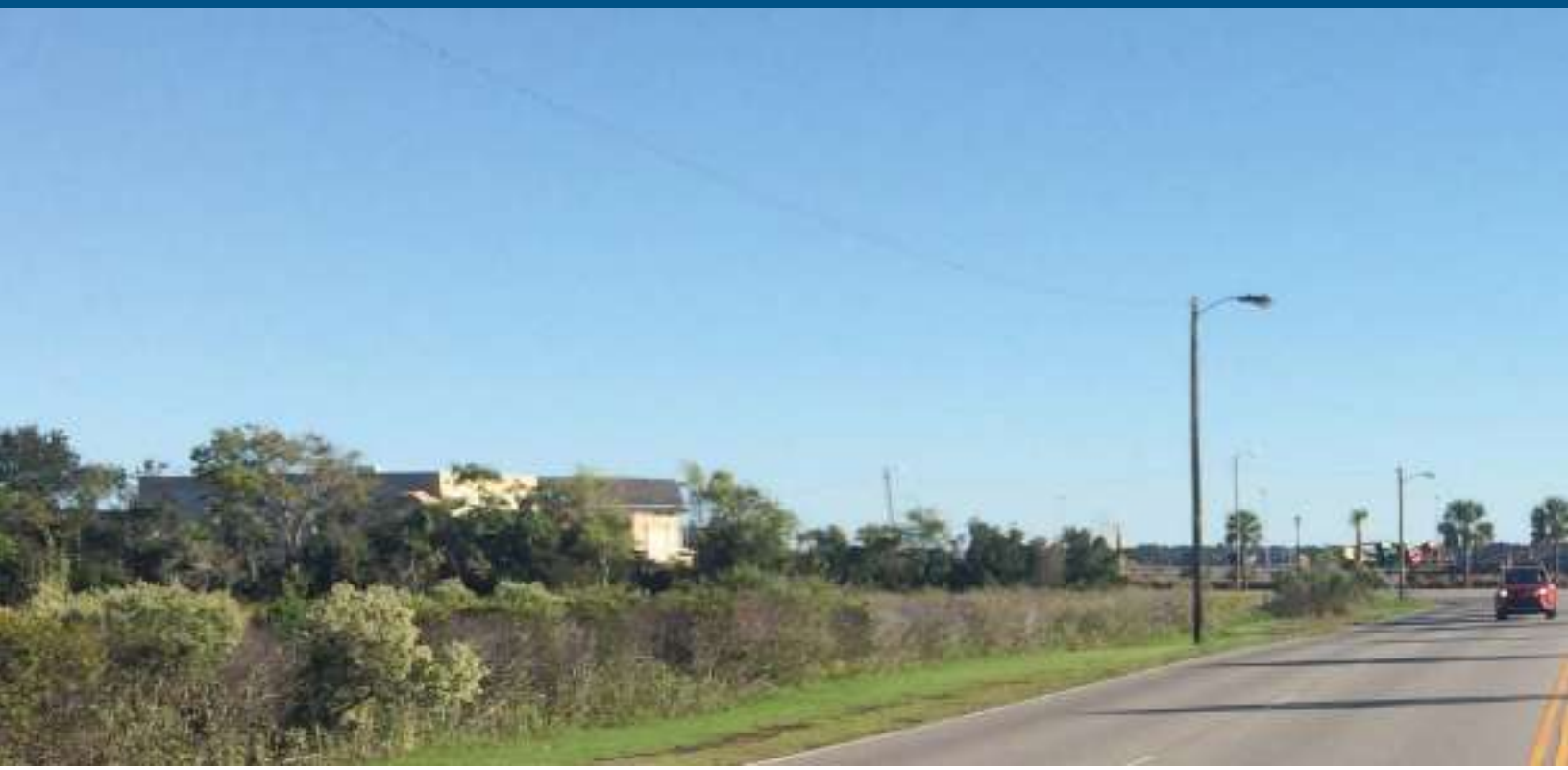
ROADWAY CONNECTIVITY

A common challenge in designing successful transportation systems is to improve connectivity and access while also preserving natural features and the unique character of the many towns and diverse cultures of the people. The CHATS planning area is no exception. Neighborhoods and smaller communities within the area may have many needs and priorities that are unique from one another. While recognizing these differences, it is important to not lose focus of the practical concept of overall connectivity. This concept is particularly relevant as it relates to people's desires to make safe and efficient trips not only by driving but also by walking, bicycling, or using public transportation.



Roadway Connectivity	116
Freight Recommendations	120
Roadway Projects	123
Cross Sections	142
Hot Spots and Concept Designs	150

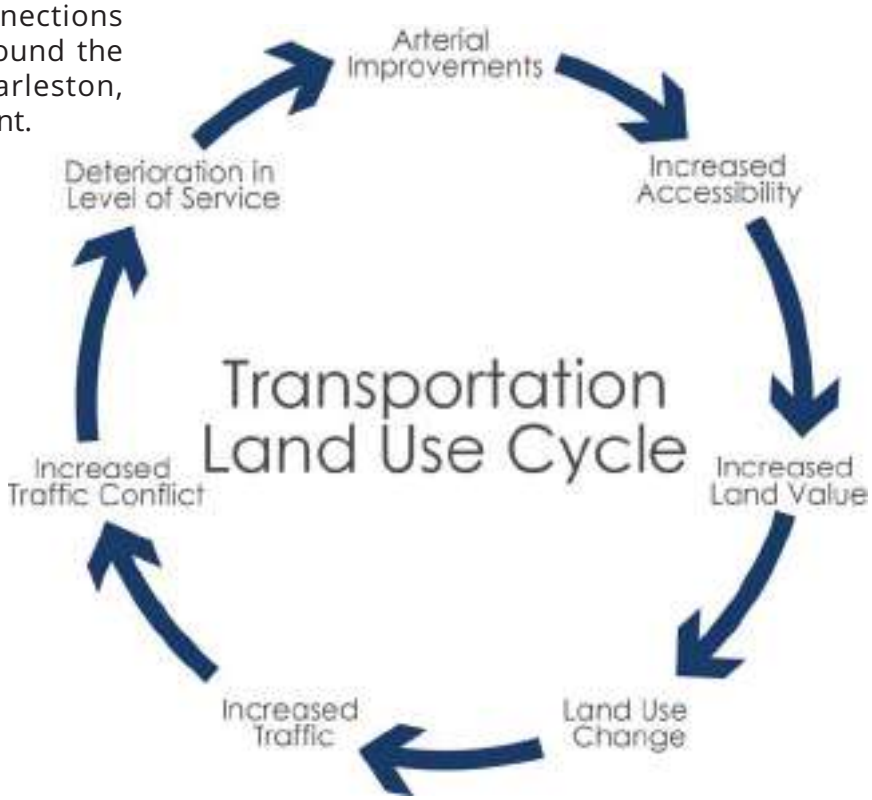
roadway connectivity

Development patterns were historically shaped by the transportation modes available at the time. Historic Charles Town developed around the Cooper, Stono, Ashley and Wando Rivers because of the opportunity for easy movement of goods and people with a robust port access. As the port grew with shipping and industry, a network of roadways and eventually rail lines developed gradually over time. Residential areas also grew outward from the Peninsula and coast which placed a greater emphasis on regional mobility.

The CHATS planning area is challenged with connectivity of the roadway system with its 370 miles of linear waterfront and 30% of its land mass being covered by wetlands or floodplains, creating limitations for supporting healthy connectivity. Due to the physical limitations, creating an interconnected network of streets and highways is often impossible in certain subsections of the planning area. The existing network is challenged in providing efficient travel options to destinations across the rivers and to overland connections between different economic centers around the region such as Charleston, North Charleston, Summerville, Daniel Island, and Mt Pleasant.

Every opportunity to construct, protect and enhance the street system must be a priority. The Roadway Element of the CHATS 2040 Long Range Transportation Plan documents the proposed roadway recommendations within the planning area.

