

Sam Rittenberg Boulevard Redesign

CORRIDOR ANALYSIS REPORT

DRAFT / November 2025



Charleston, SC



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EXECUTIVE SUMMARY

A primary arterial in the heart of West Ashley in Charleston, South Carolina, SC 7 (Sam Rittenberg Boulevard) is utilized by tens of thousands of travelers daily as both a thoroughfare and a means of access to a range of residential, commercial, and institutional destinations. However, the corridor currently falls short of its potential for placemaking that would help to catalyze a transformation of the surrounding area into one that is undoubtedly vibrant, active, and community-centered.

Led by the City of Charleston, the Sam Rittenberg Boulevard Redesign aims to convert a four-mile section of the subject roadway into a place people truly *want to go to*, rather than a place they simply *travel through*. A comprehensive corridor analysis was conducted to synthesize previous planning endeavors involving the study area; highlight existing conditions, constraints, and opportunities related to the proposed redesign; project future No-Build operational conditions along the corridor; and ultimately make recommendations for corridor-wide improvements. The following summarizes the key takeaways of this *Corridor Analysis Report* and the recommendations of the redesign:

Review of Previous Planning

Several planning efforts were conducted by the City of Charleston between 2014 and 2024 that pertain to Sam Rittenberg Boulevard and the West Ashley area. A main recommendation from these initiatives is the reallocation of existing roadway and right-of-way spaces to enhance the existing pedestrian infrastructure and provide dedicated bicyclist facilities along the study corridor. In addition, community input on the future of West Ashley generated support for a wider range of housing types; mixed use development; traffic calming for safer, more walkable, and more crossable streets; mitigations for congestion; improved transit; increased green space, street trees, and lighting; and the conversion of unused and underutilized spaces into ones that support gathering and an enhanced sense of place.

Corridor Inventory

The daily vehicular traffic volumes along Sam Rittenberg Boulevard currently range from around 24,100 to 58,200 vehicles per day. However, the various roadway cross sections (four to six travel lanes) are not consistently proportionate to these volumes, indicating a potential for reconfiguration of the corridor to better serve its full range of users. Existing speed data shows that motorists are typically driving near the speed limit in some sections and below the speed limit in others, suggesting the opportunity for a reevaluation of posted speeds. The average commercial driveway spacing is about 115 to 255 feet and there are several segments of the corridor with sidewalk gaps, which create an environment characterized by numerous conflict points between drivers, as well as between drivers and pedestrians or bicyclists.

The crash history along the corridor indicates that vehicular angle crashes, especially those involving left turns, and rear end crashes are the most common collision types. Additionally, pedestrian and bicyclist crash patterns suggest a demand for midblock crossing opportunities between certain signalized intersections. An analysis of existing traffic conditions reveals that the signalized intersections along the corridor are currently operating at an overall intersection level of service (LOS) of D or better. However, at several unsignalized intersections, at least one minor street approach is operating at an LOS E or F during one or both weekday peak hours.

Future No-Build Conditions

A horizon year of 2050 was selected for the redesign to project future No-Build operational conditions. The 2050 No-Build analysis incorporated a background traffic growth rate, plans from Charleston County's Old Towne District Improvements Project, and two planned developments, the Epic Center and Ashley Landing redevelopment. The results of the analysis suggest that two signalized intersections (at Skylark Drive/Park Square South and Ashley River Road) are anticipated to reach an overall intersection LOS of E or F during one or both weekday peak hours by the horizon year. Additionally, a higher number of critical minor street approaches at unsignalized intersections are anticipated to reach an LOS E or F, particularly in the western portion of the corridor, under 2050 No-Build conditions when compared to 2025 existing conditions.

Future Build Conditions

The recommendations for this redesign effort were developed through the influence of previous planning efforts, the corridor inventory, and future No-Build conditions, while incorporating the project's overall purpose and goals. The proposed redesign includes a series of roadway and access management recommendations, namely a raised, landscaped center median with turn lanes; a reallocation of the existing travel lane space between Skylark Drive and Ashley River Road (reducing the number of vehicular travel lanes from six to four lanes); a narrowing of existing lanes to 11 feet wide; driveway and curb cut reductions; U-turn opportunities; and curb and gutter along the corridor. In addition, intersection recommendations include a new traffic signal at the North Woodmere Drive intersection, turn lane configuration changes, and the removal of right turn lane channelization at signalized intersections. Recommendations related to multimodal facilities include shared use paths along both sides of the corridor (with a target width of 12 feet and an approximate buffer width of 6 feet), improvements to new and existing crosswalks and curb ramps at both signalized and unsignalized locations, pedestrian hybrid beacons (PHBs), and CARTA bus stop relocations and improvements.

A speed limit analysis was conducted along the corridor to reevaluate posted speeds. It is proposed that the speed limit on Sam Rittenberg Boulevard between Savannah Highway and Orange Grove Road be reduced from 45 to 35 miles per hour, implemented in conjunction with design changes, to support the redesign's context and goals. The results of the 2050 Build capacity analysis, which incorporated the redesign's recommendations and anticipated traffic rerouting that would occur with its implementation, suggests that the study intersections are expected to operate at an overall intersection LOS of D or better with four exceptions:

- 📍 Gardner Road/Westwood Plaza Driveway (West), which is projected to experience significantly improved delay compared to the No-Build conditions;
- 📍 Ashley River Road, which is projected to experience delay comparable to the No-Build conditions;
- 📍 Gamecock Avenue, which is projected to experience the same level of delay as the No-Build conditions; and
- 📍 Winchester Drive, which is projected to experience significantly improved delay compared to the No-Build conditions.

Therefore, the Sam Rittenberg Redesign is expected to provide improved safety for all users, comparable traffic operations to the No-Build conditions with greater resiliency and travel time reliability due to an anticipated reduction in crash frequency along the corridor, and improved placemaking potential in the future.



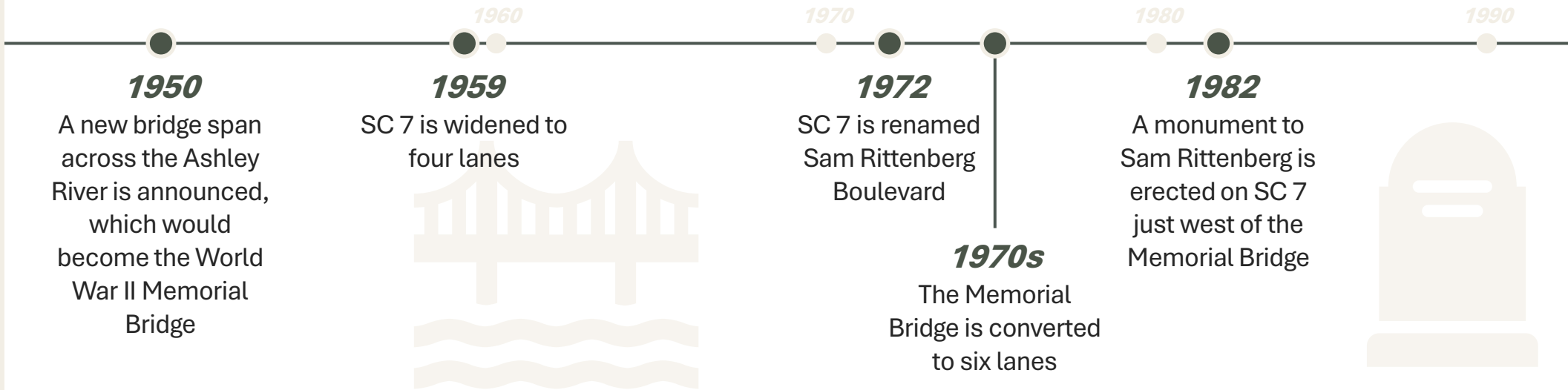


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INTRODUCTION

HISTORY OF SAM RITTENBERG BOULEVARD

Throughout the twentieth century, several historical events helped to shape Sam Rittenberg Boulevard to become the corridor it is today. The timeline below highlights a few of these milestone events.



WHO WAS SAM RITTENBERG?

Samuel “Sam” Oscar Rittenberg was born in Russia in 1867 and immigrated to the United States in 1888. In 1907, he moved to Charleston and opened a real estate and insurance company.

He represented the Charleston region in the South Carolina Legislature in 1912 and was elected a member of the Charleston County Delegation in 1926. He passed away in 1932 while serving as the Chairman of the Delegation.

Sam Rittenberg was the author of the "Rittenberg Bill," which created the Charleston County School Board and fought to invest in our rural schools. In 1929, he also sponsored the creation of the Charleston County Free Library (now the Charleston County Public Library) and was the second person to have a library card issued.

In 1972, the state legislature renamed SC 7 in honor of Sam Rittenberg.

PROJECT BACKGROUND

Sam Rittenberg Boulevard is located in the growing West Ashley area of Charleston, South Carolina. The corridor currently carries the complete gamut of road users including passenger vehicles, trucks, buses, pedestrians, and bicyclists. It also provides frontage to a comprehensive range of land uses with some of the highest density in West Ashley including businesses and offices, grocery and retail stores, and residential communities of diverse demographic and socioeconomic backgrounds. It provides access to numerous regional connections, including I-526, I-26, and US 17 (Savannah Highway). It also serves, directly and indirectly, important regional destinations including hospitals, malls, schools, places of worship, and public parks.

Currently, Sam Rittenberg Boulevard prioritizes open access at high vehicular speeds. This is not without reason, as the corridor – and importantly, certain key nodes – serve high volumes of vehicular traffic. However, given the existing diversity of transportation modes and anticipated changes in land use along the corridor that are likely to intensify non-vehicular activity, Sam Rittenberg Boulevard can be redesigned to be safer and more accommodating to all users.

In 2025, the City of Charleston set out on this redesign effort as the next step in its ongoing investment to transform this vital corridor so that it serves its range of users holistically, safely, and equitably. Given Sam Rittenberg Boulevard’s profile, complexity, diversity, and scale, this redesign seeks to provide a standard for placemaking in the City and stimulate positive redevelopment for its residents and visitors for years to come.



SAM RITT
REDESIGN

4 miles

Length of Study Section

24,100 to
58,200

Daily Vehicular Traffic
Volume (2025)



Residential
Commercial
Institutional

Primary Land Uses
Served



Minor
Arterial

Savannah Hwy to
Old Towne Rd



Principal
Arterial

East of Old Towne Rd



SAM RITT
REDESIGN

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PROJECT PURPOSE & GOALS

The purpose of the Sam Rittenberg Boulevard Redesign can be summarized as follows:

Redesign Sam Rittenberg Boulevard to have a consistent, unified design, prioritizing placemaking through multimodal connectivity and safety, while accommodating vehicular traffic demand.

In addition, the following goals have been developed to help guide the decisions made during the redesign effort:

Calm vehicular traffic.

- *Reconsider existing speed limits and vehicular travel lanes (widths and number of lanes).*
- *Provide a consistent edge of pavement treatment to support traffic calming.*

Improve multimodal connectivity and safety.

- *Provide appropriate width, separated facilities for current and planned pedestrian/bicyclist demand.*
- *Reduce pedestrian/bicyclist intersection crossing distances.*
- *Reduce spacing between controlled pedestrian/bicyclist crossings.*
- *Provide consistent crosswalk treatments.*
- *Reduce the number of side street/driveway crossings along pedestrian/bicyclist facilities.*
- *Increase pedestrian/bicyclist visibility at night.*
- *Provide context-appropriate transit stops that are accessible to all transit passengers.*

Improve vehicular safety.

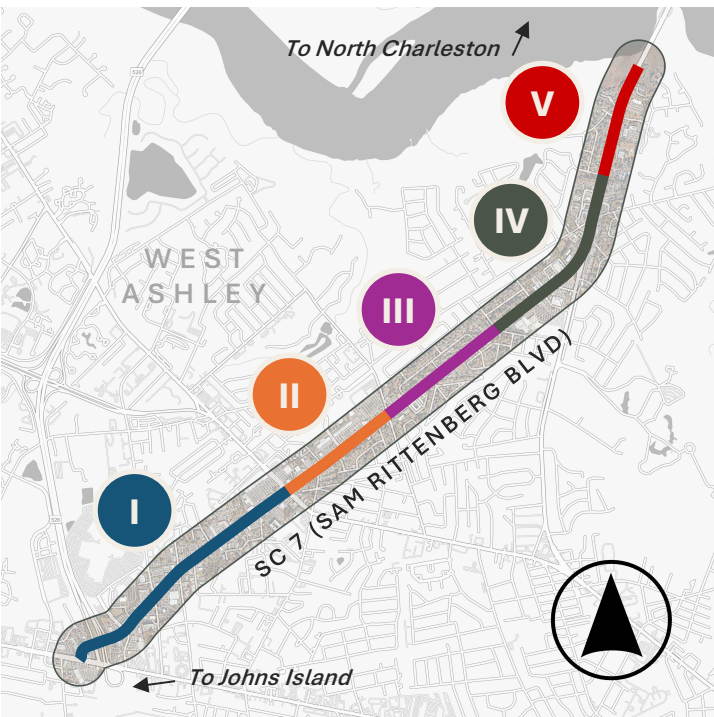
- *Reduce vehicular conflict points through access management.*
- *Increase vehicular visibility at night.*



PROJECT SEGMENTATION

The Sam Rittenberg Boulevard corridor varies in nature based on vehicular and pedestrian/bicyclist volume demand, number of travel lanes, signal density, access point density, land use, and regional connectivity. Based on these changing features and logical termini, the redesign has been divided into the following five segments:

- I** ***US 17 (Savannah Highway) to SC 61 (Ashley River Road)***
Length: **1.3 mi**
- II** ***SC 61 (Ashley River Road) to Ashley Hall Road***
Length: **0.6 mi**
- III** ***Ashley Hall Road to Dickens Street/Charlestowne Drive***
Length: **0.7 mi**
- IV** ***Dickens Street/Charlestowne Drive to Winchester Drive***
Length: **0.8 mi**
- V** ***Winchester Drive To East of Durham Place/Poston Road***
Length: **0.6 mi**



Project Segment Map

Based on this segmentation, ongoing work by Charleston County along a portion of the corridor (the Old Towne District Improvements Project in Segment IV), and as identified by the City of Charleston, a potential project phasing strategy for the subject redesign is as follows:



This *Corridor Analysis Report* provides a foundation for the Sam Rittenberg Boulevard Redesign and includes an overview of previous planning initiatives, an existing corridor inventory, an analysis of future No-Build conditions, and a summary of recommendations with an analysis of future Build conditions for the study area. While Sam Rittenberg Boulevard is numbered as a north/south SC route, this report refers to the corridor as an east/west route due to the orientation of the maps presented.

Over the past decade and more, Sam Rittenberg Boulevard and the greater West Ashley area have been the subject of multiple planning initiatives that have helped to set the foundation for and shape the intentions behind this redesign effort. This chapter summarizes several of these previous planning endeavors, listed below, and their key takeaways relevant to the subject redesign.

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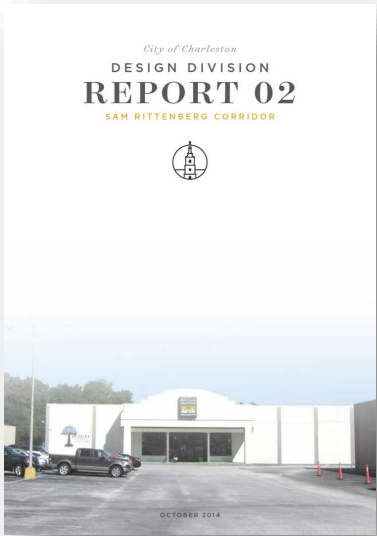
REVIEW OF PREVIOUS PLANNING

A *City of Charleston Design Division Report 02: Sam Rittenberg Corridor* (2014)

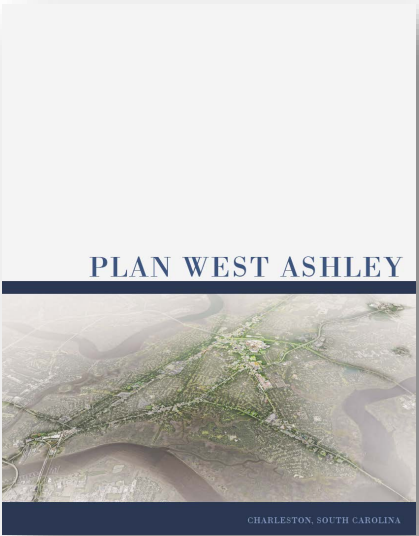
B *Plan West Ashley Report* (2017)

C *Shaping Our Corridors Charrette: West Ashley* (2024)

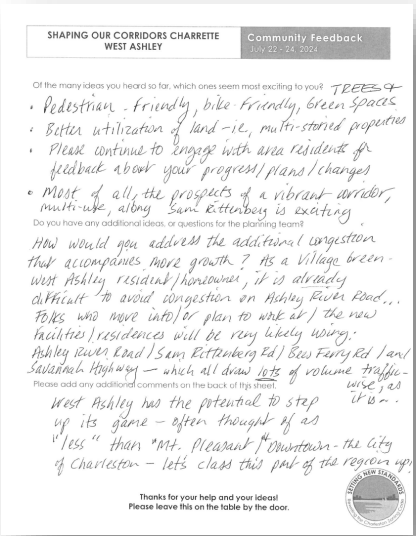
Shown below is a community feedback sheet from the charrette, where participants were asked to provide written comments on future ideas for West Ashley and Sam Rittenberg Boulevard.



A



B

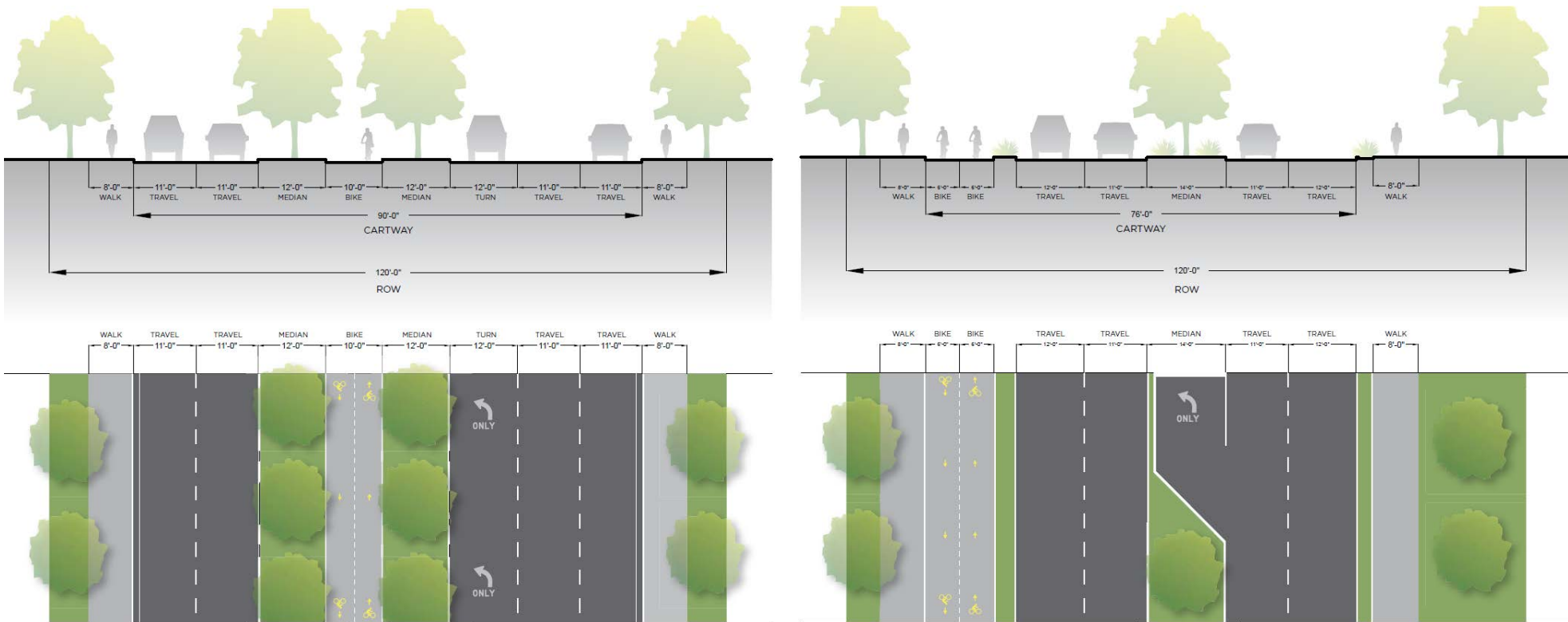


C

CITY OF CHARLESTON DESIGN DIVISION REPORT 02: SAM RITTENBERG CORRIDOR (2014)

In 2014, the City of Charleston conducted a preliminary planning study for the Sam Rittenberg Boulevard corridor as a precursor to this redesign. This study, *the City of Charleston Design Division Report 02: Sam Rittenberg Corridor*, analyzed traffic volumes and capacity, performed case studies of similar streets in other cities that have undergone similar redesign initiatives, evaluated potential bicyclist facility options along the corridor, and recommended potential intersection and street design options, with a focus on improving multimodal mobility and access.

