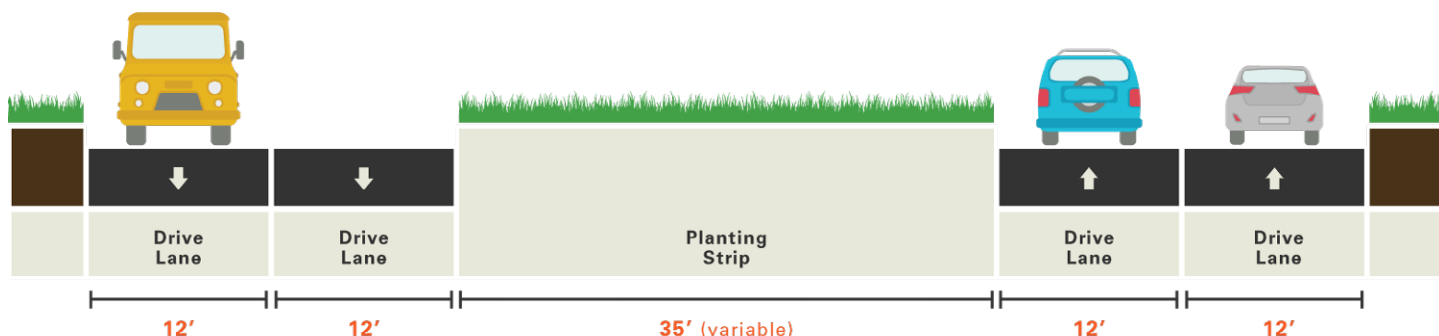


Source: 2021 Census OnThe MapTool
Disclaimer: Decrease from the graphic on page 12 is due to the Census on the Map tool using 2021 data

Transportation Network

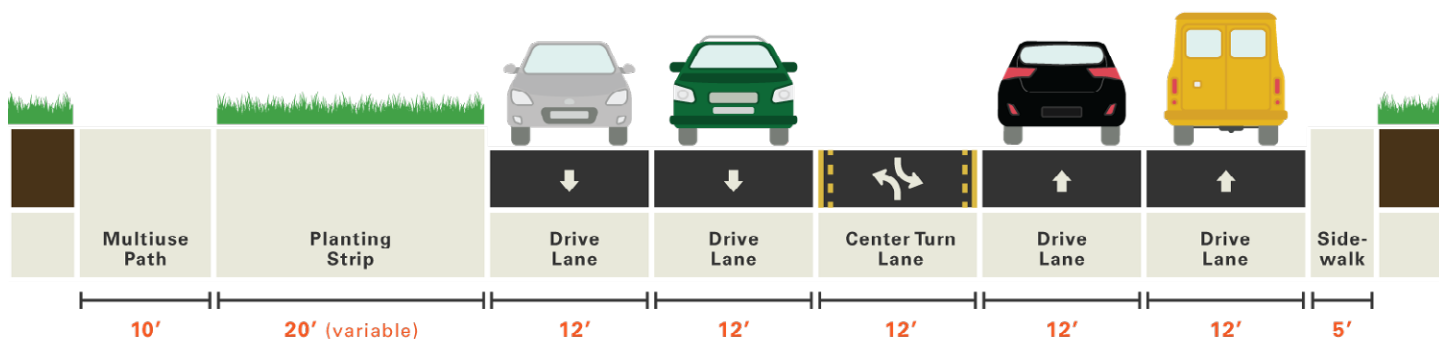
Roads

Existing Typical Roadway Section



North of Laurel Bay

North of Laurel Bay Road, the typical existing roadway section has four lanes and a large, planted median separating northbound and southbound traffic. The corridor does not have curb and gutter north of Laurel Bay Road, except for a small section between Morgan Road and Pap Kee Lane. Surrounding land use along this portion of the corridor is rural with limited driveways on and off the roadway. The speed limit north of Laurel Bay Road is 45 miles per hour (mph) from Laurel Bay Road to the MCAS Truck Gate where it transitions to 50 mph. This speed limit continues to Shanklin Road where it transitions to 55 mph through Parker Drive. At Parker Drive, the speed limit shifts once more to 60 mph for the majority of the remainder of the corridor. The corridor briefly drops back to 50 mph for a short stretch north of Keans Neck Road.



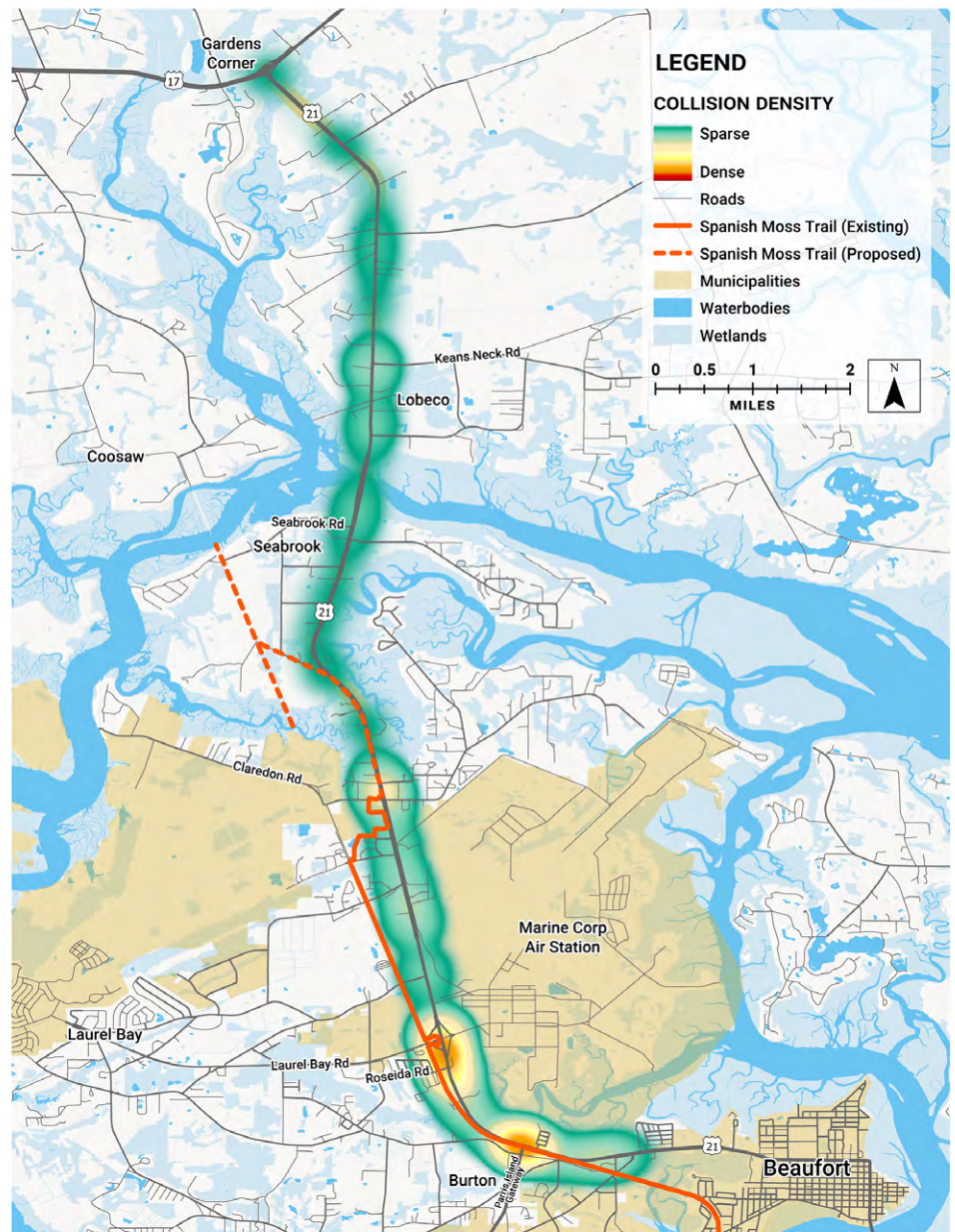
South of Laurel Bay

South of Laurel Bay Road, the typical existing roadway section consists of four travel lanes with a center-turn lane and curb and gutter. There is a 10-foot multi-use path to one side of the corridor and a 5-foot sidewalk on the other side. There are two sections of the segment with 5-foot sidewalks on both sides of the road, specifically between Roseida Road and Salt Creek Drive and between Broad River Boulevard and Neil Road. A planting strip separates the multiuse path from automobile traffic and varies in width depending on corridor location. The speed limit south of Laurel Bay Road is 45 miles per hour until Broad River Boulevard, where it drops down to 40 miles per hour through the remainder of the corridor. Surrounding land use south of Laurel Bay Road is mixed-use and characterized by more driveways into and off the corridor.

Collisions

Collision data provided by the South Carolina Department of Transportation (SCDOT) from 2018 - 2023 reported that a total of 743 collisions occurred during those five years. Just over half of the collisions occurred while it was dark and the largest number of fatal collisions were seen on Saturdays and Mondays. Twelve collisions were fatal and 239 resulted in injuries.

Over half of the collisions were listed as “non-junction,” meaning they did not occur at intersections. Additionally, more than half of the collisions (483) involved a motor vehicle in transit. The second most common collision factor involved vehicles running into the shoulder or off the road (85), which was followed closely by collisions involving a stopped vehicle (76).



Fatality Breakdown

Junction vs. Non-Junction

- + 10 fatalities were at “non-junctions”
- + 1 fatality was at a 4-way intersection
- + 1 fatality was at a T-intersection

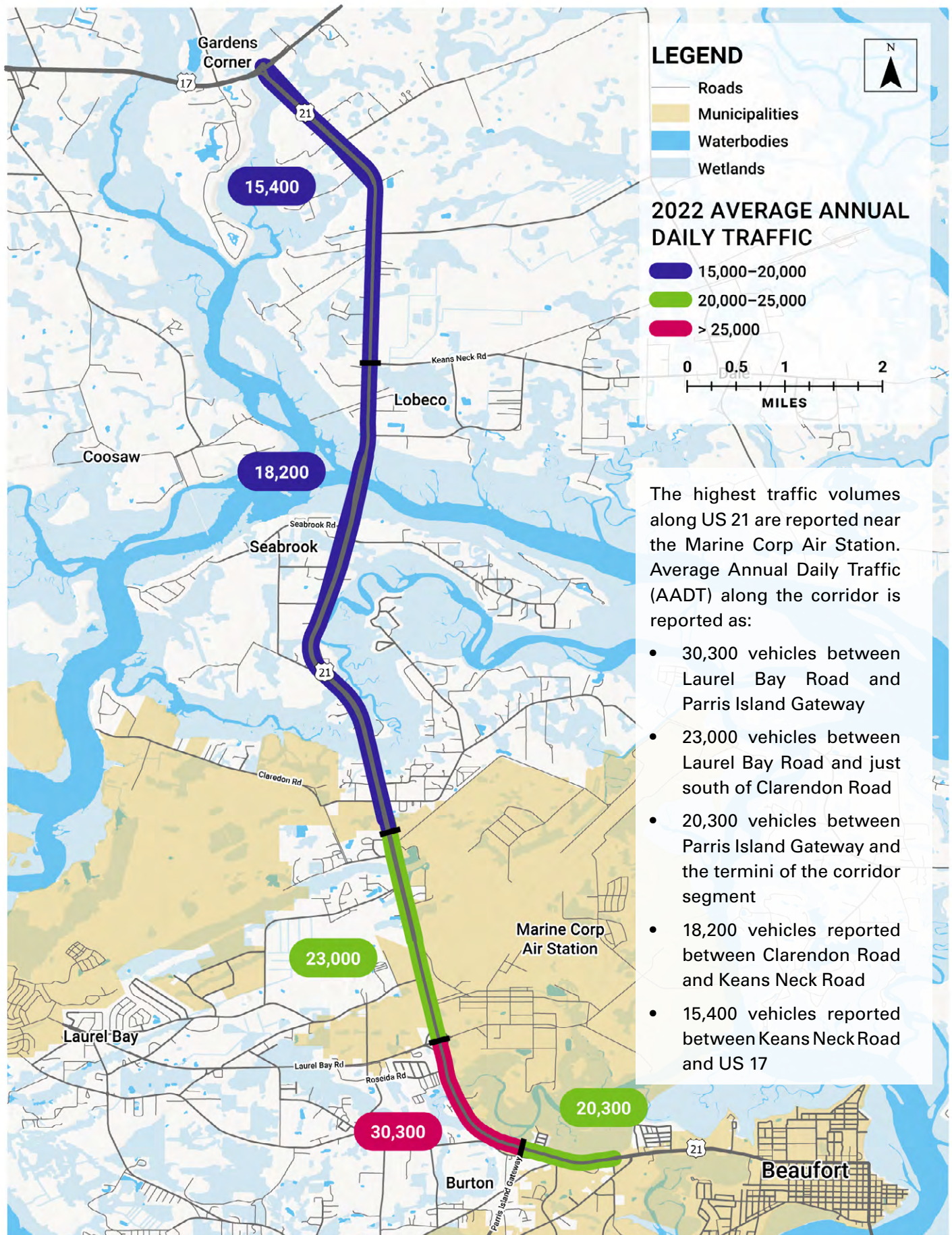
Conditions

- + 10 fatalities occurred in dry conditions
- + 2 fatalities occurred in wet conditions
- + 1 with fog

Incident Factors

- + 4 fatalities involved a motor vehicle in transport
- + 2 fatalities involved a bicycle
- + 2 fatalities involved a pedestrian
- + 3 fatalities involved a tree
 - + 1 was medical related
- + 1 fatality involved a stopped motor vehicle





Freight

US 21 connects to US 17 which is on the South Carolina Statewide Freight Network. SCDOT designated corridors to the Statewide Freight Network to increase the mobility of freight within the state. US 17 runs parallel to the coast, providing access to other coastal cities within and outside of South Carolina, including Savannah, Georgia, Charleston, South Carolina, and Wilmington, North Carolina. US 21 is a critical connection for freight traffic to access the South Carolina Statewide Freight Network and its reach within and outside the state.

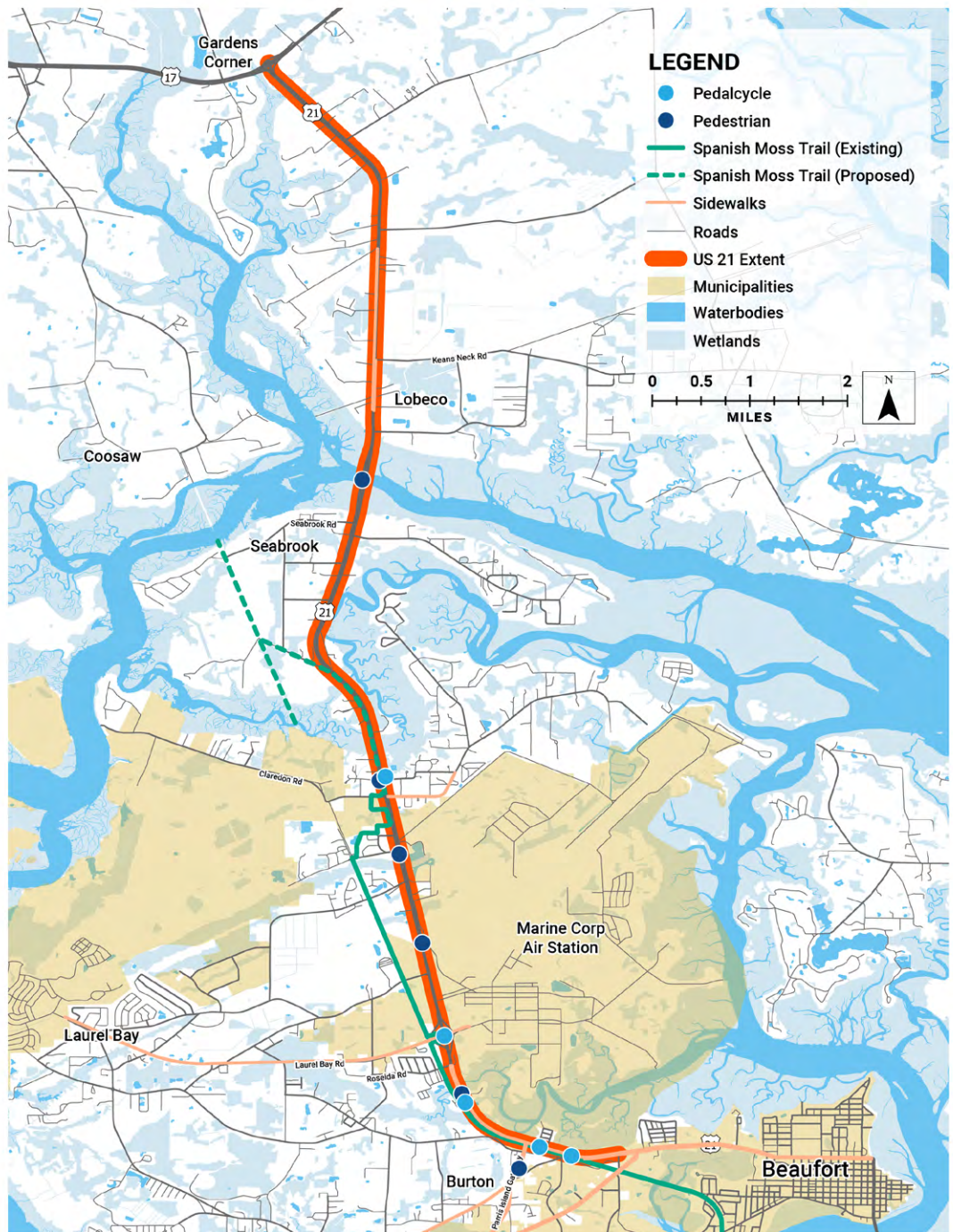
Bicycle and Pedestrian

There have been 11 collisions involving a bicycle (pedalcycle in the maps) or pedestrian along US 21. Of these, six involved a pedestrian and five involved a pedalcycle. More than half were located at or near four intersections:

- + Broad River Road – 1 pedalcycle collision
- + Parris Island Gateway – 1 pedalcycle collision, 1 pedestrian collision
- + Laurel Bay Road – 1 pedalcycle collision
- + Jonesville Road – 1 pedalcycle collision, 1 pedestrian collision

Of the pedalcycle and pedestrian collisions, four were fatal and two resulted in serious injuries. Two of the fatalities involved pedalcycles, and the other two involved pedestrians. One pedalcycle collision at the Laurel Bay Road intersection resulted in property damage only.

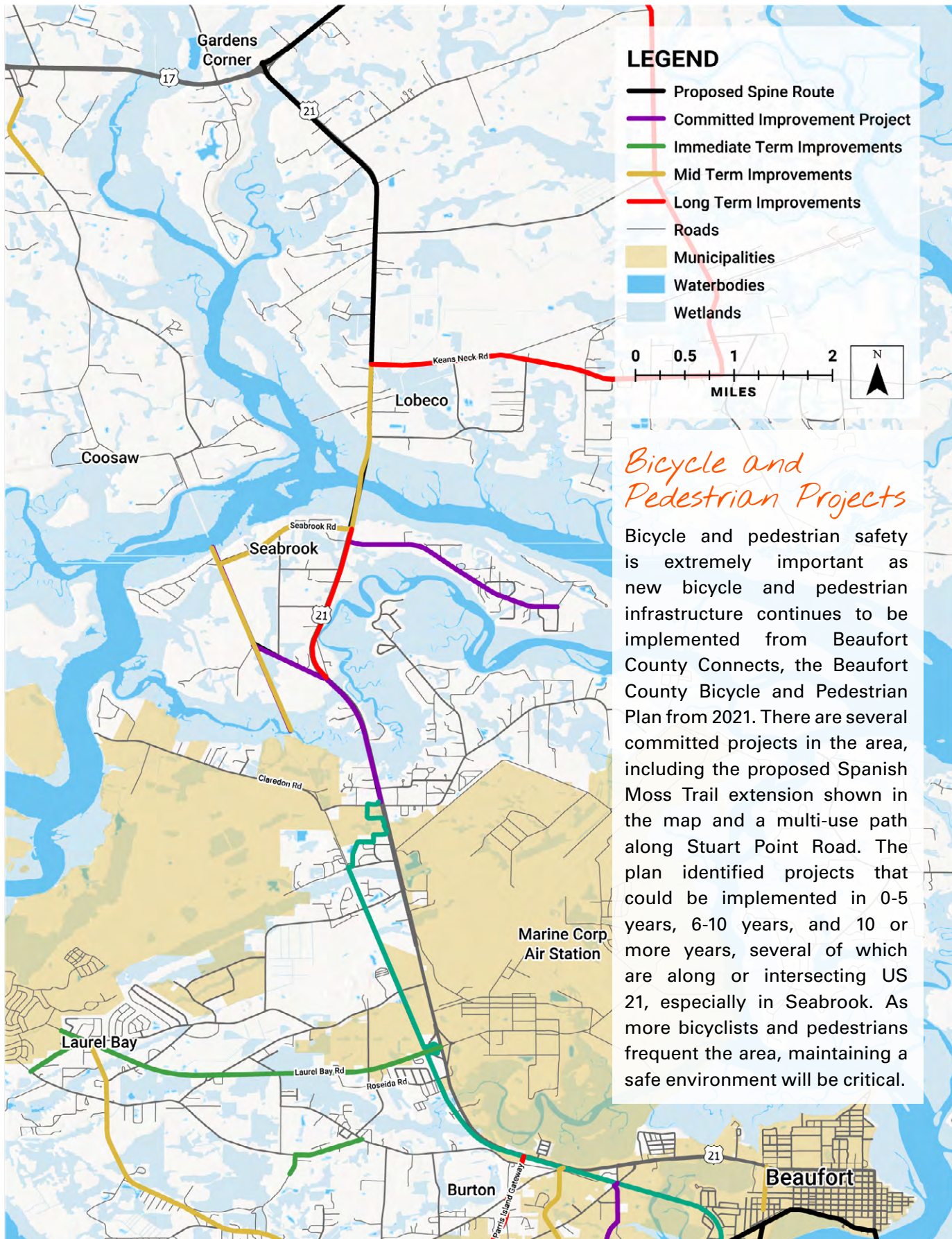
Crash Map



Bike and Pedestrian Level of Harm



Beaufort County Connects Projects



Transit

Palmetto Breeze Transit has two main routes serving the US 21 Corridor and one additional route serving the southeastern end of the corridor. The two main routes are Route 309: Big Estate/Sheldon to Hilton Head Commuter and Route 501: Sheldon/Seabrook to Beaufort. Both routes serve several stops along US 17, follow US 21 to Keans Neck Road where they both service Dale, and continue down US 21 where they stop at the Food Lion on Laurel Bay Road before largely following separate routes in the southern end of the corridor. Route 501 has fewer stops than Route 309, with stops limited to US 17, Dale, Whale Branch Early College High School, Big Road and Bruce K Smalls Road, and the Food Lion at Laurel Bay Road before forming a large loop towards Beaufort. This loop stops at the Walmart on Robert Smalls Parkway and the medical facilities near Port Royal. Route 309, on the other hand, includes many stops along US 17 and in Dale, Lobeco, and Seabrook. It stops at the Marine Base and has several stops around Burton rather than forming the larger loop around it, like Route 501.



Route	AM Hours	PM Hours	Weekly Service	Frequency
Route 309	4:15AM – 6:01AM	6:00PM – 7:30PM	Monday – Sunday	Twice Daily
Route 501	6:15AM – 9:30AM	2:30PM – 4:40PM	Monday – Friday	Twice Daily
Route 702	6:00AM – 12:00AM	11:30AM – 6:50PM	Monday – Friday	Hourly

Source: <https://www.palmettobreezetransit.com/routes-schedules>

Route 702, also known as the Beaufort Loop, does not touch the segment of US 21 in question but is close enough to access it. The route follows Robert Smalls Parkway at US 21 Business and intersects Neil Road one block off the corridor study segment. This route is true to its name and forms a loop from Downtown Beaufort to the Walmart on Robert Smalls Parkway to Port Royal and back to Beaufort.

Safety Improvement Toolbox

This existing conditions analysis illustrates the current state of transportation along US 21. From this assessment, several safety concerns have been identified throughout the corridor, and a list of possible safety improvements (see Safety Improvement Toolbox) have been identified for consideration moving forward. A traffic analysis (see page 25) was conducted to further identify opportunities to implement these improvements throughout the corridor.