As residential, commercial, and industrial growth occurs within the region and more vehicles take to the road, roadway improvements are needed to reduce traffic congestion and improve safety. These roadway improvements often enhance access, thus raising land values and attracting more development. The circular diagram below illustrates this continuing cycle of influence between land use and transportation.



Often neighborhoods and activity centers rely on a smaller number of transportation corridors to provide essential links. Enhanced connectivity and access management must be a priority to protect key mobility corridors.

Through a critical evaluation of public commentary and observation, it became evident that transportation issues within the CHATS planning area are divided between the problems within the region and those within each community. Within the communities, issues related to poor bicycle and pedestrian mobility and intersection safety treatments were most prevalent. However, at the regional level, concerns relative to lack of connectivity, poor access management and peak hour congestion were dominant. No one issue was more prevalent than the need to address regional peak hour congestion. In fact, the Texas Transportation Institute estimated in 2014 that commuters in the Charleston region lose 41 hours annually due to congestion, comparable to the national average of 42 lost hours.

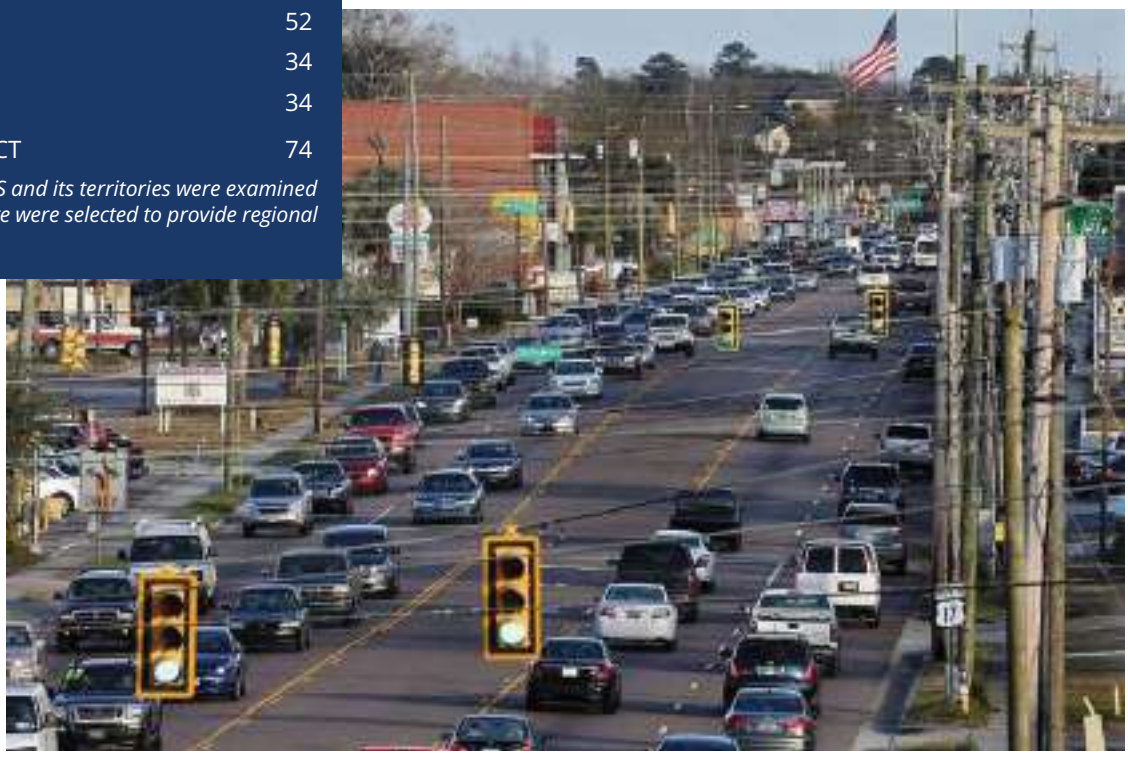
To address the most common concerns brought up by the public - traffic congestion and safety, as well as better connections for biking, walking, transit, and automobiles - several over-arching strategies or themes are proposed. These strategies work much better when they are implemented together: each tends to reinforce the other in a "virtuous circle" of improvements.

Average Yearly Delay in hours (2014)	42
Charleston-North Charleston, SC	41
Columbia, SC	38
Atlanta, GA	52
Raleigh, NC	34
Richmond, VA	34
New York-Newark, NY-NJ-CT	74

Note: 471 urban areas in the US and its territories were examined in this study, the cities listed here were selected to provide regional comparison.

Increase Capacity – *"Build the Road"*

Additional capacity, through the construction of more lanes and/or more roads, may seem like the obvious solution to congestion. In isolation, such as the case with limited-access freeways and Interstates, this approach may make the most sense (although it is often prohibitively costly to implement). However, in real-world communities, the advantages of bigger roads must be weighed against needs beyond short-term congestion relief, as increased capacity is quickly filled in any growing region. Trade-offs can include right-of-way/private property acquisitions, disruption due to construction, damage to streams, and impacts to appearance and aesthetics. While this last category is less tangible, its impact is felt keenly in communities that have lost, or given away, a sense of place, economic vitality, and historic character in exchange for temporary traffic relief. Improvements should also consider other road users. Freight improvements (on major truck routes) should consider intersection design and pavement depth and width. Where appropriate, complete streets should be created to accommodate all modes of travel including pedestrians, cyclists, and transit patrons.



Savannah Highway in West Ashley. Source: Post and Courier

Multi-modal Integration – "Complete the Street"

Within the past decade, there has been a national rise in interest for creating "complete streets" within existing roadway networks. A complete street, as defined by the National Complete Streets Coalition, enables all users inclusive of pedestrians, bicyclists, motorists and transit riders of all ages and abilities to safely move along and cross a street. Primarily, roadways with lower speeds and greater access points (local streets and collectors) provide opportunities for developing complete streets; however, all functional classifications are eligible for some combination of multi-modal users, even if only for motorists and regional transit (expressways and freeways). Promoting connectivity through street extensions, streetscaping, and multi-modal, safer intersection and street design will continue to improve on critical options to offer relief (and health) to more people in the CHATS planning area.

A bonus is that more people and businesses are favoring "walkable" communities - as are older populations. During the needs assessment and recommendations portion of this study, multi-modal options and opportunities for complete streets were explored and included within the CHATS planning area.

Manage Access – "Preserving Precious Road Capacity"

Regardless of how many new roads are built, the benefits don't last long if access to them isn't managed. Driveway spacing standards, left-turn controls (e.g., with medians), and cross-access requirements are key elements of an access management policy. Generally, no roadway should be constructed without strong access management controls in place. This practice can, if implemented consistently and fairly, preserve accessibility to existing businesses, accommodate traffic from future businesses, and grow fiscal revenues without incurring downstream costs for major roadway improvements.

Consumer behavior as reported in 2017 for the CHATS planning area.

An example of how an existing street (below) could be redesigned with access management, driveway consolidation, and pedestrian infrastructure (left).

Policy and Land Use Integration – "Controlling the Demand side of the Equation"

Ultimately, congestion compromises any roadway if more development and travelers are added to the network than it can handle. Land use and development should respond to known constraints and help pay for future improvements. This practice of balancing infrastructure capacity with the development types and quantities that create demand is called concurrency planning. Many of the survey respondents (from the public surveys hosted online and at public meetings held in Fall and Summer 2017) requested measures along these lines, often citing the need to slow or halt development until the infrastructure can "catch up" with the existing or future needs.

Balance between economic development and traffic can be challenging, but is crucial to the vitality of a community. In fact, places with traffic congestion are often successful economically. Ghost towns in the midwest have no traffic, but not much else either. Land should be developed in a way that is reasonable in the context of other existing uses and roadway capacity. Local plans and ordinances should support development where appropriate, while ensuring new development contributes to infrastructure when needed. A well-planned community can be "development friendly" while respecting the needs of existing residents and businesses.