Based on the traffic volumes (30,000 vehicles per day) and 85th percentile traffic speeds (42 miles per hour) at the time of the report, the study recommended cycle tracks or separated paths to accommodate bicyclists. The following were identified as potential cross sections for a redesigned Sam Rittenberg Boulevard:



Potential cross section on Sam Rittenberg Boulevard from Skylark Drive to Ashley River Road with a center bike path (City of Charleston Design Division Report 02: Sam Rittenberg Corridor, 2014)

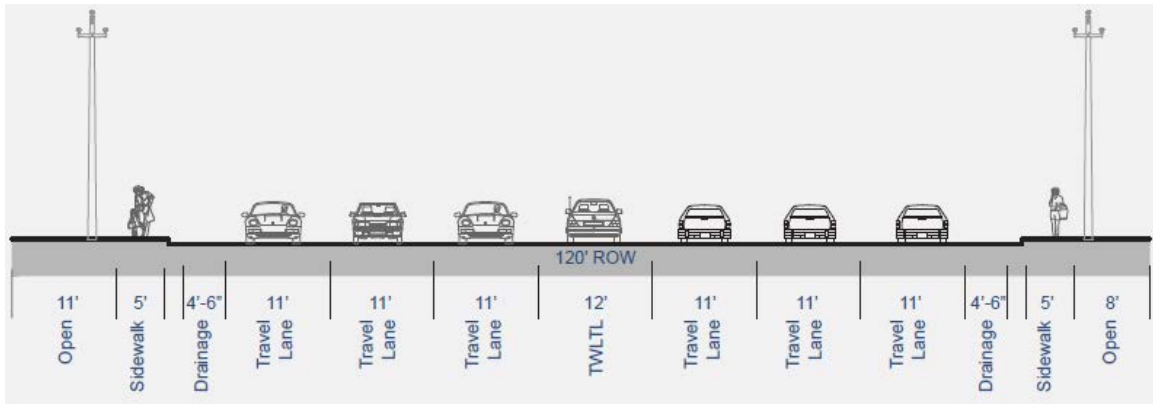
Potential cross section on Sam Rittenberg Boulevard from Ashley River Road to Old Towne Road with a bike path on one side (City of Charleston Design Division Report 02: Sam Rittenberg Corridor, 2014)

PLAN WEST ASHLEY REPORT (2017)

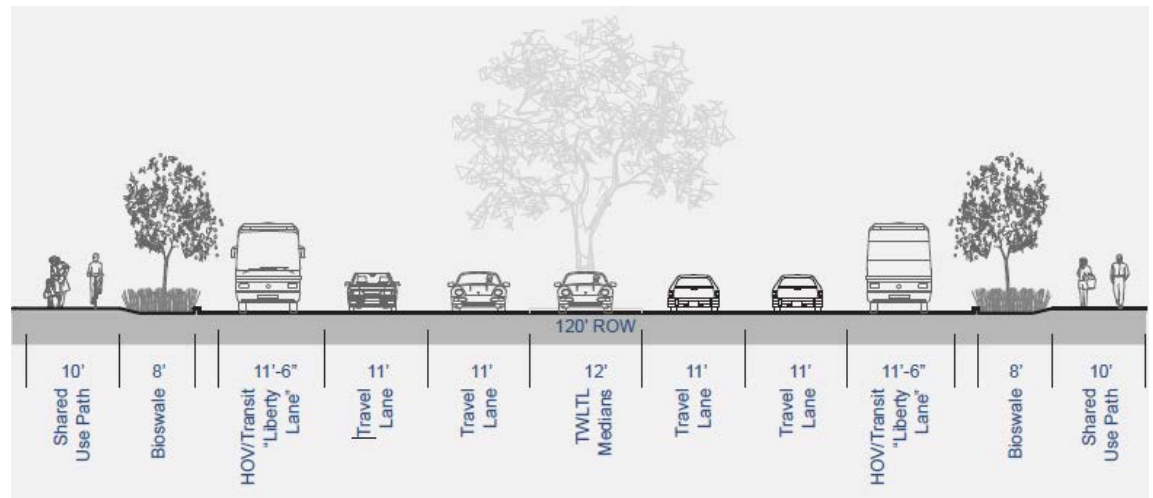
The 2017 *Plan West Ashley* report was a comprehensive area plan developed by the City of Charleston for West Ashley that sought to identify policies and actions “aimed at enhancing quality of life and protecting the area’s historic, cultural and natural environment.” Plan elements included community design and land use, transportation, green infrastructure and sustainability, housing, and economic development. The vision for West Ashley’s transportation network had two main areas of focus: addressing vehicular congestion and enhancing mobility options by encouraging a higher percentage of trips to utilize walking, bicycling, and transit.

Two potential future cross sections were identified in the plan for Sam Rittenberg Boulevard, shown below. These included an interim (lane narrowing) option, which would reduce the approximately 12-foot wide travel lanes to 11 feet wide, and an ultimate (Complete Street) option, which would include a “liberty lane” for high-occupancy vehicles (HOVs) and transit as well as shared use paths along both sides of the corridor.

Potential interim (lane narrowing) cross section on Sam Rittenberg Boulevard (Plan West Ashley, 2017)



Potential ultimate (Complete Street) cross section on Sam Rittenberg Boulevard (Plan West Ashley, 2017)



SHAPING OUR CORRIDORS CHARRETTE: WEST ASHLEY (2024)

In July 2024, the City of Charleston conducted a community charrette in West Ashley to gather feedback as part of its Setting New Standards project, which plans to introduce new code standards and form-based districts throughout the City.

The *Shaping Our Corridors Charrette* was an in-person, hands-on input session that invited community members and residents to share their vision for the West Ashley area, with a heavy focus on Sam Rittenberg Boulevard.

The charrette included a background presentation, small group discussions and work sessions, participant presentations and a verbal sharing of ideas, and the collection of written comments and feedback.

Several of the thoughts expressed by attendees of the charrette are shown to the right.



Ideas from the Shaping Our Corridors Charrette



Small group work sessions at the Shaping Our Corridors Charrette

“Utilize parking areas on Sam Rittenberg that are for the most part empty of cars”

“Sam Rittenberg feels like a parkway, not a neighborhood street”

“Create sense of place; create places to linger, hangout and meet neighbors; Show we care about West Ashley with good design”

“I’m not opposed to more density – you get more tax dollars and can have more green space; also encourages public transit”

“The prospects of a vibrant corridor, multi-use [development] along Sam Rittenberg is exciting”

Themes that generated support from the *Shaping Our Corridors Charrette* in West Ashley are as follows:

Housing

- The infill and redevelopment of commercial sites to add housing and, in general, mixed use development
- A wider range of housing types, including attainable/affordable housing
- Increased building heights and density, with an emphasis on good building design
- The proximity of housing to non-residential needs and parks

Mobility

- Safe, connected, and accessible networks for walking and bicycling
- Eliminating or reducing minimum parking requirements
- “Park once” environments (mixed use)
- Walkable and crossable neighborhoods and corridors
- Traffic calming
- Prioritizing safety for all roadway users
- Addressing congestion and increased traffic that accompanies growth
- Improved transit
- Street trees and streetlights








Livability

- Mixed use and neighborhood-serving commerce that provides walkable convenience and is small-scale
- Reductions in car dependency
- Connections between commercial areas and bikeways/greenways
- A strengthened sense of place and improved appearance
- Gathering spaces, pedestrian plazas, and pocket parks

Environment

- The removal of excess, unused asphalt (parking)
- Open spaces for conservation and active park uses
- Shaded tree canopies to address the urban heat island effect
- Increased permeable surfaces

This chapter provides an overview of the existing conditions and features along Sam Rittenberg Boulevard that help to inform issues and opportunities for improvement through the proposed redesign. A corridor inventory of the following elements is included:

- | | |
|--|---|
|  <i>Lanes, traffic volumes, and signals</i> |  <i>Transit service</i> |
|  <i>Speed limits and existing speeds</i> |  <i>Walkshed and bikeshed</i> |
|  <i>Access points, sidewalks, and curbs</i> |  <i>Crash history</i> |
|  <i>Utilities, trees, and ditches</i> |  <i>Existing traffic volumes and capacity analysis</i> |
|  <i>Major trip generators</i> | |

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CORRIDOR INVENTORY

LANES, TRAFFIC VOLUMES, AND SIGNALS

The number of vehicular travel lanes along Sam Rittenberg Boulevard varies from four lanes (two lanes in each direction) to six lanes (three lanes in each direction), as shown on the map on the following spread. Within the study corridor, lane widths are around eleven to twelve feet, as depicted in the typical cross sections on next spread. There are eleven signalized intersections along the corridor, with an average traffic signal spacing of approximately 850 feet between intersections from Savannah Highway to Dupont Road and 2,800 feet between intersections from Dupont Road to SC 171 (Old Towne Road) as well as between Orange Grove Road and Durham Place/Poston Road.

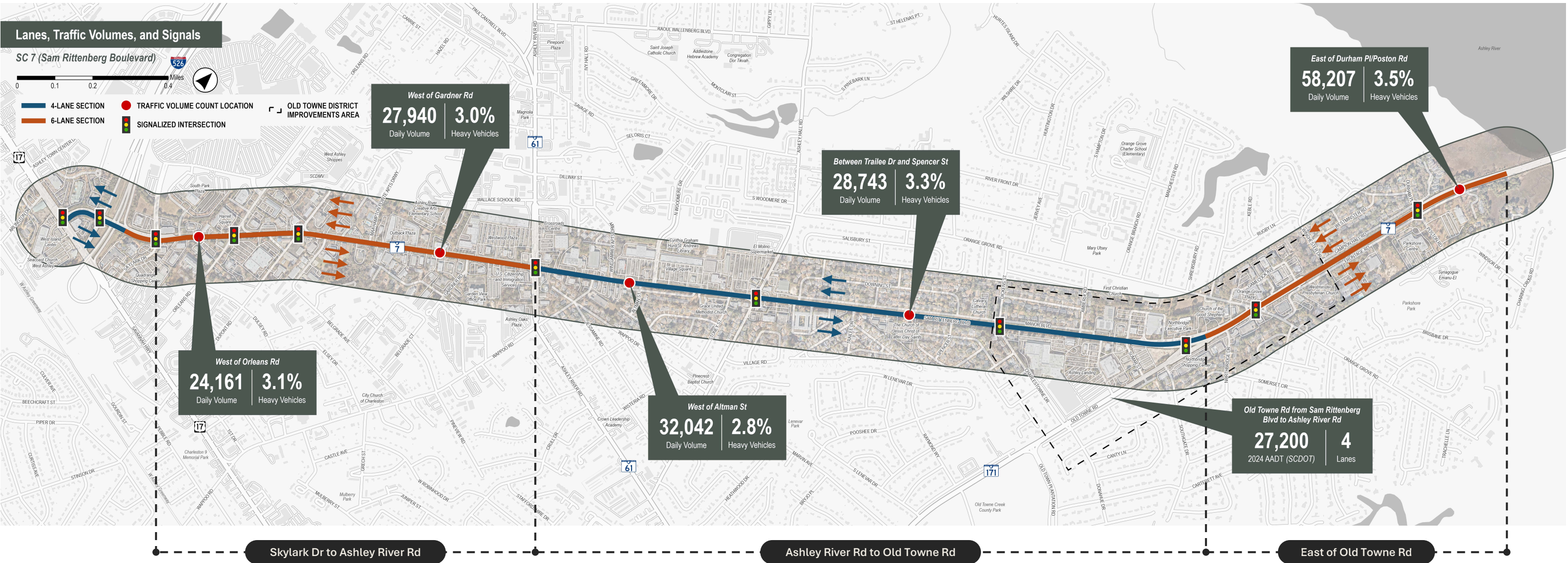
Several sections of Sam Rittenberg Boulevard contain frontage roads, which provide localized, supplementary capacity at various points along the corridor. The locations of these frontage roads include:

- Memminger Avenue from west of Altman Street to Grace United Methodist Church,
- Manor Boulevard from west of Downing Street to east of Amberly Road (shown to the right),
- Frontage Road from Orange Grove Road to east of Poston Road, and
- Campion Hall Road from Winchester Drive to east of Durham Place.

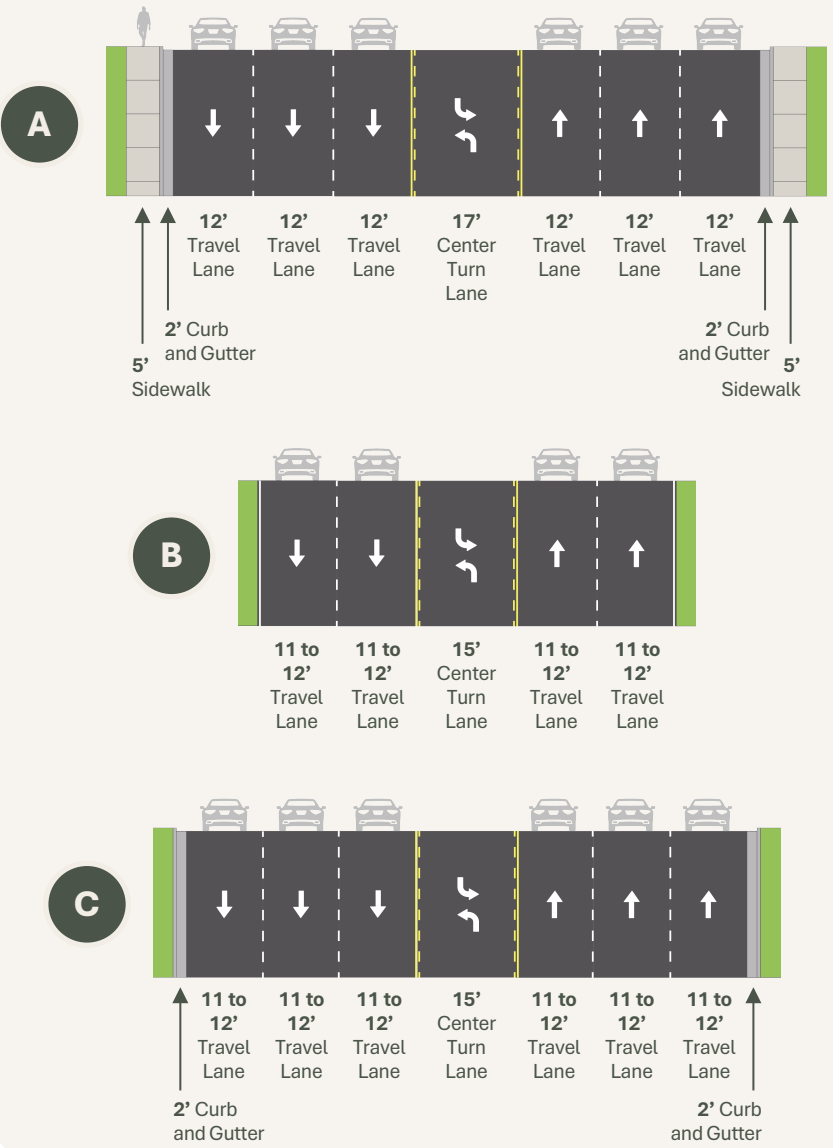


Manor Boulevard, a residential frontage road parallel to Sam Rittenberg Boulevard

Daily (24-hour) traffic volumes and heavy vehicle (truck) percentages were collected at five locations along the study corridor on Thursday, May 8, 2025. These counts are summarized in the map below, and full volume and classification data is included in **Appendix A**. The traffic volumes are lowest at the western end of Sam Rittenberg Boulevard and remain close to 30,000 vehicles per day until the Old Towne Road intersection. With a volume of over 58,200 vehicles per day, traffic at the eastern end of the corridor is more than double that of the western end, with much of this traffic coming from and going to Old Towne Road. (The 2024 annual average daily traffic (AADT) volume on Old Towne Road is shown on the map for reference, and AADT volumes on other key corridors near the study area are shown to the right for comparison.) Heavy vehicle percentages, which are around 3 to 3.5 percent, are fairly consistent along the study corridor.

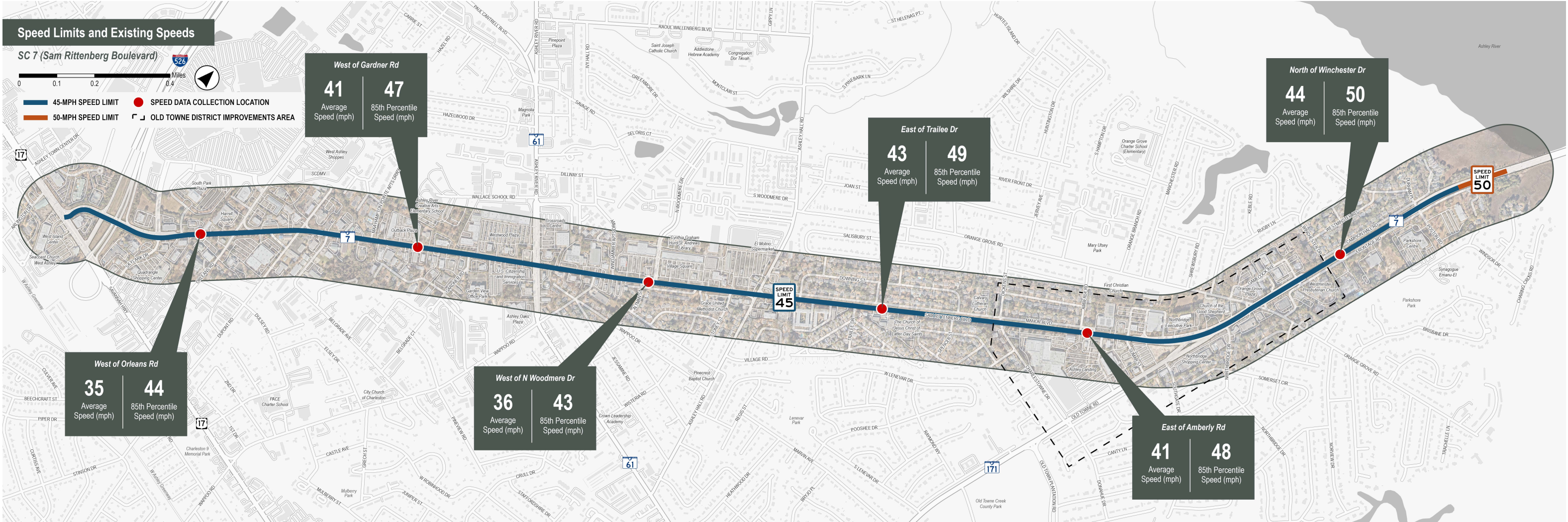


Typical Cross Sections



SPEED LIMITS AND EXISTING SPEEDS

Along a majority of the study corridor, the posted speed limit is 45 miles per hour, as shown in the map below. East of Durham Place/Poston Road, and along the Memorial Bridge across the Ashley River, the speed limit increases to 50 miles per hour.

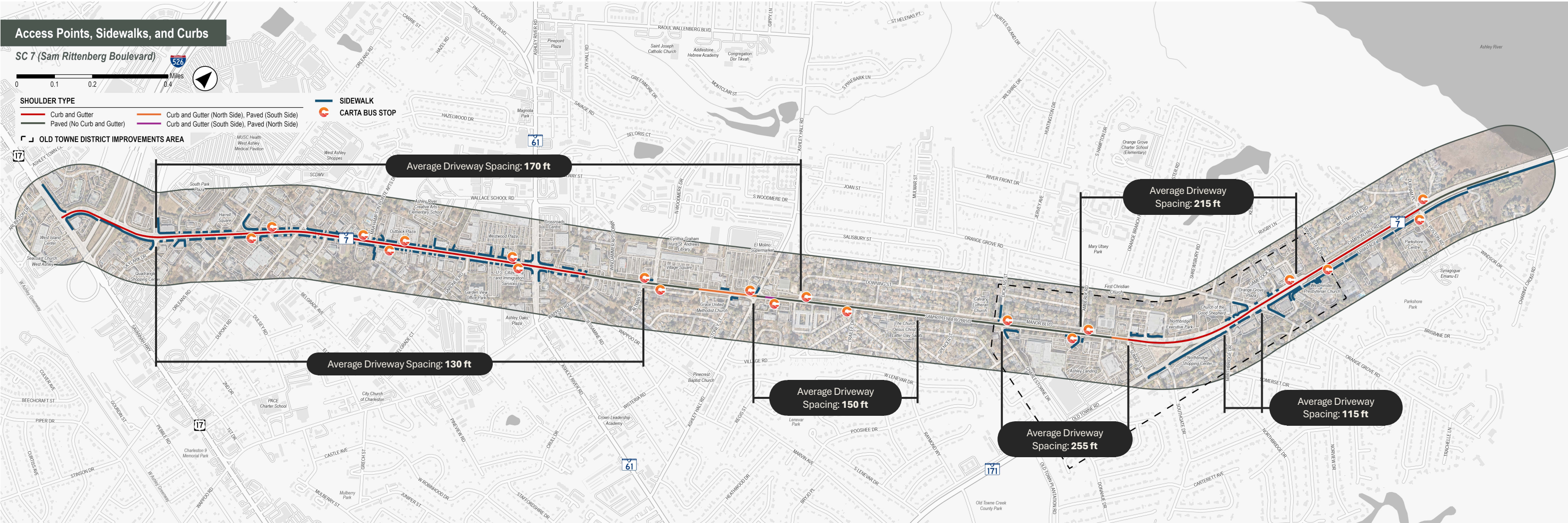


Also summarized in the map to the left are existing speed data at six locations along the corridor, which were collected for a 48-hour period on Tuesday, August 19 and Wednesday, August 20, 2025. Full speed data collection results are provided in **Appendix A**.

At the speed data collection locations, all of which were located in the 45-mile per hour speed limit zone, the average (50th percentile) speeds ranged from 35 to 44 miles per hour and the 85th percentile speeds ranged from 43 to 50 miles per hour. For both the average and 85th percentile speeds, drivers tended to travel slower at the western end of the corridor and higher at the eastern end of the corridor near the transition to the 50-mile per hour speed limit zone. The overall corridor average and 85th percentile speeds (based on the average of all six speed data collection locations) were 40 and 47 miles per hour, respectively.