Intersection Improvements to Consider



Lighting



Addition of Turning Lanes/ Extend Existing Turning Lanes



Sidewalks/ Improved Existing Sidewalks



Signal Retiming



Protected Left Turns at Signalized Intersections



Improved Pavement Markings



Advanced Signage/ Improved Advanced Signage



Bike and Pedestrian Friendly Signal Timing



Implement Reduced Conflict Intersections



Restricted Left Turns at Unsignalized Intersections



Clear Intersection Sight Lines



Roundabouts

Roadway Improvements to Consider



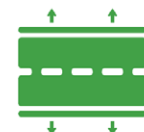
Lighting



Corridor Signal Retiming



Removal of Acceleration Lanes



Paved Shoulders/ Widen Existing Paved Shoulders



Driveway Access Management



Improved Pavement Markings



Rumble Strips/ Improve Existing Rumble Strips



Sidewalks/Improved Existing Sidewalks



Speed Enforcement



Reduced Speed Limit



Addition of Turning Lanes/ Extend Existing Turning Lanes



Median Access Management

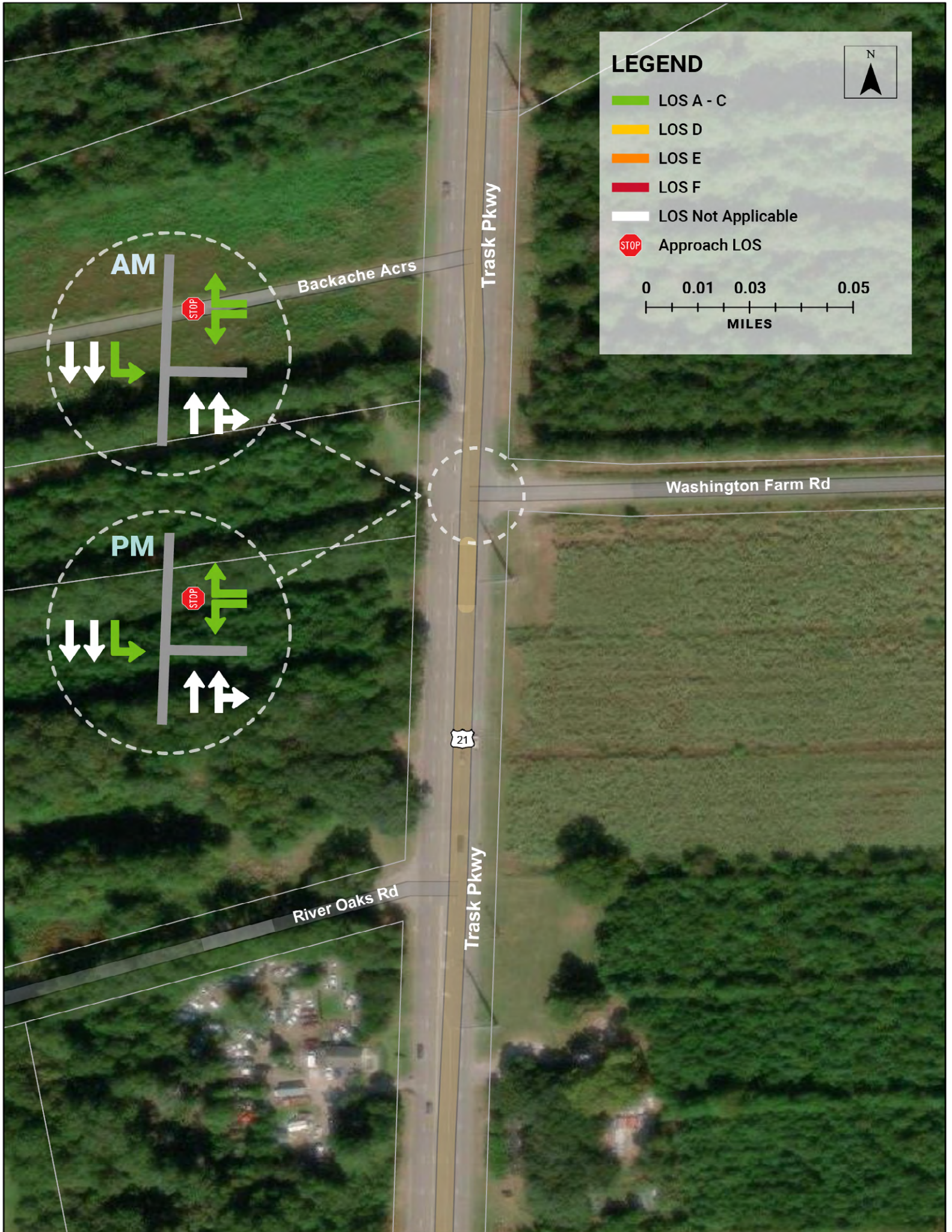
Traffic Analysis

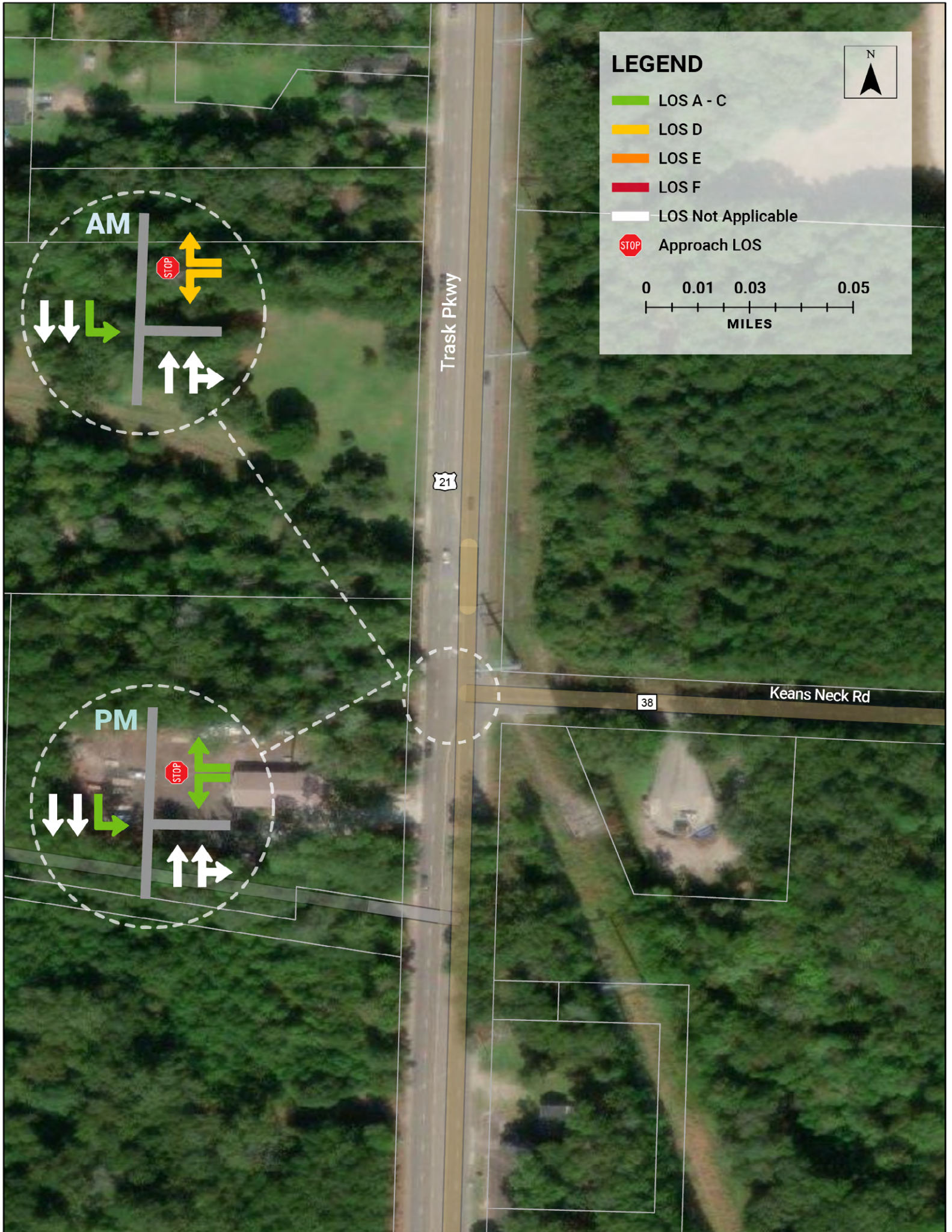
Intersection capacity analyses were performed using the traffic modeling software Synchro, Version 10. This software package is based on methodologies from the Highway Capacity Manual 6th Edition (HCM 6th Edition) and is accepted by SCDOT for the analysis of signalized and unsignalized intersections. The analyses were conducted in accordance with the latest SCDOT Access and Roadside Management Standards (ARMS, 2008) guidelines for traffic impact studies.

The traffic-carrying ability of a roadway is described by Level of Service (LOS), ranging from A to F. The table below defines the traffic flow conditions and approximate driver comfort level at each LOS for signalized and unsignalized intersections.

Traffic Flow Conditions	LOS	Delay (sec/veh) at Intersections	
		Signalized	Unsignalized
Progression is extremely favorable and most vehicles do not stop at all	A	0 – 10	0 – 10
Good progression, some delay	B	10 – 20	10 – 15
Fair progression, some delay	C	20 – 25	15 – 25
Unfavorable progression, congestion becomes apparent	D	35 – 55	25 – 35
Poor progression, significant delay	E	55 – 80	35 – 50
Poor progression, extreme delay	F	>80, or v/c >1.00	>50, or v/c >1.00

Delay thresholds associated with LOS at an intersection differ between those that are signalized and unsignalized. The HCM 6th Edition explains that drivers expect to be serviced in a systematic and orderly pattern at a signalized intersection and are therefore willing to accept greater thresholds of delay associated with LOS. Conversely, service at an unsignalized intersection generally depends on gap acceptance and driver aggression, which are latently random. As a result, drivers at unsignalized intersections are expected to exhibit lower thresholds of delay associated with LOS. A signalized intersection is described by a single, hourly flow rate-weighted LOS, whereas unsignalized intersections are assigned multiple LOS, for each movement with conflicting traffic streams; i.e., major street left turns and all side-street movements. An individual LOS for each movement has been provided for all intersections, but signalized intersections have also been given a single hourly flow rate-weighted LOS. The following pages illustrate the intersection capacity analyses findings.





LEGEND

LOS A - C

LOS D

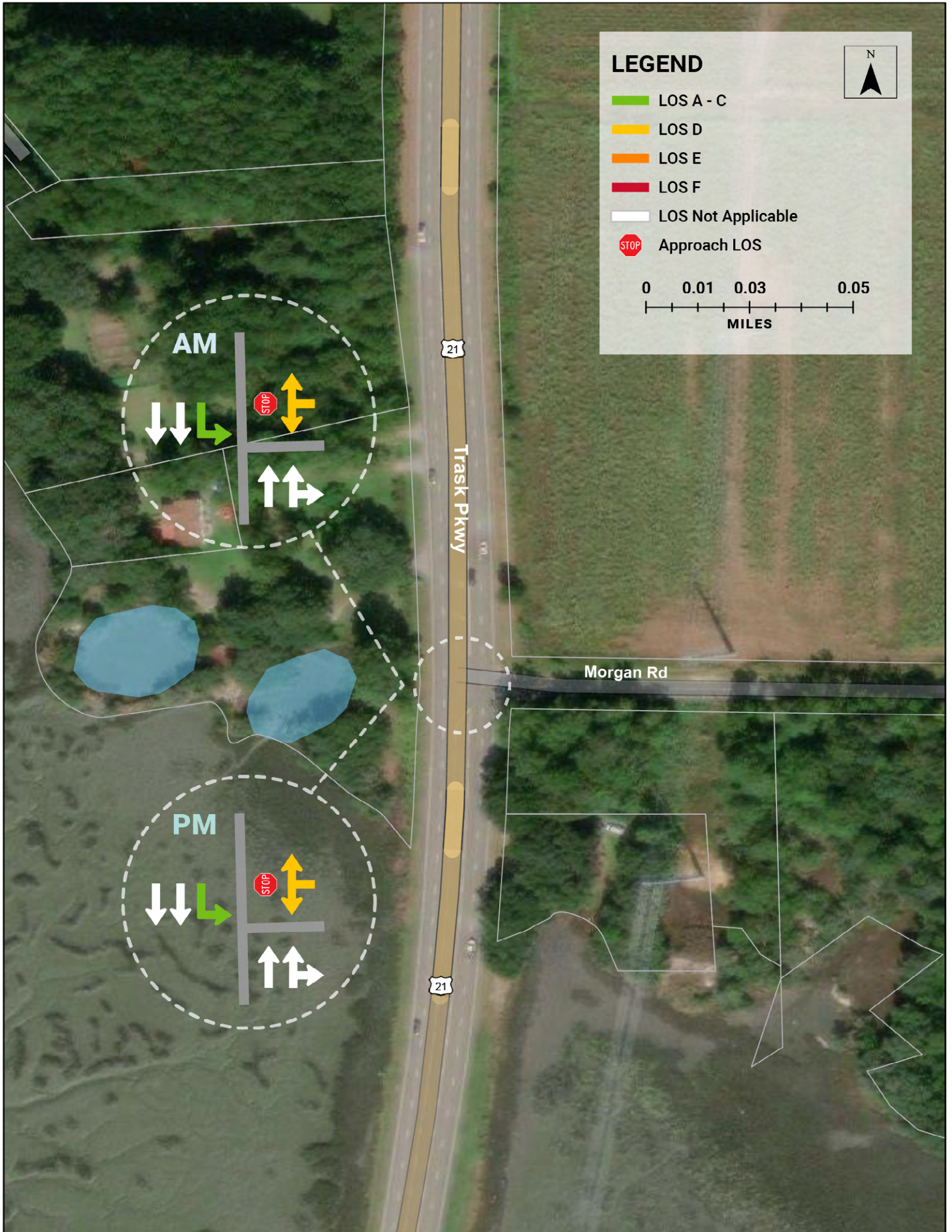
LOS E

LOS F

LOS Not Applicable

Approach LOS

0 0.01 0.03 0.05
MILES



LEGEND

LOS A - C

LOS D

LOS E

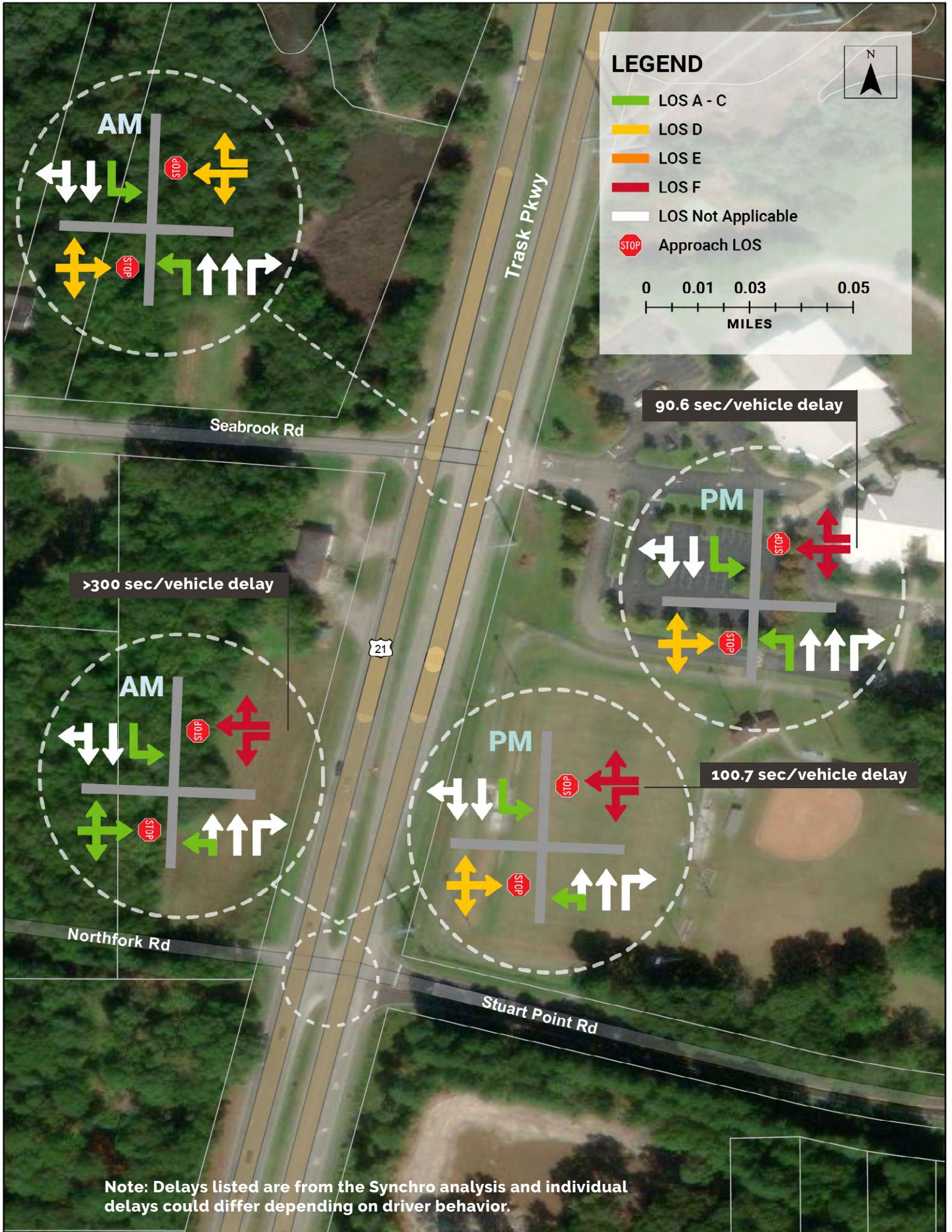
LOS F

LOS Not Applicable

STOP Approach LOS

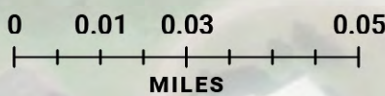
0 0.01 0.03 0.05
MILES





LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS

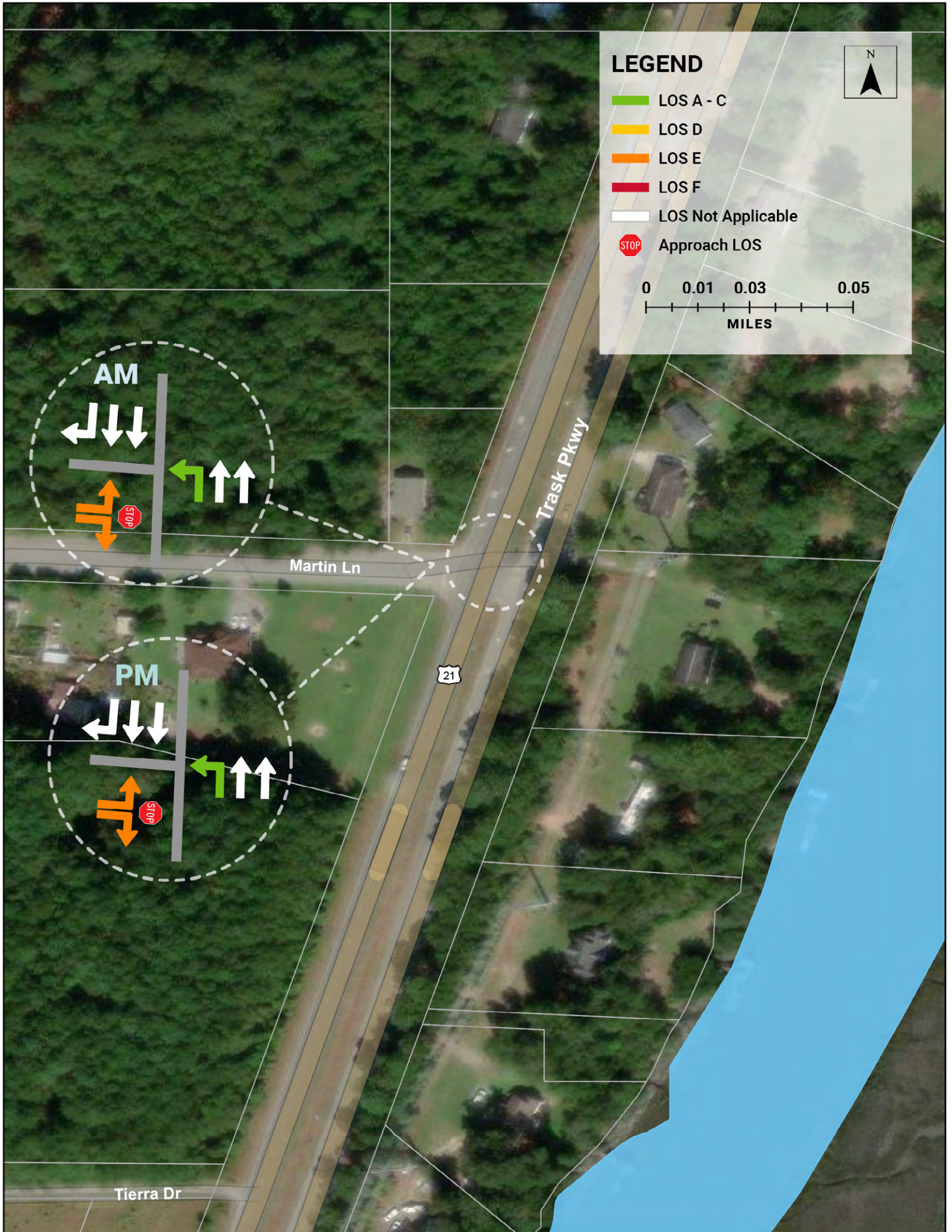


90.6 sec/vehicle delay

>300 sec/vehicle delay

100.7 sec/vehicle delay

Note: Delays listed are from the Synchro analysis and individual delays could differ depending on driver behavior.



LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS

0 0.01 0.03 0.05
MILES

AM

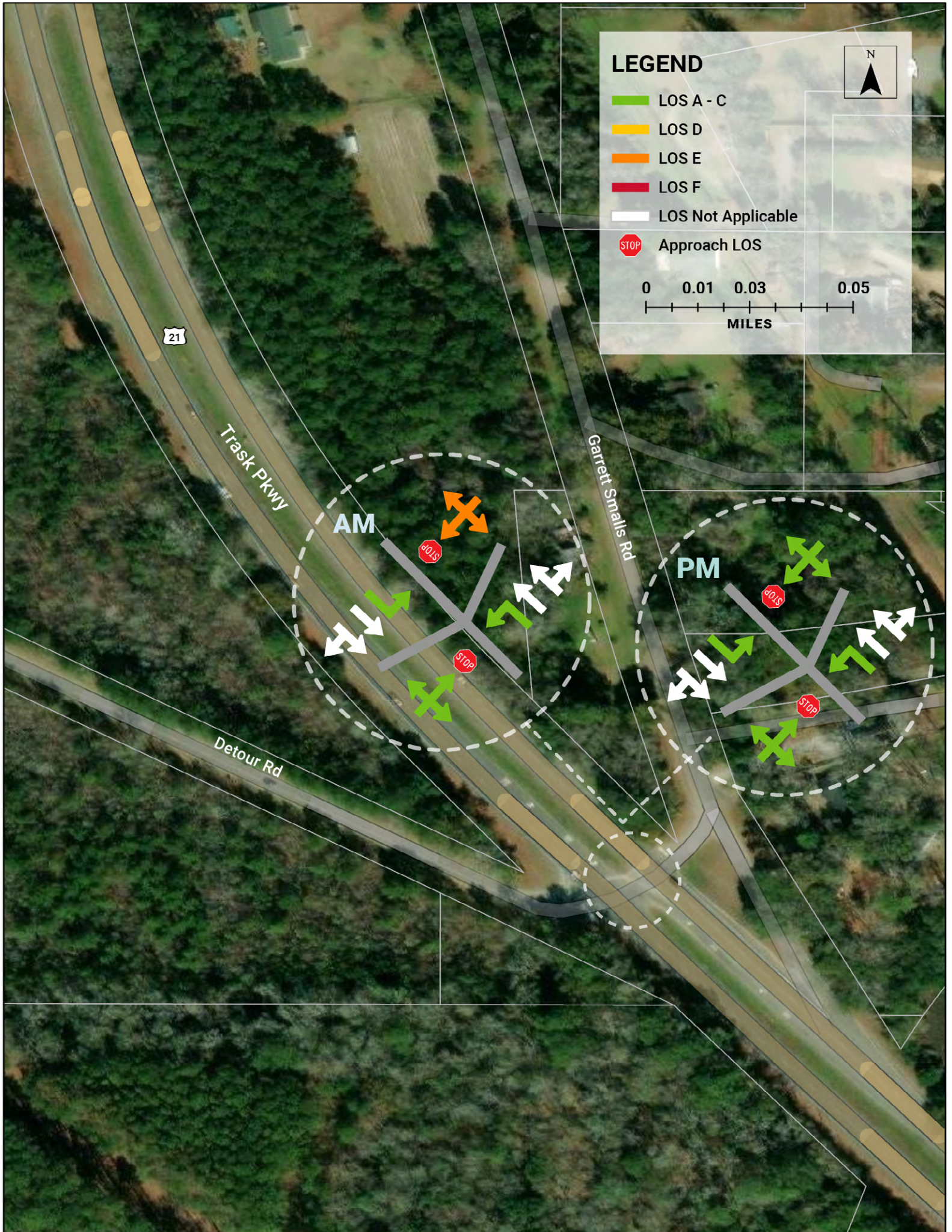
Martin Ln

Trask Pkwy

21

PM

Tierra Dr



LEGEND

LOS A - C

LOS D

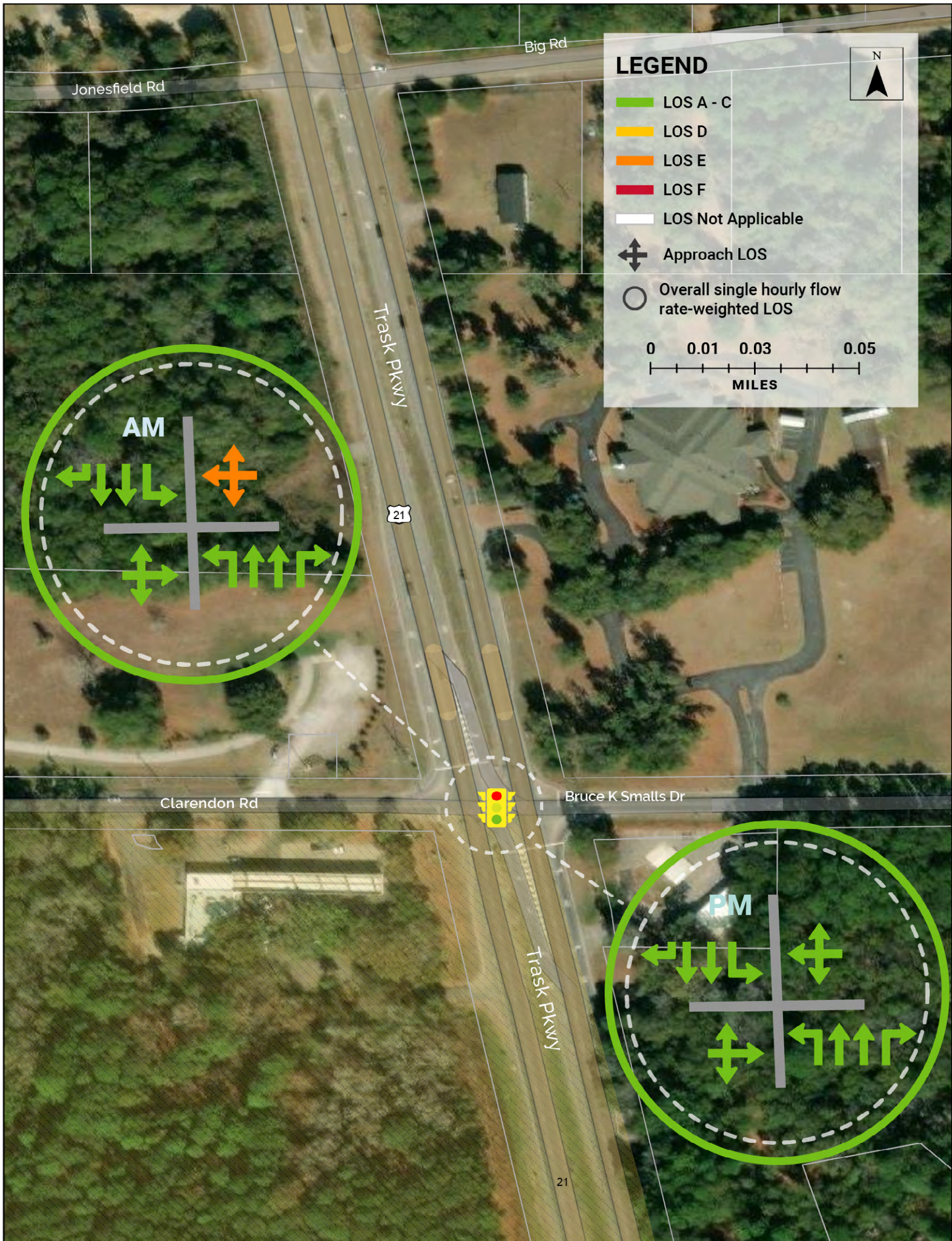
LOS E

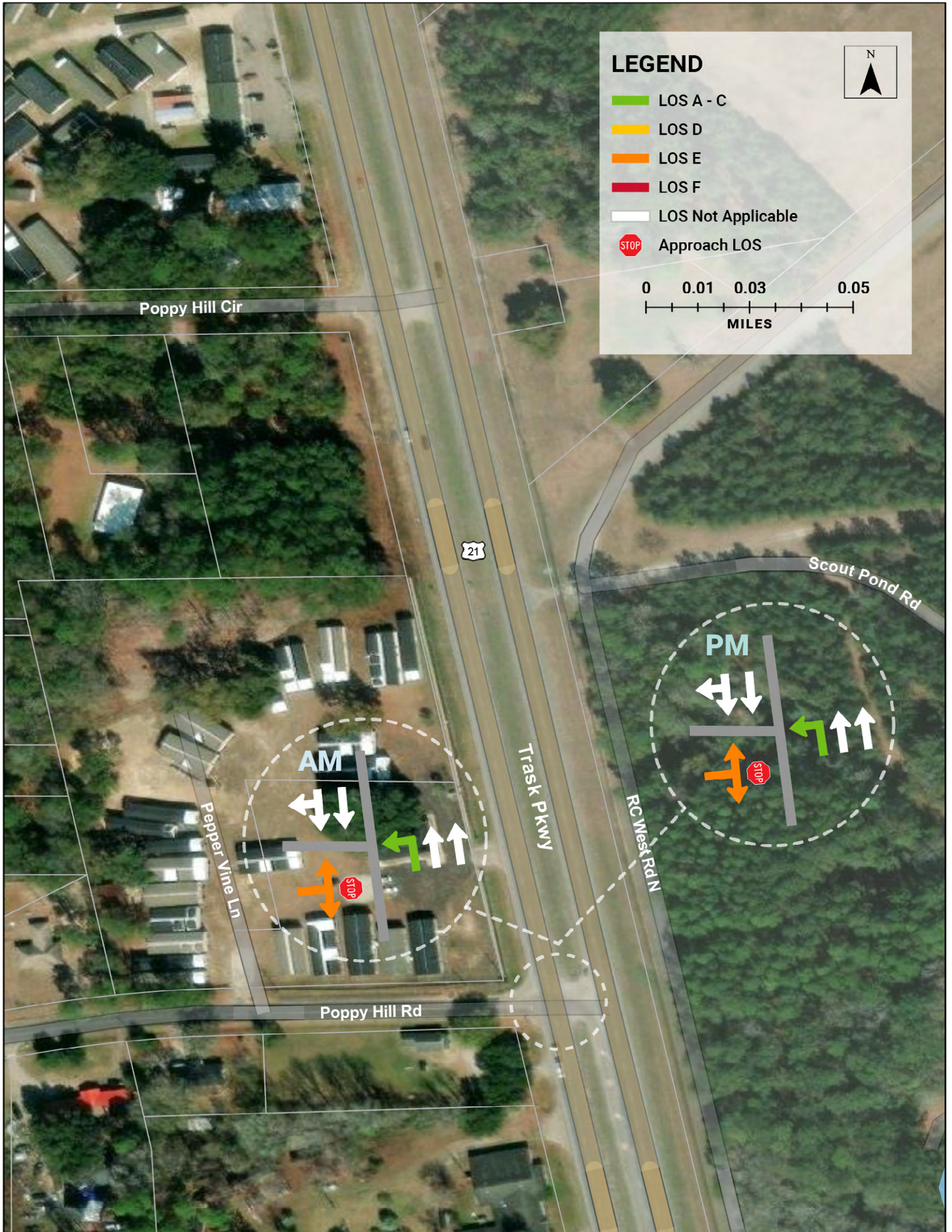
LOS F

LOS Not Applicable

STOP Approach LOS

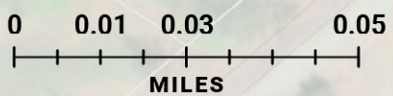
0 0.01 0.03 0.05
MILES

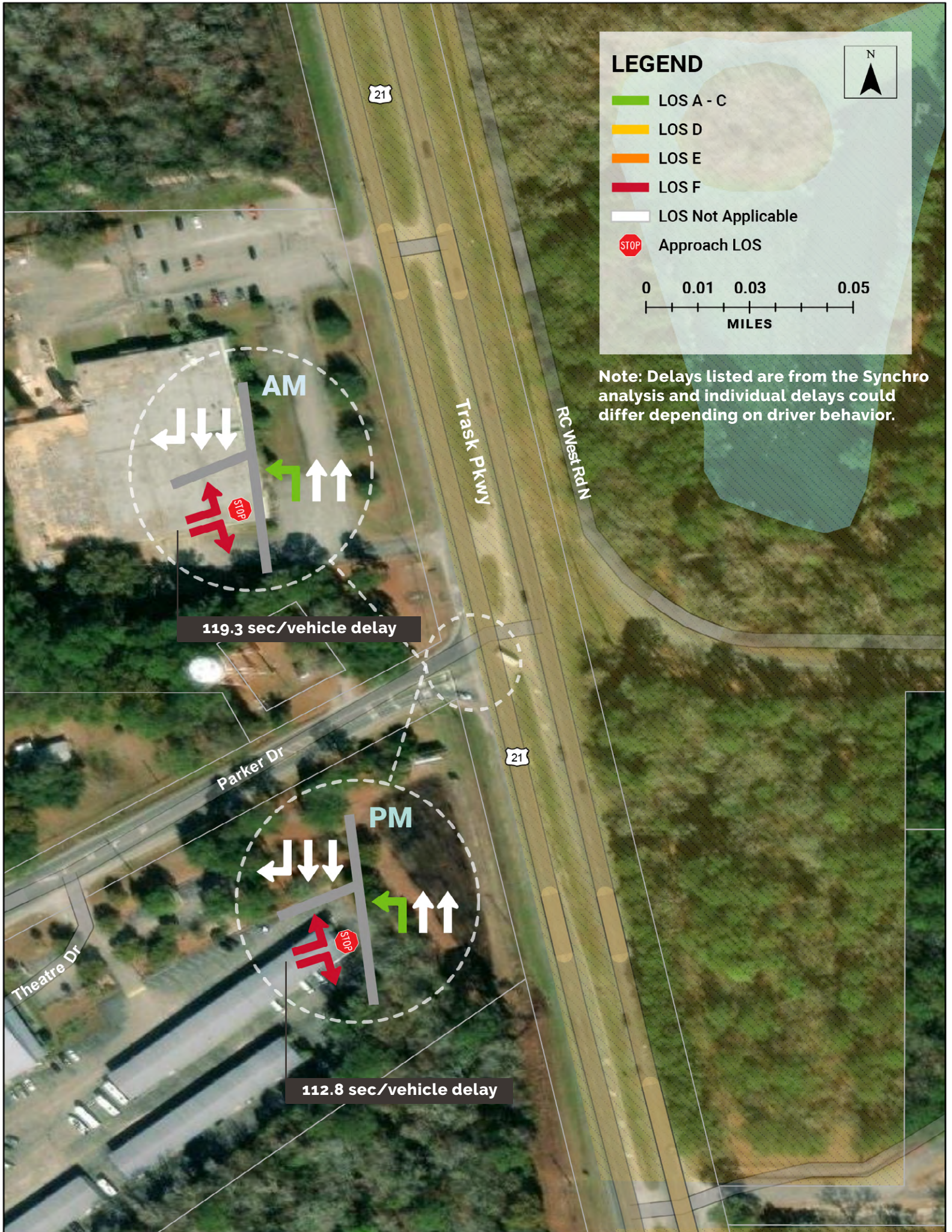




LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS





LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS

0 0.01 0.03 0.05
MILES

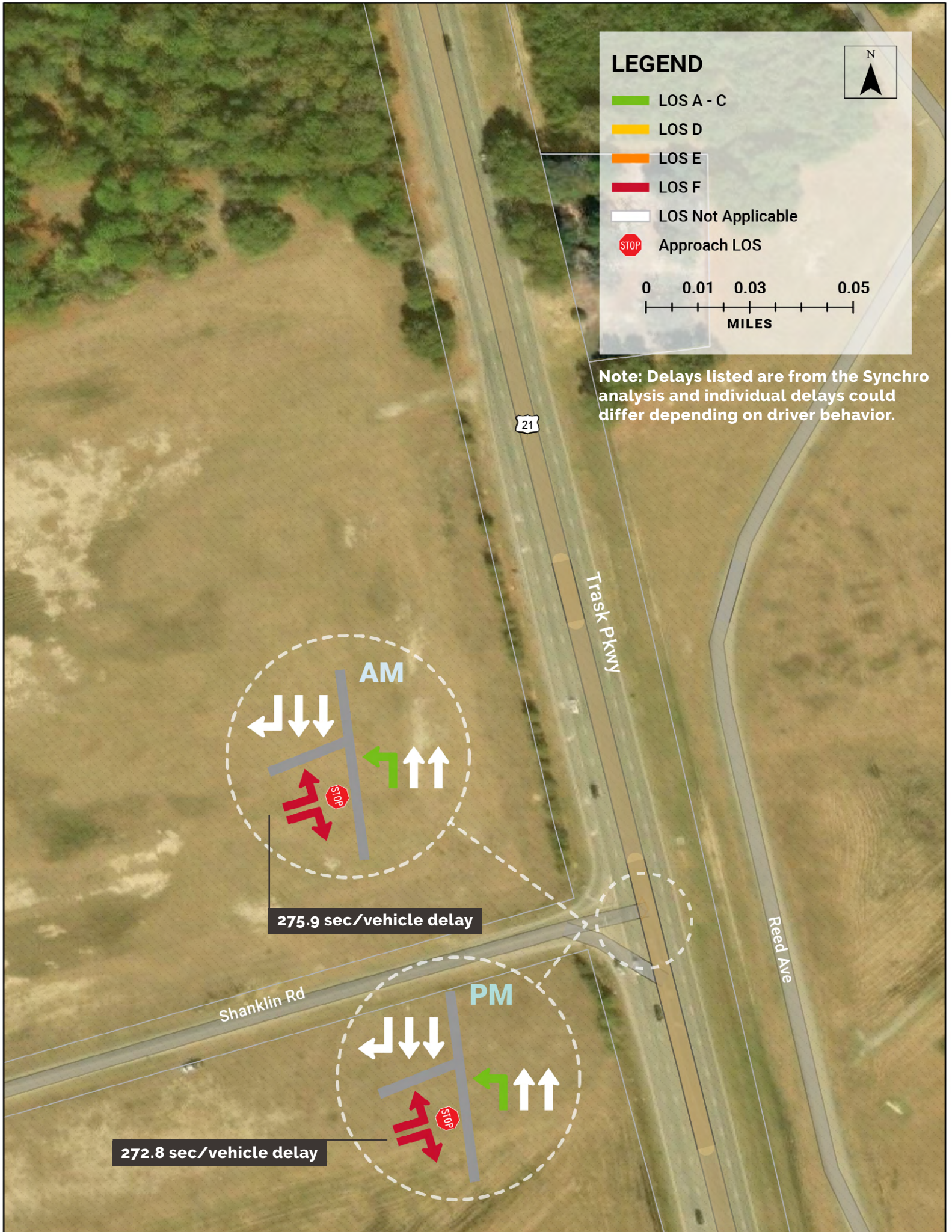
Note: Delays listed are from the Synchro analysis and individual delays could differ depending on driver behavior.

AM

119.3 sec/vehicle delay

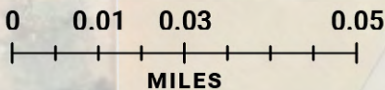
PM

112.8 sec/vehicle delay

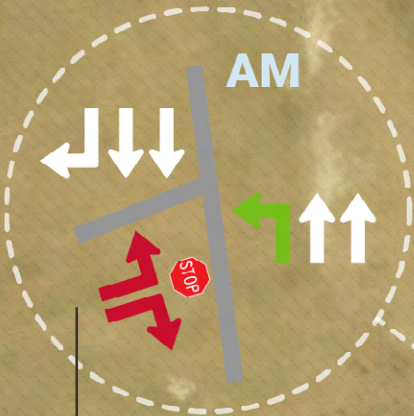


LEGEND

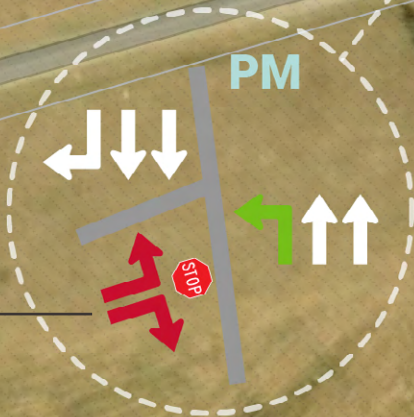
- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS



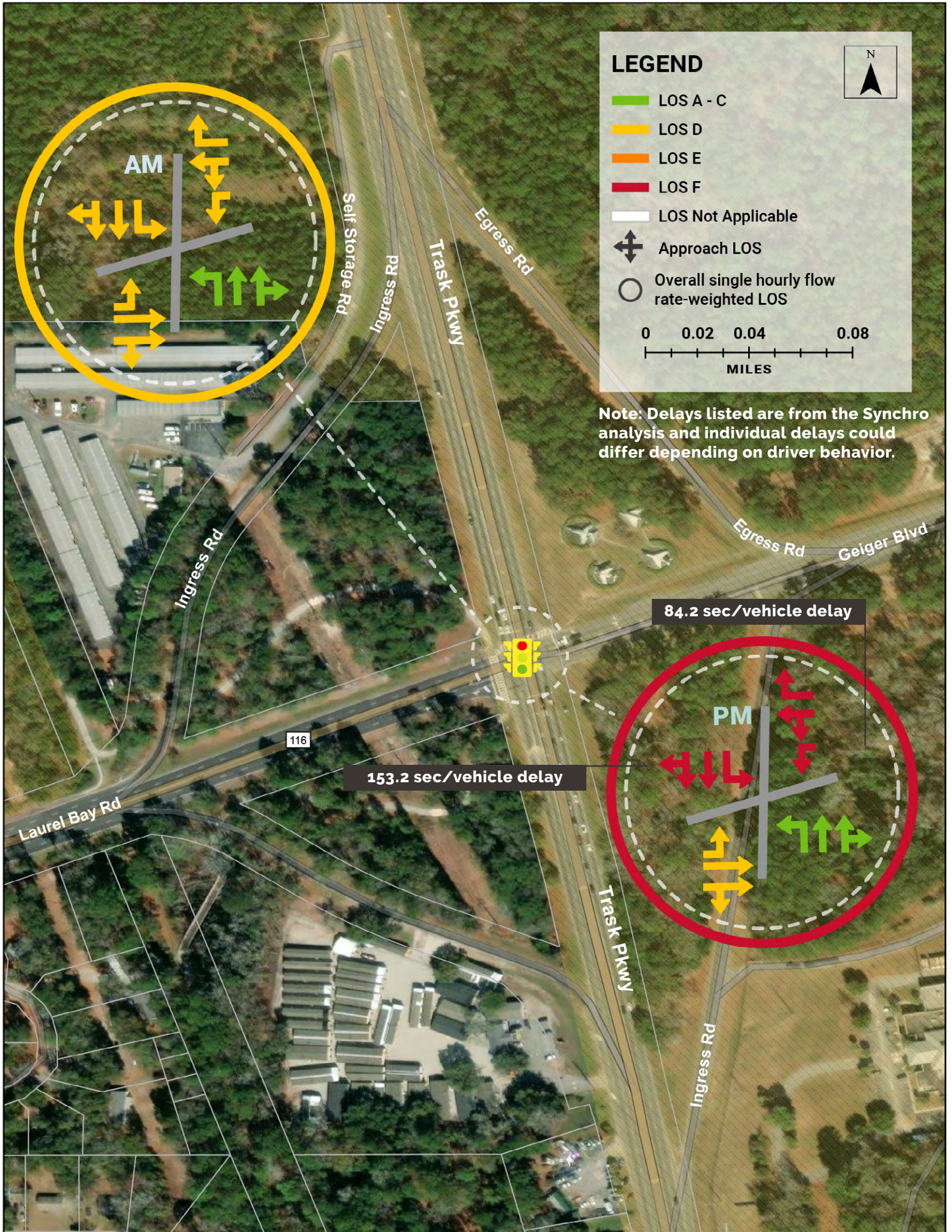
Note: Delays listed are from the Synchro analysis and individual delays could differ depending on driver behavior.



275.9 sec/vehicle delay



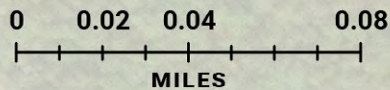
272.8 sec/vehicle delay



LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable

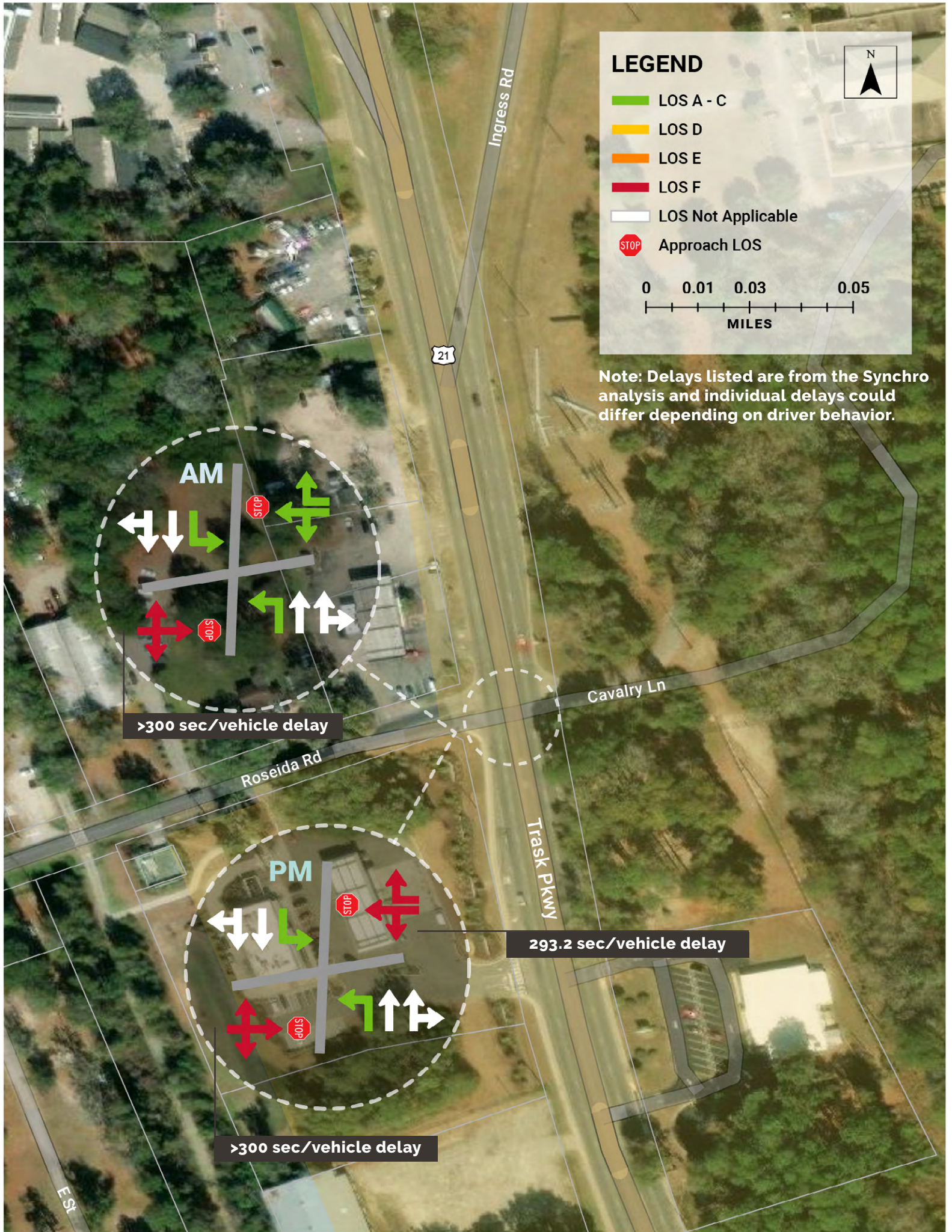
- Approach LOS
- Overall single hourly flow rate-weighted LOS

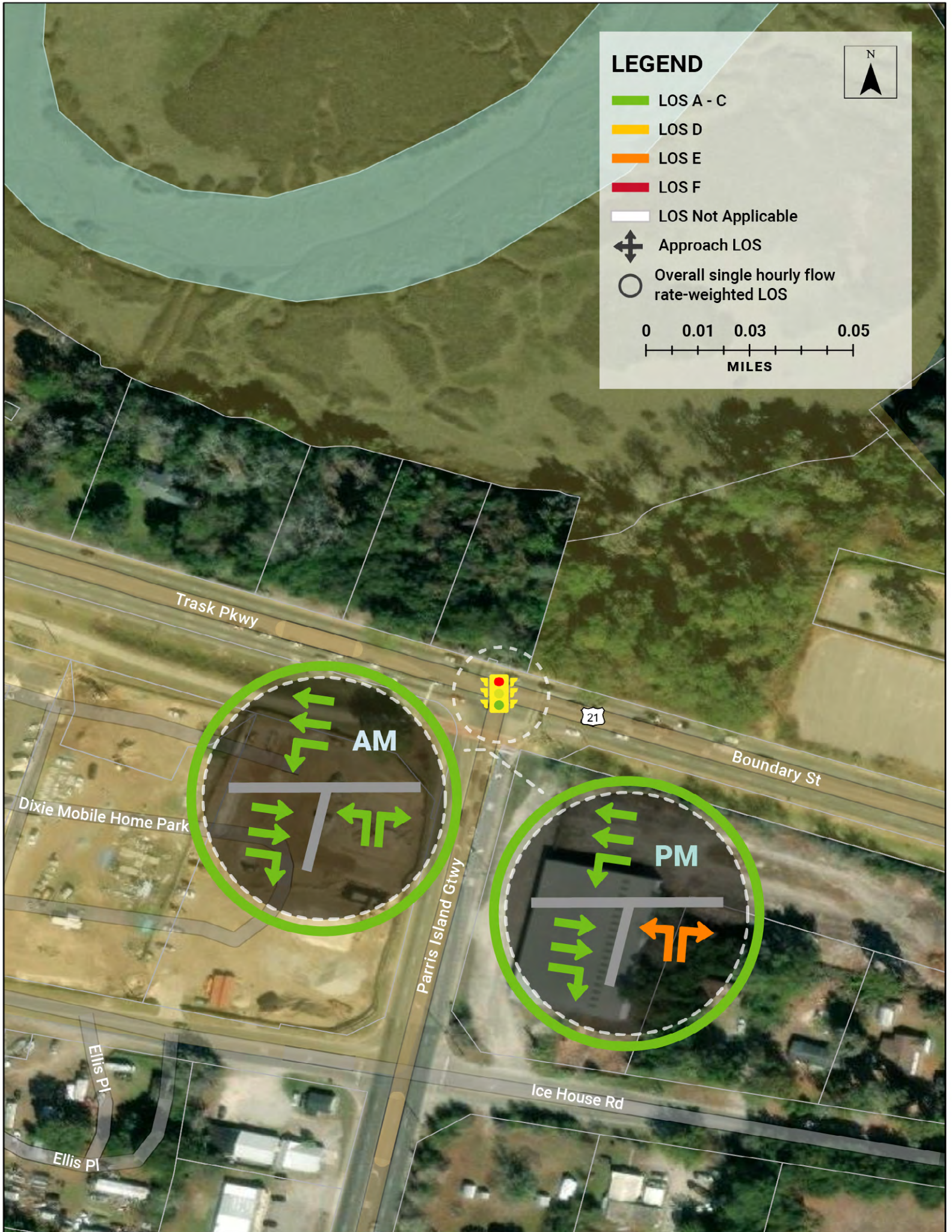


Note: Delays listed are from the Synchro analysis and individual delays could differ depending on driver behavior.

84.2 sec/vehicle delay

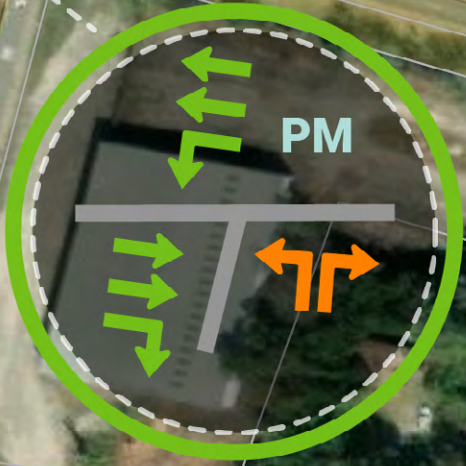
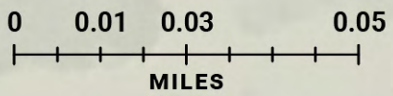
153.2 sec/vehicle delay





LEGEND

- LOS A - C
- LOS D
- LOS E
- LOS F
- LOS Not Applicable
- Approach LOS
- Overall single hourly flow rate-weighted LOS



LEGEND

LOS A - C

LOS D

LOS E

LOS F

LOS Not Applicable

 Approach LOS

0 0.01 0.03 0.05
MILES



Note: Delays listed are from the Synchro analysis and individual delays could differ depending on driver behavior.

AM

70 sec/vehicle delay

21

Broad River Blvd

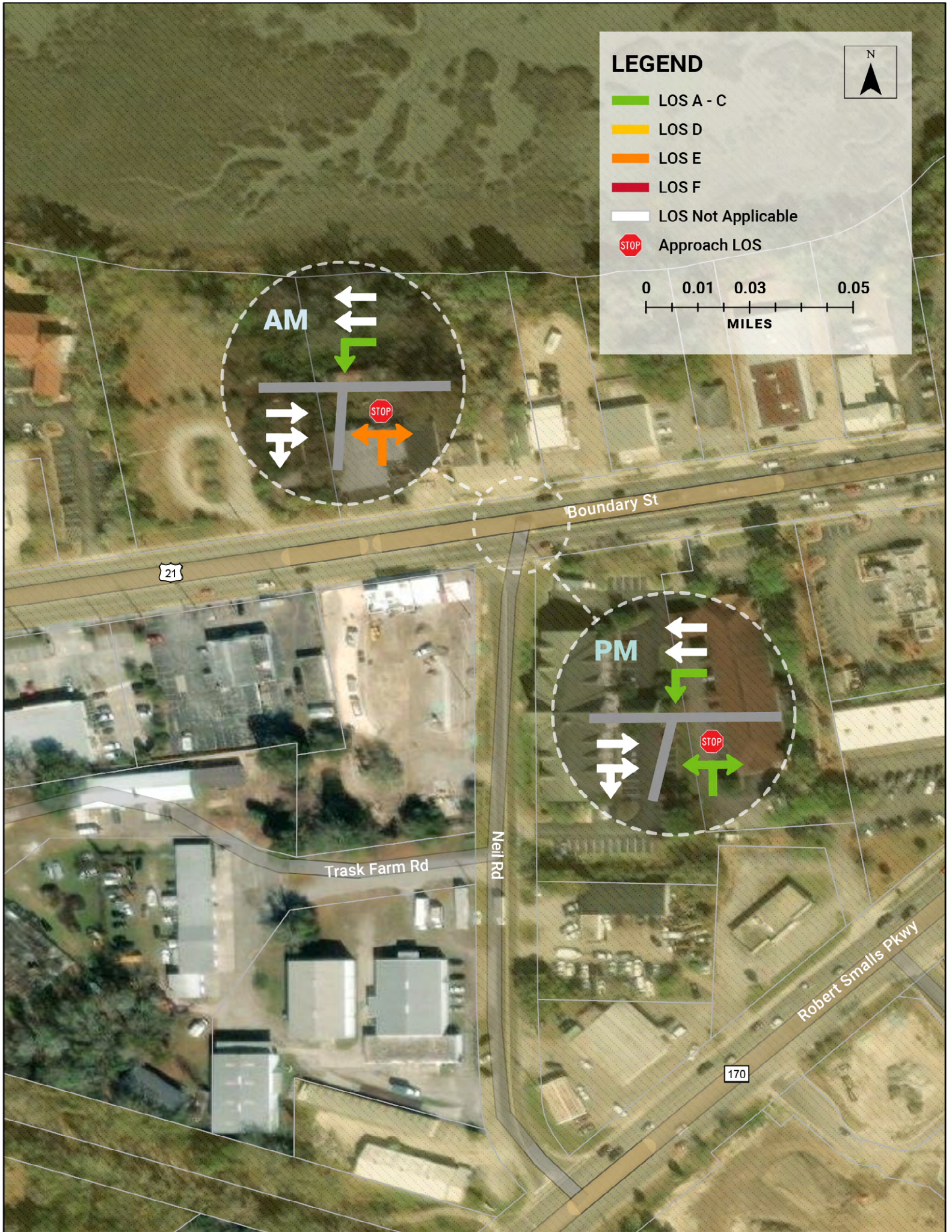
Boundary St

PM

Trask Farm Rd

>300 sec/vehicle delay

Burton Hill Rd



LEGEND

LOS A - C

LOS D

LOS E

LOS F

LOS Not Applicable

Approach LOS

0 0.01 0.03 0.05
MILES



AM

PM

Boundary St

Trask Farm Rd

Neil Rd

Robert Smalls Pkwy

21

170

SWOT Analysis

In order to prepare for identifying and assessing alternatives, a SWOT analysis was conducted. This SWOT analysis considers the Strengths, Weaknesses, Opportunities and Threats on the corridor.

Strengths	Weaknesses
• Connection to the Statewide Freight Network • Existing transit service • Spanish Moss Trail provides recreation and mobility options to corridor users • Accessible goods and services from Laurel Bay Road South	• Existing sidewalk infrastructure is either not present or narrow and overgrown with encroaching plants • Access to goods and services is limited in the northern portions of the corridor • Low lighting on the Spanish Moss Trail
Opportunities	Threats
• Expanding the Spanish Moss Trail • Opportunity for corridor to be a recognizable gateway to Beaufort • Proximity to the Statewide Freight Network	• Growing congestion • Failing LOS ratings at intersections of Stuart Point Road, Parker Drive, Shanklin Road, Laurel Bay Road, Roseida Road, and Broad River Boulevard • Large collision hot spots at Parris Island Gateway, Roseida Road, Laurel Bay Road, and Clarendon Road



Analysis of the data collected, and the strengths, weaknesses, opportunities, and threats highlighted in the SWOT Analysis resulted in the establishment of the following Vision Statement and Goals. These will inform and guide the Alternative Assessment and Recommendations Development phases of this corridor study moving forward.