Creating a permanent dialogue with the public is the best way to continuously "plan-do-check-act" the roles, strategies, and effectiveness of land-transportation partnerships. Part of that dialogue should be understanding how to create transit- and walk-supportive densities through design: auxiliary units, rear alley-loading, and a variety of attached townhomes can accomplish this objective near the developing downtown core areas within the region.

Connectivity – "Collector Streets Connect People"

Street connectivity provides travelers, whether by car, bicycle or by foot, opportunities for trip-making through multiple route options. It provides better opportunities for emergency response vehicles as well as evacuation routing. However, street connectivity within most of the region is inadequate due to natural and man-made barriers and past development patterns. For this reason, it is important to seize any opportunity for a new street or greenway connection when one presents itself.

Some projects listed herein are already under development; others would be financed by either or both public and private sector sources. For example, smaller connector streets can occur concurrent with private development, where applicable. However, these connector streets are intentionally narrow (two lanes), curvaceous (to self-enforce slower speeds), and indirect (to accomplish movement of all types within an area) to reduce cut-through traffic volumes while promoting walking, biking, and low-speed automobile travel.

Examples of development: The Washington Beech Housing Development (above) is a Hope XI project in Boston features 206 affordable units and a half acre park. The Milwaukee Reed Street Yards development (left) is a recent example of an eco-industrial neighborhood that manages water more efficiently and integrates low impact development and stormwater BMPs.

Purpose

Provide relevant direction for improving freight transportation through policy recommendations

freight recommendations

With the average hourly wage received by a truck driver being nearly $22, the distributors, manufacturers, and port play a substantial role for many in the tri-county area that are earning a true “living wage” (US Bureau of Labor Statistics, May 2017). The impressive slate of improvements in freight infrastructure, including the development of new inland port facilities in Greer and Dillon and improvements to terminal capacities, send a clear signal that freight movement and operations will continue to increase in volume.

In practice, planning and implementing freight improvements in many cases is the same as that for roadways, since ground transportation shares the same facilities. In spite of its importance, it is clear from the comments received from the freight focus group that freight movement is under attack by deteriorating corridor mobility. Downstream impacts include difficulty in keeping and retaining skilled drivers, who are increasingly not willing to fight traffic conditions. The following concepts expand on the original directions for improving freight mobility in the BCD region, a critical part of the economy.

Develop a Comprehensive Freight Plan or Expanded LRTP Chapter

A dedicated freight plan, and one that considers the latest guidance and innovation, is the first part of the MPO's job. A comprehensive freight plan is beyond the scope of the LRTP for most MPOs, but there are examples of MPOs conducting their own freight plans with state agencies or other partners. Resources are readily available, such as the FHWA Freight Planning website (www.fhwa.dot.gov/planning/freight_planning) that includes recorded webinars. The CDTC MPO (NY) is an example of a smaller MPO accomplishing a useful freight plan (www.cdtcmpo.org/images/freight/Brochure_FINAL_25Mar2016v5.pdf).

Implement Technology to Achieve Success

The freight focus group identified Graybox, an Uber-like application that pairs truck drivers with shippers, as one type of favorable technological advance that increases efficiency. The open freight portal discussed in a later recommendation is another example. Finally, the MPO, state, and freight partners can and should undertake an effort to study the potential implementation of a signal system improvement program that offers prioritization and improved timeliness to emergency responders, transit operators, and, ultimately, freight shippers. The first two entities share much with freight transport operators, and signal preemption and routing have successfully been implemented in other cities and regions (e.g., Memphis, TN).

Align High-Priority Freight Projects with LRTP

This plan considered freight routes in its prioritization of projects; the weight of that factor should be evaluated each time the long-range transportation plan is updated, and the specific routes that freight uses - partitioned into major, minor, and connector facilities - should be clearly identified in the freight plan discussed previously as a freight priority network.

Communicate that Freight = Economic Competitiveness

Success often means involving partners in the planning process, and it's easy to take freight facilities and movements for granted, in spite of the importance of freight movement to almost every element of the CHATS area economy. This recommendation is more of a mindset shift and requires a willingness and level of resources on the part of the CHATS MPO staff to attend meetings, share data, and be proactive in taking a leadership role in freight planning.

Spend Resources Collecting - and Sharing - Good Data

Development of an open data portal is a crucial step towards planning for freight, communicating its importance to government officials and staff, and provide transparency to stakeholders and the general public. The Delaware Valley Regional Planning Commission (including the MPO) has developed an open portal for freight data, including waterways, airports, railroads, and freight distribution centers, which has been used in other MPOs (e.g., WILMAPCO) as a starting point for their own open freight databases.

Include Freight-Related Land Uses in Discussions About Planning Locally and Regionally

Freight, like farming, is not always compatible with other land uses: residential, institutional, and noise or vibration-sensitive uses do not work well with frequent freight movements or other manufacturing and distribution operations. Alternatively, freight "villages" have been created in some communities that have supporting infrastructure (e.g., specialized roadway construction standards) that help optimize transportation improvements rather than spreading them more thinly throughout the region. This concentration also creates opportunities for better logistics in supply chain management as well as public transportation services to get workers to their jobs. Conducting a careful review of the many zoning codes around the CHATS planning area to suggest targeted improvements in those communities that have or are likely to attract freight operations can help avoid future conflicts.

Emphasize Bottleneck Locations

Just like the average car driver, truck drivers have certain locations that they like to avoid - but often, given the operating characteristics of a large truck, they have no alternative. The MPO should consider developing and advancing solutions for these specific locations, some of which have been identified in this planning process but could be expanded upon in a freight advisory committee process. The MPO and its partners need to establish a dedicated resource towards addressing these problem areas, and strongly communicate the process and successes that come from it.

Establish a Freight Advisory Committee

BCDCOG has reinvigorated its freight advisory committee which will work on engageing the major freight users and distributors as well as the state DOT and SC Ports Authority. The Hampton Roads TPO and CDTC MPOs are good examples of places with strong freight advisory committee processes - the former particularly has worked successfully for many years with port and other freight operators, providing dedicated funds to study issues and implement solutions (www.hrtpo.org/page/freight).

Source: Post and Courier, 2017

roadway projects

Committed roadway improvement projects are identified as any roadway project located within the CHATS planning area that is under construction, completely programmed or partially funded. The committed roadway projects provided in Table 4-1 were considered to establish the baseline Existing plus Committed (E+C) condition, which was used to evaluate the new vision projects identified through the LRTP update process. The committed projects listed below have not been evaluated or ranked in this current planning process, but are retained in the LRTP 2040 update for informational purposes.