ACCESS POINTS, SIDEWALKS, AND CURBS

The map below shows the locations of sidewalks (including breaks at side street and driveway crossings) and the presence of curb on Sam Rittenberg Boulevard. (There are currently no dedicated bicyclist facilities along the study corridor.) For context, the Charleston Area Regional Transportation Authority (CARTA) bus stops that serve the corridor are also shown. As depicted in the map, sidewalk is present along parts of the corridor, but is discontinuous, with several bus stops not accessible using any pedestrian facilities. Sidewalk connectivity is more complete at the western and eastern ends of the corridor, with significant gaps in the middle of the corridor. In some areas, such as on Sam Rittenberg Boulevard near Wappoo Road, the traversing of pedestrians in areas without sidewalk has led to the creation of “desire paths,” highlighting limited walking connectivity. Photos of various pedestrian facility conditions along the study corridor are shown on the next spread.



Closely spaced driveways on Sam Rittenberg Boulevard near Wappoo Road

There is typically no buffer between the sidewalk and travel lanes along most of the study section, although a few locations, such as the eastern section closest to the Ashley River, include a landscaped buffer of approximately two to six feet. Sidewalk widths are typically five feet, with limited sections of seven to eight-foot width, particularly on the eastern end of the corridor. As shown on the map, curb is also partially present along the study corridor, with the roadway shoulder switching between a paved section (with an adjacent grass swale for drainage) and curb and gutter periodically.

The map also depicts the spacing of accesses (including driveways and side streets) along the sections of the study corridor with commercial frontage. As indicated to the left and shown above, accesses are closely spaced in these sections, with an average of 115 to 255 feet between adjacent accesses.



Pedestrian Facility Conditions



Section with no pedestrian facilities in front of Village Square



Sidewalk with no buffer in front of Outback Plaza



Sidewalk with grass buffer near CARTA Stop 696



CARTA Stop 689, with no current sidewalk connectivity



Pedestrian path with buffer on Sam Rittenberg Boulevard, just west of the Ashley River



Frontage Road, parallel to Sam Rittenberg Boulevard and with a sidewalk along one side



Pedestrian "desire path" on Sam Rittenberg Boulevard near Wappoo Road

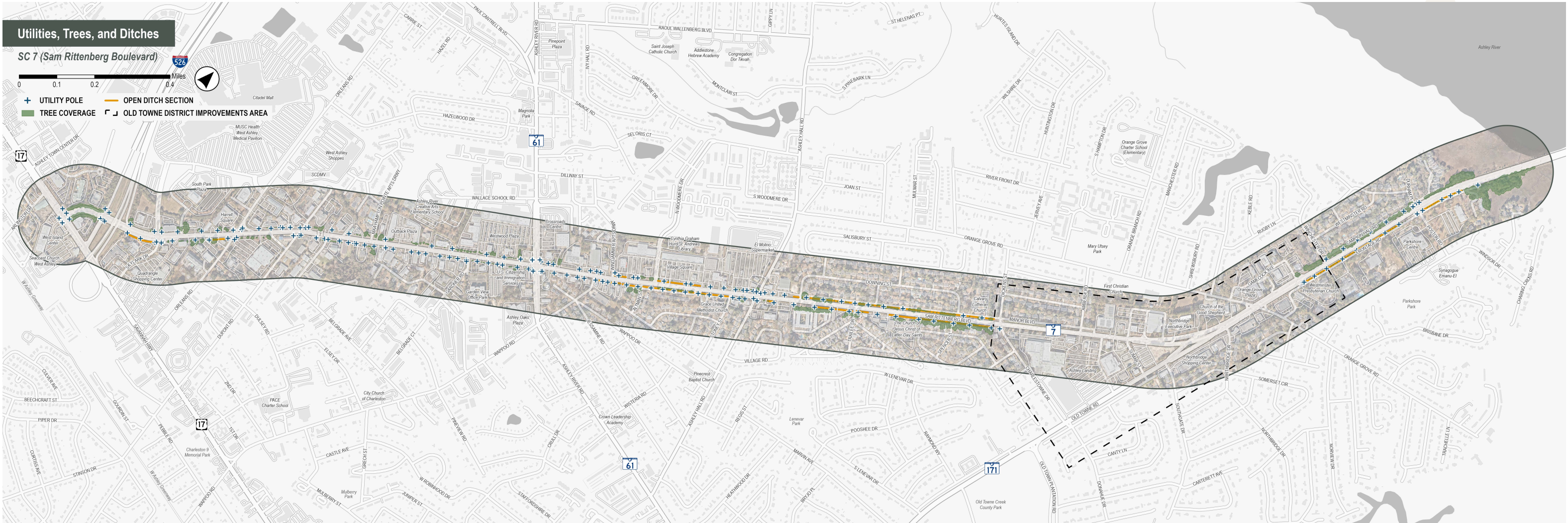


Sidewalk with no buffer near the MAA Hampton Pointe Apartments

UTILITIES, TREES, AND DITCHES

The map below highlights the approximate locations of utility poles (including streetlight and signal poles) as well as tree coverage areas and open ditch sections fronting and along Sam Rittenberg Boulevard. These features were identified to capture potential limitations and constraints that could impact this redesign effort. Note that utilities, trees, and ditches in the Old Towne District Improvements area (Segment IV), which is currently being redesigned by Charleston County, have not been inventoried.

Utility poles are located frequently along the corridor, as exemplified in the top left photo above. Where sidewalk is present, these poles are typically found behind the sidewalk, set back to near the roadway's right-of-way line. Streetlights are located intermittently and are typically attached to utility poles, with some sections of consistently spaced lighting and others with more limited lighting.



*Sam Rittenberg Boulevard
between Dupont Road and
Belgrade Avenue*



*Sam Rittenberg Boulevard
west of Orleans Road*



*Sam Rittenberg Boulevard
west of Trailee Drive*



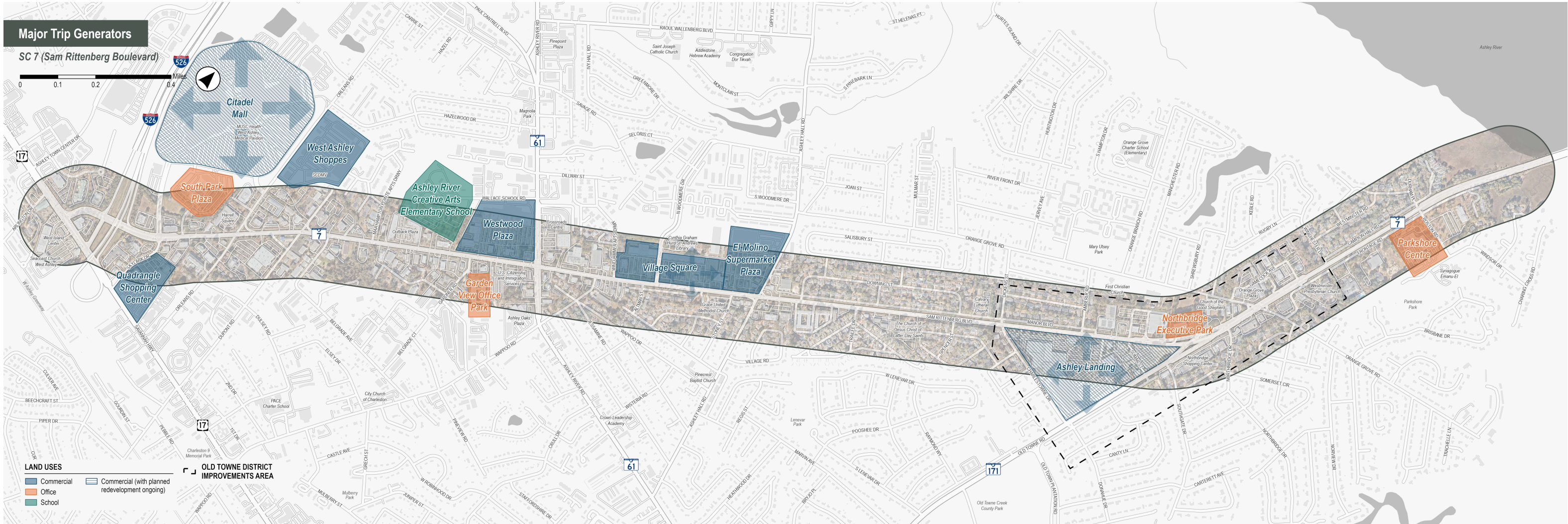
*Sam Rittenberg Boulevard
east of Belgrade Avenue*

The tree coverage along Sam Rittenberg Boulevard varies between sections. A few locations have dense canopy coverage, including between Savannah Highway and I-526, near Trailee Drive (bottom left photo above), and near the Ashley River (eastern end of the study limits). However, much of the corridor has intermittent tree coverage, with a mixture of species and heights, as show in the top right and bottom right photos above.

Sections with open ditches, identified as areas where larger amounts of fill would be needed to accommodate the redesign, are scattered along the corridor. While the open ditches are primarily found in areas without curb and gutter (as they assist with stormwater drainage), some are located along where curb and gutter sections currently exist.

MAJOR TRIP GENERATORS

As a corridor that serves primarily residential (both single-family and multifamily), commercial, and institutional land uses, Sam Rittenberg Boulevard functions as both a thoroughfare and a means of access to a variety of destinations. Major trip generator nodes (including commercial areas, office parks, and schools) along the study corridor are highlighted in the map below, most of which are concentrated in the western portion of the study area.



Village Square, a large commercial strip mall between North Woodmere Drive and Ashley Hall Road



Westwood Plaza, a primary destination in the study area and adjacent to Ashley River Road

Two generators have been identified in the map to the left as subjects of ongoing efforts for planned redevelopment, including:

- 📍 Citadel Mall (site of the future Epic Center mixed-used development) and
- 📍 Ashley Landing.

Traffic impact analyses (TIAs) for the Epic Center and Ashley Landing redevelopment were completed in 2019 and 2025, respectively.



TRANSIT SERVICE

CARTA operates several bus routes that serve parts of Sam Rittenberg Boulevard, including Routes 32, 33, and XP2, with twenty bus stops along the study corridor. Additionally, Routes 30 and 301 cross Sam Rittenberg Boulevard at Skylark Drive, providing service to the Citadel Mall area north of the corridor and Quadrangle Shopping Center south of the corridor. Shown in the map below are the CARTA stops, routes, and headways (30-minute or 60-minute) in the vicinity of the study area.



CARTA Stop 697

Also summarized in the map are daily bus stop activity levels (sum of the boardings and alightings at each stop from the maximum of the weekday, Saturday, and Sunday average daily ridership) based on data between May and July 2025. According to these activity levels, the stops on Sam Rittenberg Boulevard between Orleans Road and Dupont Road, west of Ashley River Road (in front of Westwood Plaza), and at Amberly Road (in front of Ashley Landing) are generating the highest passenger activity levels along the study corridor.

The bus stops along the corridor vary in their levels of amenities, with most consisting of only a CARTA sign. The following stops currently have additional amenities including a shelter with a bench and a trash can:

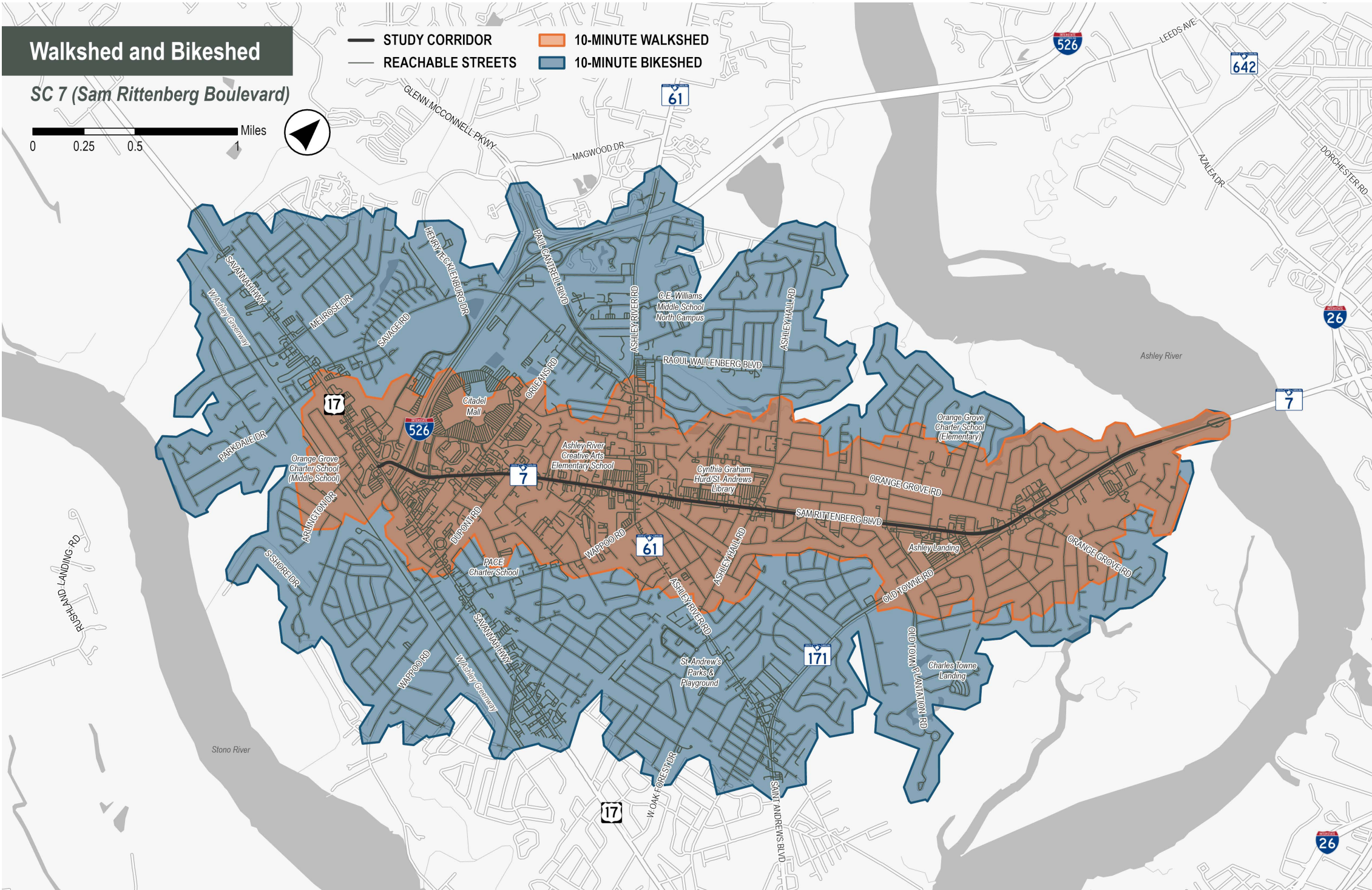
- Stop 684 (in front of Ashley Landing),
- Stop 697 (in front of Village Square and shown above), and
- Stops 682 and 696 (in front of Westwood Plaza).

WALKSHED AND BIKESHED

The map to the right depicts the approximate ten-minute walkshed and bikeshed for the Sam Rittenberg Boulevard corridor, which includes the areas that can be reached by foot or by bicycle, respectively, within ten minutes given a starting point somewhere along the study corridor. Note that these areas do not speak to the safety or accessibility of the routes or infrastructure within them, but rather that it is physically possible for a typical pedestrian or bicyclist to reach these areas from the corridor.

The ten-minute walkshed for the corridor includes the commercial areas fronting Sam Rittenberg Boulevard, along with portions of the residential neighborhoods located north and south of the study area.

The ten-minute bikeshed encompasses the area covered by the ten-minute walkshed, but extends further into residential neighborhoods and additional commercial areas, especially those on Savannah Highway, Ashley River Road, and Old Towne Road.

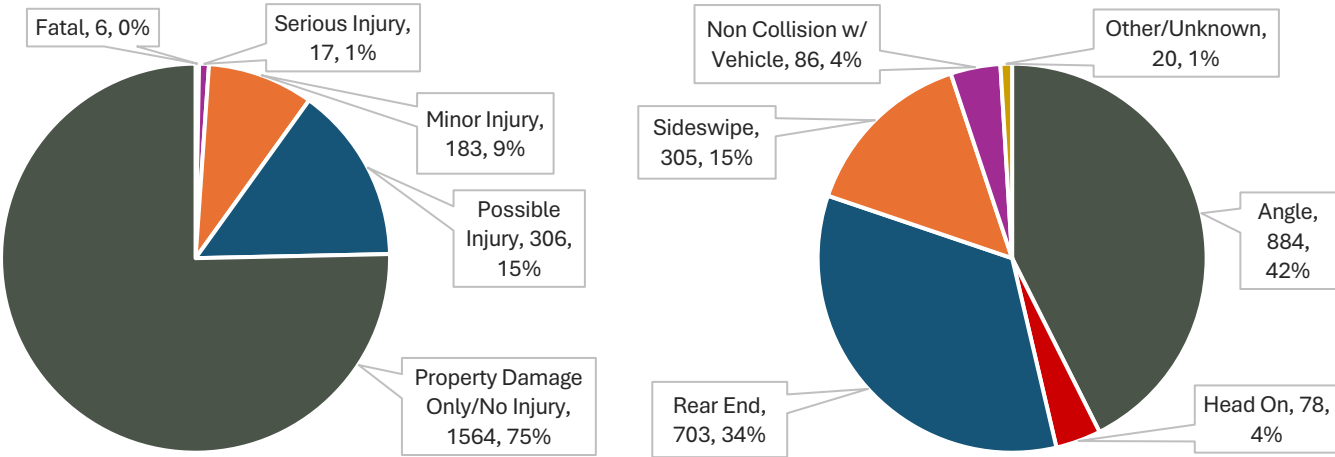


CRASH HISTORY

Crashes in the five-year period from January 2020 to December 2024 were evaluated graphically and spatially to identify existing crash patterns and safety concerns along Sam Rittenberg Boulevard, with a total of 2,076 crashes included in the analysis.

Crashes by Manner of Collision and Severity

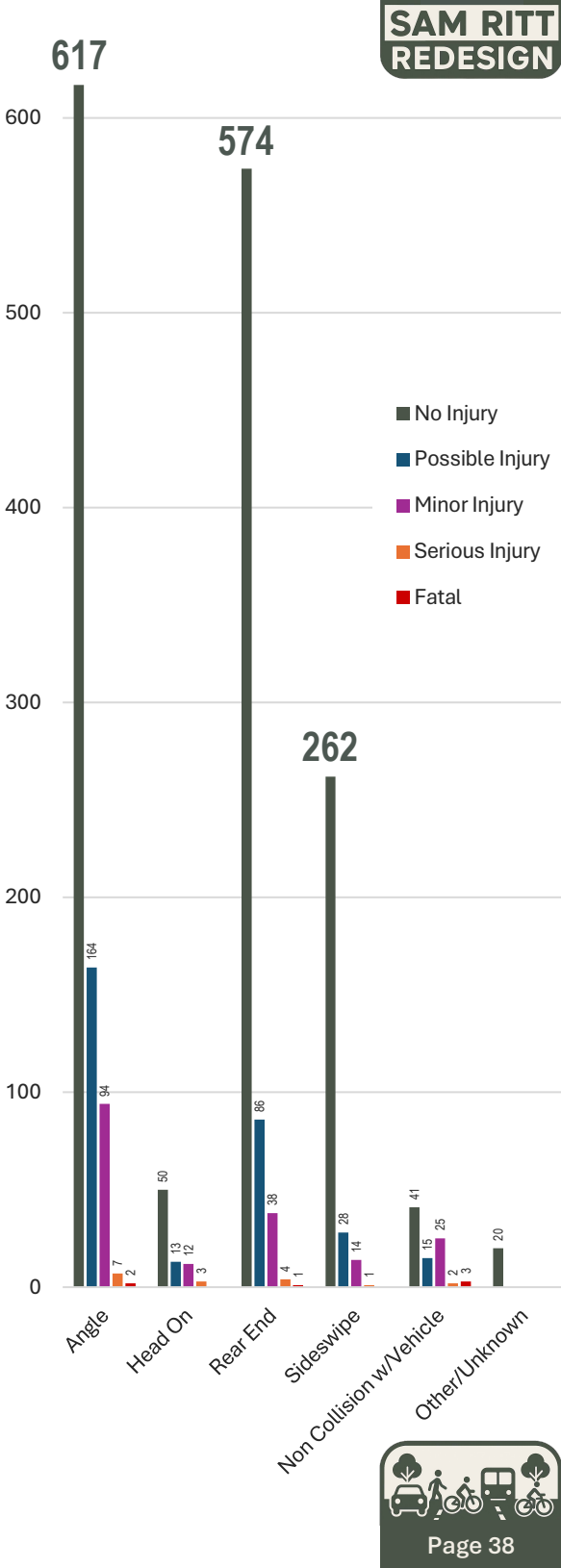
The graphs below and to the right depict the crashes in the study area by severity, manner of collision, and by both manner of collision and severity (left to right).