Vision

To develop a US 21 Corridor that promotes the safety of all corridor users, improves congestion along the corridor, enhances multimodal connectivity and accessibility, and supports the continuation of planned Spanish Moss Trail expansions.

Goals

Improve congestion along the corridor

- + Incorporation of strategies targeting bottlenecks
- + Incorporation of access management practices
- + Incorporation of signal retimings throughout the corridor

Improve safety along the corridor and at impactful intersections

- + Reduce conflicts between vehicles, bicycles, and pedestrians along the corridor and at key intersections
- + Bring corridor elements to standard where necessary
- + Prioritize safety improvements at collision hotspots, such as the intersections of US 21 with Laurel Bay Road, Roseida Road, and Parris Island Gateway.
- + Improve bicycle and pedestrian crossings, such as through the use of leading pedestrian crossing intervals

Enhance multimodal connectivity and accessibility

- + Support the continuation of planned Spanish Moss Trail Expansions
- + Incorporation of bicycle and pedestrian infrastructure, or improvement of existing bicycle and pedestrian infrastructure, throughout the corridor
- + Provision of first mile and last mile connections to existing public transportation stops



Conclusion

This Existing Conditions Report illustrates the current state of transportation on the corridor. This information will be used to establish goals and objectives for this study, to create a vision for the corridor, and to explore solutions to transportation issues. As this study moves forward, various alternatives for the corridor will be evaluated and a set of recommendations for the corridor vision will be established.



Alternatives Assessment

After analyzing existing conditions throughout the corridor, several alternatives, falling into two improvement types, have been developed and assessed:

- Corridor-wide alternatives by segment
- Intersection-specific alternatives

The project team considered a variety of possible improvements for the corridor. These were packaged together into several different implementation strategies and narrowed down to three or four alternatives per segment. These were reviewed by Beaufort County staff to identify necessary adjustments and/or additional alternatives to consider before selecting finalized alternatives.

The finalized alternatives were further assessed in an evaluation matrix to determine which alternatives provide the best results for the County. The alternatives were scored considering their impacts on safety, public health, the economy, and community character. The matrix considered various performance measures, further described in the **Alternatives Assessment Memo** attached in the Appendix, to determine how well the alternatives meet the matrix criteria. The results of the matrix were reviewed by Beaufort County staff and were used to develop the final recommendations. These are further described in the **Preferred Recommendations Section** below.

Methodology

The US 21 Corridor is a large corridor with different community characteristics found throughout. Understanding that there is no one size fits all approach to improving infrastructure, these community characteristics were used to identify several different contextually based segments throughout. In total, the corridor was broken into two overall segments and five smaller subsections. Personalized alternatives were developed to address each segment’s (and subsection’s) specific needs, including possible intersection alternatives.

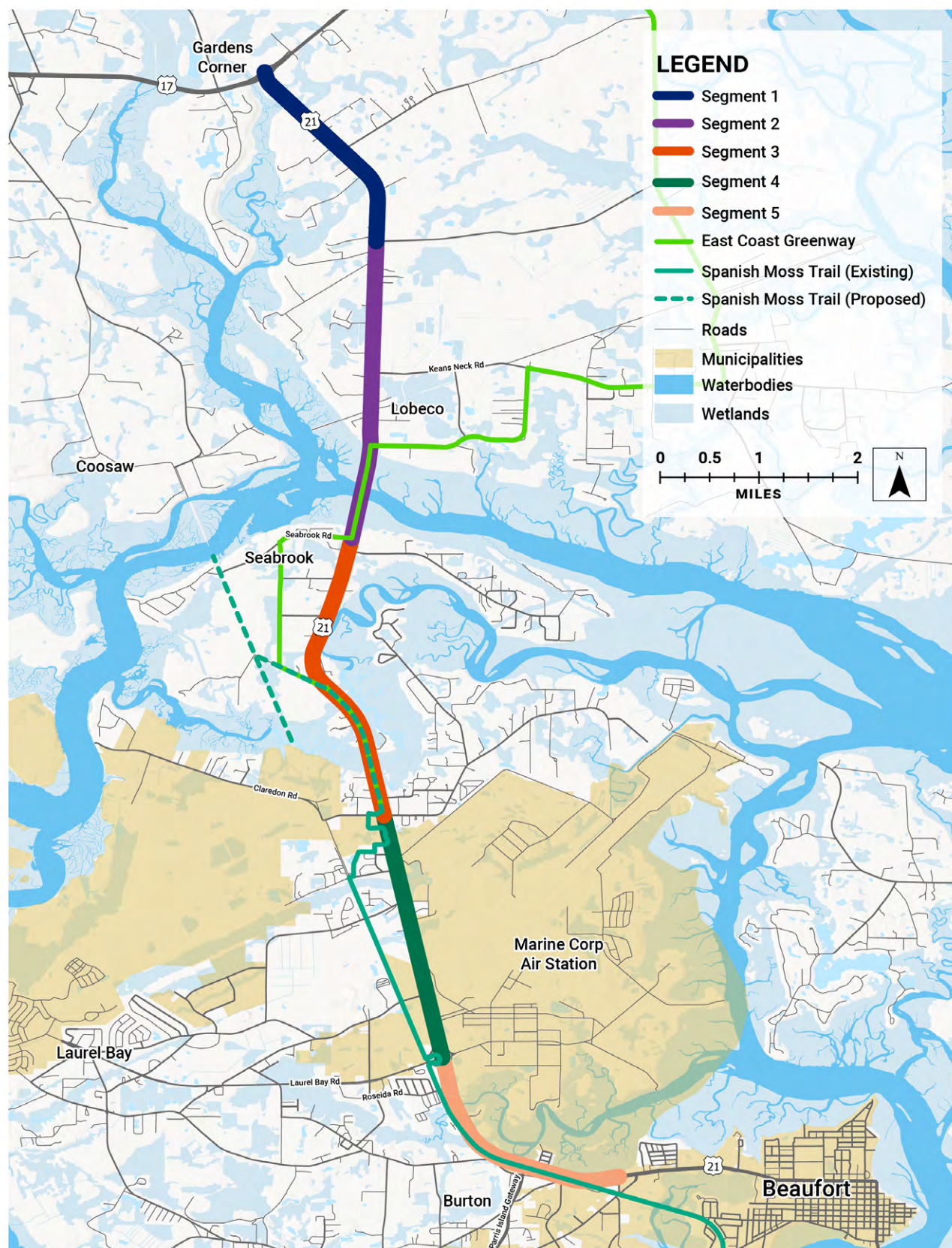
Notable safety concerns, such as a high presence of collisions and unsafe conditions for non-motorized roadway users, and/or excessive congestion needed to be present for intersection improvements to be considered along a corridor segment. For this reason, some segments received fewer intersection improvement considerations than others. This process is further illustrated below and in the **Alternatives Assessment Memo** in the Appendix.

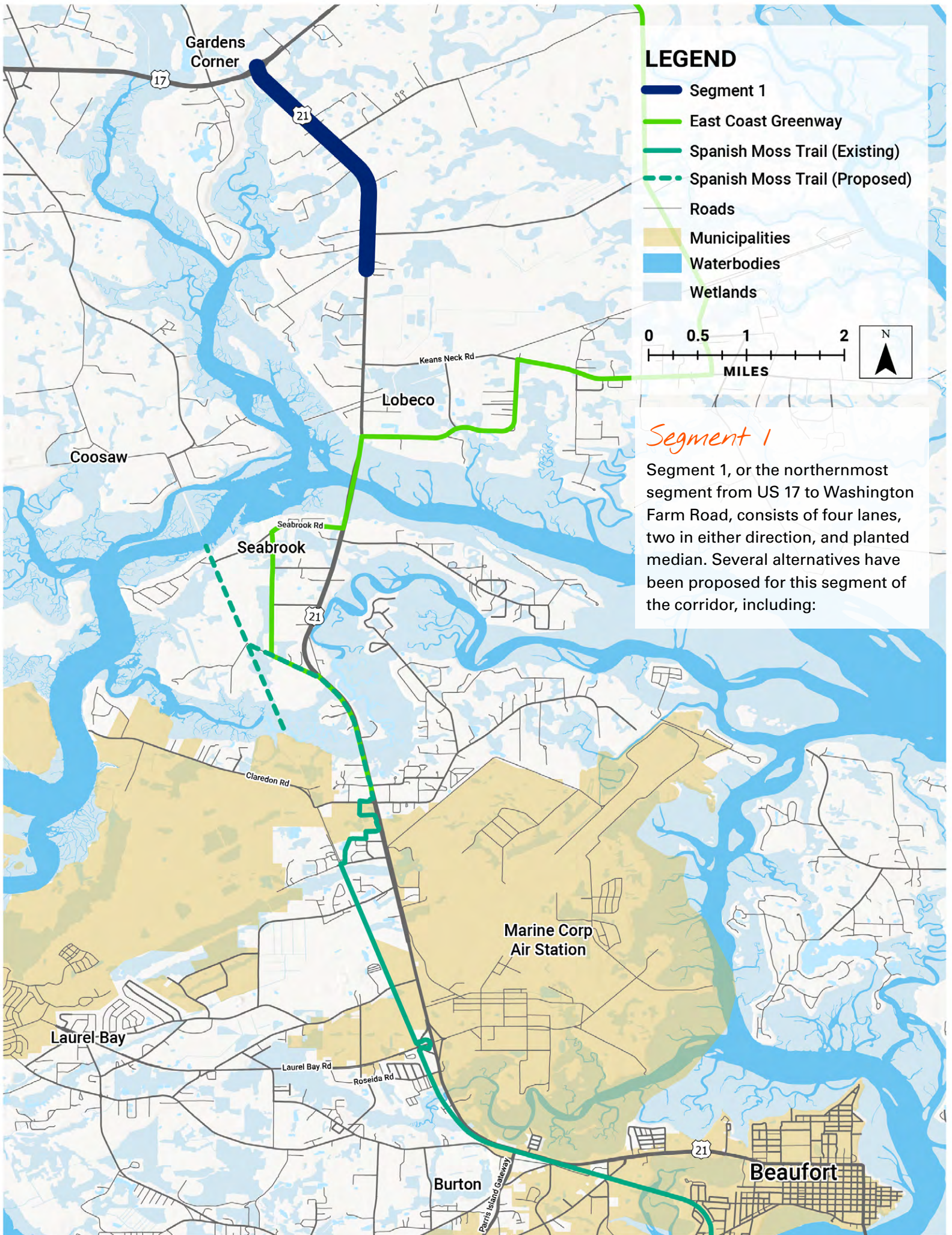
Alternatives were run through a set of evaluation criteria with performance metrics established under the following categories: Safety, Health, Economy, and Community. Performance metrics were developed to be “yes” or “no” responses, which were then stacked on top of each other to establish overall scores. The scoring method utilized is described below:

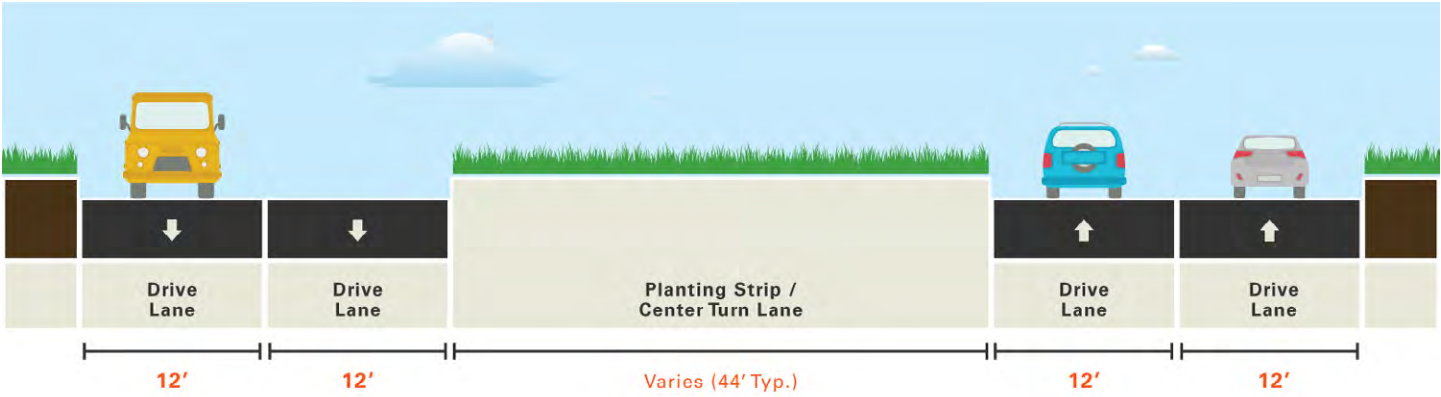
Excellent	Meeting 100 percent of the performance measures
Good	Meeting 50 percent or half of the performance measures
Fair	Meeting less than 50 percent of the measures
Poor	Meeting zero of the performance measures

Upon completion of the alternative assessment, the alternatives that scored the highest were determined to be the Preferred Recommendation and moved forward into concept development. In the event two or more alternatives tied, Beaufort County staff made a decision based on contextual needs along the corridor. The final recommendations were combined together into one overall roll plot of the corridor, along with associated renderings. This is further elaborated in the Preferred Recommendations section.

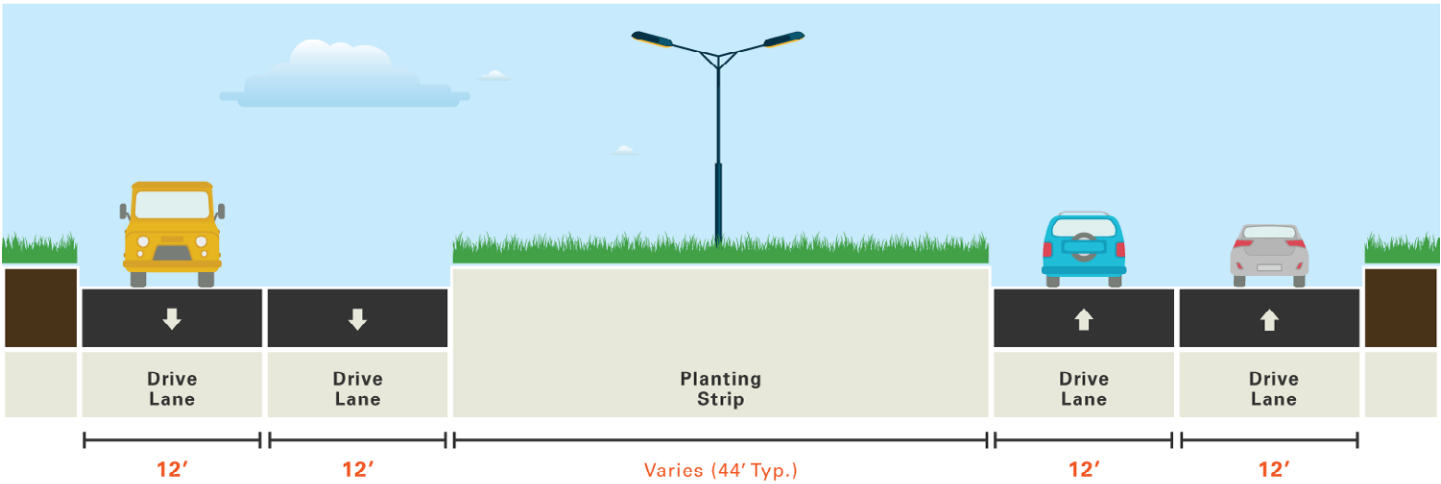
Corridor Breakdown



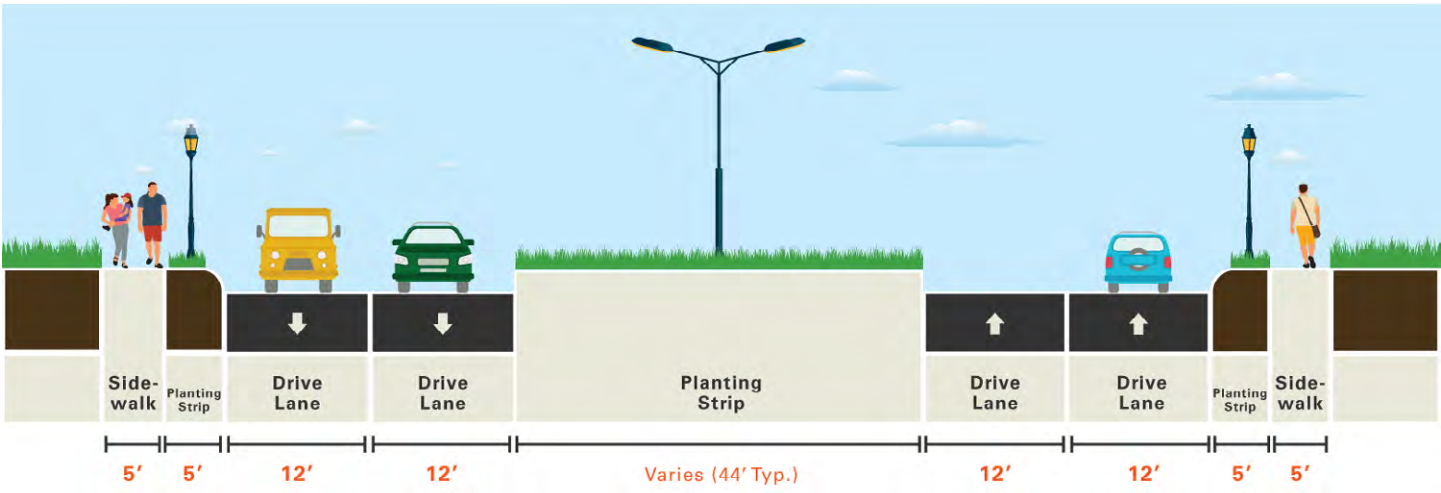




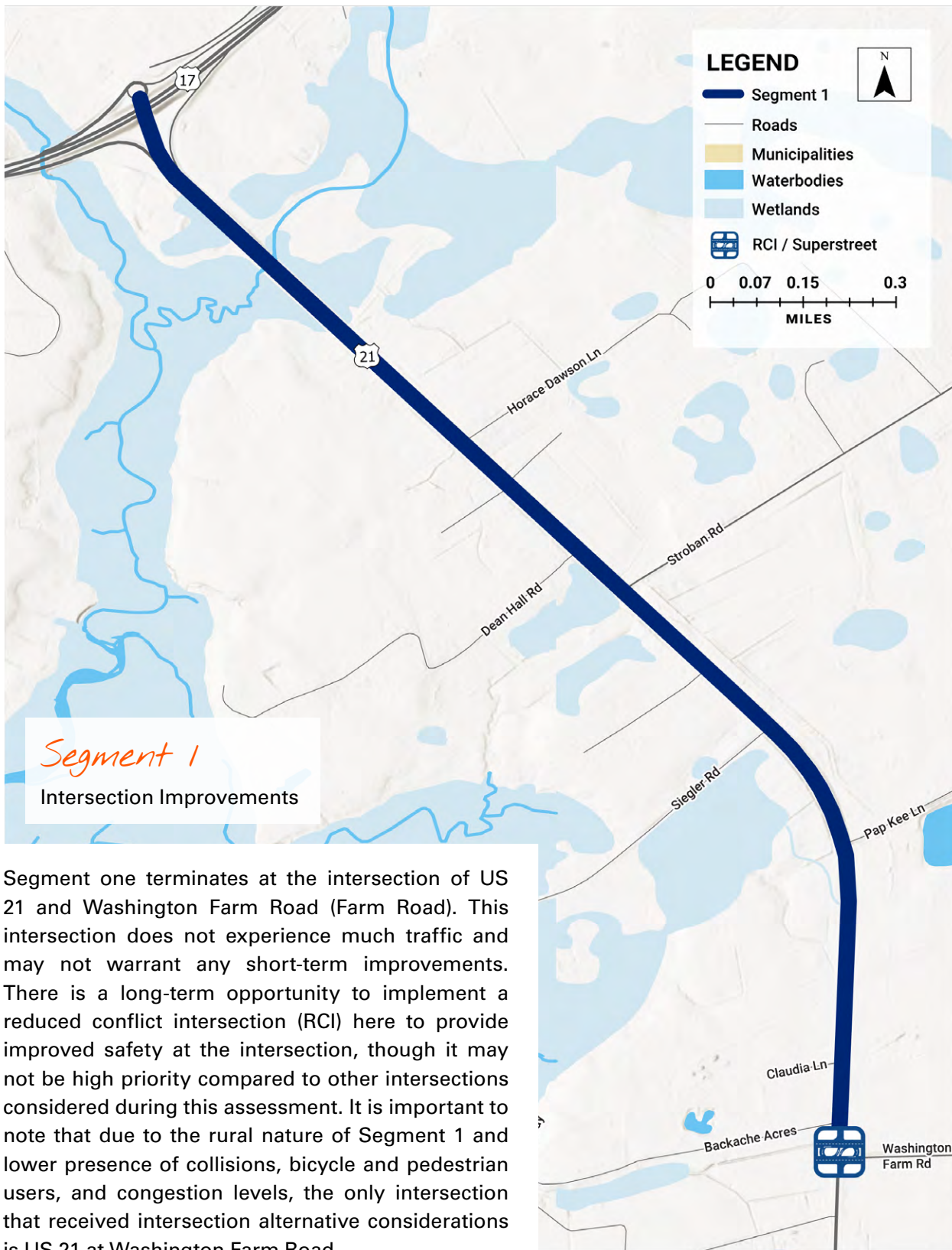
Alternative 1: No Improvements



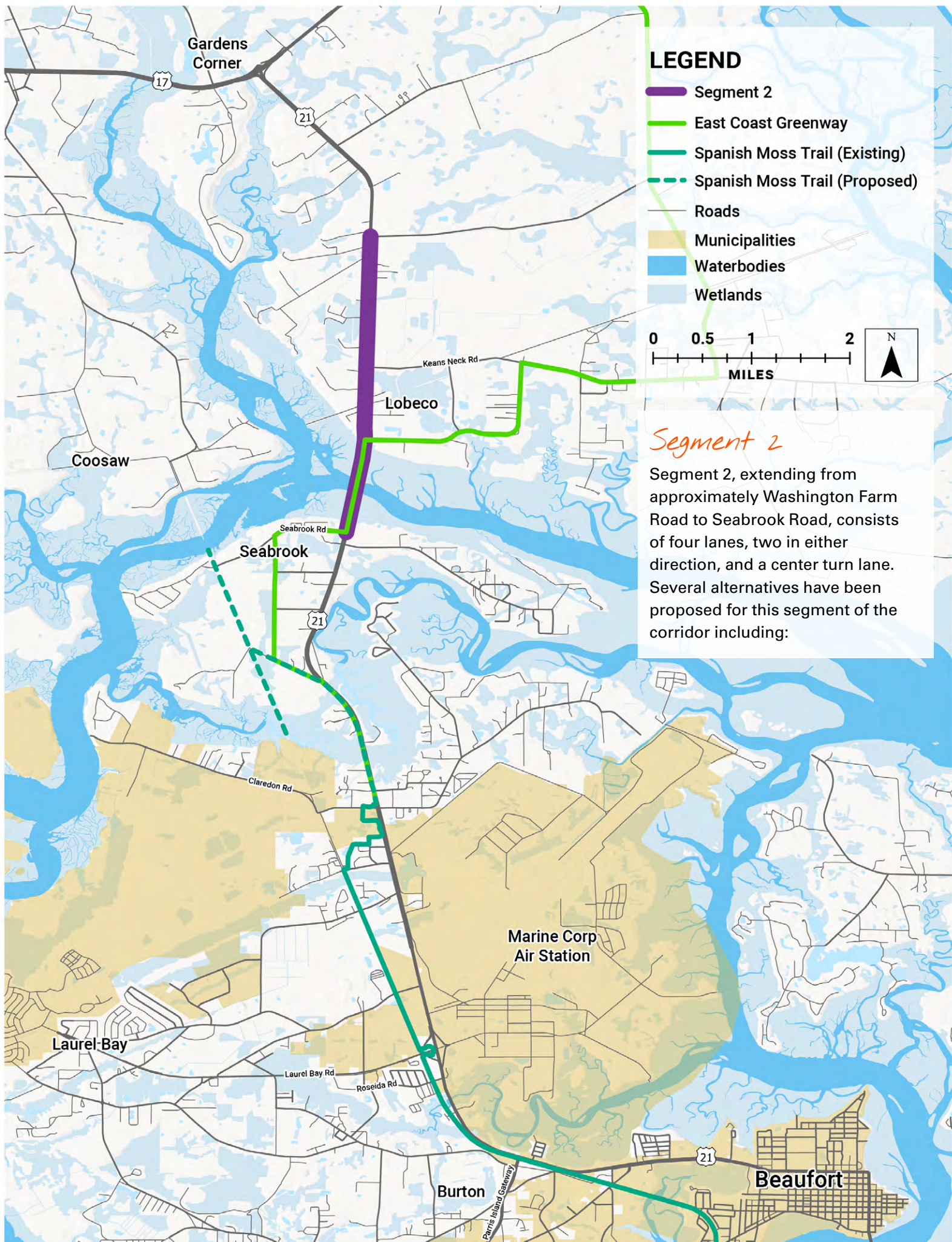
Alternative 2: Planted Center Median with Lighting Throughout

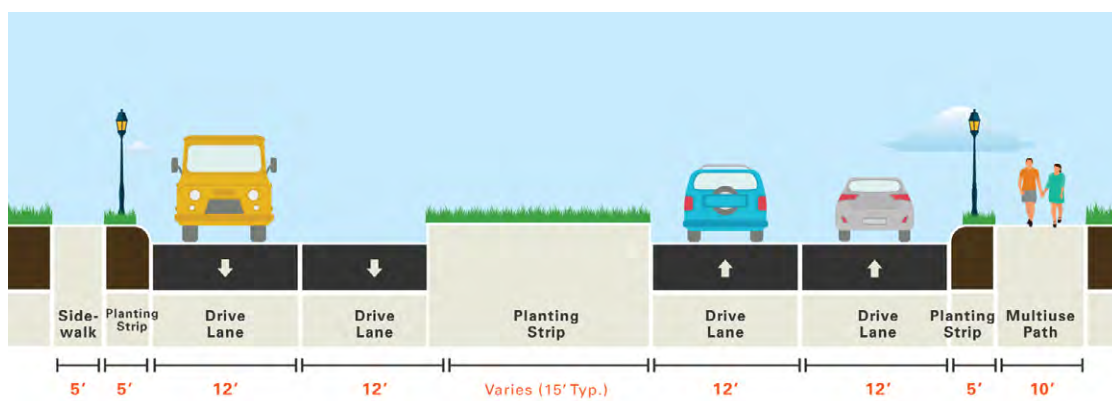
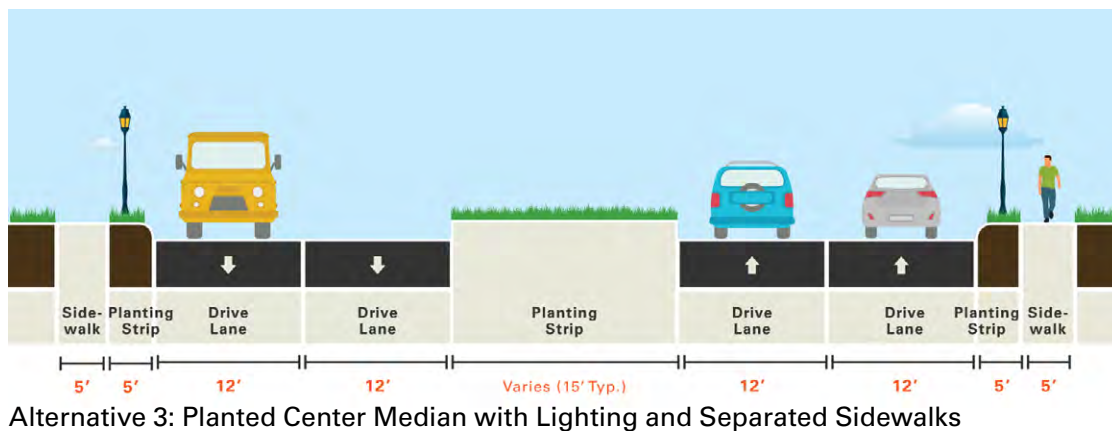
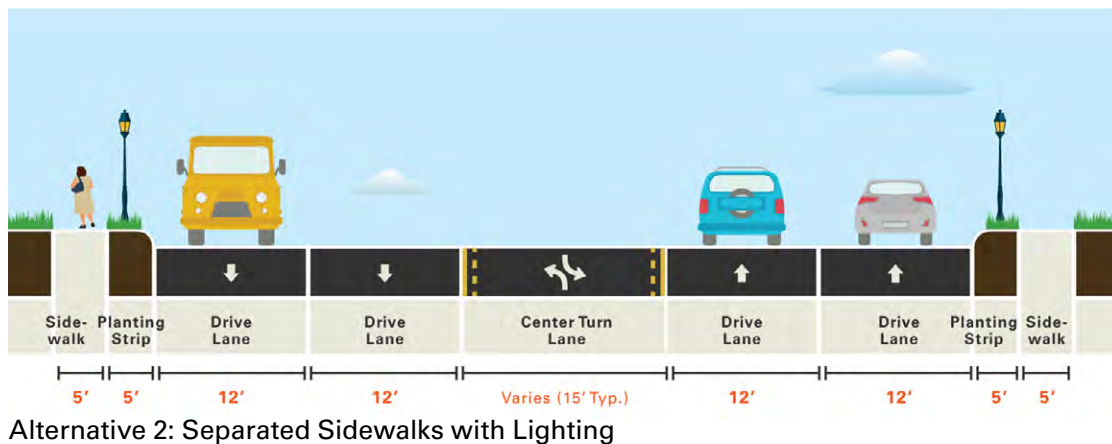
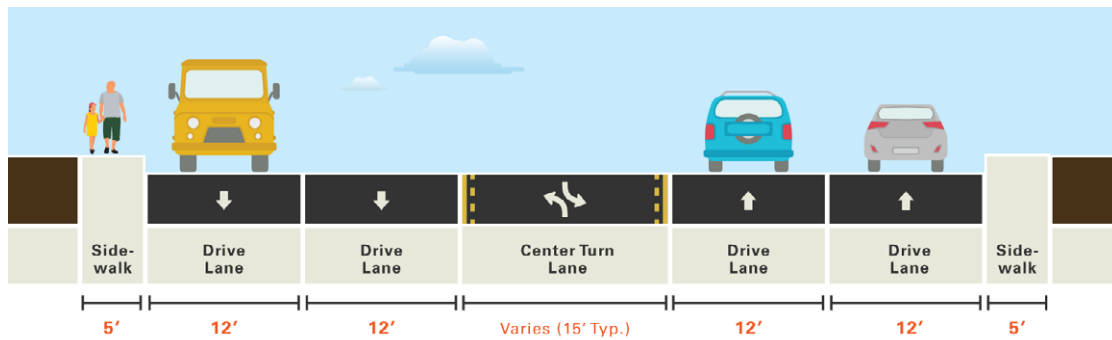