Table 4-1: Committed Roadway Projects

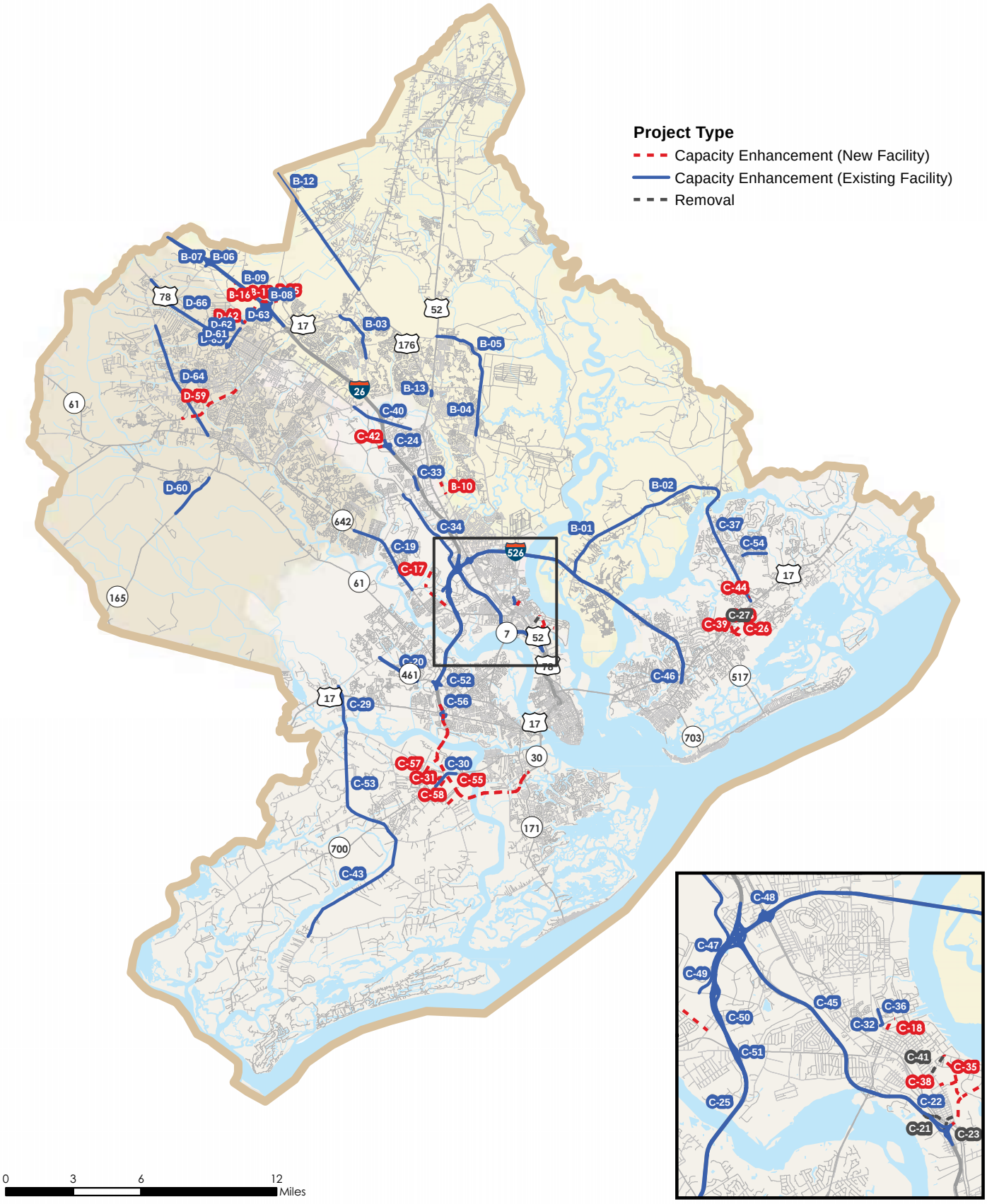
ID	Location	Project Type	Potential Laneage	Limits
BERKELEY COUNTY				
B-01	Clements Ferry Rd (Phase I)	Widening	4-Lane Divided	I-526 Interchange to Jack Primus Rd
B-02	Clements Ferry Rd (Phase II)	Widening	4-Lane Divided	Jack Primus Rd to SC-41
B-03	College Park Rd	Widening	4-Lane Divided	US-17A to Corporate Prkwy
B-04	Henry Brown Blvd (Phase I)	Widening	4-Lane Divided	Red Bank Rd to Liberty Hall Rd
B-05	Henry Brown Blvd (Phase II)	Widening	2-Lane Divided	Liberty Hall Rd to US-52 (Old Mt. Holly Rd)
B-06	I-26 - Jedburg Rd Interchange	Redesign Interchange	1-Lane Ramps	-
B-07	Jedburg Rd	Widening	4-Lane Divided	Drop Off Dr to Old Dairy Rd
B-08	I-26 - North Maple St / Nexton Pkwy Interchange	New Interchange	1-Lane Ramps	-
B-09	Interstate - 26	Widening	6-Lane Divided	US-17A to jedburg Rd Interchange
B-10	Railroad Ave Extension	New Roadway	2-Lane Divided	Mabeline Rd to Eagle Landing Dr
B-11	Nexton Pkwy	New Roadway	4-Lane Divided	N. Maple St to Nexton Elementary School
B-12	US-176 / State Rd	Widening	4-Lane Divided	US-17A to Volvo Car Dr
B-13	US-176 - US-52 Interchange	New Interchange	1-Lane Ramps	-
B-14	Interstate-26	Widening	6-Lane Divided	Jedburg Rd to Ridgeville Rd (SC-27)
B-15	Drop Off Dr Extension	New Roadway	2-Lane Undivided	Drop Off Dr to Nexton Pkwy
B-16	Red Bay Rd Extension	New Roadway	2-Lane Undivided	Red Bay Rd to N. Maple St Extension
CHARLESTON COUNTY				
C-17	Airport Connector Rd	New Roadway	4- Lane Divided	W. Montague Ave to Michaux Pkway to Terminal
C-18	Cosgrove Ave Overpass	New Roadway	2-Lane Undivided	Spruill Ave to McMillan Ave
C-19	Dorchester Rd	Widening	6-Lane Divided	Michaux Pkwy to County Line (Patriot Blvd)
C-20	Glenn McConnell Pkwy	Widening	6-Lane Divided	Bees Ferry Rd to Rutherford Way
C-21	I-26 - Meeting St Interchange	Removal	*Not Applicable*	-
C-22	I-26 Port Access Rd Interchange	New Interchange	1-Lane Ramps	-
C-23	I-26 - Spruill Ave Interchange	Removal	*Not Applicable*	-
C-24	I-26 - PCP (Weber Dr) Interchange	New Interchange	1-Lane Ramps	-
C-25	Interstate-526	Widening	6/8-Lane Divided	Paul Cantrell Blvd to Rivers Ave
C-26	Johnie E. Brown Rd	New Roadway	4-Lane Divided	US-17 to Rifle Range Rd
C-27	Long Point Rd	Removal	*Not Applicable*	-
C-28	Long Point Rd	Realign Roadway	2-Lane Divided	US-17 to Silent Harbor Court
C-29	Main Rd (Phase I)	Widening/New Interchange	4-Lane Divided/1-Lane Ramps	Bees Ferry Rd to River Rd / US-17 and Main Rd Intersection
C-30	Maybank Highway	Widening	3-Lane Undivided	River Rd to Stono River Bridge