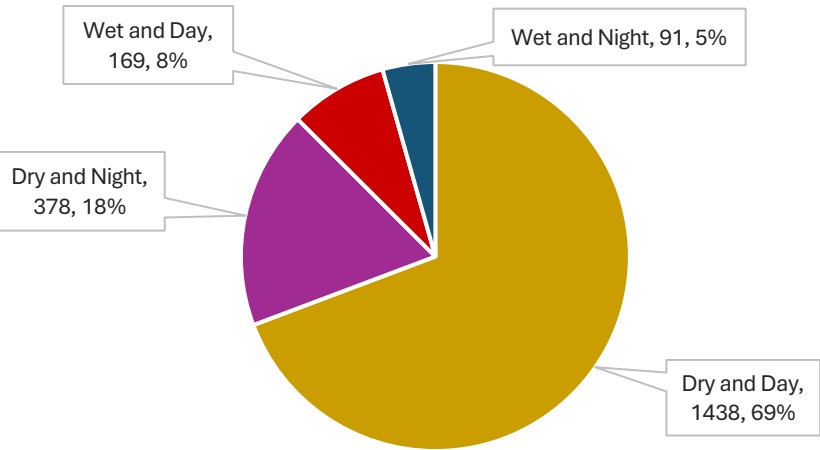
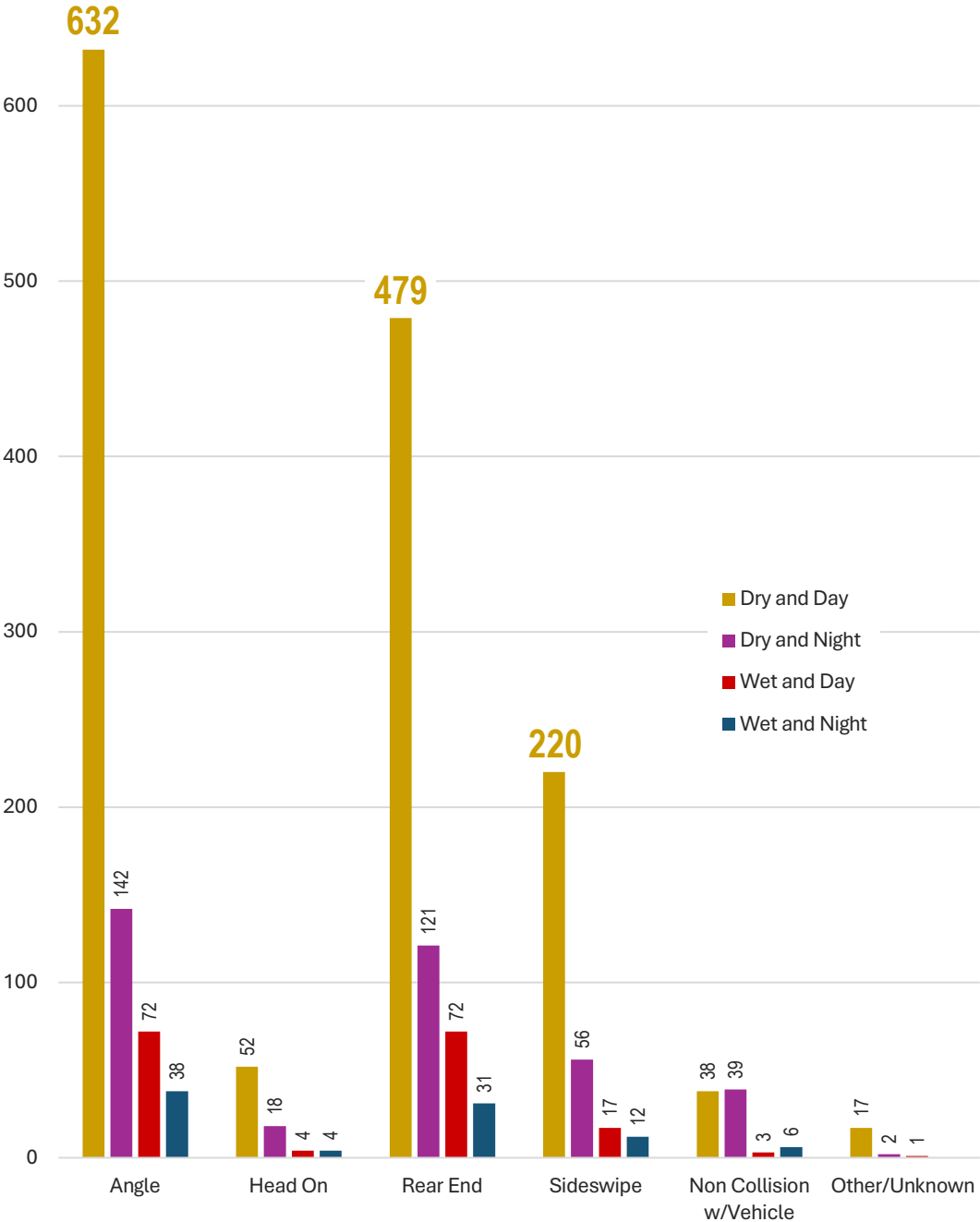
Within the study period, a majority (75 percent) of crashes resulted in property damage only (PDO), or no injury. Out of the 25 percent of crashes that resulted in fatality or injury, most resulted in minor or possible injury. There were six total fatalities and seventeen serious injury crashes reported.

Most crashes were angle or rear end crashes, followed by sideswipe crashes. Angle crashes tend to have higher severities than rear end or sideswipe crashes, as they consist of frontal impact collisions with two vehicles traveling straight through an intersection, or with one vehicle traveling straight and the other vehicle making a left or right turn, from different approaches.

The fatalities along the corridor occurred as a result of non-collision with vehicle, angle, or rear end crashes. The serious injury crashes were largely caused by angle, rear end, and head on crashes, although a few were due to non-collision with vehicle or sideswipe crashes.



Crashes by Manner of Collision, Lighting, and Road Surface Condition

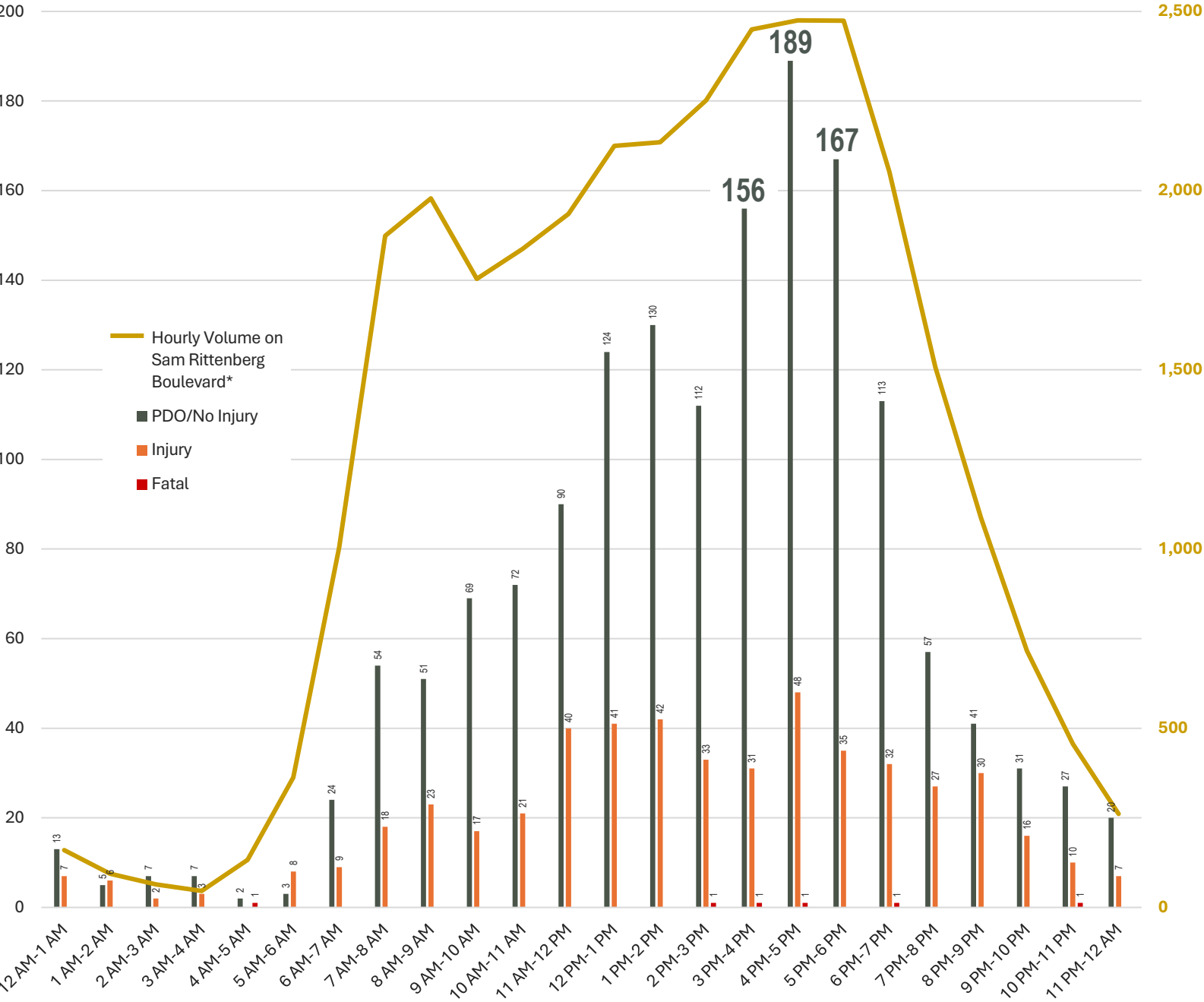


A majority (almost 70 percent) of crashes occurred during the day and under dry conditions, while approximately thirty percent occurred at night, under wet conditions, or under both night and wet conditions.

Non-collision with vehicle crashes were more likely than other crash types to take place at night. These crashes, which mainly include single-vehicle run-off-road, animal, pedestrian, and bicyclist crashes, may be influenced by reduced driver visibility during dark conditions, especially in areas along the corridor with limited street lighting.



Crashes by Time of Day and Severity



*Between Altman Street and North Woodmere Drive (based on bidirectional volume data collected in 2025)

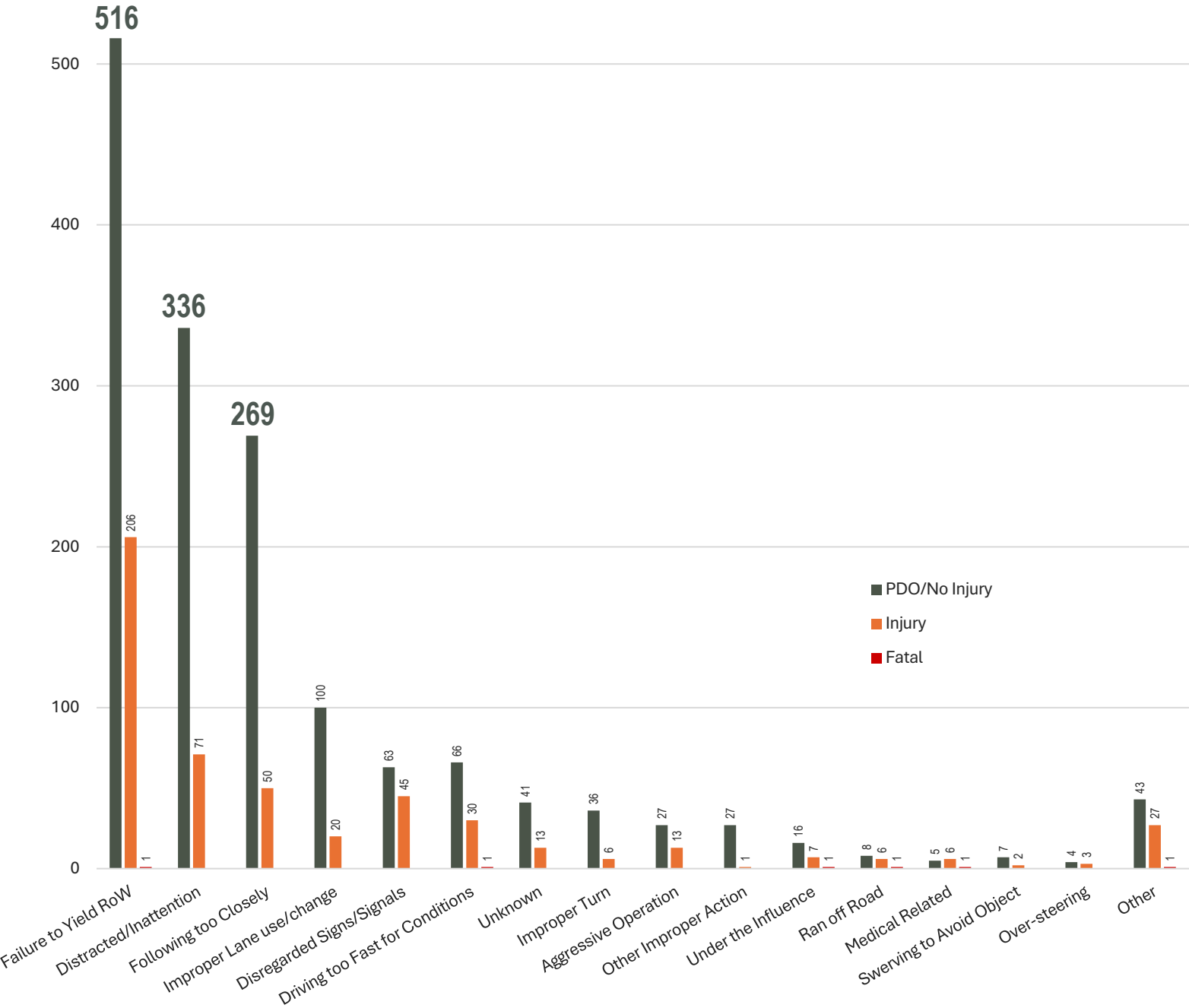
Along the study corridor, crash frequencies tended to be highest during times of day when vehicular traffic was highest. The largest concentration of PDO crashes occurred between 3 PM and 6 PM, with a peak between 4 PM and 5 PM, corresponding to the PM peak period for traffic volumes.

Injury crashes followed a similar time of day pattern, with a peak in frequency between 4 PM and 5 PM, followed by between 11 AM and 2 PM.

Fatal crashes occurred during the afternoon and evening hours (between 2 PM and 7 PM) or after dark (10 PM to 11 PM or 4 AM to 5 PM).



Crashes by Probable Cause and Severity



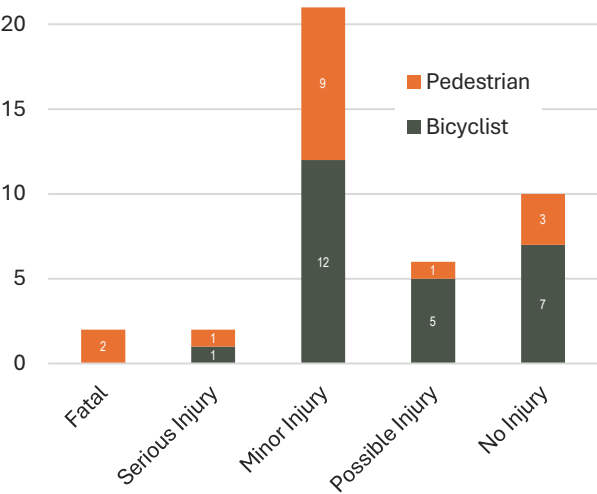
The most frequently reported probable causes for crashes along the corridor included a failure to yield right-of-way, distraction or inattention, following too closely, and improper lane use or lane changing.

Crashes caused by disregarding signs or signals were more likely than other crashes to result in injury.

The fatal crashes along Sam Rittenberg Boulevard had a range of probable causes including, but not limited to, failure to yield right-of-way, driving too fast for the given roadway conditions, driving under the influence, running off the road, and medical-related reasons.

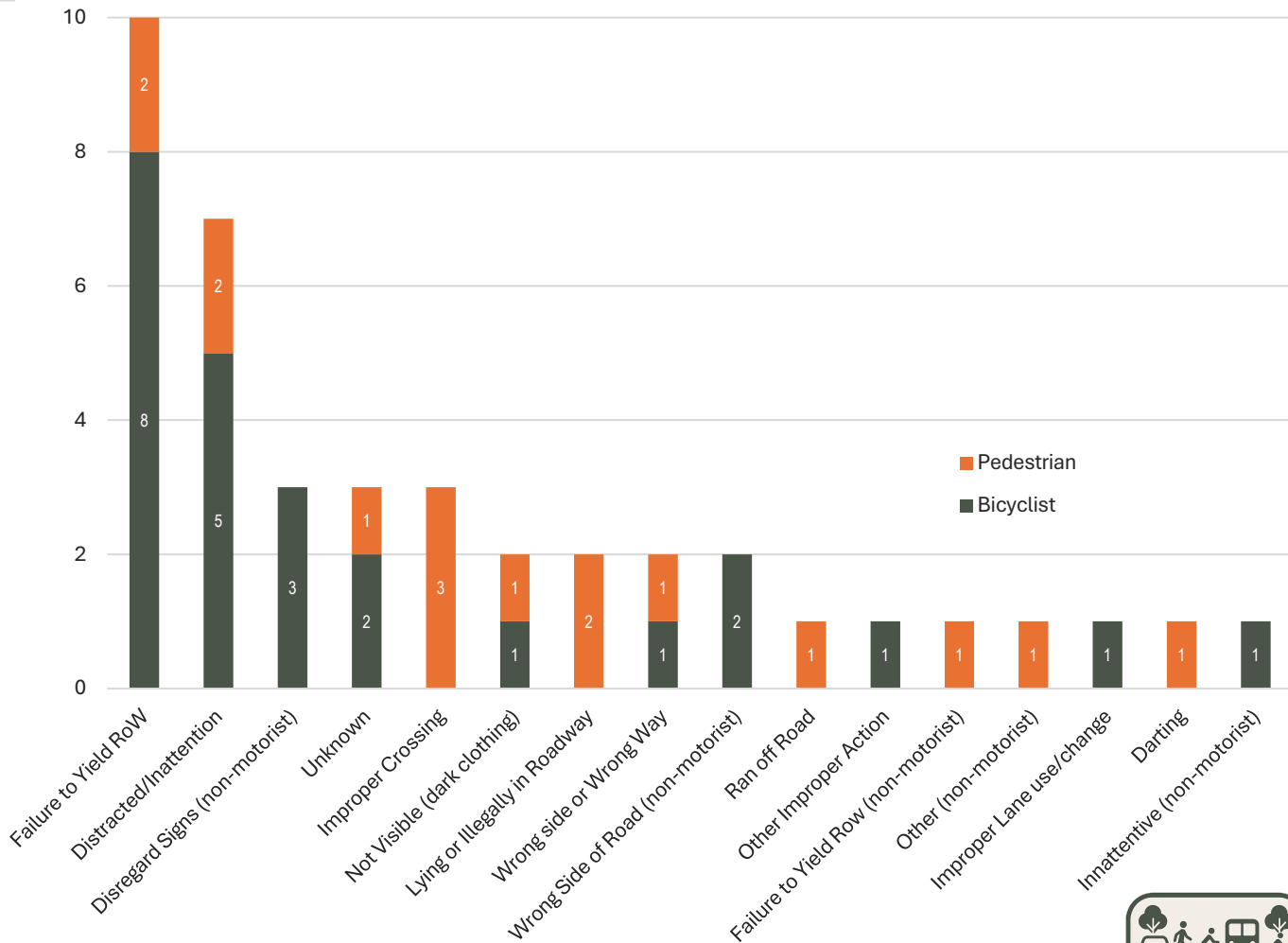
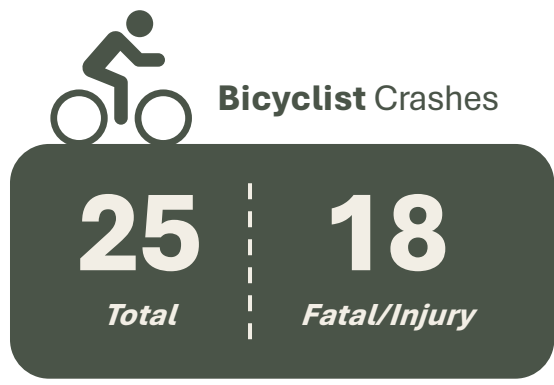


Pedestrian and Bicyclist Crashes by Severity and Probable Cause



There was a total of 41 pedestrian and bicyclist crashes along the corridor during the five-year analysis period. Contrary to overall crash trends, a majority of these crashes, including 81 percent of pedestrian crashes and 72 percent of bicyclist crashes, resulted in injury or fatality. Most injuries caused by pedestrian and bicyclist crashes led to minor injury, but there were two fatal pedestrian crashes, one pedestrian crash with serious injury, and one bicyclist crash with serious injury.

Similar to overall crash trends, the most frequently reported probable causes of the pedestrian and bicyclist crashes, shown below, include failure to yield right-of-way (by motorists) and distraction or inattention.