Alternative 3: Planted Center Median, Lighting with Separated Sidewalks



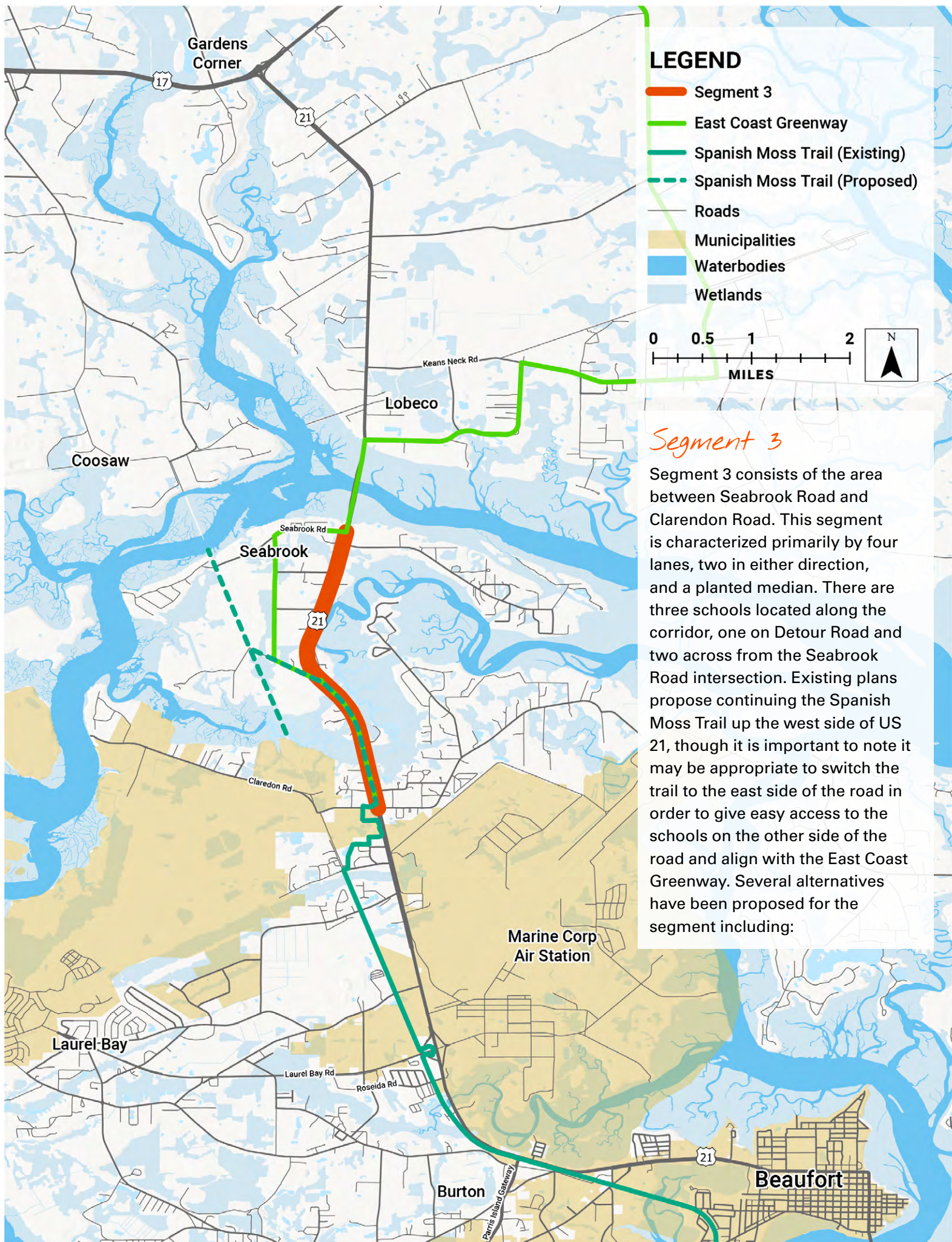
A Reduced Conflict Intersection (RCI) is a common strategy used to eliminate potential collision points by restricting left-turn movements from side roads onto a highway and implementing U-turns to facilitate left turns at a more appropriate location. Drivers utilize right turn movements out of the intersection and merge into the left lane as they prepare to turn left at the U-turn.

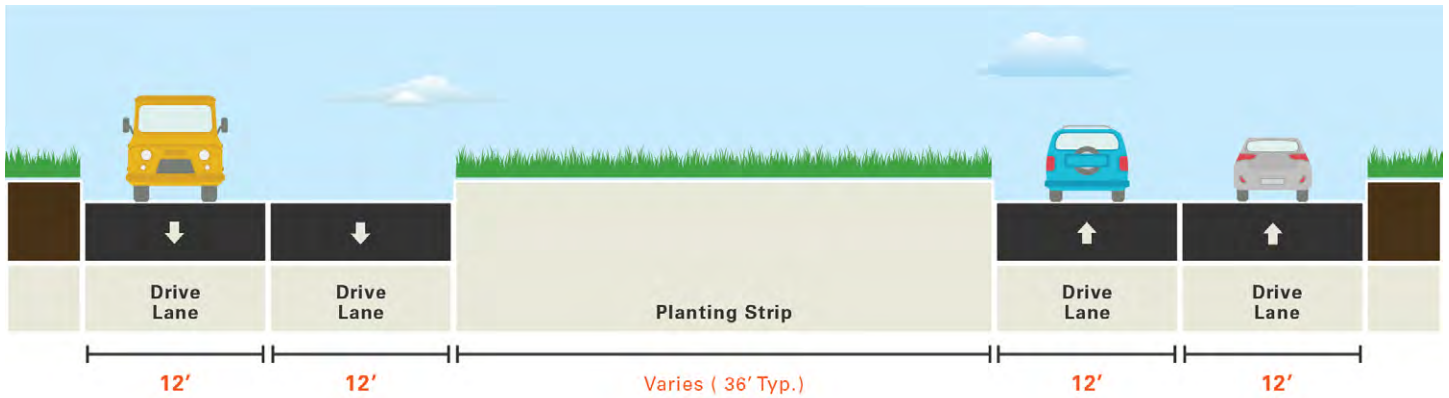




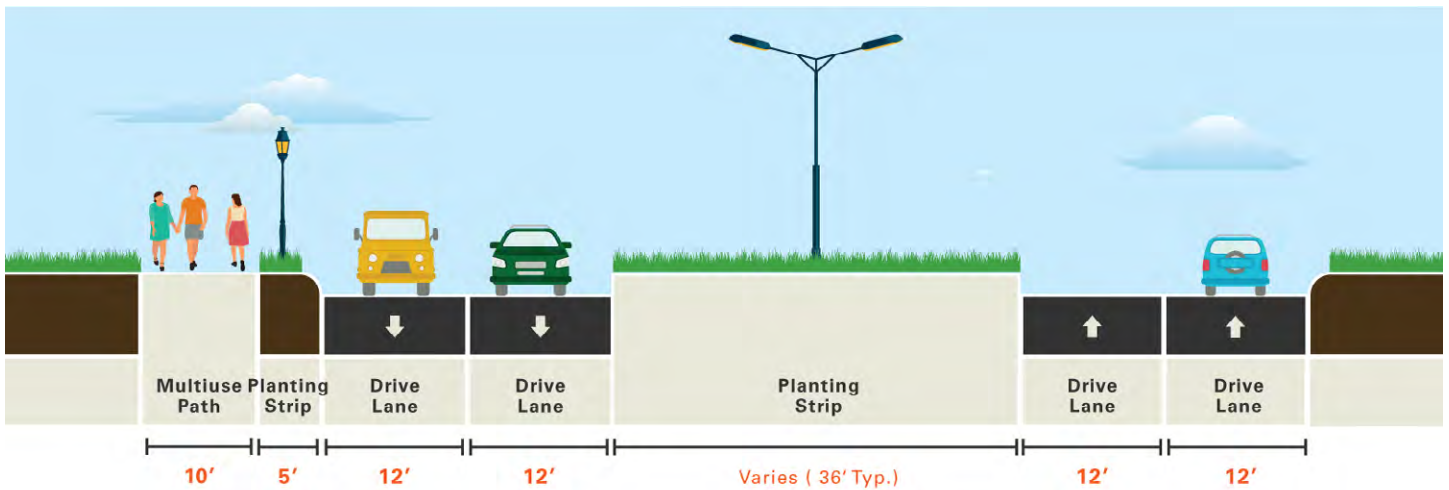


Similar to Segment 1, a few intersections were considered for additional improvements in Segment 2. The intersections of US 21 at Keans Neck Road and US 21 at Morgan Road do not experience excessive congestion and may not warrant short-term improvements. There is an opportunity to implement long-term RCIs at both.

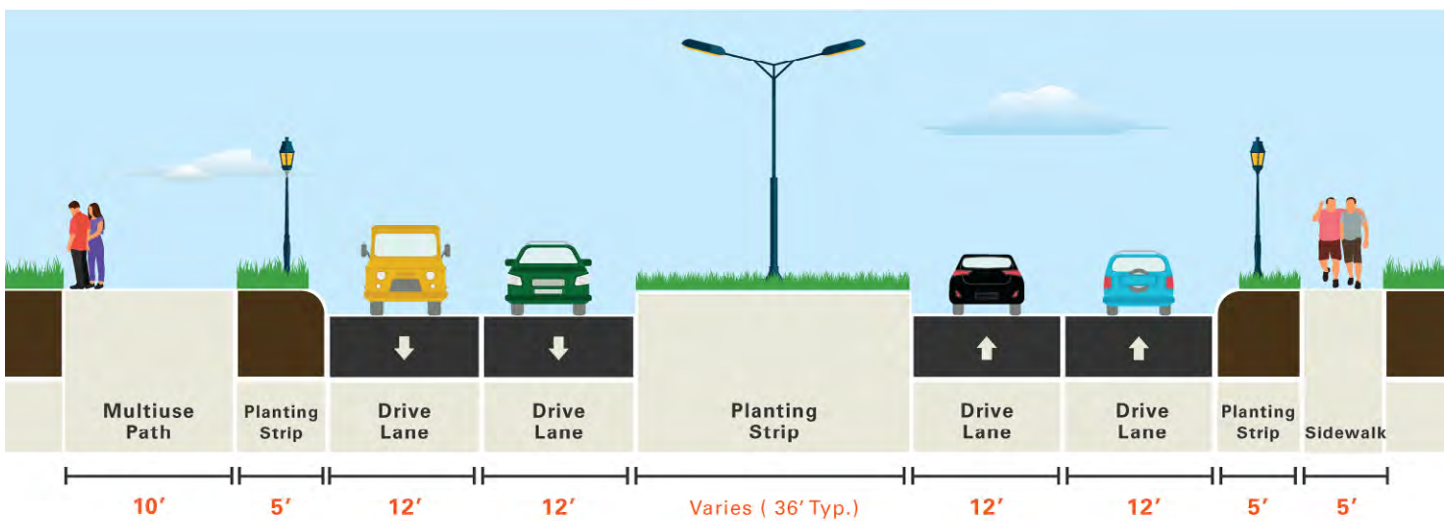




Alternative 1: No Improvements



Alternative 2: Planted Center Median with Spanish Moss Trail Extension and Lighting



Alternative 3: Planted Center Median with Spanish Moss Trail Extension, Separated Sidewalk, and Lighting



Segment 3 includes several intersections assessed for potential improvements: the intersections of US 21 at Seabrook Road/Stuart Point Road, Seabrook Center Road at State Hwy S 7-549, Martin Lane at State Hwy S 7-549, US 21 at Martin Lane, and US 21 at State Hwy S 7-549/Garrett Small Road. Alternatives considered include a Roundabout or RCI for Martin Road at State Hwy S 7-549, and RCIs for Seabrook Center Road at State Hwy S 7-549 and Martin Lane at US 21. Additionally, the impact of limiting left turns at the intersection of US 21 at State Hwy S 7-549/Garrett Small Road was also assessed. Two alternatives were considered for Clarendon/Bruce K. Smalls Drive at US 21: a short-term alternative adding left turn lanes from the side roads and a long-term alternative to implement a signalized RCI.

Seabrook Road / Stuart Point Road

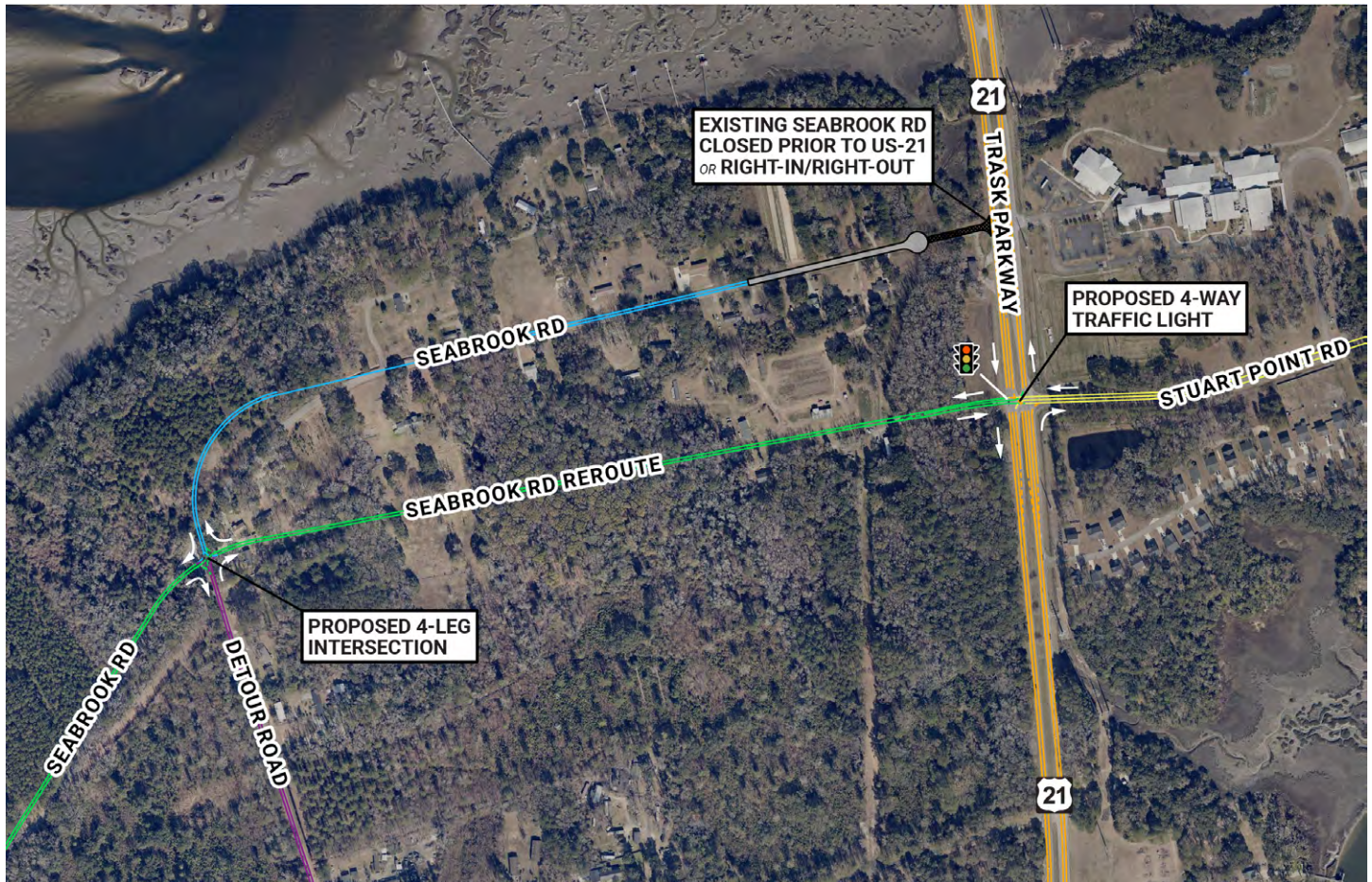
Intersection Improvement - Alternative 1



The first alternative involves adding a cul-de-sac on Seabrook Road before it intersects US 21. Seabrook Road would be rerouted to align with Stuart Point Road with a new traffic signal at the intersection of Stuart Point Road and US 21. If a signal is added to the Stuart Point Road intersection and Seabrook Road is realigned with no additional improvements, the intersection of US 21 and Stuart Point Road is anticipated to function at LOS C during morning peak time and LOS B during evening peak time. The intersection of US 21 and Seabrook Road is anticipated to function at a failing LOS unless measures are taken to reroute traffic at the Whale Branch Schools. If school traffic is rerouted (further described in the **Alternatives Assessment Memo** in the Appendix) it is anticipated that both intersections would function at LOS D or better.

Seabrook Road / Stuart Point Road

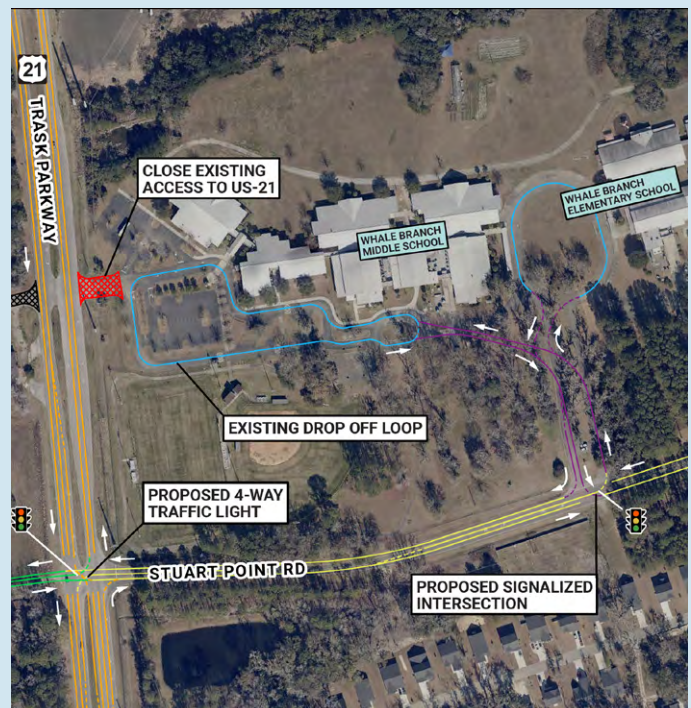
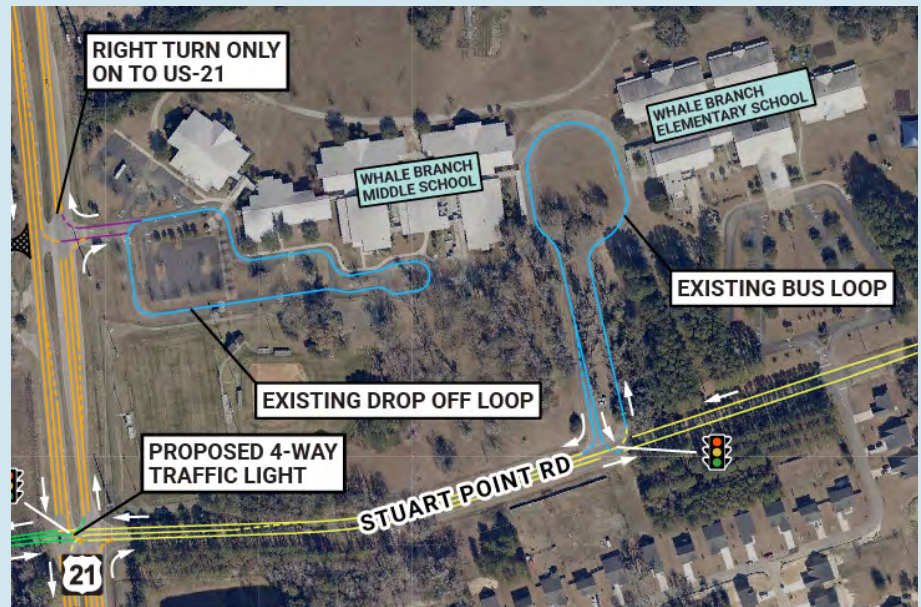
Intersection Improvement - Alternative 2

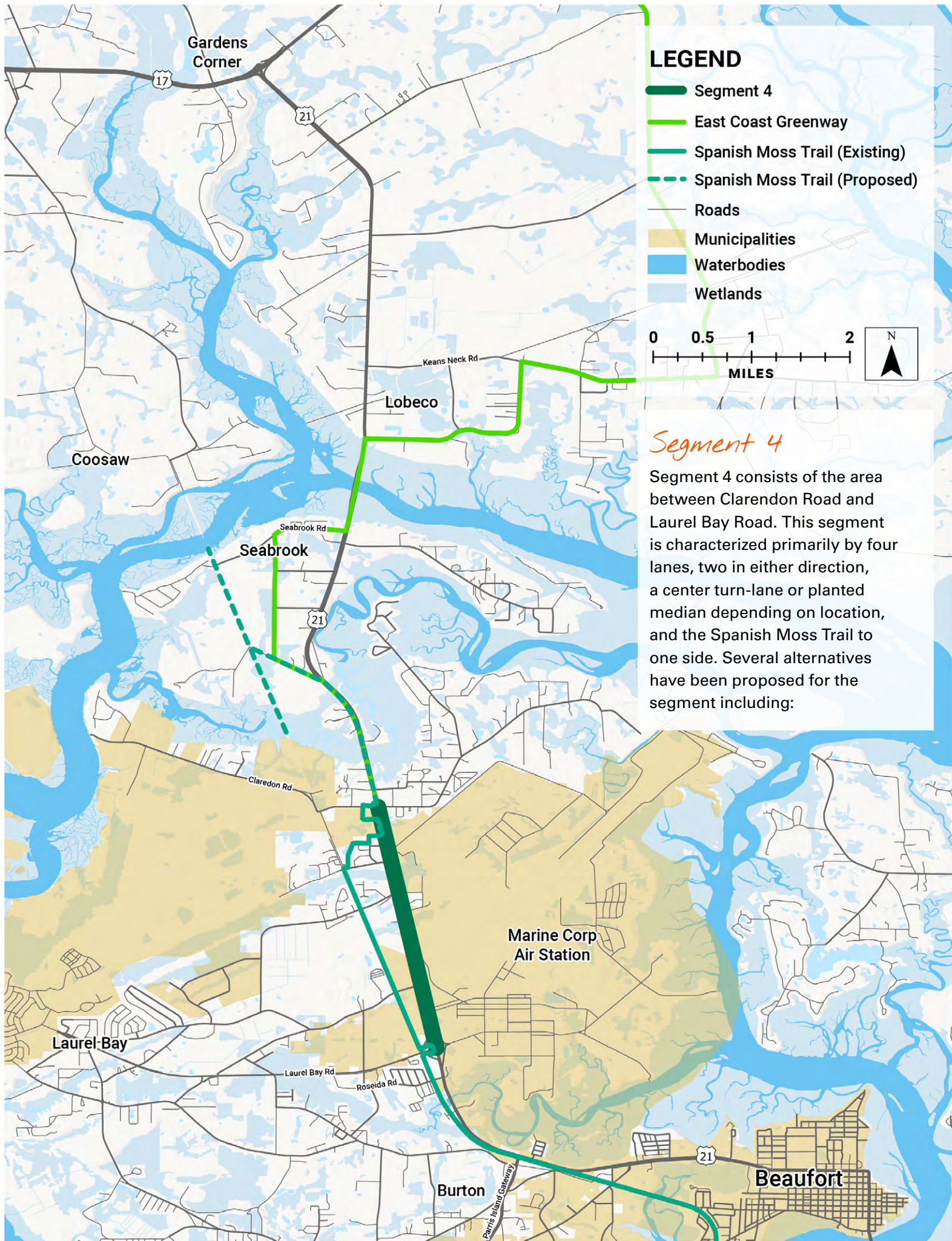


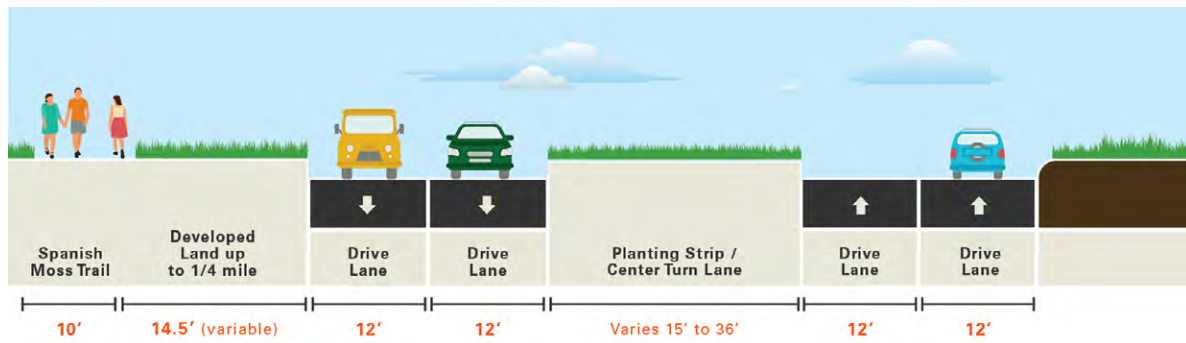
Alternative 2 involves either closing off Seabrook with a cul-de-sac before intersecting US 21, or, alternatively, implementing a right-in/right-out at the intersection of Seabrook Road. Seabrook road would also be rerouted to align with Stuart Point Road with a new signal at the intersection of US 21 and Stuart Point. In this case, Seabrook would be realigned with State Hwy 7-549 to create a 4-leg intersection. Like Alternative 1, addition of a signal at the intersection of US 21 and Stuart Point Road with the realignment of Seabrook Road is anticipated to result in a LOS C during morning peak time and a LOS B during evening peak time. As before, the intersection of US 21 and Seabrook Road, is still anticipated to function at a failing LOS unless school traffic is rerouted (further described in the **Alternatives Assessment Memo** in the Appendix).