Table 4-1: Committed Roadway Projects *(cont.)*

ID	Location	Project Type	Potential Laneage	Limits
C-31	Maybank Highway Pitchfork	New Roadway	2-Lane Divided	Maybank Higway to River Rd
C-32	McMillan Ave	Removal	*Not Applicable*	-
C-33	Northside Dr	Realign Roadway	4-Lane Divided	-
C-34	Palmetto Commerce Pkwy (Phase III)	New Roadway	4-Lane Divided	Ashley Phosphate Rd to International Blvd
C-35	Port Access Rd	New Roadway	2-Lane Divided	I-26 Interchange to Naval Base ICTF
C-36	St. Johns Ave	Realign Roadway	2-Lane Undivided	-
C-37	SC-41	Widening	*To Be Determined*	Clements Ferry Rd to US-17
C-38	Stromboli Ave Extension	New Roadway	4-Lane Divided	Spruill Ave to Port Access Rd
C-39	Sweetgrass Basket Pkwy	New Roadway	2-Lane Divided	Six Mile Rd to Hamlin Rd
C-40	US-78 / University Blvd	Widening	6-Lane Divided	County Line (Ladson Rd) to US-52
C-41	Viaduct Rd	Removal	*Not Applicable*	-
C-42	Weber Dr (PCP) Extension	New Roadway	2-Lane Divided	Ingleside Blvd to I-26 Interchange
C-43	Bohicket Rd.(Phase III)	Widening	4-Lane Divided	Maybank Highway to River Rd
C-44	Gregorie Ferry Connector	New Roadway	2-Lane Divided	Winnowing Way to SC-41
C-45	Interstate-26	Widening	8/10-Lane Divided	Port Access Rd Interchange to I-526 Interchange
C-46	Interstate-526	Widening	6/8-Lane Divided	Rivers Ave to US-17 / Bowman Rd
C-47	I-26 - I-526 Interchange	Redesign Interchange	*To Be Determined*	-
C-48	I-526 - Rivers Ave Interchange	Redesign Interchange	*To Be Determined*	-
C-49	I-526 - International Blvd Interchange	Redesign Interchange	*To Be Determined*	-
C-50	I-526 - Montague Ave Interchange	Redesign Interchange	*To Be Determined*	-
C-51	I-526 - Dorchester Rd / Paramount Dr Interchange	Redesign Interchange	*To Be Determined*	-
C-52	I-526 - Paul Cantrell Blvd Interchange	Redesign Interchange	*To Be Determined*	-
C-53	Main Rd (Phase II)	Widening	4-Lane Divided	River Rd to Maybank Highway
C-54	Park West Blvd	Widening	4-Lane Divided	Town Rec. Complex to Bessemer Rd
C-55	Mark Clark Expressway Extension	New Roadway	4-Lane Divided	-
C-56	Mark Clark Expressway Ext. - US-17 Interchange	Redesign Interchange	*To Be Determined*	-
C-57	Mark Clark Expressway Connector Rd (N)	New Roadway	2-Lane Divided	-
C-58	Mark Clark Expressway Connector Rd (S)	New Roadway	2-Lane Divided	-
DORCHESTER COUNTY				
D-59	Berlin Myers Pkwy Extension	New Roadway	4-Lane Divided	-
D-60	Delemar Highway / SC-165	Widening	4-Lane Divided	-
D-61	North Maple St	Widening	2-Lane Divided	-
D-62	North Maple St	Widening	4-Lane Divided	-
D-63	Old Dairy Rd	Realign Roadway	2-Lane Divided	Intersection with Maple St
D-64	Old Orangeburg Rd	Widening	4-Lane Divided	Dorchester Rd to Mallard Rd
D-65	Parsons Rd	Realign Roadway	2-Lane Undivided	US-78 to Linning Rd
D-66	US-78	Widening	4-Lane Divided	Old Orangeburg Rd to W. Richardson Ave

Note: Committed roadway projects identified within the CHATS planning area approved through December 2017.

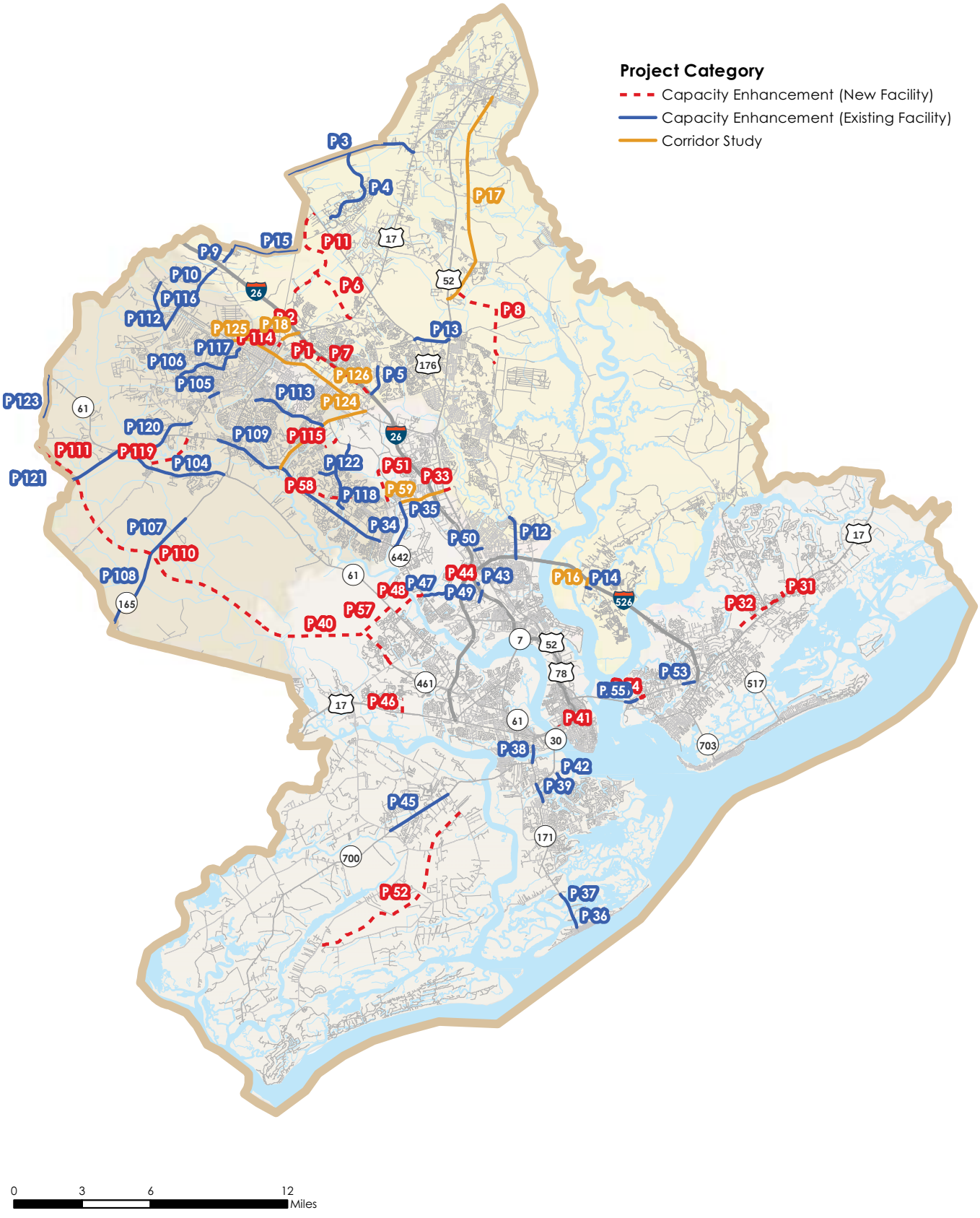
Map 4-1: Committed Roadway Projects



Visionary Roadway Recommendations

The following maps highlight the proposed ***roadway enhancement*** and ***corridor study*** recommendations for the CHATS planning area. These recommendations encompass adding capacity to existing facilities, building new roadway facilities, and corridor studies. Approximately 70 miles of capacity enhancements to existing facilities, 66 miles of new roadway facilities, and 25 miles of additional improvements and studies are included in the recommendations. The associated table provides additional detail of each project including its estimated planning level cost.

Map 4-2: Roadway Capacity Enhancement and Corridor Study Projects



Map 4-3: Roadway Capacity Enhancement and Corridor Study Projects, Berkeley County