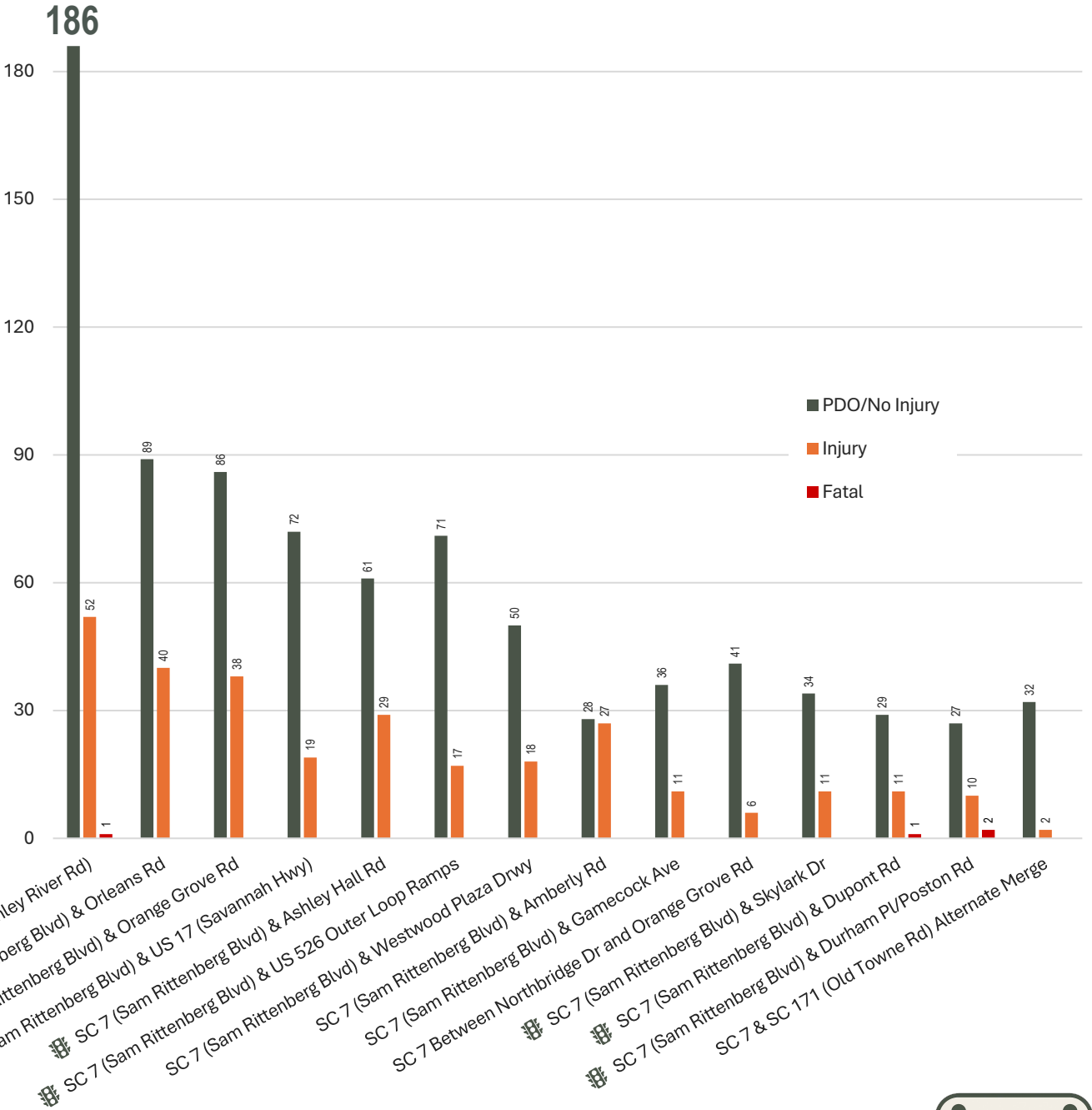
Crashes by High Crash Frequency Locations and Severity

Along the study corridor, crashes were mainly concentrated at intersections. The top fourteen locations that experienced the highest crash frequencies in the five-year analysis period are depicted in the graph to the right, twelve of which are intersections (nine signalized, as indicated by a traffic signal symbol, and three unsignalized). The two non-intersection locations with high crash frequencies include Sam Rittenberg Boulevard between Northbridge Drive and Orange Grove Road as well as the Sam Rittenberg Boulevard & SC 171 (Old Towne Road) alternate merge.

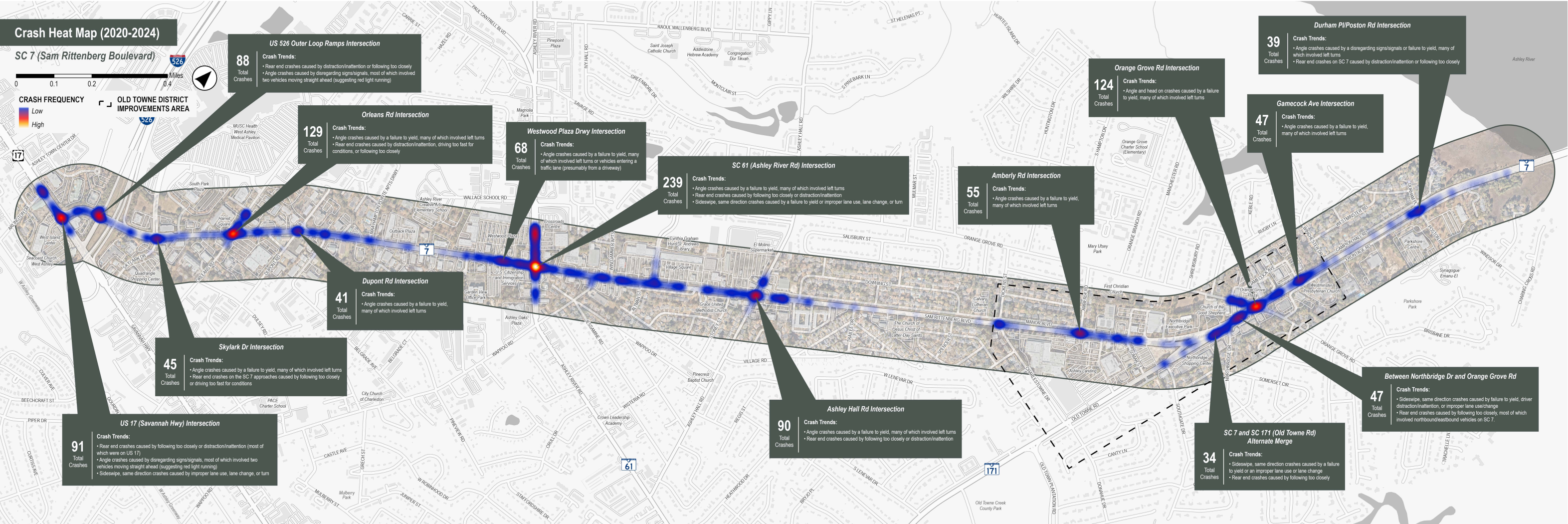
The intersection with the highest crash frequency, Sam Rittenberg Boulevard & Ashley River Road, experienced almost twice as many crashes as the intersection with the next highest crash frequency, Sam Rittenberg Boulevard & Orleans Road.

Crashes at the intersection of Sam Rittenberg Boulevard & Amberly Road were more likely to result in injury than crashes at the other high crash frequency intersections.

Four of the six fatal crashes along the corridor occurred at these high crash locations, including two at Durham Place/Poston Road, one at Ashley River Road, and one at Dupont Road.



The maps on the following pages depict the locations of the study period crashes along Sam Rittenberg Boulevard, separated by all crashes, nighttime crashes, wet roadway crashes, fatal and serious injury crashes, and pedestrian and bicyclist crashes. As the heat map scales (by color intensity) differ between the maps, the coloration of the crash frequencies should not be compared between maps, but only within each individual map.



Trends at High Crash Frequency Locations

As reemphasized in the heat map to the left depicting the locations of all study area collisions from 2020 to 2024, crashes tended to be concentrated at intersections. The map also shows the total number of crashes and notable trends at the fourteen high crash frequency locations highlighted on the previous page, with common crash patterns throughout.

Angle crashes caused by a failure to yield, many of which involved left turns, and disregarding signs or signals were predominant at the high crash frequency intersections. At such intersections that are signalized, another theme was rear end crashes related to following too closely, driving too fast for the roadway conditions, and distraction or inattention. Rear end crashes were also prominent at the Sam Rittenberg Boulevard & Old Towne Road alternate merge and the adjacent section on Sam Rittenberg Boulevard between Northbridge Drive and Orange Grove Road. Additionally, sideswipe, same direction crashes were common at these two locations, frequently caused by a failure to yield, improper lane use or lane changing, and distraction or inattention.

In addition to the physical damages and injuries that result from crashes, these events often create induced congestion at and upstream of where they occur as drivers react by slowing down or stopping in traffic, and may even lead to secondary crashes (such as rear ends resulting from sudden changes in speed) and an increase in aggressive driving behavior out of frustration toward slow downs. An understanding of crash patterns is crucial to identifying potential safety countermeasures that can be implemented to reduce the likelihood of future collisions.

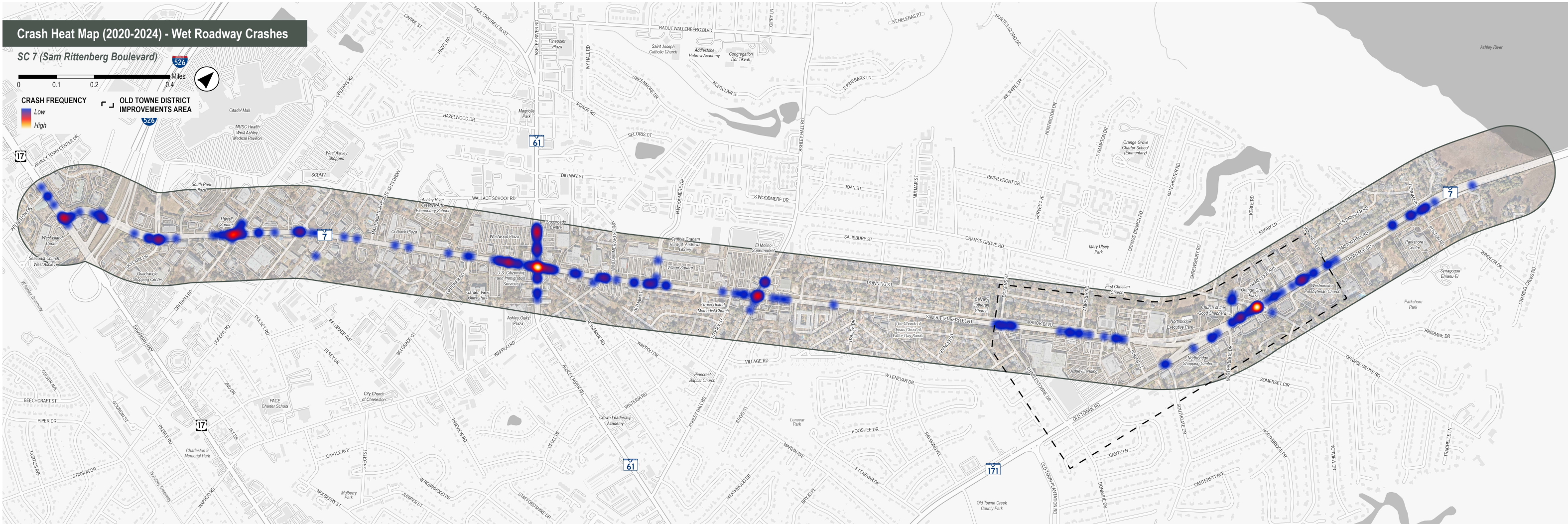
Refer to **Appendix B** for heat maps specifically showing angle, head on, rear end, sideswipe, and non-collision with vehicle crashes as well as maps detailing the individual crashes along the corridor.



Nighttime Crash Locations

The heat map to the left shows the five-year distribution of nighttime crashes across the study area. These crashes occurred under dark conditions, after dusk and before dawn, as identified by the police officer preparing the crash report.

The location with the highest concentration of these crashes was the intersection of Sam Rittenberg Boulevard & Ashley River Road (where 34 percent of the total intersection crashes occurred at night), followed by the intersections of Sam Rittenberg Boulevard with Savannah Highway, Orleans Road, Ashley Hall Road, and Orange Grove Road (where 26 to 30 percent of each intersection's total crashes occurred at night). Corridor-wide, the percentage of nighttime crashes was 23 percent, or 469 total crashes.



Wet Roadway Crash Locations

As shown in the heat map to the left, the locations with the highest concentration of wet roadway crashes were the intersection of Sam Rittenberg Boulevard & Orange Grove Road as well as the intersection of Sam Rittenberg Boulevard & Ashley River Road (where 16 percent and 13 percent of the total intersection crashes occurred under wet conditions, respectively). The intersections of Sam Rittenberg Boulevard with Ashley Hall Road, Orleans Road, and Savannah Highway also saw higher concentrations of wet roadway crashes (where 19 percent, 16 percent, and 12 percent of the total intersection crashes, respectively, occurred under wet conditions). Corridor-wide, the percentage of wet roadway crashes was 13 percent, or 260 total crashes.

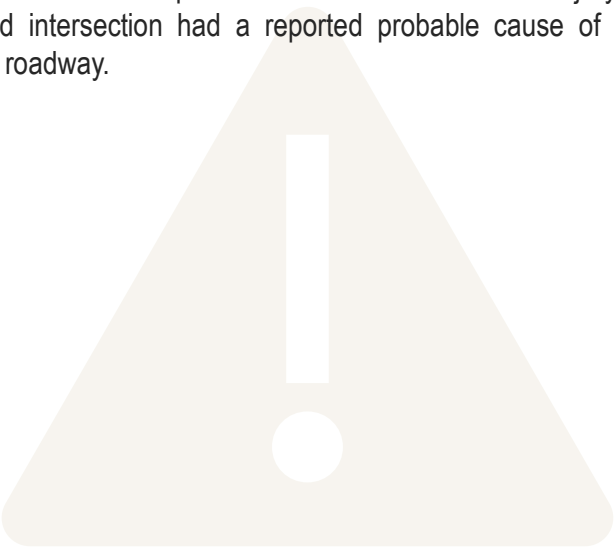


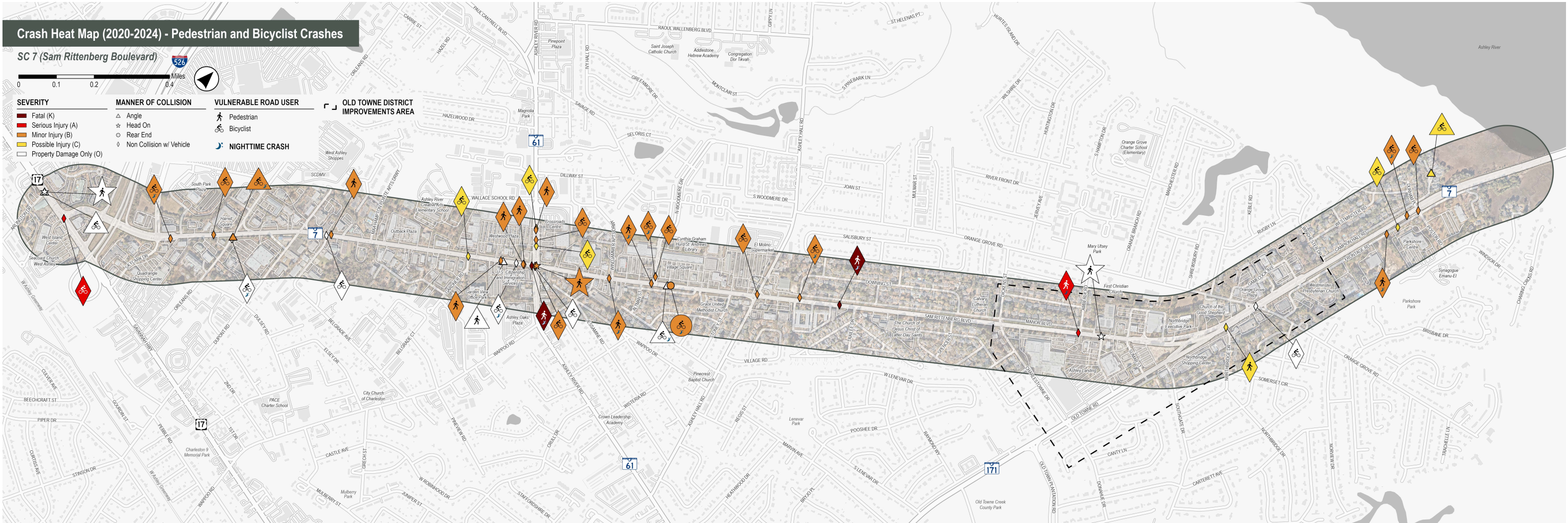


Fatal and Serious Injury Crash Locations

The map to the left highlights the locations of the fatal and serious injury crashes within the study period and study area, which were distributed across the entirety of the corridor. As shown, the three pedestrian crashes and one bicyclist crash that resulted in fatality or serious injury were also distributed across different locations, three of which were at intersections (the intersections of Sam Rittenberg Boulevard with Savannah Highway, Ashley River Road, and Amberly Road) and one of which was at a midblock location (just west of Trailee Drive).

The bicyclist crash at Sam Rittenberg Boulevard & Savannah Highway that resulted in serious injury had failure to yield right-of-way as a probable cause. The fatal pedestrian crash at the Ashley River Road intersection was reportedly caused by darting, whereas the pedestrian fatality on Sam Rittenberg Boulevard just west of Trailee Drive resulted from a vehicle running off the road. The pedestrian crash with serious injury at the Amberly Road intersection had a reported probable cause of lying or illegally in the roadway.





Pedestrian and Bicyclist Crash Locations

The locations of the corridor-wide pedestrian and bicyclist crashes between 2020 and 2024 are presented to the left. A majority of these crashes occurred in the western part of the study corridor between Savannah Highway and Trailee Drive.

The most significant concentration of pedestrian and bicyclist crashes was in the section in front of the Westwood Plaza shopping center and at the intersection of Sam Rittenberg Boulevard & Ashley River Road, where six pedestrian crashes and three bicyclist crashes occurred. The probable causes of the six pedestrian crashes ranged from improper crossings, wrong side of the road or wrong way, failure to yield right-of-way (by a non-motorist), and darting. The probable causes of the three bicyclist crashes included failure to yield right-of-way and distraction or inattention. These causes suggest that non-motorized users may regularly be attempting to cross Sam Rittenberg Boulevard midblock to access the Westwood Plaza shopping center.

Fifteen of the 41 pedestrian and bicyclist crashes (37 percent) occurred at night, with the largest concentration of these crashes near North Woodmere Drive and the Village Square shopping center. This area saw four bicyclist crashes and one pedestrian crash, four of which were nighttime crashes.



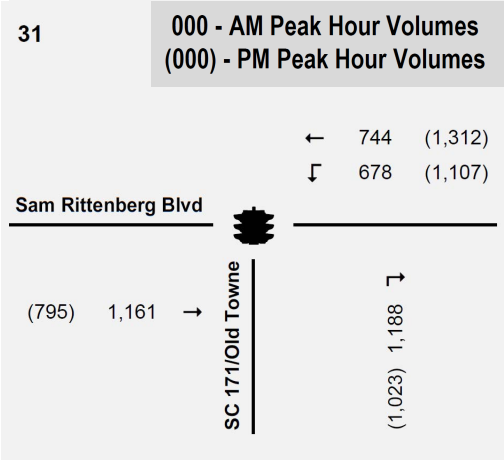
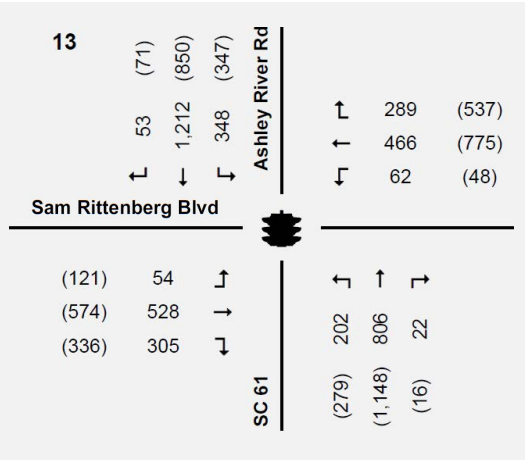
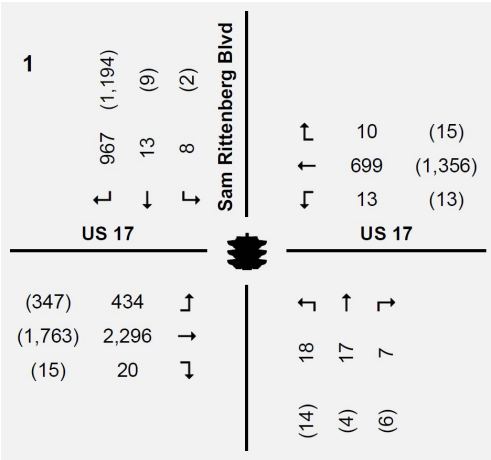
EXISTING PEAK HOUR TRAFFIC VOLUMES & CAPACITY ANALYSIS

The table below includes the locations of the study intersections along Sam Rittenberg Boulevard that were evaluated in the capacity analysis. Existing weekday peak period (AM and PM) turning movement counts (TMCs) for vehicles, pedestrians, and bicyclists were collected at the study intersections on Thursday, May 8, 2025. The AM and PM peak period counts were collected from 7 AM to 9 AM and 4 PM to 6 PM, respectively, with the capacity analysis focused on the AM and PM peak hours where traffic volumes were highest during those peak periods. The TMC data along with worksheets/exhibits depicting the counts sequentially along the study corridor are provided in **Appendix C** and **Appendix D**, respectively.