Whale Branch Schools:

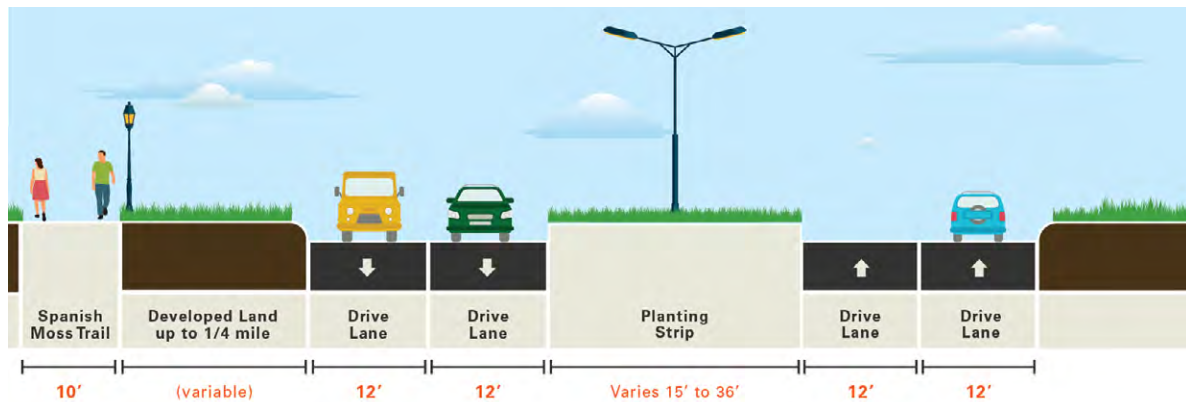
Both previous proposed alternatives could be implemented alongside several ingress and egress design alternatives for Whale Branch Middle School and Elementary School. Additional studies and coordination would be necessary to implement any of the following proposed improvements. A few alternatives were drafted as part of the alternatives assessment and can be referenced in the **Alternatives Analysis Memo** in the Appendix.



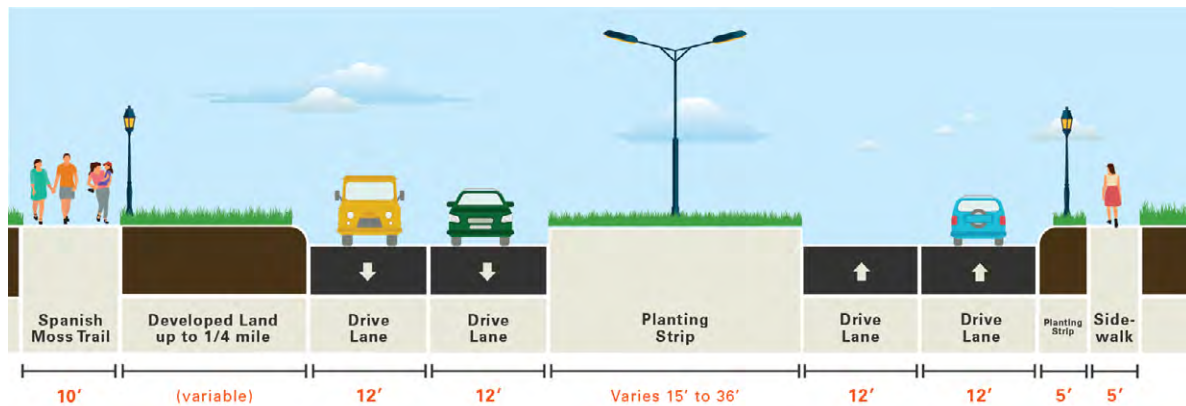




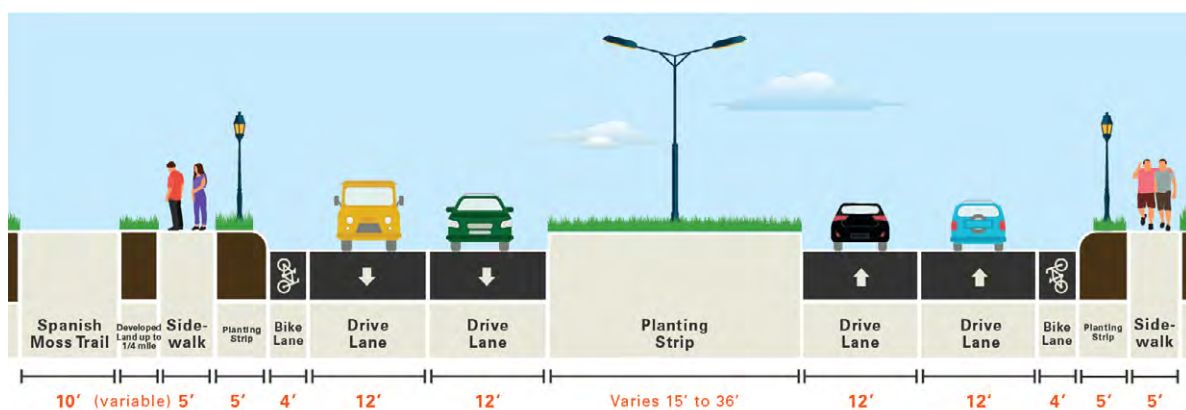
Alternative 1: No Improvements



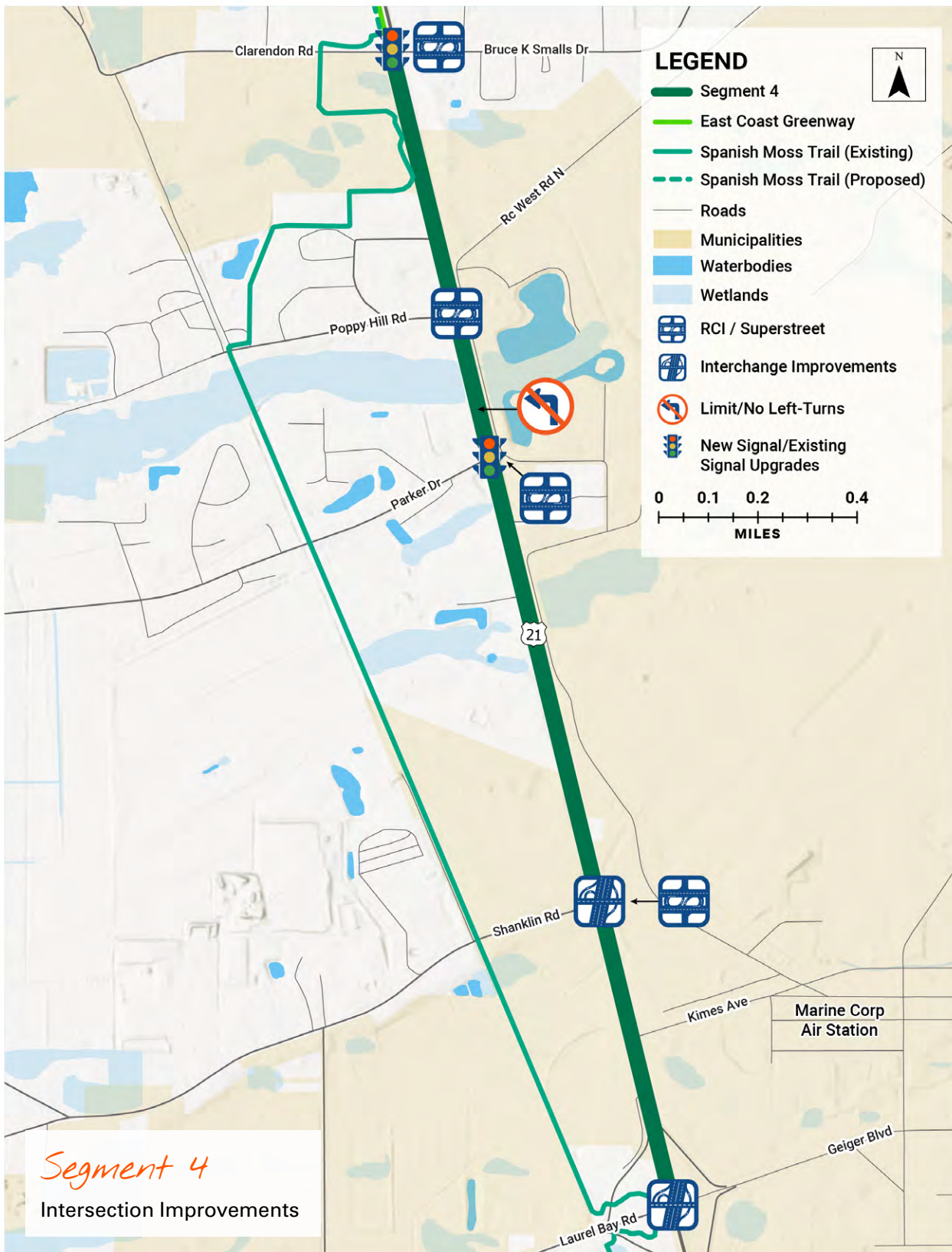
Alternative 2: Planted Center Median with Lighting



Alternative 3: Planted Center Median, Separated Sidewalk on One Side, and Lighting



Alternative 4: Planted Center Median, Separated Sidewalks on Both Sides, Bike Lanes, and Lighting



The team assessed RCIs at the intersections of Poppy Hill Road, Parker Drive, and Shanklin Road, along with a long-term opportunity for a signalized RCI at Parker Drive. The team considered several alternatives for the intersection of US 21 at Laurel Bay Road which were narrowed down to three described below, including a systematic approach for an interchange that includes improvements at Shanklin Road.

Several alternatives were considered at the intersection of US 21 and Laurel Bay Road/ Geiger Boulevard. This intersection serves as a gateway to Beaufort and serves as an ingress and egress point for the MCAS Beaufort. MCAS Beaufort generates large traffic volumes to and from the surrounding neighborhoods and downtown Beaufort. Hwy 21 is in MCAS Beaufort's Clear Zone or APZ-I at the intersection of US 21 and Shanklin Road. These zones are land use control areas with specific guidelines for compatible land uses to prevent safety hazards related to people being near air traffic. Coordination with MCAS Beaufort will be necessary to include any bicycle and pedestrian infrastructure or traffic signals in this area. For further information, please refer to the Alternatives Assessment Memo.

Source: MCAS Beaufort Air Installations Compatible Use Zones (AICUZ) Study

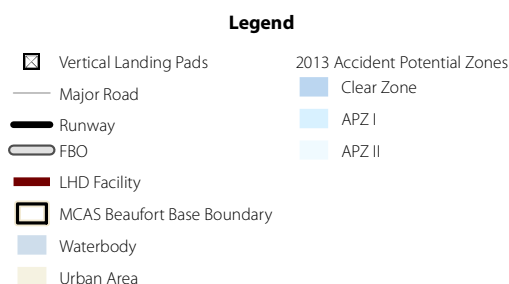
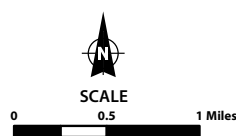
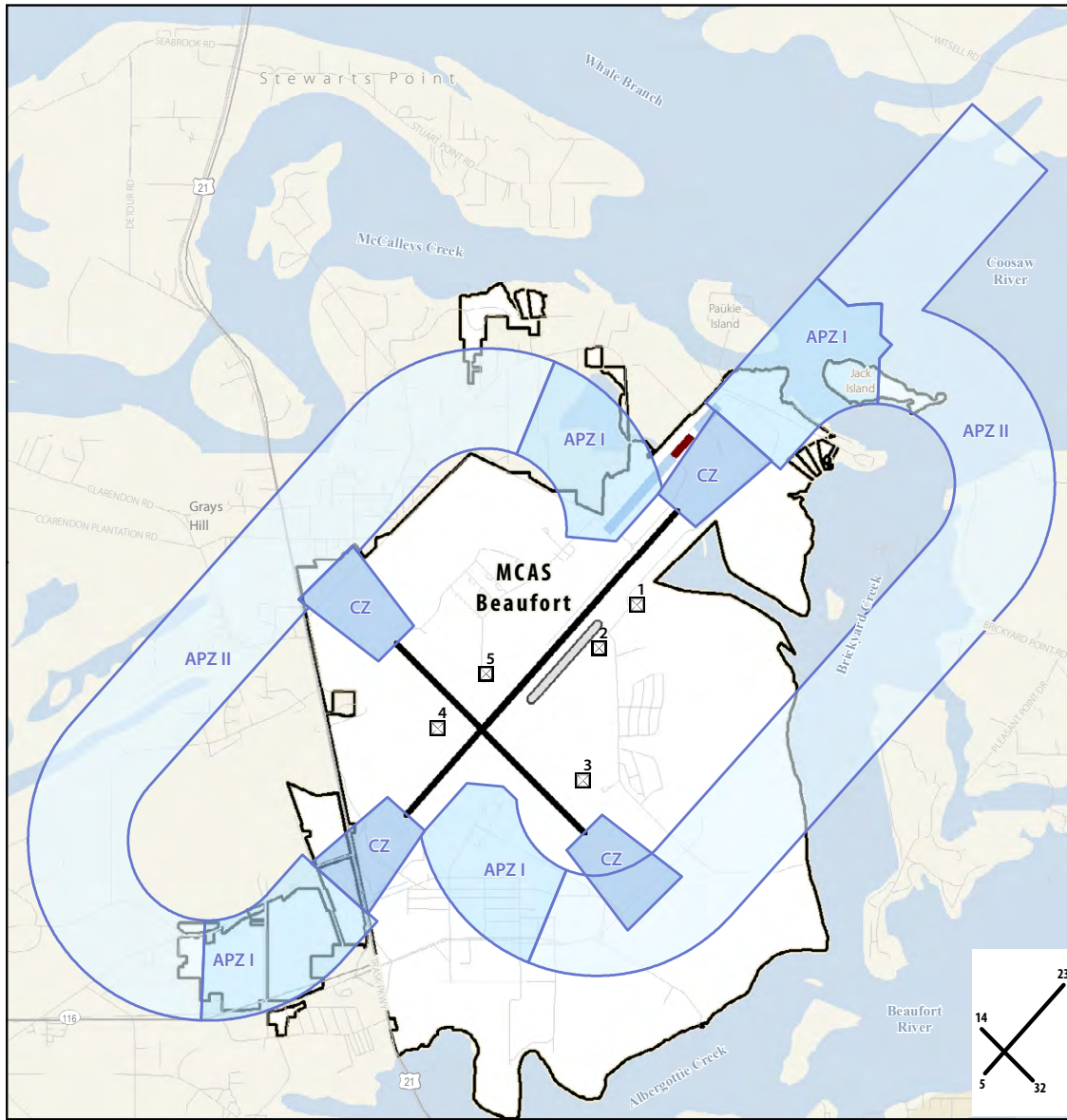


Figure 5-4
AICUZ Accident Potential Zones

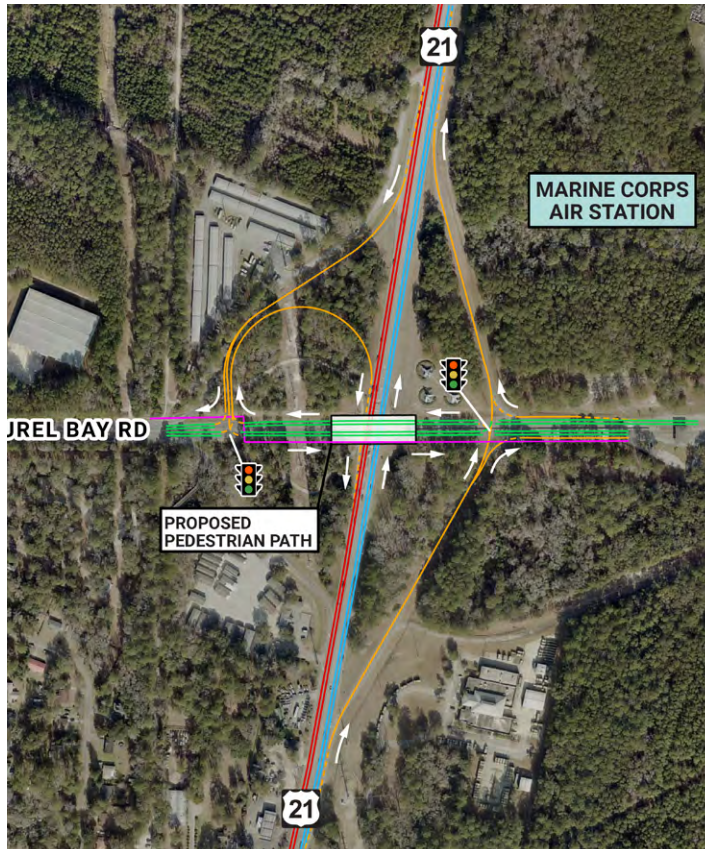
MCAS Beaufort
MCAS Beaufort AICUZ
Beaufort County, SC

Note: The location of Vertical Landing Pads, FBO, and LHD Facility, as well as the Flight Tracks and Noise Contours are based on the 2010 USMC F-35B East Coast Final EIS.

The intersections of US 21 at Laurel Bay Road and Roseida Road are collision hot-spots with high concentrations of crashes in comparison to the rest of the corridor. Without any improvements, the US 21 at Laurel Bay Road intersection is anticipated to function at a failing LOS by 2043 according to Synchro projections. The intersections of US 21 at Shanklin Road and Roseida Road are also anticipated to function at a failing LOS under a no-build scenario. The following proposed alternatives were considered to address the concerns faced by the intersection:

Laurel Bay Road

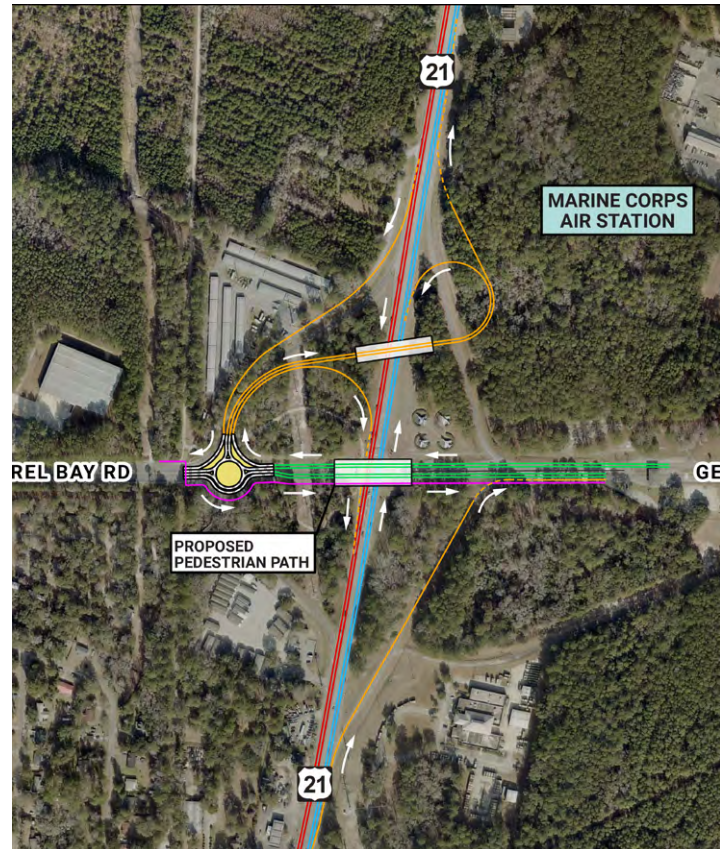
Intersection Improvement - Alternative 1



The first alternative at US 21 and Laurel Bay Road is a Partial Cloverleaf interchange configuration with a tight Diamond. The proposal includes single lane ramps with turn lanes at terminals and a single bridge location with a minimum of three lanes. Outbound traffic from the base would receive a signal at the northbound ramp terminal. Should these improvements be implemented, it is anticipated that the intersection's south-bound ramps would function at LOS A in the morning and evening. The north-bound ramps are anticipated to function at LOS B during am peak time and LOS C during pm peak time.

Laurel Bay Road

Intersection Improvement - Alternative 2



The second proposed alternative at the intersection of US 21 and Laurel Bay Road is a quadrant interchange. The proposal involves single lane ramps with dual lanes near the terminal and free flow traffic from the base. A roundabout could control the main intersection with an optional slip ramp to improve roundabout operations. Should the Quadrant Interchange be implemented with the roundabout, the interchange is anticipated to function at LOS B during am peak hour and LOS A during pm peak hour compared to the projected failing LOS under the no-build.

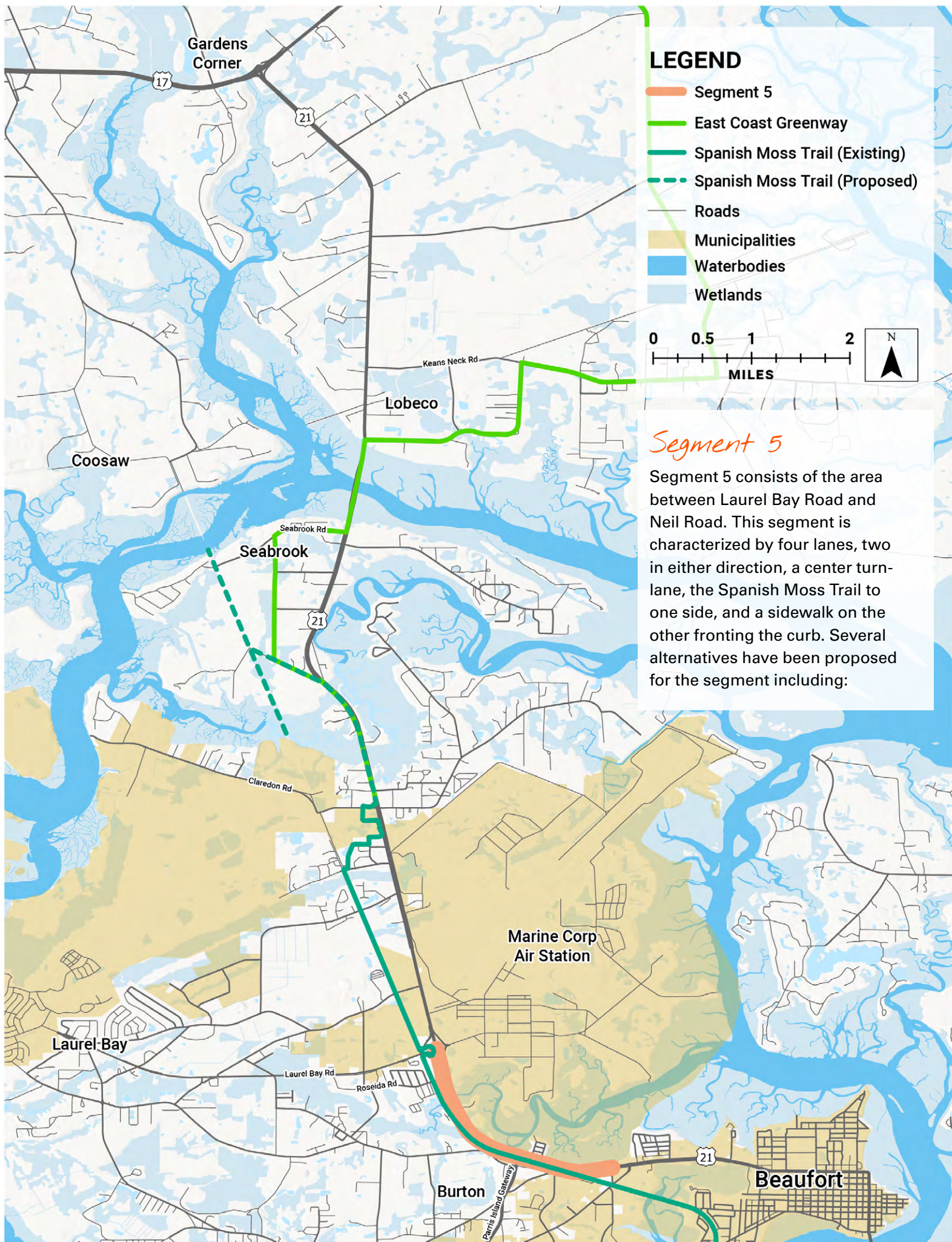
Laurel Bay Road

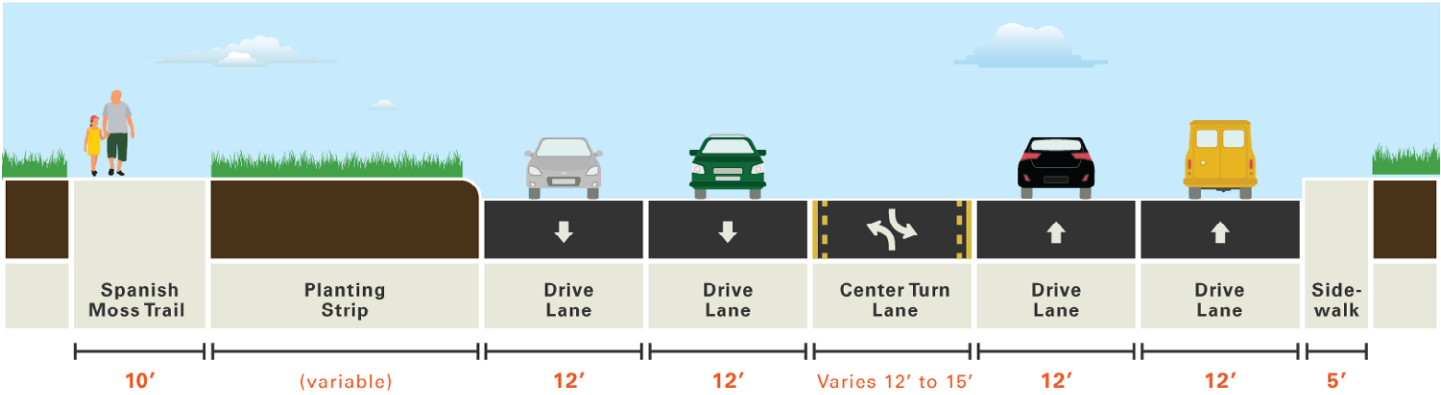
Intersection Improvement - Alternative 3



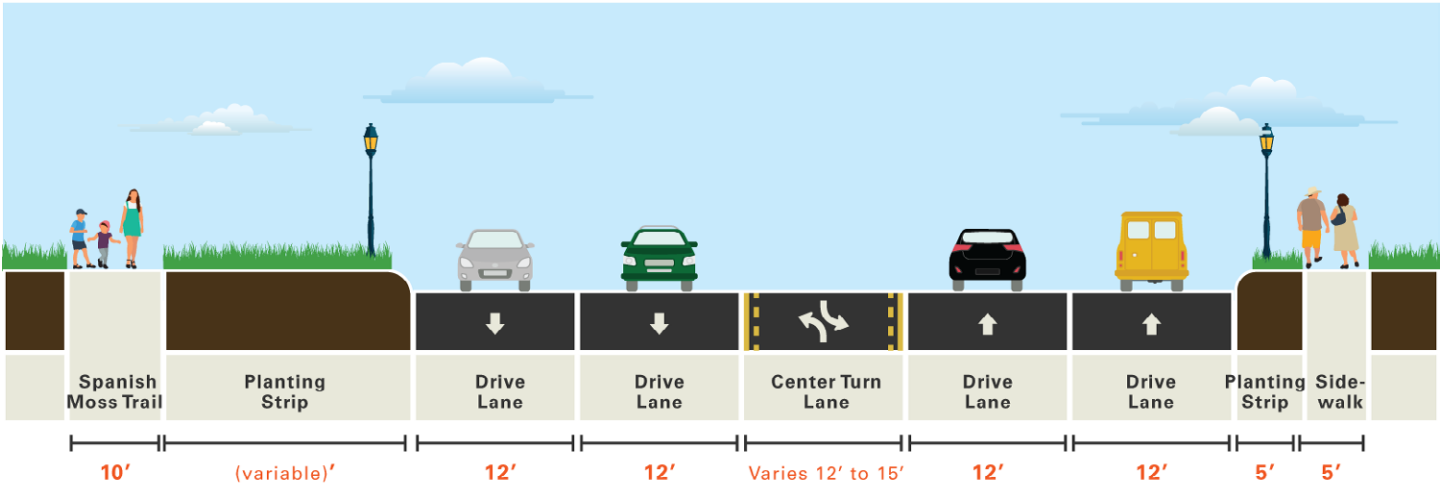
The third alternative for the intersection of US 21 and Laurel Bay/Geiger Boulevard proposes a dual interchange with a Laurel Bay reroute. The proposal includes implementing a standard trumpet interchange for military base traffic and single lane ramps throughout. A cul-de-sac would be implemented at Laurel Bay Road to the west of US 21 with Laurel Bay traffic rerouted to a diverging diamond interchange at Shanklin Road. Should the dual interchange be implemented, the Laurel Bay Road and Shanklin Road intersections will function at LOS B during the am peak hour and LOS C during the pm peak hour, compared to failing LOS scores under the no-build scenario.