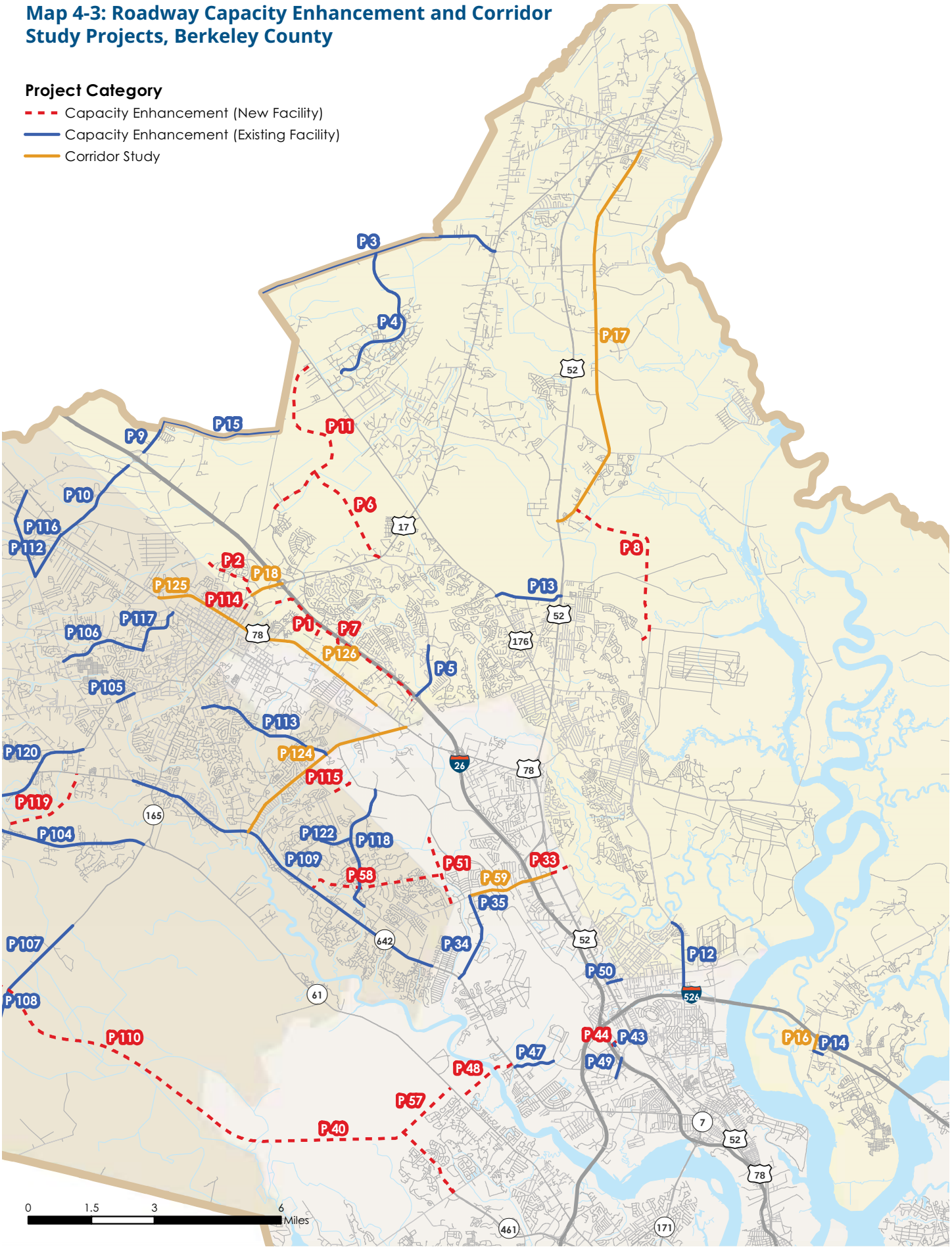


Table 4-2: Roadway Capacity Enhancement and Corridor Study Projects for Berkeley County

ID	Location	Limits	Est. Cost (000s)	Proposed Lanes
BERKELEY COUNTY				
P-1	Bell Wright Rd Extension	Bell Wright Rd to Frontage Rd	$368	2 (U)
P-2	Bear Island Rd	N. Main St to N. Maple St	$19,000	2 (D)
P-3	Black Tom Rd	US-176 to US-17A	$35,182	4 (D)
P-4	Cane Bay Blvd	Day Break Blvd to Black Tom Rd	$9,278	4 (D)
P-5	College Park Rd	Crowfield Blvd to I-26 Interchange	$14,532	6 (D)
P-6	College Park Rd Extension	College Park Rd to Nexton Parkway	$21,672	2 (U)
P-7	Frontage Rd	Marymeade Dr to Frank Jones Rd	$21,545	2 (U)
P-8	Henry Brown Blvd Extension	Henry Brown Blvd (Brick Park) to US-52	$24,107	2 (U)
P-9	Jedburg Rd	Wildgame Rd to Dropoff Dr	$7,863	4 (D)
P-10	Jedburg Rd	Old Dairy Rd to US-78	$20,544	4 (D)
P-11	Nexton Parkway	Nexton Elementary School to US-176	$17,000	2 (U)
P-12	North Rhett Ave	I-526 Interchange to Yeamans Hall Rd	$42,185	6 (D)
P-13	Old Mount Holly Rd	US-176 to US-52	$15,068	4 (D)
P-14	St. Thomas Island Dr	Clements Ferry Rd to Harvest Time Place	$3,060	4 (D)
P-15	Wildgame Rd	Jedburg Rd to Sheep Island Rd	$21,922	4 (D)
P-16	Clements Ferry Rd	I-526 Interchange to St. Thomas Island Dr	$2,786	4 (D)
P-17	Old US-52 / Old Fort Rd	US-52 to Cypress Gardens Rd	$62,796	4 (D)
P-18	US-17A / North Main St	I-26 Interchange to Berlin Myers Parkway	$8,705	8 (D)

Notes: All laneage is proposed; D = Divided; U = Undivided

Map 4-4: Roadway Capacity Enhancement and Corridor Study Projects, Charleston County

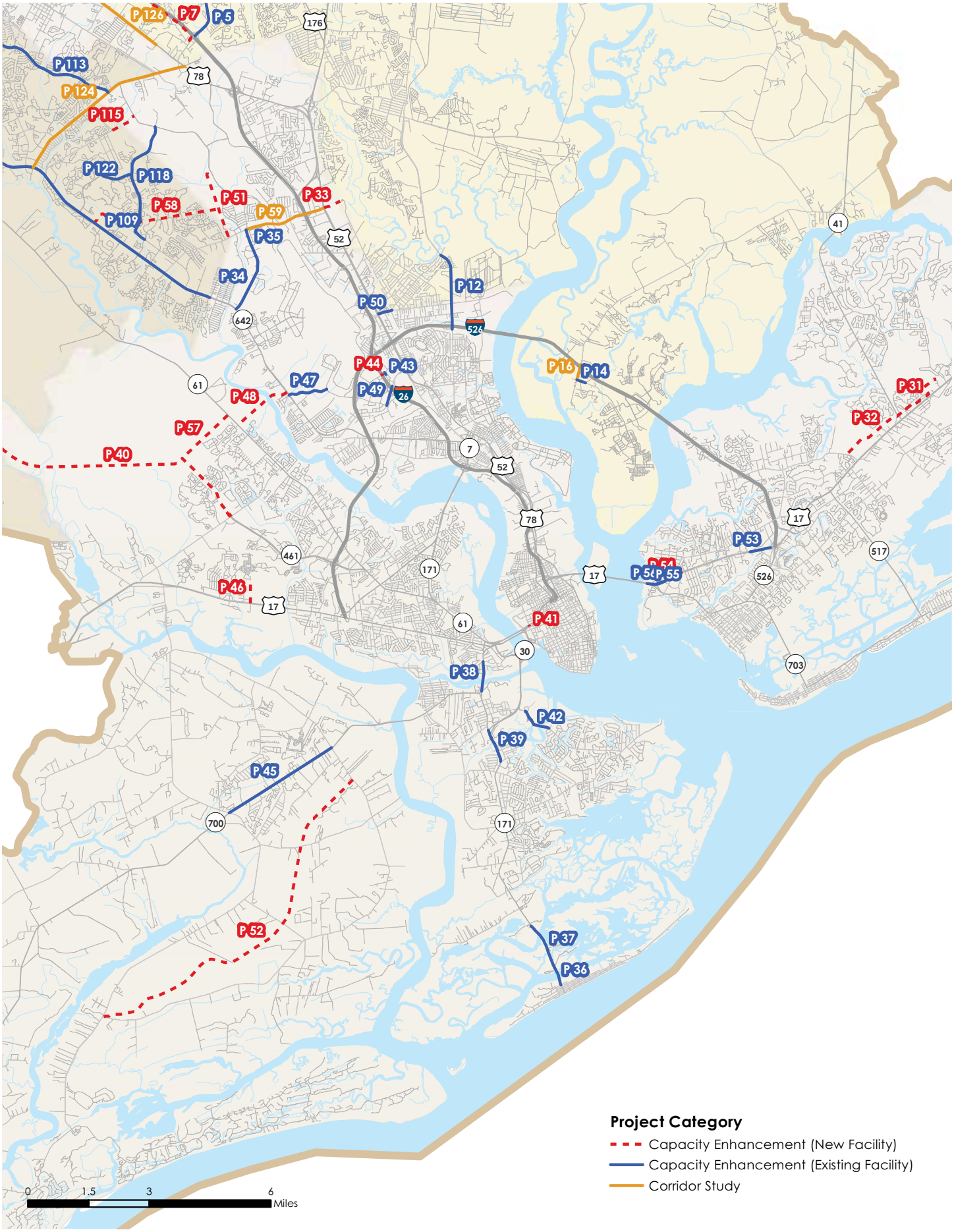


Table 4-3: Roadway Capacity Enhancement and Corridor Study Projects for Charleston County