Study Intersections Along Sam Rittenberg Boulevard

# Intersection Cross Street		
1	US 17 (Savannah Hwy)	13 SC 61 (Ashley River Rd)
2	I-526 Outer Loop Ramps	14 Wappoo Rd/Charleston Amish Furniture Drwy
3	I-526 Inner Loop Ramp	15 Windjammer Apartments/American Auto Drwy
4	Skylark Dr/Park Sq S	16 King Claw Restaurant/State Farm Drwy
5	South Park Cir	17 Altman St/Family Dollar Drwy
6	Orleans Rd	18 N Woodmere Dr
7	Dupont Rd	19 Village Square Drwy (West)
8	Belgrade Ave	20 Village Square Drwy (Center)
9	MAA Hampton Pointe Drwy	21 Village Square Drwy (East)/Memminger Ave
10	Outback Plaza Drwy	22 Advance Auto Parts Drwy/Grace UMC Drwy
11	Gardner Rd/Westwood Plaza Drwy (West)	23 Stoney St
12	Church’s Chicken/Westwood Plaza Drwy (East)	24 Ashley Hall Rd
		25 Downing St/Palmetto Square Drwy
		26 Trailee Dr (Trailmore Drwy)
		27 Spencer St
		28 Dickens St/Charlestowne Dr
		29 Amberly Rd/Starbucks Drwy
		30 Sumar St/Palmetto State Armory Drwy
		31 SC 171 (Old Towne Rd)
		32 Orange Grove Rd
		33 Gamecock Ave
		34 Winchester Dr
		35 Durham Pl/Poston Rd

At most study intersections, a majority of traffic approaching the intersections are traveling east and west (as through volumes) along Sam Rittenberg Boulevard, with a lower number of drivers making left and right turns. However, there are several points along corridor where large traffic volumes enter and exit the study corridor based on the existing turning movement counts. These locations include the intersections of Sam Rittenberg Boulevard with Savannah Highway (Intersection 1), Ashley River Road (Intersection 13), and Old Towne Road (Intersection 31), whose peak hour volumes are shown below.

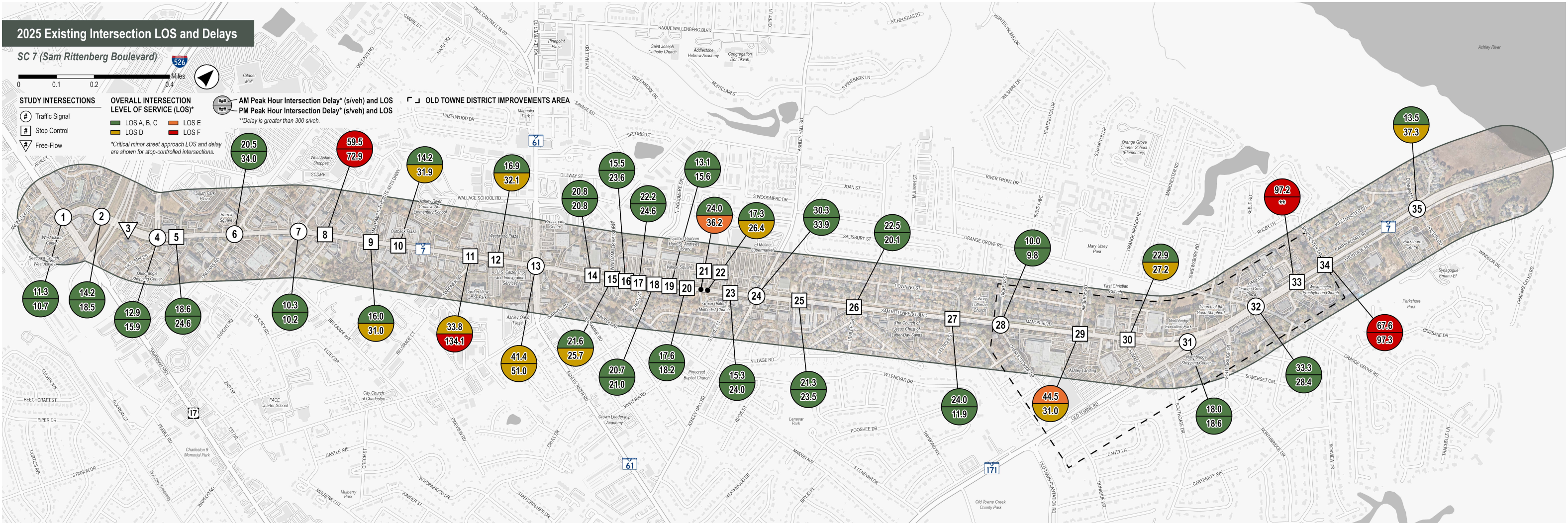


Existing (2025) peak hour TMCs at the intersections of Sam Rittenberg Boulevard with Savannah Highway, Ashley River Road, and Old Towne Road

The existing capacity analysis for the study intersections was performed using the Transportation Research Board's *Highway Capacity Manual* methodologies and Synchro 12 software. The *Highway Capacity Manual* (HCM) defines level of service (LOS) as “a quality measure describing operations conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience.” LOS A typically represents ideal, free-flow conditions where vehicles experience little to no delays, and LOS F typically represents poor, forced-flow (bumper-to-bumper) conditions with high vehicular delays. The table on the next spread summarizes the HCM 7th Edition control delay thresholds (in seconds per vehicle) associated with each LOS grade for unsignalized (two-way stop control) and signalized intersections. Level of service A through D are generally considered to be acceptable, while LOS E and F are considered to be undesirable.

Depicted in the map on the next spread are the overall intersection LOS and delays for each of the signalized study intersections during the existing (2025) weekday AM and PM peak hours. As overall intersection LOS and delay are not defined for unsignalized intersections, the critical minor street approach LOS and delay are shown for these locations. For the existing capacity analysis along with all other analysis scenarios, HCM 7th Edition results are reported for all intersections except for Intersections 1 and 31, where Synchro results are reported (as there are limitations to the HCM 7th Edition methodologies for the specific delay calculations at those intersections).

The existing capacity analysis results indicate that all signalized study intersections are currently operating at an overall intersection LOS of D or better. However, at several unsignalized intersections, at least one minor street approach is operating at an LOS E or F during one or both weekday peak hours. Full existing peak hour capacity analysis results and corridor-wide summary exhibits are provided in **Appendix E**.



Intersection LOS Criteria (HCM 7th Ed.)

LOS	Control Delay (s/veh)	
	Two-Way Stop Control (TWSC)	Signal
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80



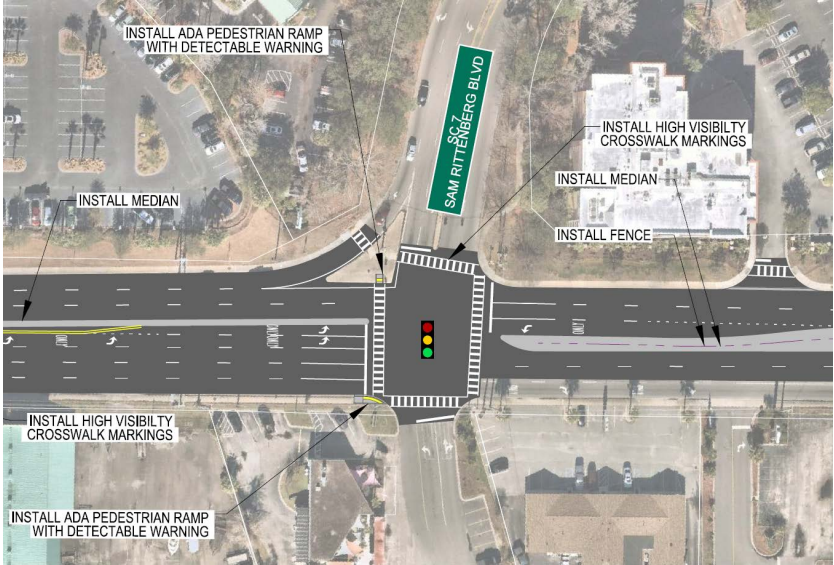
This chapter provides an overview of anticipated future No-Build conditions along the study corridor, which includes planned projects and projected traffic that would occur apart from a buildout of the subject redesign. A future year of 2050 has been selected for the No-Build analysis to provide results corresponding to the redesign’s anticipated horizon year.

SCDOT ROAD SAFETY ASSESSMENTS

The South Carolina Department of Transportation (SCDOT) regularly conducts road safety assessments (RSAs) along high-crash corridors across the state. The RSAs consist of a detailed process to identify existing safety concerns and roadway deficiencies, followed by a recommendation and, ideally, implementation of countermeasures. In 2025, two RSAs have been conducted along corridors that intersect the Sam Rittenberg Boulevard study area including on:

- 📍 US 17 (Savannah Highway) from west of Hughes Road to Wappoo Road and
- 📍 SC 61 (Ashley River Road/Saint Andrews Boulevard) from Paul Cantrell Boulevard to Wesley Drive.

Excerpts from the conceptual RSA recommendations at the intersections of Sam Rittenberg Boulevard with Savannah Highway and Ashley River Road are shown below. As the recommendations do not suggest any significant operational changes at these intersections, they are not anticipated to directly impact improvements proposed in the subject redesign.



RSA Recommendations at Sam Rittenberg Boulevard & Savannah Highway (SCDOT, February 2025)



RSA Recommendations at Sam Rittenberg Boulevard & Ashley River Road (SCDOT, February 2025)

FUTURE YEAR VOLUME DEVELOPMENT

Future year 2050 traffic volumes were estimated through a volume development process, which included a selection of an annual traffic background growth rate (which is anticipated occur regardless of whether this redesign effort is constructed) as well as vested traffic from planned developments in the study area.

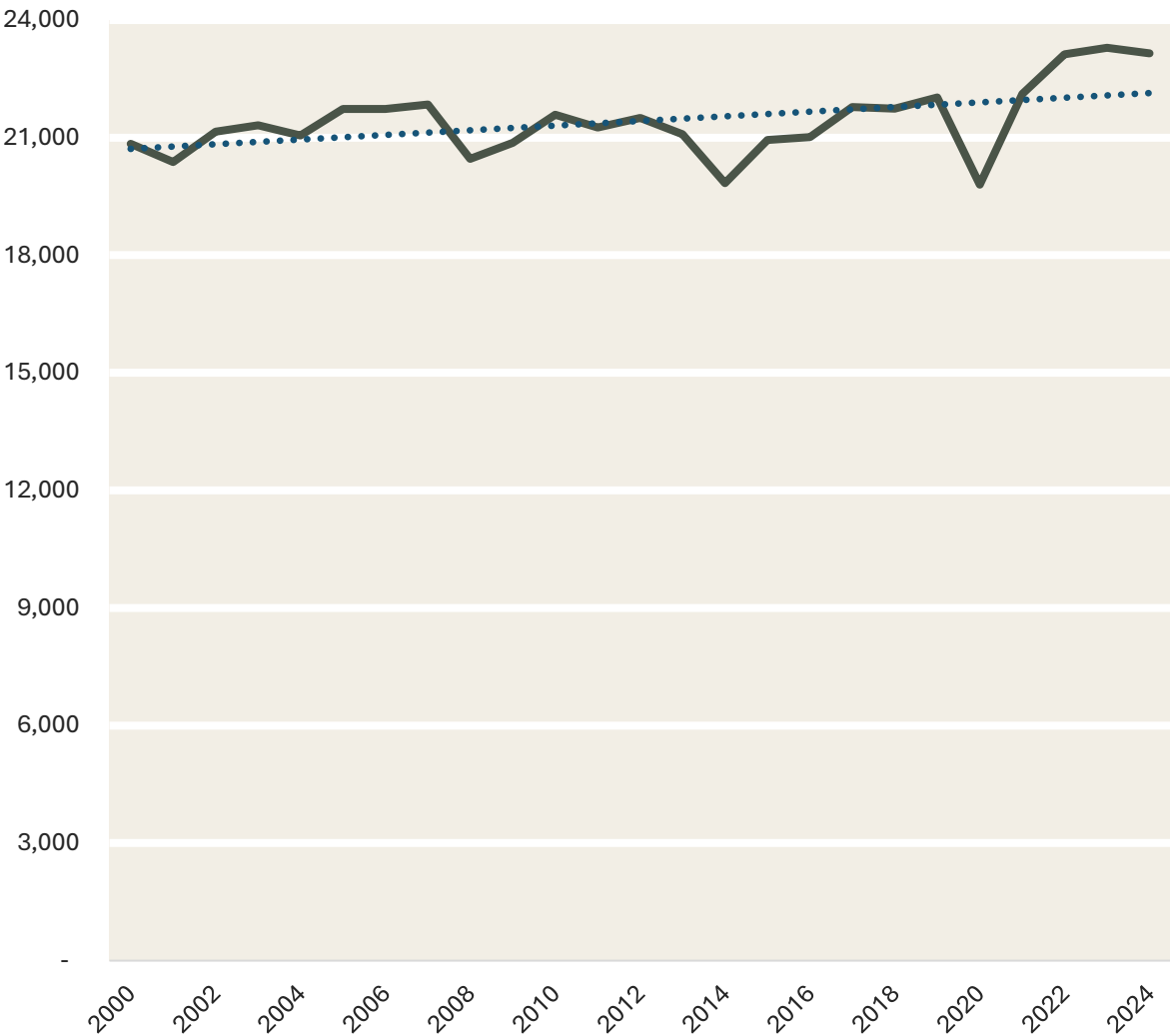
Background Growth Rate

A background growth rate was identified for this project using SCDOT's historical AADT database. AADT volumes were obtained from the past twenty-five years (2000 to 2024) at sixteen count stations in the vicinity the study area, namely along Sam Rittenberg Boulevard as well as on the following adjacent roadways:

- 📍 US 17 (Savannah Highway),
- 📍 I-526,
- 📍 Skylark Drive,
- 📍 Orleans Road,
- 📍 Dupont Road,
- 📍 SC 61 (Ashley River Road),
- 📍 Wappoo Road,
- 📍 Ashley Hall Road,
- 📍 SC 171 (Old Towne Road), and
- 📍 Orange Grove Road.

The average AADT trend across all count stations analyzed is shown the right (with count years on the x-axis and average count station AADT volumes on the y-axis). While some count stations have seen positive growth (1 or 2 percent linear growth per year), other count stations have seen little to no growth or negative growth (up to -3 percent linear growth per year). The average historical growth rate across all count stations was approximately 0.25 percent per year, which was selected as the linear background growth rate for the future year analyses.

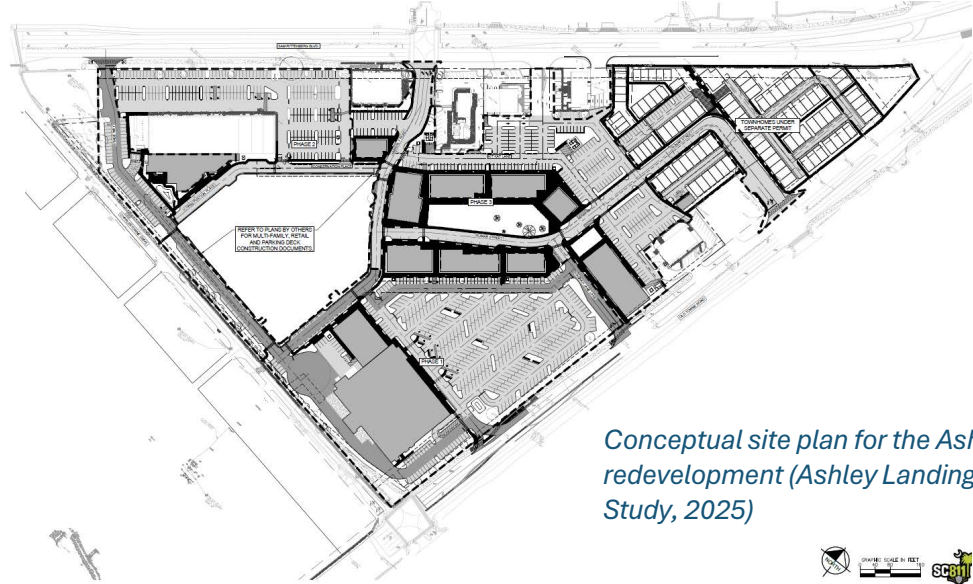
Average Historical AADT Trend Across Count Stations Around the Study Area



Planned Developments and Vested Traffic



Conceptual site plan for a potential phase of the Epic Center development (Plan West Ashley Report, 2017)



Conceptual site plan for the Ashley Landing redevelopment (Ashley Landing Traffic Impact Study, 2025)

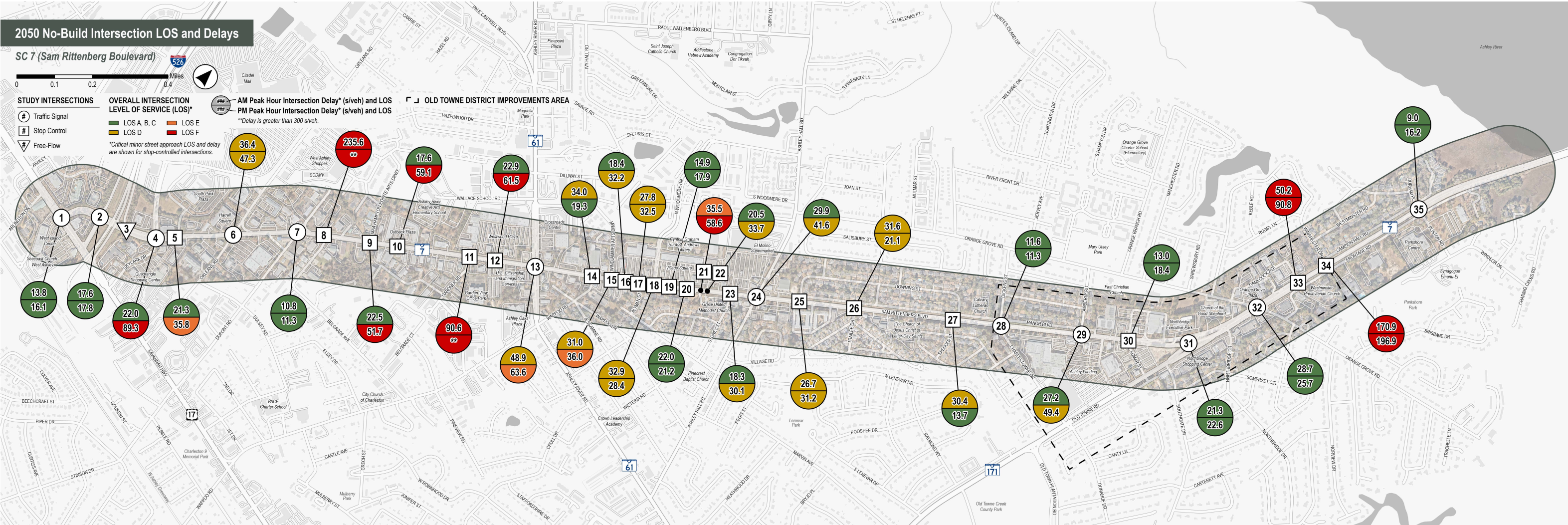
As mentioned in Chapter 3 of this report, the TIAs of two planned developments, the Epic Center and Ashley Landing redevelopment, have been identified that are anticipated to generate new trips (vested traffic) impacting future study corridor volumes. The Epic Center development would include approximately 4,000,000 square feet of residential, hotel, retail, office, and arena uses, with accesses on Orleans Road and Sam Rittenberg Boulevard and an anticipated buildout year of 2038. The Ashley Landing redevelopment plans to retain the existing commercial area that borders Sam Rittenberg Boulevard, with the remainder of the site redeveloped to include approximately 400 residential units, 227,400 square feet of restaurant and retail space, and 8,200 square feet of office space. Site accesses for Ashley Landing would include three existing driveways along Sam Rittenberg Boulevard and three existing driveways along Old Towne Road. Conceptual site plans for the two developments are shown to the left and above.

Projected Future Year No-Build Peak Hour Traffic Volumes

The projected future year (2050) No-Build peak hour traffic volumes were developed by applying the aforementioned 0.25 percent per year linear growth rate to the existing 2025 TMCs to account for twenty-five years of background growth between the existing and future analysis years. Additionally, vested traffic from the Epic Center and Ashley Landing TIAs were added to the projected volumes. Traffic volume development worksheets and corridor-wide summary exhibits of the projected 2050 No-Build peak hour TMCs are included in **Appendix D**. While projected 2050 traffic estimates were only developed for vehicular volumes, it is anticipated that pedestrian and bicyclist volumes will also grow by the horizon year, particularly in the areas of planned redevelopment discussed previously.

FUTURE NO-BUILD CAPACITY ANALYSIS

The 2050 future year No-Build capacity analysis was conducted using the projected 2050 No-Build traffic volumes. The analysis was performed with existing traffic conditions (geometry, lanes, signal control, etc.) along with the inclusion of recommendations from the Old Towne District Improvements Project by Charleston County, which is expected to be constructed prior to 2050, and mitigations from the two TIAs previously discussed. The most significant roadway changes planned by the Old Towne District Improvements include signalization of the Sam Rittenberg Boulevard & Amberly Road intersection, the closure of Sumar Street (which would be incorporated into the Ashley Landing redevelopment), and the addition of a second eastbound left turn lane from Orange Grove Road onto Sam Rittenberg Boulevard. In addition, the Epic Center TIA recommends the addition of a second southbound left turn lane from Orleans Road onto Sam Rittenberg Boulevard, which has been incorporated into the future year analysis.



Intersection LOS Criteria (HCM 7th Ed.)

LOS	Control Delay (s/veh)	
	Two-Way Stop Control (TWSC)	Signal
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

As with the existing capacity analysis, HCM 7th Edition methodologies were used to conduct the 2050 No-Build analysis. (For reference, the HCM intersection LOS criteria are provided above.) A summary of the intersection-level LOS and delays from the 2050 No-Build analysis is shown to the left. Full capacity analysis results and corridor summary exhibits are provided in **Appendix E**.