Improvements would be necessary at Roseida Road alongside the alternatives at the Laurel Bay intersection. These improvements could include a RCI for access control. A southbound and northbound U-Turn would need to be implemented. The northbound U-turn location would be determined based on interchange design.

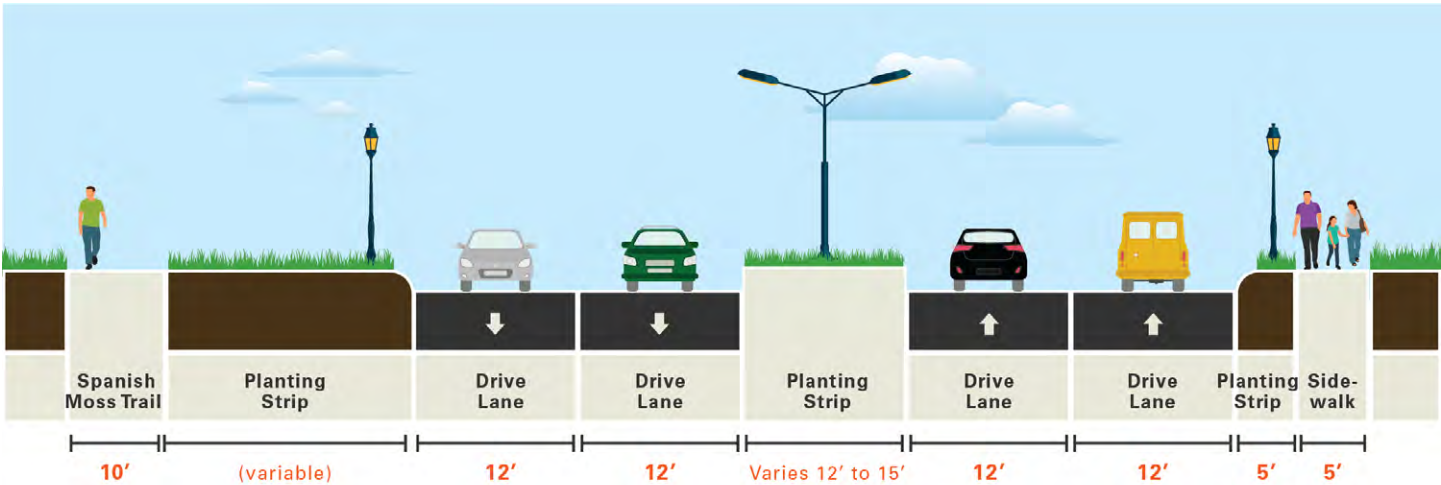




Alternative 1: No Improvements



Alternative 2: Separated Sidewalks and Lighting



Alternative 3: Planted Center Median, Separated Sidewalks, and Lighting



The project team assessed several intersection specific alternatives to address safety and traffic concerns throughout Segment 5. This included a systematic approach to improving traffic flow through Parris Island Gateway and surrounding streets. In total, five alternatives were considered including a traditional widening, quadrant interchange, flyover interchange, traditional interchange, and trumpet interchange. The grade separated interchange concepts include closure of Ice House Road and County Shed Road with a new roadway connection from County Shed Road to US 21 in another location to the west. New signals were also considered alongside the realignment of Broad River Road, US 21, and Ice House Road. Finally, a Parris Island Gateway Bypass was considered that would consist of a new roadway project running west to County Shed Road and becoming part of the new connector to US 21. Ultimately this was removed from consideration due to large, anticipated right-of-way and floodplain impacts. More information about them can be found below:

Parris Island Gateway

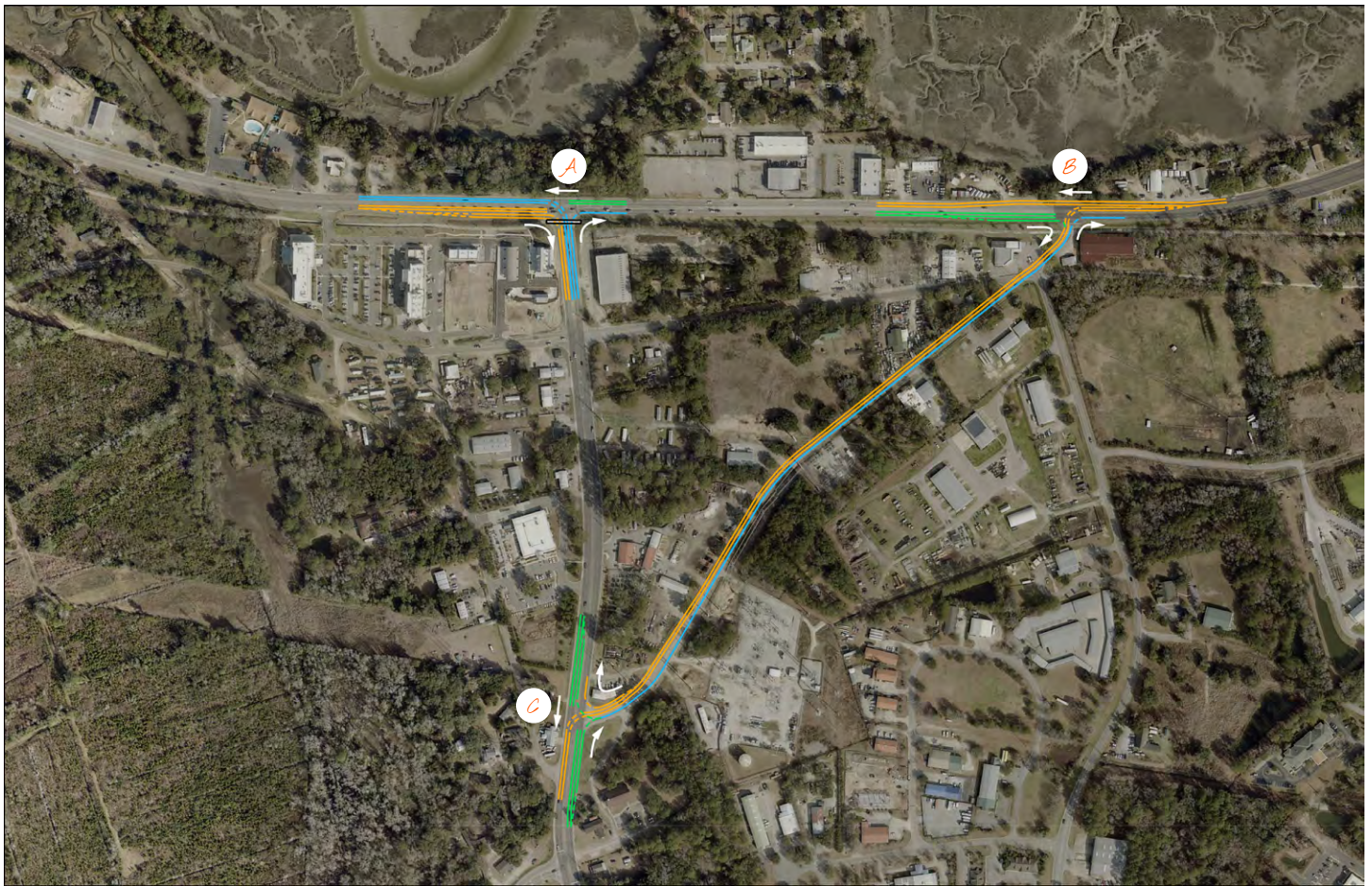
Intersection Improvement - Alternative 1



The first alternative considered for the Parris Island Gateway intersection was a traditional widening, including dual west-bound and right-bound turn lanes. This alternative is lower in cost compared to other alternatives, but is anticipated to experience failing conditions. The Spanish Moss Trail would stay on alignment or could be diverted into an underpass to remove potential conflicts with turning movements. The traditional widening alternative would continue to operate at suboptimal LOS conditions (LOS D or poorer) at the intersections of US 21 and Parris Island Gateway, US 21 and Broad River Boulevard, and Parris Island Gateway and Broad River Boulevard based on 2043 Synchro projections.

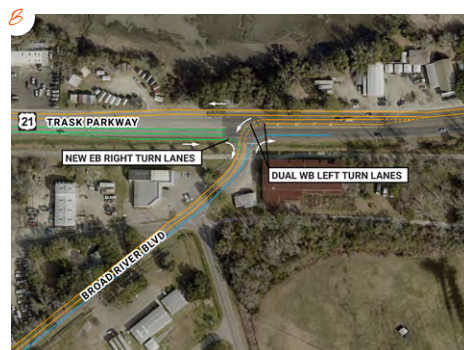
Parris Island Gateway

Intersection Improvement - Alternative 2



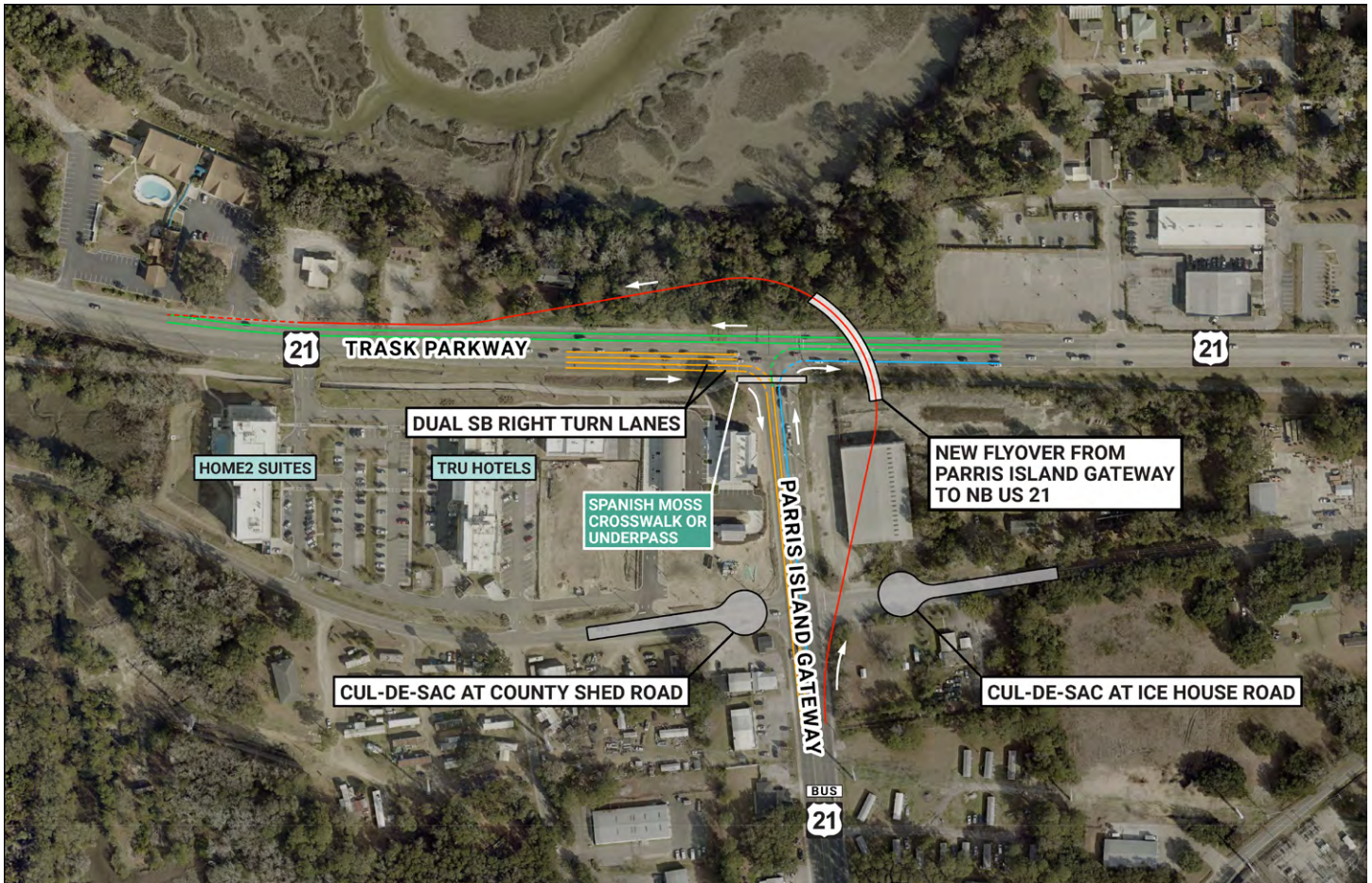
The second alternative at Parris Island Gateway is a quadrant interchange involving closing the west-bound left at US 21 and Parris Island Gateway and relocating left turns to Broad River Boulevard. The intersections at US 21/ Broad River and US 21/ Parris Island Gateway would be improved and signalized, and additional improvements would be made to Broad River Boulevard between Parris Island Gateway and US 21 to accommodate the new traffic movements.

The Spanish Moss Trail would stay on its current alignment or could be rerouted into an underpass at Parris Island Gateway and US 21 to remove conflicts with turning movements. Implementation of the quadrant interchange is anticipated to result in a 2043 LOS C at the interchange of US 21 and Parris Island Gateway, a LOS B at the intersection of US 21 and Broad River Boulevard, a LOS B at Parris Island Gateway and Broad River Boulevard, and a LOS E in the morning and F in the afternoon at the intersection of Broad River Boulevard and Burton Hill Road/ Ice House Road.



Parris Island Gateway

Intersection Improvement - Alternative 3



Alternative 3 at Parris Island Gateway recommends a grade separated flyover to accommodate traffic that otherwise would use traditional left-turn lanes. The west-bound left onto US 21 from Parris Island Gateway would be closed and the Spanish Moss Trail would be diverted into an underpass. County Shed Road and Ice House Road access to Parris Island Gateway would be closed due to the new grade separation, with a new County Shed access to US 21 implemented to the West. Additionally, Broad River Boulevard would be improved at Burton Hill Road. It is anticipated the intersection would function at LOS A in the morning and LOS B in the afternoon if the alternative was implemented according to 2043 according to Synchro projections.

Parris Island Gateway

Intersection Improvement - Alternative 4



The fourth proposed alternative for the Parris Island Gateway intersection involves the implementation of a traditional full interchange in a tight diamond design. The proposed concept includes single lane ramp connections to US 21 and a three-lane bridge over US 21. The alternative would close access to County Shed Road and Ice House Road from Parris Island Gateway and provide a new access point from County Shed Road to US 21 to the west. Broad River Boulevard would receive improvements at Burton Hill Road. Lastly, the Spanish Moss Trail would be realigned under the bridge with unsignalized crossings. Should these improvements be implemented, it is anticipated the intersection would function at LOS B in the morning and LOS C in the afternoon by 2043 according to Synchro projections.

Parris Island Gateway

Intersection Improvement - Alternative 5



The final Parris Island Gateway alternative considered is a full interchange implementation in a trumpet style design. The alternative includes closure of County Shed Road and Ice House Road at Parris Island Gateway, with new County Shed Road access to US 21 to the west. Like other alternatives, Broad River Boulevard would receive improvements at Burton Hill Road and the Spanish Moss Trail would be realigned under the new bridge with unsignalized crossings. It is anticipated the intersection would function at LOS A in the morning and LOS B in the afternoon by 2043 according to Synchro projections.

Parris Island Gateway

Intersection Improvement - Alternative 6



As mentioned in several of the previous alternatives, Broad River Boulevard would receive improvements to accommodate shifting traffic and reduce the amount of cut-through traffic along Broad River Boulevard. These proposed improvements include implementing a roundabout at Burton Hill Road and Broad River Road. Converting the intersection to a roundabout is anticipated to result in an LOS A during AM and PM peak hours, in comparison to the no-build LOS score of D.

Prioritization

US 21 Alternative Evaluation Criteria

To evaluate the various alternatives generated during project development, the project team established a set of criteria to evaluate how each alternative benefits the public and implements steps towards achieving the County's vision for US 21. These criteria fall into the following categories: Safety, Health, Economy, and Community.

To determine how well a given alternative aligns with the criteria, several performance metrics were established. The more performance metrics an alternative meets, the better the score. An alternative may rank as Excellent, Good, Fair, or Poor in each criterion. A ranking of excellent means the alternative meets all criteria. A score of good means the proposed alternative meets at least half the criteria. A score of fair means the alternative meets less than half of the criteria, and a score of poor means the alternative does not meet the criteria. The following performance metrics were established.

Criteria Area	Performance Measure
Safety	
Speed Management	Designs the road and intersections to be safer at selected 'operating' speeds Designs the road to restrict or reduce the maximum comfortable operating speed
Crash Reduction	Creates a reduction in potential points of conflict Improves bicycle and pedestrian crossing safety Bike and pedestrian protective buffers are present
Access Management	Strategically limits turning motions Provides connectivity by way of parallel/alternate routes
Reduces Congestion	Improves LOS Score (Intersections) Improves congestion and delays between major intersections Improves signal phasing at traffic signals (intersections) Design includes multimodal features, supporting modal shift
Emergency Evacuation	Improves support for local and state evaluation plans

Criteria Area	Performance Measure
Health	
Walkability	Provides access to current and future designated pedestrian infrastructure Provides access to current and future separated pedestrian infrastructure Design includes pedestrian crossing infrastructure (intersections)
Bikeability	Provides access to current and future designated bicycle infrastructure Provides access to current and future separated bicycle infrastructure Design includes bicycle crossing infrastructure (intersections)
Trail Access	Incorporates access to the Spanish Moss Trail and/or the East Coast Greenway
First-mile/Last-mile Transit Support	Provides designated pedestrian and bicycle access to all transit stops along corridor
Air Quality	Reduces congestion and idling
Economy	
Business Access	Promotes safe turning movements for access Provides connectivity by way of parallel/alternate routes Provides safe non-automotive access to businesses
Right-of-Way (ROW) Acquisition Impacts	No more than 10 parcel impacts anticipated No more than 3 to 5 relocations anticipated No relocations anticipated

Criteria Area	Performance Measure
Community	
Maintains Community Character	Segment 1: Rural - Low density residential and agricultural land uses Segment 2: Rural Community - Small scale retail and service uses supporting low density residential Segment 3: Neighborhood/ Mixed-Use - Moderate density residential with supporting services (schools) Segment 4: Civil – Government and Military uses Segment 5: Regional Commercial – Commercial uses drawing regional clientele
Enhances Landscaping	Provides new planting buffers Provides new planted center medians Minimizes negative impacts to existing trees, landscaping, and/or aesthetics
Impacts to Flood Zones	Project is not anticipated involve a Letter of Map Revision (LOMR)
Resilience	Project provides a good foundation for inclusion of resiliency elements
Impacts to Wetlands	No more than 0.5 acres of wetland impacts anticipated
Impacts to Community Resources	No anticipated impacts to historic properties No anticipated impacts to cemeteries No anticipated impacts to churches/religious institutions
Impacts to Farmland	No new farmland impacts anticipated
Consistent with Existing Plans	Consistent and supports local and state established plans

The exact scoring method utilized is illustrated below:

Scoring:

100% of measures - **Excellent**

50% of measures - **Good**

Less than 50% of measures - **Fair**

0% of measures - **Poor**

The US 21 Corridor has been evaluated by segment and by certain key proposed intersection improvements. The corridor was broken into five character-based segments, each with their own proposed improvements to meet the segment's unique needs. In addition to this, several alternatives of proposed intersection improvements have been developed for the intersections of US 21 at Seabrook Road and Stuart Point Road, US 21 at Laurel Bay Road, and US 21 at Parris Island Gateway. Summaries of the scoring matrixes for each segment and major intersection improvement can be found below. Please note, some standalone improvements, such

as the Whale Branch Ingress and Egress alternatives, the County Shed connection, improvements at US 21/ Roseida Road, and improvements at Burton Hill/Broad River Road mentioned previously were evaluated separately. For more information about these alternatives and the prioritization process, refer to the **Alternative Assessment Memo** in the Appendix.

Segment 1: US 17 to Washington Farm Road

Criteria Area	Alternative 1	Alternative 2	Alternative 3
	No Change	Planted Center Median and Lighting	Planted Center Median, Separated Sidewalks, and Lighting
Safety	Fair	Fair	Good
Speed Management			
Crash Reduction			
Access Management			
Reduces Congestion			
Emergency Evacuation			
Health	Poor	Poor	Good
Walkability			
Bikeability			
Trail Access	-	-	-
First-mile/Last-mile Transit Support			
Air Quality			

Criteria Area	Alternative 1	Alternative 2	Alternative 3
	No Change	Planted Center Median and Lighting	Planted Center Median, Separated Sidewalks, and Lighting
Economy	Good	Good	Good
Business Access			
Right-of-Way (ROW) Acquisition Impacts			
Community	Good	Good	Good
Maintains Community Character			
Enhances Landscaping			
Impacts to Flood Zones			
Resilience			
Impacts to Wetlands			
Impacts to Community Resources			
Impacts to Farmland			
Consistent with Existing Plans			

Segment 2: Washington Farm Road to Seabrook Road

Criteria Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	No Change	Separated Sidewalks and Lighting	Planted Center Median, Separated Sidewalks, and Lighting	Planted Center Median, Separated Sidewalks, Multiuse Path, and Lighting
Safety	Fair	Good	Good	Good
Speed Management				
Crash Reduction				
Access Management				
Reduces Congestion				
Emergency Evacuation				
Health	Fair	Good	Good	Excellent
Walkability				
Bikeability				
Trail Access				
First-mile/Last-mile Transit Support				
Air Quality				
Economy	Good	Good	Good	Good
Business Access				
Right-of-Way (ROW) Acquisition Impacts				
Community	Good	Good	Good	Good
Maintains Community Character				
Enhances Landscaping				
Impacts to Flood Zones				
Resilience				
Impacts to Wetlands				
Impacts to Community Resources				
Impacts to Farmland				
Consistent with Existing Plans				

Segment 3: Seabrook Road to Clarendon Road

Criteria Area	Alternative 1	Alternative 2	Alternative 3
	No Change	Planted Center Median, Lighting, and Extended Spanish Moss Trail	Planted Center Median, Lighting, Extended Spanish Moss Trail, and Separated Sidewalks
Safety	Fair	Good	Good
Speed Management			
Crash Reduction			
Access Management			
Reduces Congestion			
Emergency Evacuation			
Health	Poor	Good	Excellent
Walkability			
Bikeability			
Trail Access			
First-mile/Last-mile Transit Support			
Air Quality			
Economy	Good	Good	Good
Business Access			
Right-of-Way (ROW) Acquisition Impacts			
Community	Good	Good	Good
Maintains Community Character			
Enhances Landscaping			
Impacts to Flood Zones			
Resilience			
Impacts to Wetlands			
Impacts to Community Resources			
Impacts to Farmland			
Consistent with Existing Plans			

Segment 4: Clarendon Road to Laurel Bay Road

Criteria Area	Alternative 1	Alternative 2	Alternative 3	Alternative 4
	No Change	Planted Center Median and Lighting	Planted Center Median, Separated Sidewalk, and Lighting	Planted Center Median, Separated Sidewalk, Bike Lanes, and Lighting
Safety	Fair	Good	Good	Good
Speed Management				
Crash Reduction				
Access Management				
Reduces Congestion				
Emergency Evacuation				
Health	Good	Good	Excellent	Excellent
Walkability				
Bikeability				
Trail Access				
First-mile/Last-mile Transit Support				
Air Quality				
Economy	Good	Good	Good	Good
Business Access				
Right-of-Way (ROW) Acquisition Impacts				
Community	Good	Good	Good	Good
Maintains Community Character				
Enhances Landscaping				
Impacts to Flood Zones				
Resilience				
Impacts to Wetlands				
Impacts to Community Resources				
Impacts to Farmland				
Consistent with Existing Plans				

Segment 5: Laurel Bay Road to Neil Road

Criteria Area	Alternative 1	Alternative 2	Alternative 3
	No Change	Lighting and Separated Sidewalk to One Side	Center Planted Median, Lighting, and Separated Sidewalk to One Side
Safety	Fair	Good	Good
Speed Management			
Crash Reduction			
Access Management			
Reduces Congestion			
Emergency Evacuation			
Health	Good	Good	Good
Walkability			
Bikeability			
Trail Access			
First-mile/Last-mile Transit Support			
Air Quality			
Economy	Good	Fair	Fair
Business Access			
Right-of-Way (ROW) Acquisition Impacts			
Community	Good	Good	Good
Maintains Community Character			
Enhances Landscaping			
Impacts to Flood Zones			
Resilience			
Impacts to Wetlands			
Impacts to Community Resources			
Impacts to Farmland			
Consistent with Existing Plans			

Seabrook Road Intersection

Criteria Area	No-Build Alternative	Seabrook Alternative 1	Seabrook Alternative 2
	No Change	Cul-de-sac Seabrook Road west of US 21. Reroute Seabrook Road to align with Stuart Point Road. Implement new signal at Stuart Point Road and US 21.	Cul-de-sac or right-in-right-out onto Seabrook west of US 21. Reroute Seabrook Road to align with Stuart Point Road. New signal at Stuart Point and US 21. Realign Seabrook and State HWY 7-549 with 4-leg intersection.
Safety	Poor	Good	Excellent
Speed Management	●	●	●
Crash Reduction	●	●	●
Access Management	●	●	●
Reduces Congestion	●	●	●
Emergency Evacuation	●	●	●
Health	Poor	Excellent	Excellent
Walkability	●	●	●
Bikeability	●	●	●
Trail Access	●	●	●
First-mile/Last-mile Transit Support	●	-	-
Air Quality	●	●	●
Economy	Good	Good	Good
Business Access	●	●	●
Right-of-Way (ROW) Acquisition Impacts	●	●	●
Community	Good	Good	Good
Maintains Community Character	●	●	●
Enhances Landscaping	●	●	●
Impacts to Flood Zones	●	●	●
Resilience	●	●	●
Impacts to Wetlands	●	●	●
Impacts to Community Resources	●	●	●
Impacts to Farmland	●	●	●
Consistent with Existing Plans	●	●	●

Laurel Bay Intersection

Criteria Area	No-Build Alternative	Parclo A with Tight Diamond	Quadrant Interchange	Dual Interchange with Laurel Bay Reroute
	No Change	Single lane ramps with turn lanes at terminals. Single bridge location with at least 3 lanes. Signal at the NB ramp terminal.	Single lane ramps with dual lanes, roundabout, optional slip ramp	Standard Trumpet Interchange with single lane ramps. Reroute Laurel Bay traffic to Shanklin with cul-de-sac on Laurel Bay west of US 21. Potential one-sided DDI Interchange at Shanklin.
Safety	Poor	Good	Good	Good
Speed Management				
Crash Reduction				
Access Management				
Reduces Congestion				
Emergency Evacuation				
Health	Fair	Excellent	Excellent	Excellent
Walkability				
Bikeability				
Trail Access				
First-mile/Last-mile Transit Support				
Air Quality				
Economy	Good	Good	Good	Good
Business Access				
Right-of-Way (ROW) Acquisition Impacts				
Community	Good	Good	Good	Good
Maintains Community Character				
Enhances Landscaping				
Impacts to Flood Zones				
Resilience				
Impacts to Wetlands				
Impacts to Community Resources				
Impacts to Farmland				
Consistent with Existing Plans				