ID	Location	Limits	Est. Cost (000s)	Proposed Lanes
CHARLESTON COUNTY				
P-31	All-American Blvd Extension	Winnowing Way to George Browder Rd	$8,358	2 (U)
P-32	All-American Blvd Extension	Silent Harbor Court to Lexington Dri	$30,000	2 (D)
P-33	Ashley Phosphate Rd Extension	Rivers Ave to Railroad Ave Extension	$8,055	6 (D)
P-34	Cross County Rd	Dorchester Rd to Hill Park Dr	$12,097	4 (D)
P-35	Cross County Rd	Hill Park Dr to Ashley Phosphate Rd	$6,628	4 (D)
P-36	Folly Beach Rd	E. Indian Ave to Little Oak Island Dr	$16,601	4 (D)
P-37	Folly Beach Rd	Little Oak Island Dr to Bowens Island Rd	$27,926	4 (D)
P-38	Folly Rd	Maybank Highway to Johnson Rd	$14,246	6 (D)
P-39	Folly Rd	SC-30 Off-Ramp to Highland Ave	$10,000	6 (D)
P-40	Glenn McConnell Parkway Extension (Phase I)	Bees Ferry Rd to Charleston County Line	$300,000	4 (D)
P-41	Hagood Ave Extension	Spring St to Cannon St	$1,851	3 (U)
P-42	Harbor View Rd	Harbor View Circle to North Shore Dr	$54,524	4 (D)
P-43	Mall Drive	City Hall Driveway to Mall Drive Extension	$1,255	4 (D)
P-44	Mall Drive Extension	Centre Pointe Dr to Mall Dr	$10,265	4 (D)
P-45	Maybank Highway	Bohicket Rd to River Rd	$23,763	4 (U)
P-46	Memorial Dr Extension	Memorial Dr to US-17/Savannah Highway	$3,975	2 (U)
P-47	Michaux Parkway	International Blvd to Dorchester Rd	$7,803	4 (D)
P-48	Michaux Parkway Extension	Dorchester Rd to Ashley River Rd	$47,021	4 (D)
P-49	Montague Ave	International Blvd to I-26 Interchange	$10,000	6 (D)
P-50	Remount Rd	Yeamans Hall Rd to Rivers Ave	$8,427	6 (D)
P-51	Sandlapper Parkway Extension	Palmetto Commerce Parkway to Ashley Phosphate Rd	$26,406	4 (D)
P-52	Sea Island Parkway/Greenway	River Road to Betsy Kerrison Parkway	$103,442	4 (D)
P-53	US-17	Northbound Mainline at Bowman Rd Interchange	$38,926	6 (D)
P-54	US-17 & Houston Northcutt Blvd. Intersection	-	$52,538	2 Ramps
P-55	US-17 / Ravenel Bridge Northbound Off-Ramp	US-17 / Coleman Split to Sessions Way	$3,775	3 Ramp
P-56	US-17 / Ravenel Bridge Southbound Approach	Magrath Darby Blvd to Wingo Way On-Ramp	$3,034	3
P-57	West Bridge Connector Rd	SC-61 to Glenn McConnell Parkway Extension	$5,558	2 (U)
P-58	Windsor Hill Parkway	Sandlapper Parkway Extn. to Dorchester Rd	$40,152	4 (D)
P-59	Ashley Phosphate Rd	Cross County Rd to Rivers Ave	$14,139	8/10 (D)

Notes: All laneage is proposed; D = Divided; U = Undivided

Map 4-5: Roadway Capacity Enhancement and Corridor Study Projects, Dorchester County

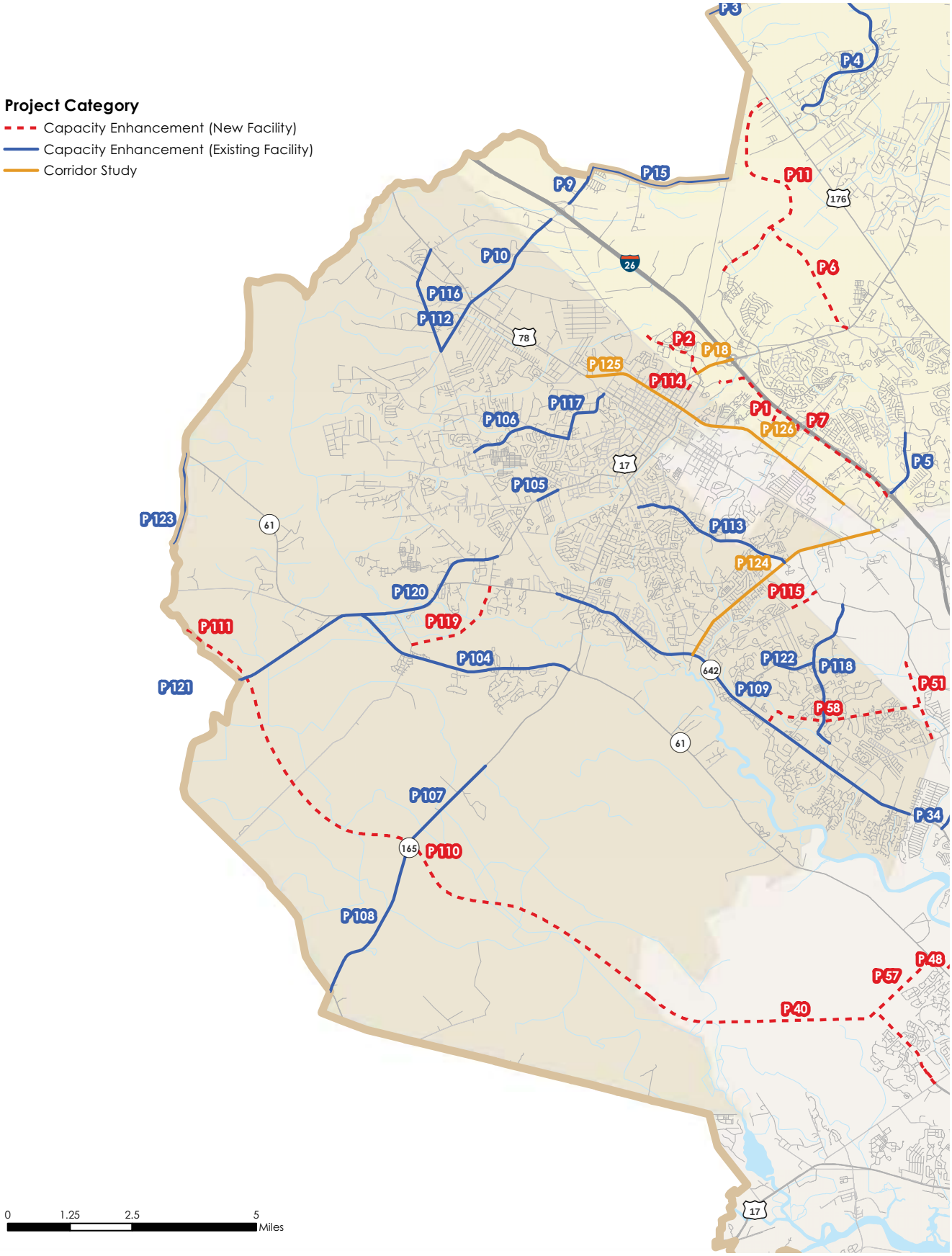


Table 4-4: Roadway Capacity Enhancement and Corridor Study Projects for Dorchester County