In contrast with the 2025 existing traffic analysis, the 2050 No-Build traffic analysis indicates that two signalized intersections are anticipated to reach an overall intersection LOS of E or F during one or both weekday peak hours by the horizon year, including at Sam Rittenberg Boulevard & Skylark Drive/Park Square South as well as at Ashley River Road. Additionally, a higher number of critical minor street approaches at unsignalized intersections are anticipated to reach an LOS E or F, particularly in the western portion of the study corridor.

5

FUTURE BUILD CONDITIONS

REDESIGN RECOMMENDATIONS

Based on the previous planning work, corridor inventory, and analyses discussed in prior chapters, and incorporating the project's purpose and goals, a series of corridor-wide recommendations was developed for the redesign. (As these recommendations are high-level, detailed design elements, such as lighting improvements, are not included but are anticipated to be incorporated as segments of the project advance in design.) Key elements of the proposed redesign are summarized below, and a full plan of the conceptual recommendations is provided in **Appendix F**. A comparison of existing and proposed typical cross sections along with illustrative renderings of what Sam Rittenberg Boulevard could look like with the redesign are provided on the following spreads.

Roadway and Access Management Recommendations

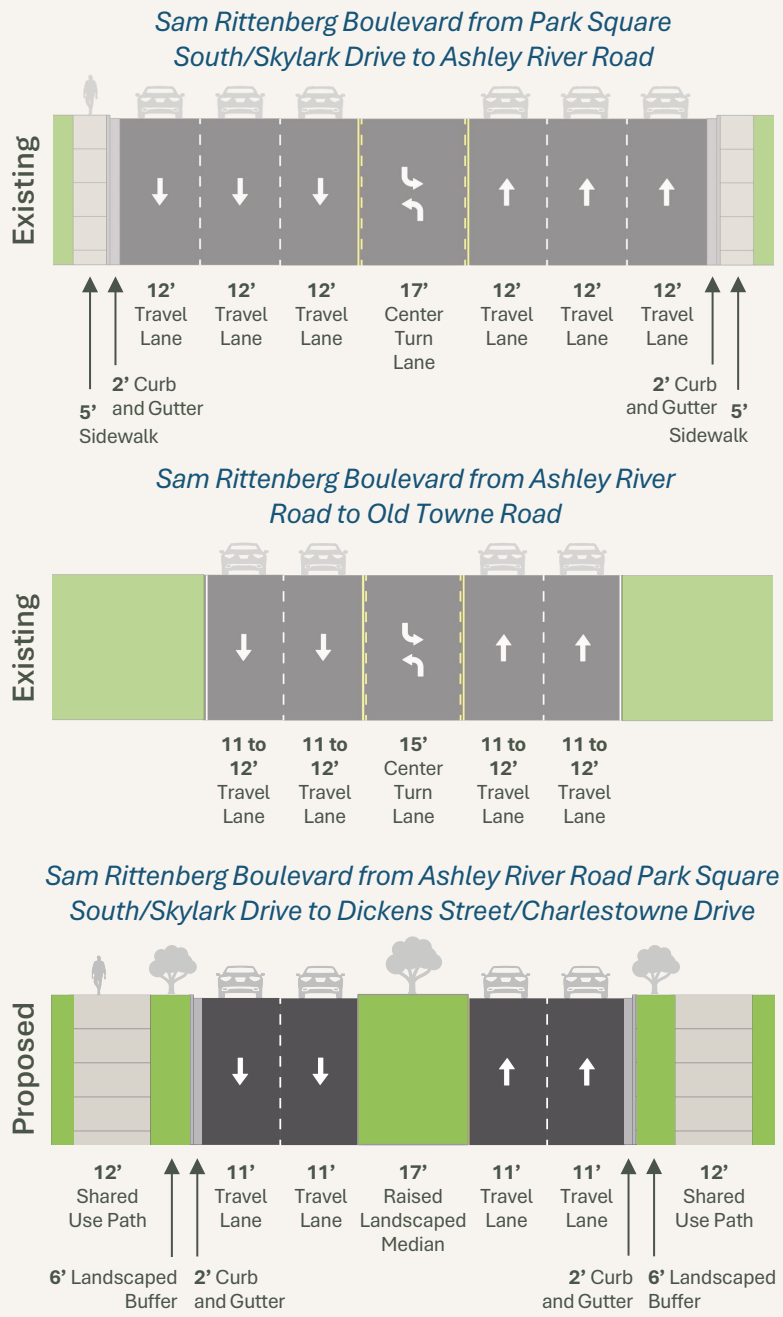
- *Incorporate a raised, landscaped center median with turn lanes throughout.*
- *Convert the section between Park Square South/Skylark Drive and Ashley River Road from a six-lane to a four-lane section based on anticipated spare capacity from projected traffic volumes.*
- *Provide 11-foot wide vehicular travel lanes.*
- *Reduce the number of driveways and curb cuts to minimize conflict points, by closing accesses where appropriate and feasible.*
- *Provide U-turn opportunities along the corridor at intersections and dedicated midblock U-turn bulbs.*
- *Provide consistent curb and gutter shoulders along the corridor.*

Intersection Recommendations

- *Install a new traffic signal at the North Woodmere Drive intersection.*
- *Incorporate intersection turn lane recommendations from vested developments in the area (Epic Center and Ashley Landing redevelopment).*
- *Provide adjustments to turn lanes (configurations and lengths) at intersections based on capacity analysis and safety considerations.*
- *Eliminate channelized right turn lanes, where feasible, to improve safety.*

Multimodal Facility Recommendations

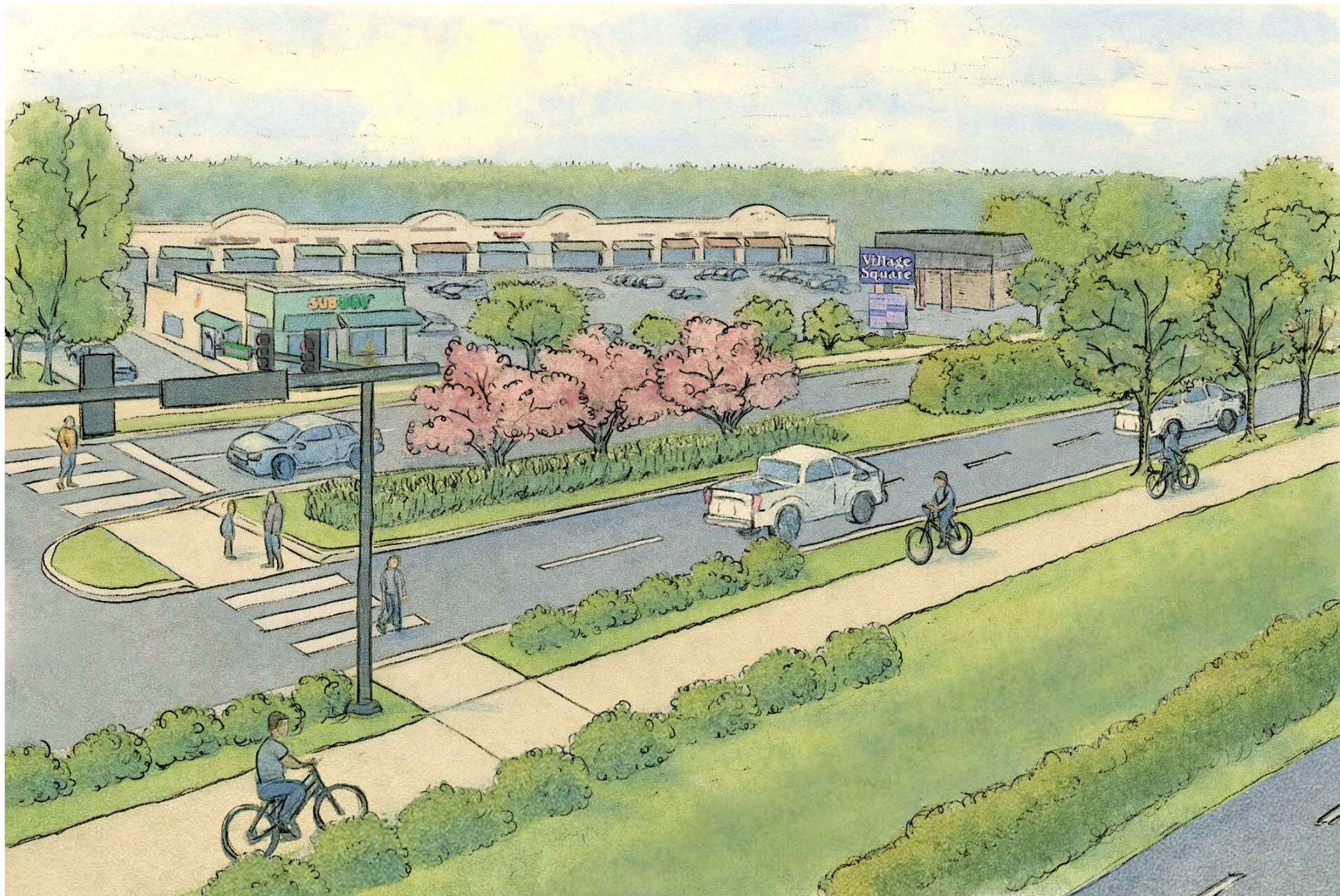
- *Provide shared use paths along both sides of the corridor, with a target width of 12 feet and an approximately 6-foot wide landscaped buffer.*
- *Provide crosswalks with ADA-compliant curb ramps at all signalized intersection approaches, where feasible, and along the corridor at unsignalized intersections and driveways.*
- *Incorporate midblock pedestrian hybrid beacons (PHBs) to provide additional controlled pedestrian/bicyclist crossings, with locations chosen based on signal spacing, current and future crossing demand, and crash history.*
- *Provide high visibility markings at crosswalks.*
- *Relocate CARTA bus stops, as appropriate, based on safety, accessibility, and design constraints.*
- *Provide bus shelter pads, bike rack pads, and ADA-accessible landing pads at all CARTA bus stops.*



Typical Cross Sections



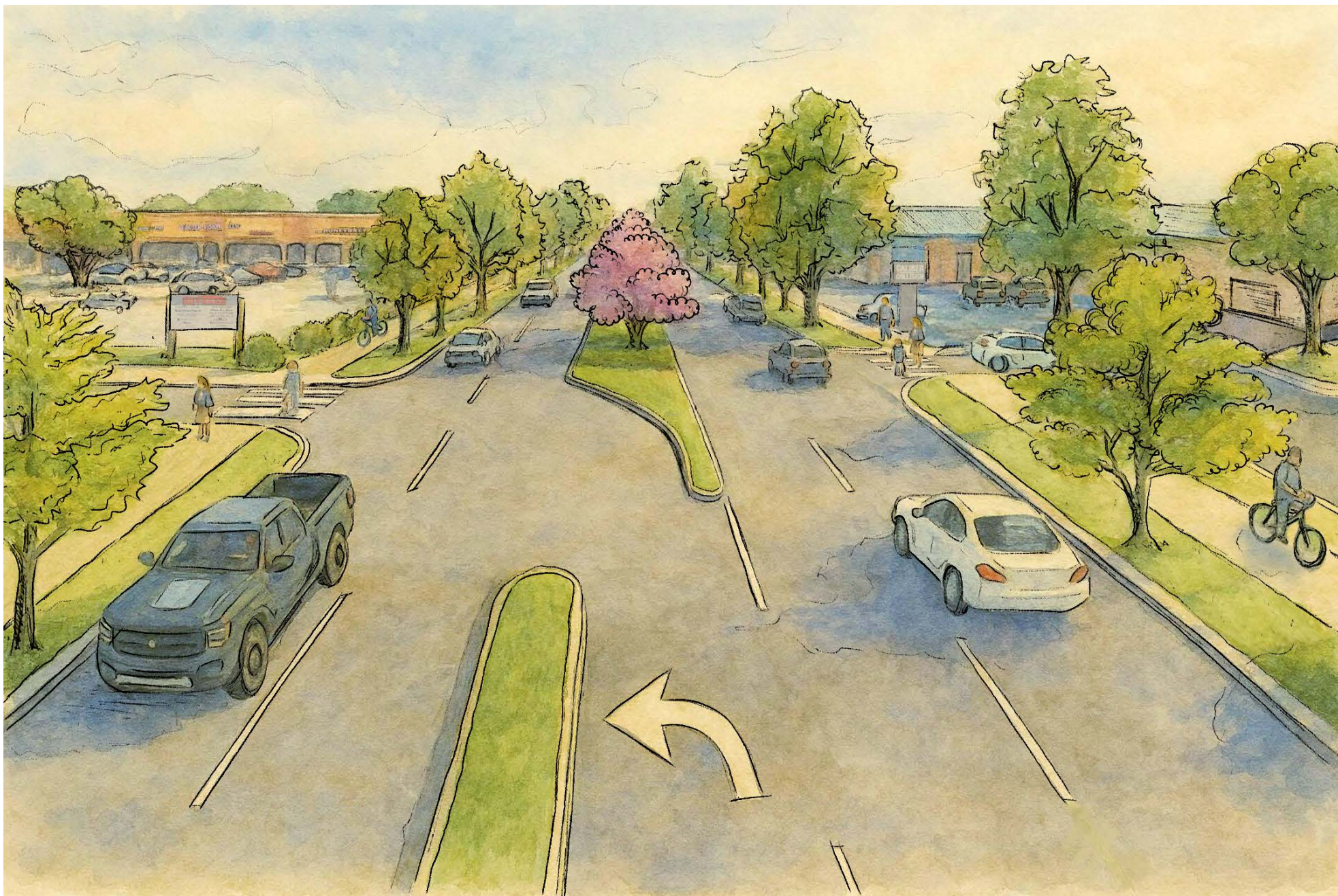
Illustrative rendering of a potential shared use path and landscaping along Sam Rittenberg Boulevard in front of Village Square



Illustrative rendering of a potential redesigned Sam Rittenberg Boulevard in front of Village Square



Illustrative rendering of a potential intersection redesign at Sam Rittenberg Boulevard and North Woodmere Drive



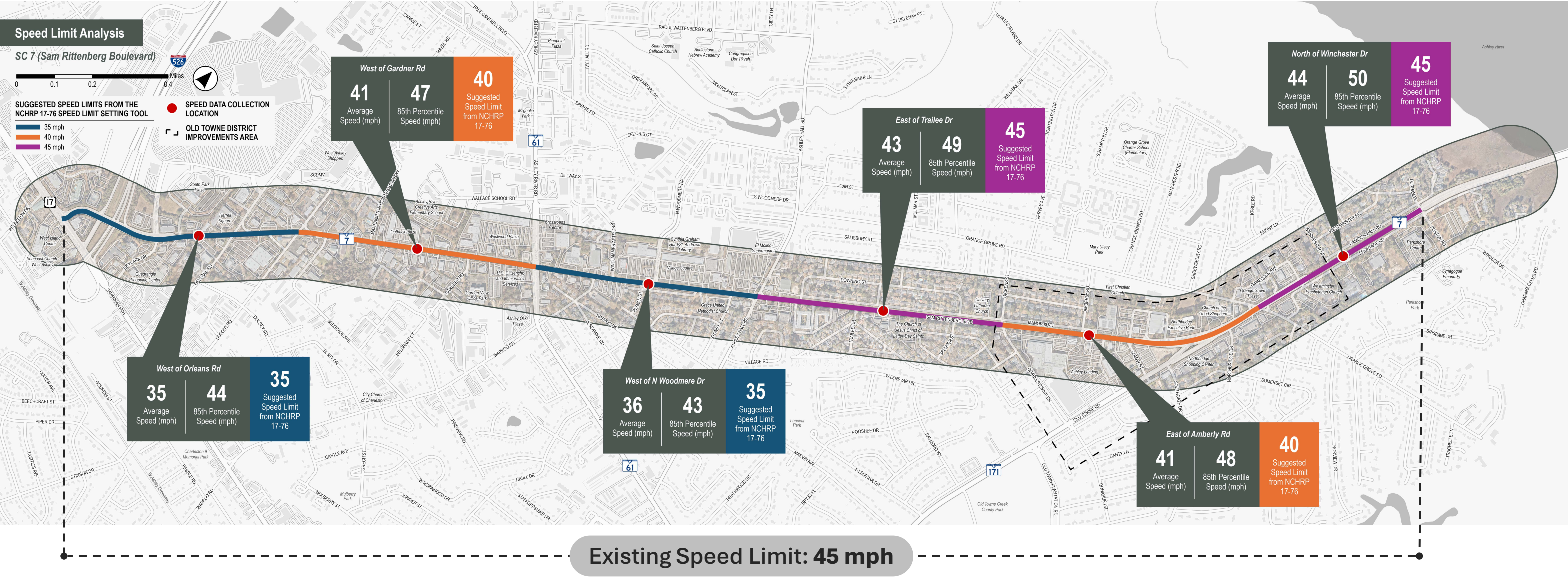
Illustrative rendering of a potential redesigned Sam Rittenberg Boulevard in front of Outback Plaza



Illustrative rendering of a potential shared use path and crosswalk along Sam Rittenberg Boulevard at the Outback Plaza driveway

SPEED LIMIT ANALYSIS

To fully address the redesign’s goals, a speed limit analysis was conducted along Sam Rittenberg Boulevard to evaluate the existing posted speeds along the corridor. This speed limit evaluation was performed using guidance from the *National Cooperative Highway Research Program (NCHRP) Report 966 – Posted Speed Limit Setting Procedure and Tool (2021)*, and the accompanying Excel-based, *NCHRP 17-76 Speed Limit Setting Tool*. The *NCHRP 966 Report* and accompanying *NCHRP 17-76 Speed Limit Setting (SLS) Tool* are used to compute suggested posted speed limits on roadway segments as a function of traffic speed data, site characteristics, and crash data.



Within the NCHRP 17-76 SLS tool, as previously mentioned, three input parameter types are available: “Speed Data”, “Site Characteristics”, and “Crash Data”. “Speed Data” consists of the posted speed limit, the measured 85th percentile speed, and the measured 50th percentile speed. “Site Characteristics” consist of segment length, number of lanes, median type, number of signals, number of access points, pedestrian and bicycle activity level and existing facilities, and presence/type of parking adjacent to the roadway. “Crash Data” consists of crash history by severity and AADT used to calculate average crash rates per million vehicle miles traveled. The AADT volumes used in the analysis were obtained from SCDOT and incorporated 2022 data, as this corresponds to the median year of the five-year crash period studied.

In short, the tool suggests a posted speed limit based on either the closest 50th percentile speed or the 85th percentile speed rounded down, based on these inputs. For example, if the number of signals per mile exceeds four, if the number of access points/mile exceeds 60, if on-street parking activity is high, if there is no or narrow sidewalk with high pedestrian activity, or if the observed KABCO or KABC crash rates exceed the tool-calculated KABCO or KABC critical crash rates (based on the Highway Safety Information System – HSIS), the tool suggests the closest 50th percentile speed.

The map to the left includes the *suggested* speed limits from the tool for each segment based on existing conditions. As the map highlights, the tool suggested the closest 50th percentile speed for each segment, primarily due to observed KABCO and KABC crash rates being higher than the calculated *critical* crash rates; access density in some sections, lack of pedestrian facilities in some sections; and the undivided median treatment throughout. This led to the following suggested speed limits:

- 📍 **35 mph** between Savannah Highway and Dupont Road and between Ashley River Road and Ashley Hall Road;
- 📍 **40 mph** between Dupont Road and Ashley River Road and between Dickens Street/Charlestowne Drive and Orange Grove Road; and,
- 📍 **45 mph** between Ashley Hall Road and Dickens Street/Charlestowne Drive and north/east of Orange Grove Road.

SPEED LIMIT RECOMMENDATIONS

If the recommendations from this report are implemented, Sam Rittenberg Boulevard would be a four-lane, divided facility between Savannah Highway and Orange Grove Road, while maintaining its existing six-lane section north of Orange Grove Road (though a majority of this section would also be converted to a divided facility).

Additional recommendations in this report include changes to the corridor that would provide traffic calming effects, namely: narrowed 11-foot lanes, consistent curb and gutter throughout, planted median and buffers, speed feedback signs, and enhanced crosswalks.

As described on the previous pages, the *NCHRP 17-76* tool utilized in this speed limit analysis suggested speed limits varying between 35- and 45-mph depending on the location along the corridor, based on existing conditions, with most of the segments analyzed resulting in a suggested speed limit below the existing 45-mph speed limit. With proposed design changes in this report, it is anticipated that speeds would be further reduced along the corridor.

Additionally, there are other nearby corridors in the region with similar characteristics to Sam Rittenberg Boulevard in number of lanes, AADT, surrounding land use, and pedestrian/bicycle activity which are currently posted at 35-mph. Most notably, these include Savannah Highway between Apollo Road and Wesley Drive and Coleman Boulevard between McGrath Darby Boulevard and Rifle Range Road. These corridors, highlighted on the page to the right, also currently include many design elements that this Sam Rittenberg Redesign seeks to emulate – particularly landscaped medians, buffered sidewalks/sidepaths, and narrower lanes.

Therefore, based on the fact that several segments of Sam Rittenberg Boulevard result in suggested speed limits of 35-mph based on the NCHRP SLS Tool, that similar-characteristic corridors in the region are posted at 35-mph, and that the design elements proposed in this report are anticipated to further reduce travel speeds along the corridor, it is proposed to reduce the speed limit along Sam Rittenberg Boulevard to 35-mph between Savannah Highway and Orange Grove Road. This would provide a consistent 35-mph speed limit in the eventual four-lane section of Sam Rittenberg Boulevard (assuming the recommended road-diet) while maintaining the existing 45-mph speed limit in the six-lane section.