Parris Island Gateway

Criteria Area	No-Build Alternative	Traditional Widening	Quadrant Interchange	Parris Island Flyover	Full Interchange (Traditional)	Full Interchange (Trumpet)
	No Change	Widen intersection with dual WB lefts and dual EB rights	Close the WB Left at US 21 and Parris Island Gateway and relocate left turns onto Broad River Boulevard	Flyover from Parris Island. Closure of County Shed Road and Ice House Road. Provide new access to County Shed Road along US 21	Tight diamond design with single lane ramps. 3 lane bridge over US 21. Closure of County Shed Road and Ice House Road. Provide new access to County Shed Road along US 21	Trumpet style interchange providing free-flow of vehicles. Closure of County Shed Road and Ice House Road. Provide new access to County Shed Road along US 21
Safety	Poor	Good	Excellent	Excellent	Excellent	Excellent
Speed Management	●	●	●	●	●	●
Crash Reduction	●	●	●	●	●	●
Access Management	●	●	●	●	●	●
Reduces Congestion	●	●	●	●	●	●
Emergency Evacuation	●	●	●	●	●	●
Health	Good	Good	Excellent	Excellent	Excellent	Excellent
Walkability	●	●	●	●	●	●
Bikeability	●	●	●	●	●	●
Trail Access	●	●	●	●	●	●
First-mile/Last-mile Transit Support	●	●	●	●	●	●
Air Quality	●	●	●	●	●	●
Economy	Good	Fair	Good	Good	Good	Good
Business Access	●	●	●	●	●	●
Right-of-Way (ROW) Acquisition Impacts	●	●	●	●	●	●
Community	Good	Good	Good	Good	Good	Good
Maintains Community Character	●	●	●	●	●	●
Enhances Landscaping	●	●	●	●	●	●
Impacts to Flood Zones	●	●	●	●	●	●
Resilience	●	●	●	●	●	●
Impacts to Wetlands	●	●	●	●	●	●
Impacts to Community Resources	●	●	●	●	●	●
Impacts to Farmland	●	●	●	●	●	●
Consistent with Existing Plans	●	●	●	●	●	●

RECOMMENDATIONS

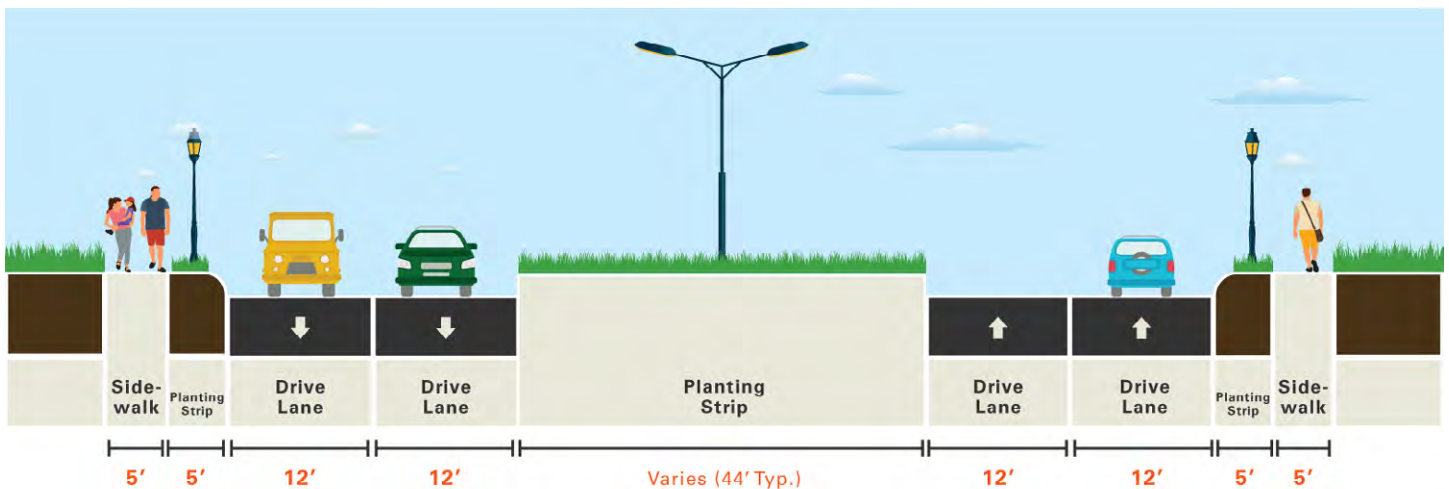
Recommendations

After the thorough evaluation of the various alternatives, the following alternatives scored the highest in their respective matrixes:

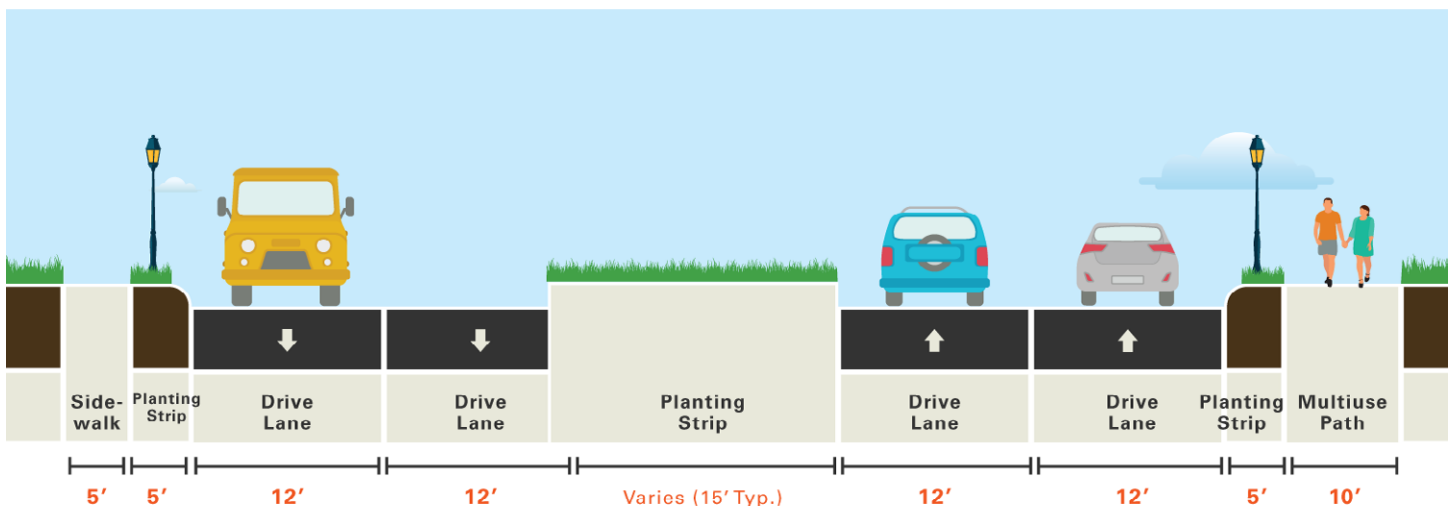
Project	Extents	Highest Scoring Alternative
Segment 1	US 17 to Washington Farm Road	3
Segment 2	Washington Farm Road to Seabrook Road	4
Segment 3	Seabrook Road to Clarendon Road	3
Intersection at Seabrook Road and Stuart Point Road	Seabrook Road and Stuart Road	2
Segment 4	Clarendon Road to Laurel Bay Road	3 & 4
Intersection at Laurel Bay Road	Intersection of US 21 and Laurel Bay Road/ Geiger Boulevard and surrounding area	1, 2, & 3
Segment 5	Laurel Bay Road to Neil Road	3
Intersection at Parris Island Gateway	Intersection of US 21 and Parris Island Gateway and surrounding area	2,3,4, & 5

The analysis of the intersections of Laurel Bay and Parris Island Gateway resulted in several tied alternatives, as did the analysis of Segment 4. After consideration of contextual impacts of the various alternatives on the surrounding community, the County selected the following alternatives to move into concept development.

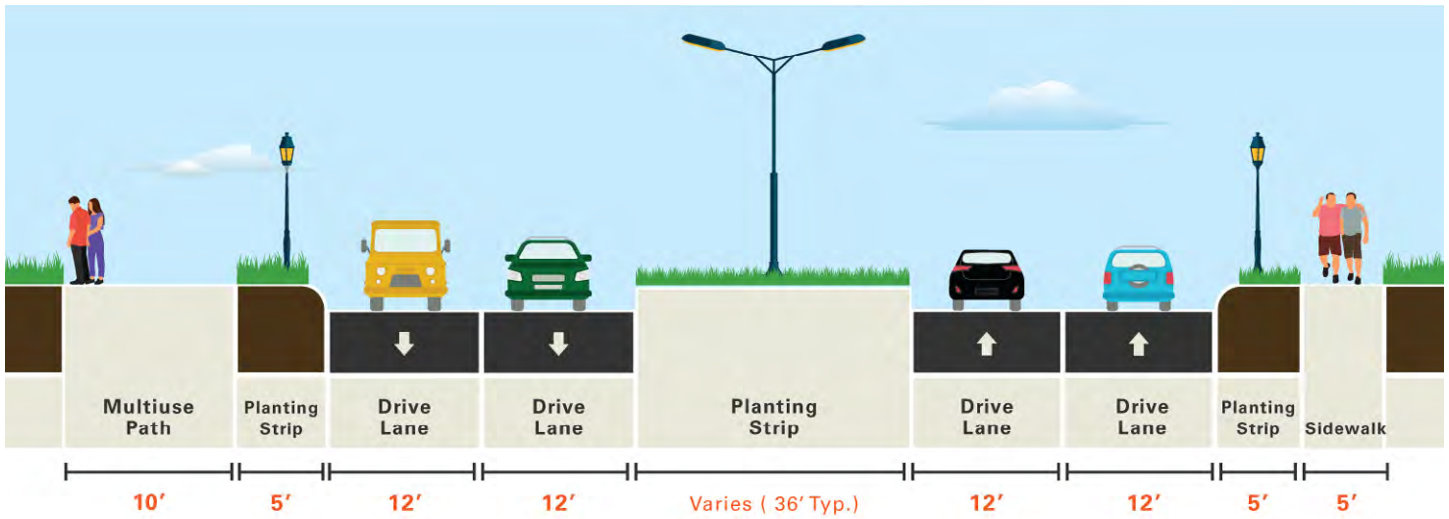
Project	Extents	Highest Scoring Alternative
Segment 1	US 17 to Washington Farm Road	3
Segment 2	Washington Farm Road to Seabrook Road	4
Segment 3	Seabrook Road to Clarendon Road	3
Intersection at Seabrook Road and Stuart Point Road	Seabrook Road and Stuart Road	2
Segment 4	Clarendon Road to Laurel Bay Road	3
Intersection at Laurel Bay Road	Intersection of US 21 and Laurel Bay Road/ Geiger Boulevard and surrounding area	1
Segment 5	Laurel Bay Road to Neil Road	3
Intersection at Parris Island Gateway	Intersection of US 21 and Parris Island Gateway and surrounding area	2



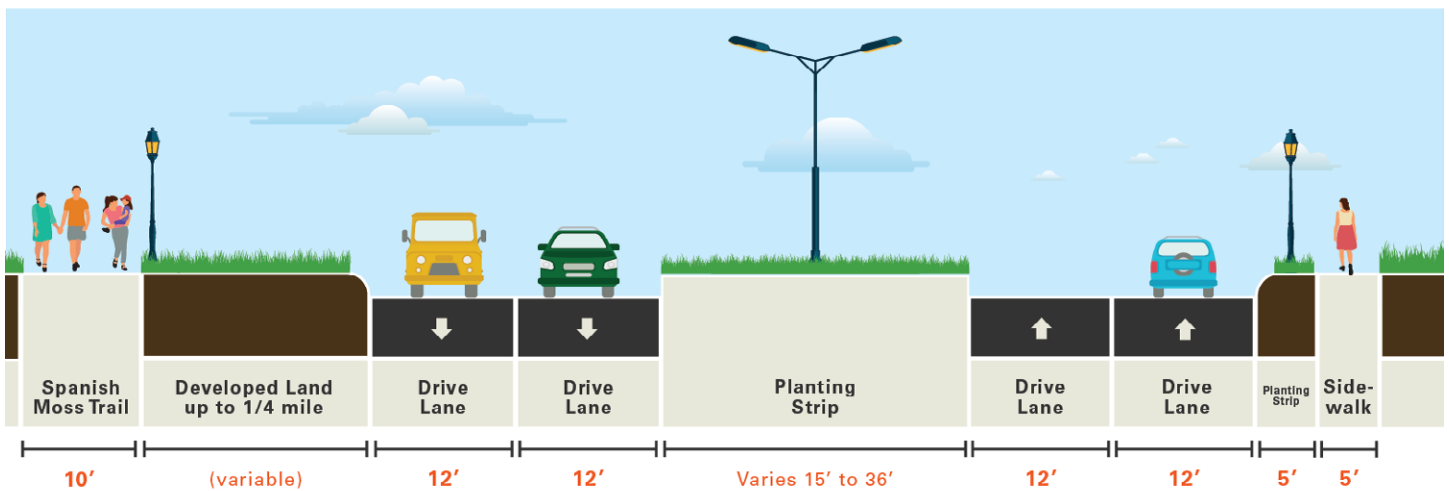
Segment 1 - Alternative 3: Planted Center Median, Lighting with Separated Sidewalks



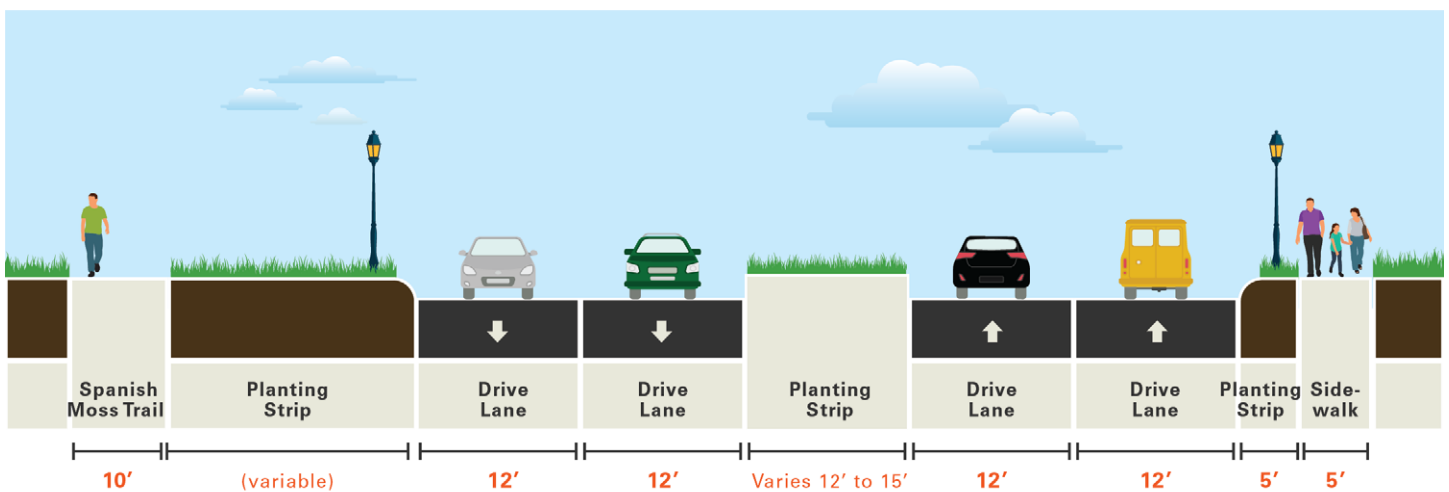
Segment 2 - Alternative 4: Planted Center-Median, Lighting, Multiuse Path, and Separated Sidewalk



Segment 3 - Alternative 3: Planted Center Median with Spanish Moss Trail Extension, Separated Sidewalk, and Lighting



Segment 4 - Alternative 3: Planted Center Median, Separated Sidewalk on One Side, and Lighting



Segment 5 - Alternative 3: Planted Center Median, Separated Sidewalks, and Lighting

These alternatives have moved into concept development.



Laurel Bay Road Intersection



Parris Island Gateway Intersection



Seabrook Road Intersection

Final Recommendations Summary

GOALS ESTABLISHED IN THE EXISTING CONDITIONS ANALYSIS PHASE:

1. Improve congestion along the corridor
2. Improve safety along the corridor and at impactful intersections
3. Enhance multimodal connectivity and accessibility

SHORT-TERM LIST – 0 TO 5 YEARS

**Planning level cost estimates have been projected out to 2030 dollars*

#	Improvement Summary	Cost Estimate	Impacted Goals
1	Seabrook Road/Stuart Point Road Intersection Improvements - Seabrook Road Realignment and closure/right-in-right-out of previous Seabrook Road Intersection at US 21	\$6,280,000	1,2,3
2	Shanklin Road at US 21 Intersection Improvements – Reduced Conflict Intersection	\$430,000	1, 2, 3
3	Roseida Road at US 21 Intersection Improvements - Reduced Conflict Intersection	\$430,000	1, 2, 3
4	Parris Island Gateway Interchange – Quadrant Interchange	\$7,790,000	1, 2, 3
5	New County Shed Connection to US 21 – New Roadway	\$2,340,000	1, 2, 3
6	Burton Hill/ Broad River Boulevard Improvements – Roundabout	\$2,150,000	1, 2
7	Clarendon Road at US 21 Intersection Improvements – Addition of left turns from sideroads	\$880,000	1, 2, 3
8	Corridor-wide Signal Re-timings	\$640,000	1, 2
9	Corridor-wide Advanced Signage	\$840,000	1, 2

**All alternatives include resurfacing the existing roadway in the area of improvements*

MID-TERM LIST – 5 TO 10 YEARS

**Planning level cost estimates have been projected out to 2035 dollars*

#	Improvement Summary	Cost Estimate	Impacted Goals
1	Laurel Bay at US 21 Interchange – Partial Cloverleaf Interchange with Tight Diamond	\$30,630,000	1, 2, 3
2	Segment 3 - Planted Center Median, Lighting, Extended Spanish Moss Trail, and Separated Sidewalks	\$31,610,000	1, 2, 3
3	Segment 5 - Planted Center Median, Lighting, and Separated Sidewalk to One Side	\$15,540,000	1, 2, 3
4	Martin Lane at US 21 Intersection Improvements – Reduced Conflict Intersection	\$1,190,000	1, 2, 3
	Garrett Small Road/Detour Road at US 21 Intersection Improvements – Restricted left turns onto US 21 from Garrett Small Road and Detour Road	\$760,000	1, 2, 3
	Seabrook Center Road at US 21 Improvements - Reduced Conflict Intersection	\$360,000	1, 2, 3
	Martin Lane at Detour Road Intersection Improvements – Roundabout	\$1,840,000	1, 2
5	Parker Drive at US 21 Intersection Improvements – Reduced Conflict Intersection at Parker Drive with closure of existing driveway access just north of Parker	\$550,000	1, 2, 3

**All alternatives include resurfacing the existing roadway in the area of improvements*

LONG-TERM LIST – 10 YEARS OR MORE

**Planning level cost estimates have been projected out to 2040 dollars*

#	Improvement Summary	Cost Estimate	Impacted Goals
1	Segment 1 - Planted Center Median, Separated Sidewalks, and Lighting	\$32,730,000	2, 3
2	Segment 2 – Planted Center Median, Separated Sidewalks, Multiuse Path, Lighting, and Bridge Replacement	\$78,110,000	2, 3
3	Segment 4 - Planted Center Median, Separated Sidewalk, and Lighting	\$39,980,000	2, 3
4	Washington Farm Road at US 21 Intersection Improvements - Reduced Conflict Intersection	\$660,000	1, 2, 3
5	Keans Neck Road at US 21 Intersection Improvements - Reduced Conflict Intersection	\$670,000	1, 2, 3
6	Morgan Road at US 21 Intersection Improvements - Reduced Conflict Intersection	\$660,000	1, 2, 3
7	Clarendon Road at US 21 Intersection Improvements - Signalized Reduced Conflict Intersection (addition to short-term improvement as traffic increases)	\$1,860,000	1, 2, 3
8	Parker Drive at US 21 Intersection Improvements - Signalized Reduced Conflict Intersection (addition to mid-term improvement as traffic increases)	\$2,910,000	1, 2, 3

**All alternatives include resurfacing the existing roadway in the area of improvements*

IMPLEMENTATION PLAN

Implementation Plan

Implementation of this plan will require extensive coordination with local stakeholders from the area and internal departments within Beaufort County. State and regional entities including the Lowcountry Area Transportation Study (LATS) MPO, the Lowcountry Council of Governments, and SCDOT will be able to provide critical support throughout the implementation process. The County has an opportunity to leverage a variety of resources to extend the impact of funding and result in faster implementation of the projects.

State and regional agencies can provide valuable support and partnership opportunities during implementation of these recommendations. These entities provide resources that can be used to compliment Beaufort County efforts and achieve better results. Additionally, private sector investment can also play a significant role in implementation. By collaborating with Beaufort County and other regional agencies, the private sector can contribute to implementation of specific improvements/actions within a project area. This collaboration may involve joint funding partnerships or other forms of financial support.

A list of several potential funding sources are included below:

Federal Discretionary Funds

Better Utilizing Investments to Leverage Development (BUILD) Grant Program

Funding Agency:



U.S. Department
of Transportation



U.S. Department of Transportation
**Federal Highway
Administration**



U.S. Department of Transportation's (USDOT) Better Utilizing Investments to Leverage Development (BUILD) Grant Program, previously known as the RAISE Program, provides financial assistance for infrastructure projects that have a large regional or local impact. The program has a focus on areas of persistent poverty and projects that promote development and infrastructure investment in these areas.

Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Program (Program is currently being evaluated)

Funding Agency:



U.S. Department
of Transportation



The Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT) Grant Program offers funding assistance to surface transportation projects providing increased resilience to natural hazards including sea level rise, flooding, extreme weather events, and other natural disasters. Eligible projects include planning studies, resilience improvements, community resilience and evacuation route improvements, and at-risk coastal infrastructure improvements. The program offers four funding pots with specialized interests including: 1. Planning, 2. Resilience Improvement, 3. Community Resilience and Evacuation Route, 4. At-Risk Coastal Infrastructure

Safe Streets and Roads for All (SS4A)

Funding Agency:



U.S. Department
of Transportation



The Safe Streets and Roads for All (SS4A) Program is a discretionary grant program that supports regional, local, and tribal safety initiatives that focus on preventing roadway fatalities and serious injuries. Once a region has a Comprehensive Safety Action Plan in place, SS4A funds can be used to implement projects that are identified in the plan. Municipalities and Counties may apply for SS4A funding to implement a project located in a State or Metropolitan Planning Organization's Comprehensive Safety Action Plan as long as the application demonstrates coordination with the organization that developed the Comprehensive Safety Action Plan.

Multimodal Project Discretionary Grant (MPDG) Program

Funding Agency:



U.S. Department
of Transportation



The MPDG Program has contains three grant programs: the National Infrastructure Project Assistance grants program (Mega), the Nationally Significant Multimodal Freight and Highway Projects grants program (INFRA), and the Rural Surface Transportation Grant program (Rural). The program offers funding assistance for surface transportation infrastructure projects such as highway and bridge projects, intercity passenger rail projects, railway-highway crossing improvement projects, wildlife crossings, public transportation projects, marine highway projects, and freight projects that have a national or regional impact. The program also prioritizes improving and expanding surface transportation infrastructure in rural areas.

Bridge Investment Program (BIP) Planning and Bridge Project Grants

Funding Agency:



U.S. Department
of Transportation



U.S. Department of Transportation
**Federal Highway
Administration**



The U.S. Department of Transportation's Bridge Investment Program (BIP) provides funding for bridge replacement, rehabilitation, preservation, and protection projects to reduce the number of bridges in poor condition nationwide. It includes two grant program categories: BIP Large Bridge Project Grants, which prioritize bridge projects with total eligible project costs above \$100,000,000, and BIP Planning and Bridge Project Grants, which are dedicated to bridge projects with costs of \$100,000,000 or less or planning activities for future large bridge or bridge projects. Applicants may apply for a Planning Grant to later apply for a BIP Large Bridge Project Grant or BIP Bridge Project Grant.

State Funding Sources



Surface Transportation Block Grant Funding (STBG)

The Surface Transportation Block Grant (STBG) is funding that may be used by States and other local jurisdictions to improve conditions and performance on any Federal-aid highway. Eligible projects include roadway and intersection improvement projects, bridge and tunnel projects, pedestrian and bicycle infrastructure, and transit capital projects. STBG funds, also known as Guideshare funding in South Carolina, is an apportioned formula funding program made available through state transportation agencies. Selection of projects under the STBG program is left to the decision of the State DOT or local MPO, in accordance with applicable Federal requirements.



U.S. Department of Transportation

**Federal Highway
Administration**

Transportation Alternatives Set-Aside Program (TAP)

The Transportation Alternatives Program (TAP), also known as the Transportation Alternatives Set-Aside, is a federal reimbursement grant program that is funded through the Federal Highway Administration (FHWA) and managed by the State. Eligible local government entities may apply to the SCDOT or to their local Metropolitan Planning Organization (MPO) if they are located within a Transportation Management Area (TMA), or a MPO with a population of 200,000 or more. The program funds projects that plan, design, or construct on-road or off-road facilities for bicyclists, pedestrians, and other non-motorized transportation methods.



South Carolina Transportation Infrastructure Bank (SCTIB)

The South Carolina Infrastructure Bank (SCTIB) was established to provide support to large transportation projects. The SCTIB offers both loans and grants to support the construction of transportation facilities. The Bank has committed 250 million to assist rural projects through the Rural Project Program. Overall, the SCTIB has assisted funding \$5.9 billion for 100 projects across 26 counties and 5 municipalities.



C Funds

C Funds are funding assistance designated to Counties through a program called the "C" Program. This program, which is funded from 3.99 cents per gallon of the state gasoline tax, is a partnership between SCDOT and local counties to fund local transportation projects on state, county, and city roads. Funding is distributed to Counties based on their populations, land area, and rural road mileage and is distributed by local County Transportation Committees (CTCs). 25 percent of program funds must be spent on the state highway system.

Local Funding Sources

Road User Fees

An increase in the Road Maintenance Fee, also called Road User Fees, was adopted by Beaufort County in 2015 on all motorized vehicles licensed in the County, increasing the road maintenance fee from \$10 to \$16.50. This annual charge is added to the general fund of the County and used for the purchase, condemnation, construction, ownership, maintenance, and repairs of all County and State-owned roads and bridges, including paving and ADA improvement projects.

Accommodations Tax

An accommodations tax is a tax that applies to spaces, including rooms, condos, hotels, campgrounds, and other sleeping accommodations, that are rented for a time period of less than 90 consecutive days. These funds are distributed back to local municipalities and counties through a formula based on point of sale.

Impact Fees

Impact fees are those paid by developers to offset the impacts that a new development will have on the site and surrounding area, including traffic impacts, impacts to infrastructure like water and sewer, and other impacts of growth. Impact fees can be used to implement additional turn lanes, signal upgrades, bicycle and pedestrian infrastructure, and other multimodal improvements.

Potential Future Sales Tax

A sales tax could serve as a powerful tool to implement transportation projects across Beaufort County. Counties have the option to establish an additional sales tax by referendum on retail sales. These sales taxes must be associated with a specific, clearly defined use, such as for transportation infrastructure projects.

Conclusion and Next Steps

The preferred recommendations presented have been captured on aerials that include Sketchup typical sections, as well as in renderings of key intersections. This Corridor Study will now be reviewed by the Planning Commission and finally County Council, before final approval.

Once the US 21 Corridor Study has been approved, it will move on to implementation. To achieve this, Beaufort County will consider a number of implementation tools. To begin, the project will be added to the County Capital Improvement Plan. The Capital Improvement Plan outlines the capital improvements included in the County's budget for two consecutive fiscal years. The document includes project costs and sources, including those coming from outside the County. To assist with funding these improvements, Beaufort County will consider outside funding sources including grant opportunities and funding from Lowcountry Area Transportation Study (LATS).