It is also recommended that this speed limit change be implemented in conjunction with the recommended design changes described and shown in the conceptual improvements in this report, not in the absence of or prior to said changes – particularly the consistent curb and gutter; consistent sidewalk/sidepath; narrowed, 11-foot travel lanes; landscaped median and buffers; speed feedback signs; and enhanced crosswalks.



Proposed Speed Limits

It is proposed to reduce the speed limit along Sam Rittenberg Boulevard to 35-mph between Savannah Highway and Orange Grove Road, while maintaining the existing speed limit north of Orange Grove Road.



Representative 35-mph Posted Speed Limit Roadways In the Region

Savannah Highway
Apollo Road to Wesley Drive
37,400 veh/day
4 Travel Lanes

**Urban/
Urbanizing
Context**
**Pedestrian/
Bicycle Activity**

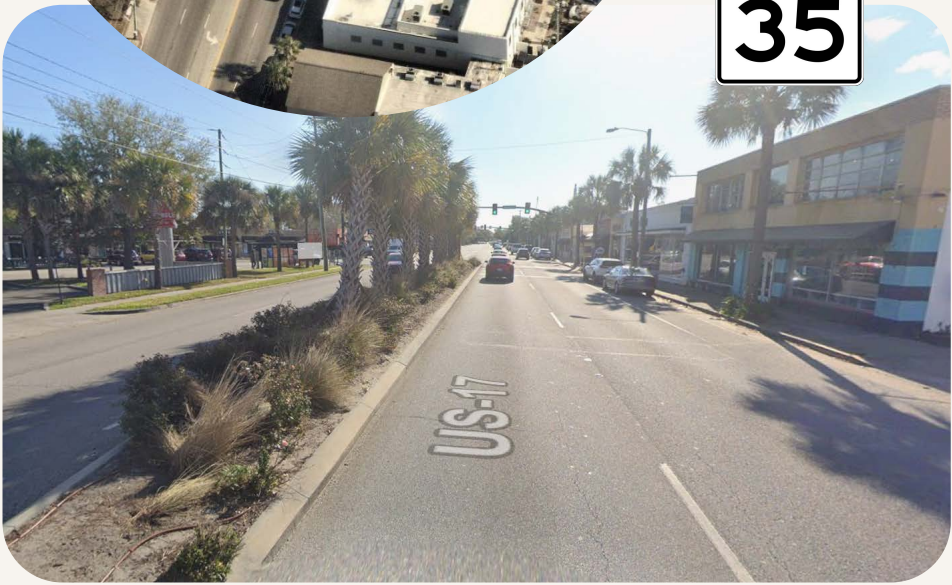


**Landscaped
Medians**

**Buffered
Sidewalk**

**Posted
Speed Limit**

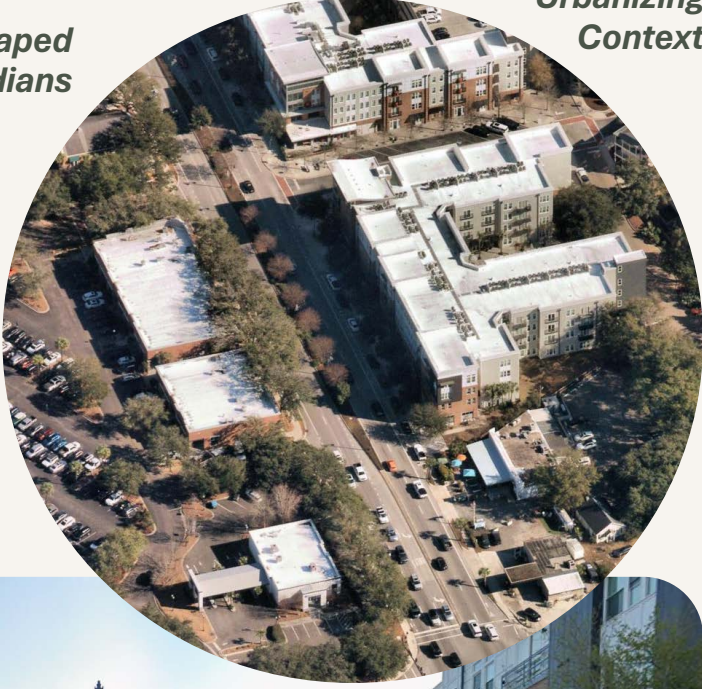
**SPEED
LIMIT
35**



37,100 veh/day
4 Travel Lanes

Coleman Boulevard
McGrath Darby Boulevard to Rifle Range Road

**Pedestrian/
Bicycle Activity**
**Urban/
Urbanizing
Context**

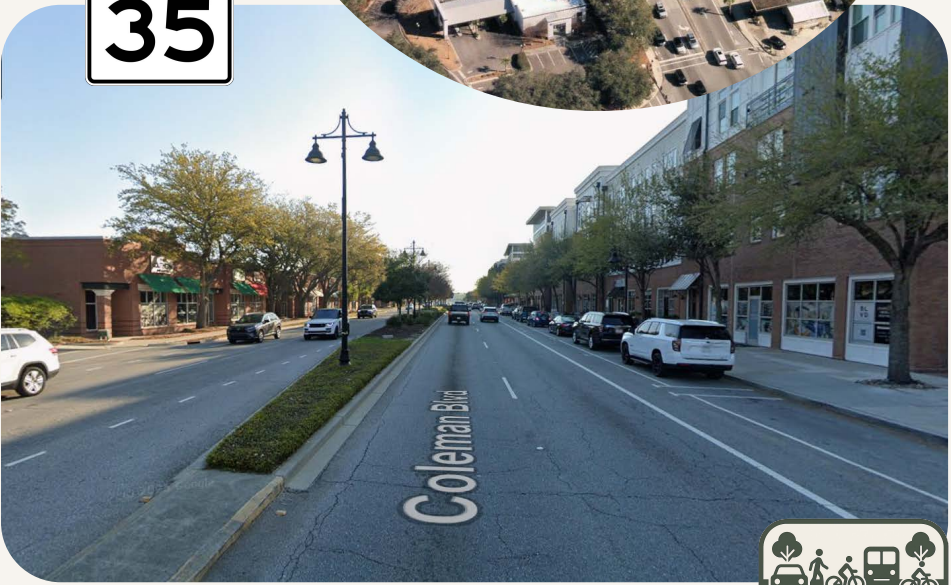


**Landscaped
Medians**

**Buffered
Sidewalk**

**Posted
Speed Limit**

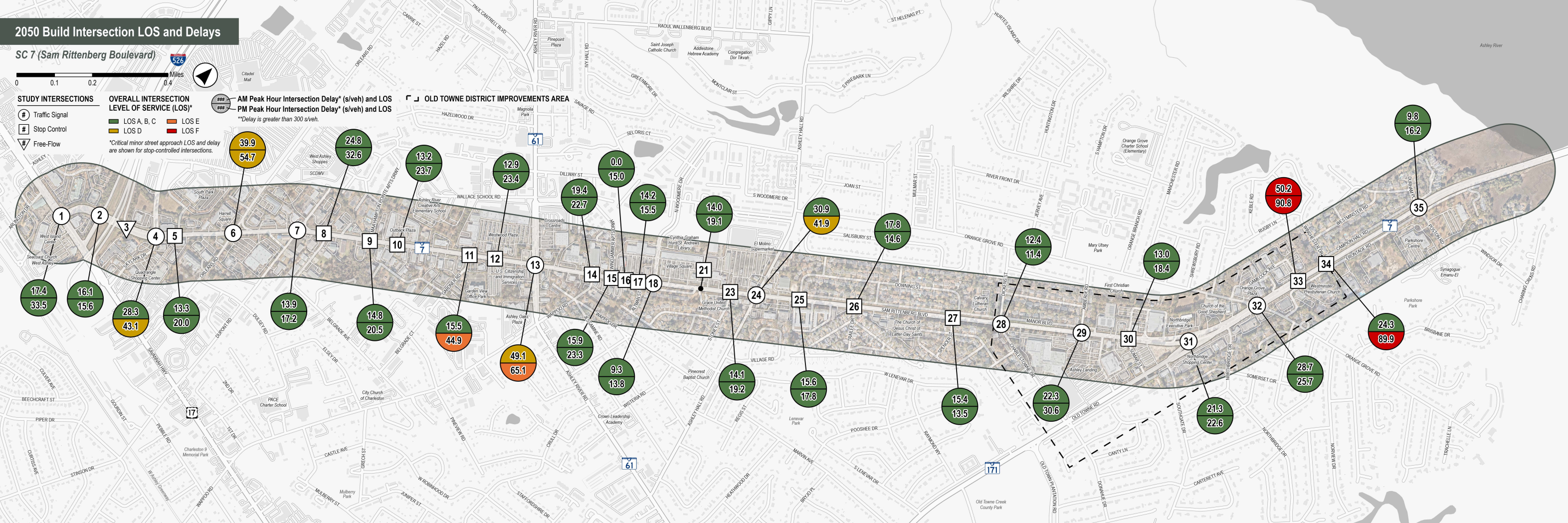
**SPEED
LIMIT
35**



FUTURE BUILD CAPACITY ANALYSIS

Based on assumptions for traffic rerouting that would occur due to an implementation of the redesign recommendations (notably the introduction of a raised center median and access management), 2050 Build traffic volumes were developed as included in **Appendix D**. A 2050 future year Build capacity analysis was conducted using HCM 7th methodologies, which incorporated the 2050 Build traffic volumes and proposed changes from the redesign (including lane configurations, traffic signal control, access closures, etc.). For reference, the HCM intersection LOS criteria are provided to the right. A summary of the intersection-level LOS and delays from the 2050 Build analysis is shown below. Full capacity analysis results and corridor summary exhibits are provided in **Appendix E**.

The 2050 Build analysis indicates that a majority of intersections are expected to operate at an overall intersection LOS of A, B, or C in both the AM and PM peak hours under Build conditions, an improvement from the 2050 No-Build conditions.



Intersection LOS Criteria (HCM 7th Ed.)

LOS	Control Delay (s/veh)	
	Two-Way Stop Control (TWSC)	Signal
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

With the proposed changes along the corridor, the study area intersections are anticipated to operate at acceptable LOS (D or better) in both peak hours with the following exceptions, where the undesirable delay is anticipated with or without the proposed redesign.

- Intersection 11, Gardner Road/Westwood Plaza Driveway (West), is projected to experience significantly improved delay compared to the No-Build conditions (and with all approaches anticipated to have volume-to-capacity ratios under 1.0).
- Intersection 13, Ashley River Road, is projected to experience delay comparable to the No-Build conditions, with an average of 0.2 seconds more delay per vehicle in the AM peak hour and an average of 1.5 seconds (or just over 2%) more delay in the PM peak hour when compared to the No-Build.
- Intersection 33, Gamecock Avenue, is projected to experience the same level of delay as the No-Build conditions.
- Intersection 34, Winchester Drive, is projected to experience significantly improved delay compared to the No-Build conditions.

COMPARISON OF CAPACITY ANALYSIS RESULTS

The tables below and to the right compare the results of the AM and PM peak hour capacity analysis for the 2025 existing, 2050 No-Build, and 2050 Build scenarios.

AM Peak Hour Capacity Analysis Comparison

Int. #	Intersection LOS / Control Delay (s/veh)*		
	2025 Existing	2050 No-Build	2050 Build
1	B / 11.3	B / 13.8	B / 17.4
2	B / 14.2	B / 17.6	B / 16.1
3	N/A	N/A	N/A
4	B / 12.9	C / 22.0	C / 28.3
5	C / 18.6	C / 21.3	B / 13.3
6	C / 20.5	D / 36.4	D / 39.9
7	B / 10.3	B / 10.8	B / 13.9
8	F / 59.5	F / 235.6	C / 24.8
9	C / 16.0	C / 22.5	B / 14.8
10	B / 14.2	C / 17.6	B / 13.2
11	D / 33.8	F / 90.6	C / 15.5
12	C / 16.9	C / 22.9	B / 12.9
13	D / 41.4	D / 48.9	D / 49.1
14	C / 20.8	D / 34.0	C / 19.4
15	C / 21.6	D / 31.0	C / 15.9
16	C / 15.5	C / 18.4	A / 0.0
17	C / 22.2	D / 27.8	B / 14.2
18	C / 20.7	D / 32.9	A / 9.3

Int. #	Intersection LOS / Control Delay (s/veh)*		
	2025 Existing	2050 No-Build	2050 Build
19	B / 13.1	B / 14.9	-
20	C / 17.6	C / 22.0	-
21	C / 24.0	E / 35.5	B / 14.0
22	C / 17.3	C / 20.5	-
23	C / 15.3	C / 18.3	B / 14.1
24	C / 30.3	C / 29.9	C / 30.9
25	C / 21.3	D / 26.7	C / 15.6
26	C / 22.5	D / 31.6	C / 17.8
27	C / 24.0	D / 30.4	C / 15.4
28	B / 10.0	B / 11.6	B / 12.4
29	E / 44.5	C / 27.2	C / 22.3
30	C / 22.9	C / 13.0	B / 13.0
31	B / 18.0	C / 21.3	C / 21.3
32	C / 33.3	C / 28.7	C / 28.7
33	F / 97.2	F / 50.2	F / 50.2
34	F / 67.6	F / 170.9	C / 24.3
35	B / 13.5	A / 9.0	A / 9.8

*Critical minor street approach LOS and delay are shown for stop-controlled intersections.
 **Delay is greater than 300 s/veh.

PM Peak Hour Capacity Analysis Comparison

Int. #	Intersection LOS / Control Delay (s/veh)*		
	2025 Existing	2050 No-Build	2050 Build
1	B / 10.7	B / 16.1	C / 33.5
2	B / 18.5	B / 17.8	B / 15.6
3	N/A	N/A	N/A
4	B / 15.9	F / 89.3	D / 43.1
5	C / 24.6	E / 35.8	C / 20.0
6	C / 34.0	D / 47.3	D / 54.7
7	B / 10.2	B / 11.3	B / 17.2
8	F / 72.9	F / **	C / 32.6
9	D / 31.0	F / 51.7	C / 20.5
10	D / 31.9	F / 59.1	C / 23.7
11	F / 134.1	F / **	E / 44.9
12	D / 32.1	F / 61.5	C / 23.4
13	D / 51.0	E / 63.6	E / 65.1
14	C / 20.8	C / 19.3	C / 22.7
15	D / 25.7	E / 36.0	C / 23.3
16	C / 23.6	D / 32.2	C / 15.0
17	C / 24.6	D / 32.5	C / 15.5
18	C / 21.0	D / 28.4	B / 13.8

Int. #	Intersection LOS / Control Delay (s/veh)*		
	2025 Existing	2050 No-Build	2050 Build
19	C / 15.6	C / 17.9	-
20	C / 18.2	C / 21.2	-
21	E / 36.2	F / 58.6	C / 19.1
22	D / 26.4	D / 33.7	-
23	C / 24.0	D / 30.1	C / 19.2
24	C / 33.9	D / 41.6	D / 41.9
25	C / 23.5	D / 31.2	C / 17.8
26	C / 20.1	D / 21.1	B / 14.6
27	B / 11.9	B / 13.7	B / 13.5
28	A / 9.8	B / 11.3	B / 11.4
29	D / 31.0	D / 49.4	C / 30.6
30	D / 27.2	C / 18.4	C / 18.4
31	B / 18.6	C / 22.6	C / 22.6
32	C / 28.4	C / 25.7	C / 25.7
33	F / **	F / 90.8	F / 90.8
34	F / 97.3	F / 196.9	F / 89.9
35	D / 37.3	B / 16.2	B / 16.2

*Critical minor street approach LOS and delay are shown for stop-controlled intersections.
 **Delay is greater than 300 s/veh.

6

CONCLUSIONS

A primary arterial in the heart of West Ashley in Charleston, South Carolina, SC 7 (Sam Rittenberg Boulevard) is utilized by tens of thousands of travelers daily as both a thoroughfare and a means of access to a range of residential, commercial, and institutional destinations. However, the corridor currently falls short of its potential for placemaking that would help to catalyze a transformation of the surrounding area into one that is undoubtedly vibrant, active, and community-centered.

Led by the City of Charleston, the Sam Rittenberg Boulevard Redesign aims to convert a four-mile section of the subject roadway into a place people truly *want to go to*, rather than a place they simply *travel through*. A comprehensive corridor analysis was conducted to synthesize previous planning endeavors involving the study area; highlight existing conditions, constraints, and opportunities related to the proposed redesign; project future No-Build operational conditions along the corridor; and ultimately make recommendations for corridor-wide improvements. The following summarizes the key takeaways of this *Corridor Analysis Report* and the recommendations of the redesign:

Review of Previous Planning

Several planning efforts were conducted by the City of Charleston between 2014 and 2024 that pertain to Sam Rittenberg Boulevard and the West Ashley area. A main recommendation from these initiatives is the reallocation of existing roadway and right-of-way spaces to enhance the existing pedestrian infrastructure and provide dedicated bicyclist facilities along the study corridor. In addition, community input on the future of West Ashley generated support for a wider range of housing types; mixed use development; traffic calming for safer, more walkable, and more crossable streets; mitigations for congestion; improved transit; increased green space, street trees, and lighting; and the conversion of unused and underutilized spaces into ones that support gathering and an enhanced sense of place.

Corridor Inventory

The daily vehicular traffic volumes along Sam Rittenberg Boulevard currently range from around 24,100 to 58,200 vehicles per day. However, the various roadway cross sections (four to six travel lanes) are not consistently proportionate to these volumes, indicating a potential for reconfiguration of the corridor to better serve its full range of users. Existing speed data shows that motorists are typically driving near the speed limit in some sections and below the speed limit in others, suggesting the opportunity for a reevaluation of posted speeds. The average commercial driveway spacing is about 115 to 255 feet and there are several segments of the corridor with sidewalk gaps, which create an environment characterized by numerous conflict points between drivers, as well as between drivers and pedestrians or bicyclists.

The crash history along the corridor indicates that vehicular angle crashes, especially those involving left turns, and rear end crashes are the most common collision types. Additionally, pedestrian and bicyclist crash patterns suggest a demand for midblock crossing opportunities between certain signalized intersections. An analysis of existing traffic conditions reveals that the signalized intersections along the corridor are currently operating at an overall intersection level of service (LOS) of D or better. However, at several unsignalized intersections, at least one minor street approach is operating at an LOS E or F during one or both weekday peak hours.

Future No-Build Conditions

A horizon year of 2050 was selected for the redesign to project future No-Build operational conditions. The 2050 No-Build analysis incorporated a background traffic growth rate, plans from Charleston County's Old Towne District Improvements Project, and two planned developments, the Epic Center and Ashley Landing redevelopment. The results of the analysis suggest that two signalized intersections (at Skylark Drive/Park Square South and Ashley River Road) are anticipated to reach an overall intersection LOS of E or F during one or both weekday peak hours by the horizon year. Additionally, a higher number of critical minor street approaches at unsignalized intersections are anticipated to reach an LOS E or F, particularly in the western portion of the corridor, under 2050 No-Build conditions when compared to 2025 existing conditions.

Future Build Conditions

The recommendations for this redesign effort were developed through the influence of previous planning efforts, the corridor inventory, and future No-Build conditions, while incorporating the project's overall purpose and goals. The proposed redesign includes a series of roadway and access management recommendations, namely a raised, landscaped center median with turn lanes; a reallocation of the existing travel lane space between Skylark Drive and Ashley River Road (reducing the number of vehicular travel lanes from six to four lanes); a narrowing of existing lanes to 11 feet wide; driveway and curb cut reductions; U-turn opportunities; and curb and gutter along the corridor. In addition, intersection recommendations include a new traffic signal at the North Woodmere Drive intersection, turn lane configuration changes, and the removal of right turn lane channelization at signalized intersections. Recommendations related to multimodal facilities include shared use paths along both sides of the corridor (with a target width of 12 feet and an approximate buffer width of 6 feet), improvements to new and existing crosswalks and curb ramps at both signalized and unsignalized locations, pedestrian hybrid beacons (PHBs), and CARTA bus stop relocations and improvements.

A speed limit analysis was conducted along the corridor to reevaluate posted speeds. It is proposed that the speed limit on Sam Rittenberg Boulevard between Savannah Highway and Orange Grove Road be reduced from 45 to 35 miles per hour, implemented in conjunction with design changes, to support the redesign's context and goals. The results of the 2050 Build capacity analysis, which incorporated the redesign's recommendations and anticipated traffic rerouting that would occur with its implementation, suggests that the study intersections are expected to operate at an overall intersection LOS of D or better with four exceptions:

- 📍 Gardner Road/Westwood Plaza Driveway (West), which is projected to experience significantly improved delay compared to the No-Build conditions;
- 📍 Ashley River Road, which is projected to experience delay comparable to the No-Build conditions;
- 📍 Gamecock Avenue, which is projected to experience the same level of delay as the No-Build conditions; and
- 📍 Winchester Drive, which is projected to experience significantly improved delay compared to the No-Build conditions.

Therefore, the Sam Rittenberg Redesign is expected to provide improved safety for all users, comparable traffic operations to the No-Build conditions with greater resiliency and travel time reliability due to an anticipated reduction in crash frequency along the corridor, and improved placemaking potential in the future.



APPENDICES

APPENDIX A

Volume, Classification, and Speed Data