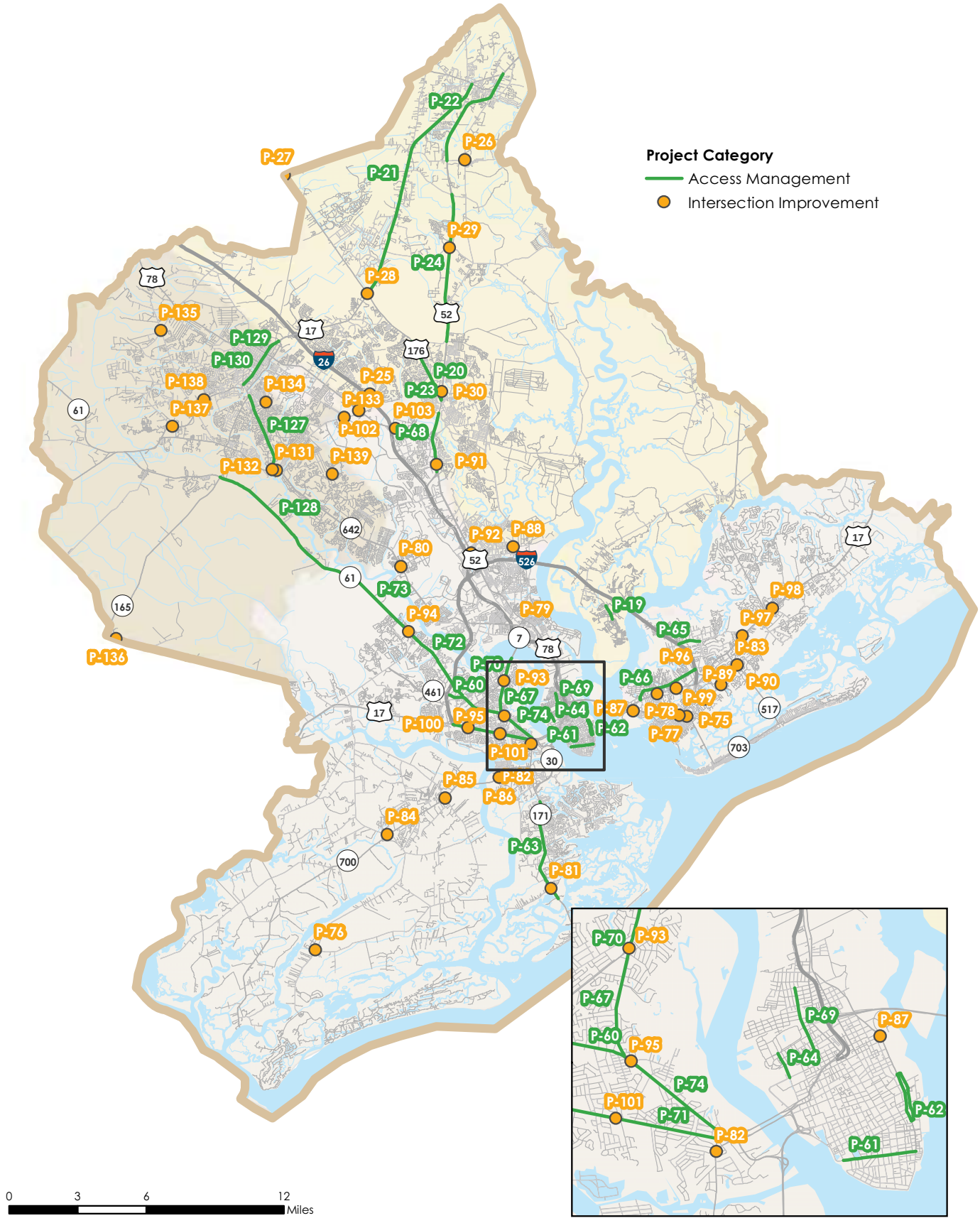
ID	Location	Limits	Est. Cost (000s)	Proposed Lanes
DORCHESTER COUNTY				
P-104	Beech Hill Rd	US-17A to Delemar Highway	$53,649	4 (D)
P-105	Boone Hill Rd	Luden Dr to Greenwave Blvd	$2,808	2 (D)
P-106	Central Ave	Orangeburg Rd to Parsons Rd	$24,681	4 (D)
P-107	Delemar Highway / SC-165	Ashley Ridge H. School to Glenn McConnell Parkway Extension	$18,677	4 (D)
P-108	Delemar Highway / SC-165	Glenn McConnell Parkway Extn. to Clubhouse Rd	$27,336	4 (D)
P-109	Dorchester Rd	Orangeburg Road to Charleston County Line	$113,870	6 (D)
P-110	Glenn McConnell Parkway Extension (Phase I)	Charleston County Line to US-17A	$470,000	4 (D)
P-111	Glenn McConnell Parkway Extension (Phase II)	US-17A to Old Beech Hill Rd	$19,870	4 (D)
P-112	Mallard Rd	Orangeburg Rd to US-78	$10,269	4 (D)
P-113	Miles Jamison Rd	Old Trolley Rd to Ladson Rd	$25,907	3
P-114	North Gum St	E. 9th North St to Marymeade Dr	$1,010	2 (U)
P-115	Old Fort Drive Extension	Wallace Ackerman Dr to Palmetto Commerce Parkway	$3,463	2 (D)
P-116	Old Orangeburg Rd	US-78 to Mallard Rd	$15,898	4 (D)
P-117	Parsons Rd	W. Richardson Ave to Central Ave	$15,148	2-/4 (D)
P-118	Patriot Blvd	Palmetto Commerce Parkway to Club Course Dr	$13,957	4 (D)
P-119	Summers Corner Connector	Beech Hill Rd to Dorchester Rd	$21,684	2 (U)
P-120	US-17A	Berlin Myers Parkway Extension to SC-61	$20,000	4 (D)
P-121	US-17A / Walterboro Rd	SC-61 to Sandpit Dr	$24,199	4 (D)
P-122	Wescott Blvd	Patriot Blvd to Ballantine Dr	$5,765	4 (D)
P-123	Wright Rd	Old Beech Hill Rd to SC-61	$17,496	4 (D)
P-124	Ladson Rd	US-78 to Dorchester Road	$52,400	6 (D)
P-125	US-78 / 5th St	W. Richardson Ave to Berlin Myers Parkway	$25,964	4 (D)
P-126	US-78 / 5th St	Berlin Myers Parkway to County Line (End at Benchmark Dr)	$60,646	4 (D)

Notes: All laneage is proposed; D = Divided; U = Undivided

Visionary Roadway Access Management & Intersection Improvement Projects

The following maps highlight the proposed roadway ***access management*** and ***intersection improvement*** recommendations for the CHATS planning area. There are roughly 72 miles of recommended access management projects and 44 intersections. All roadway recommendations were thoroughly vetted through the CHATS Study Team and BCDCOG staff. Of these identified projects, certain corridor segments and intersections were selected by staff members from BCDCOG in consultation with jurisdictions for further study through conceptual designs, shown in the Hot Spots and Corridors section. Further study may be required on corridors and intersections that were not selected for conceptual designs.

Map 4-6: Access Management and Intersection Improvement Projects



Map 4-7: Access Management and Intersection Improvement Projects, Berkeley County

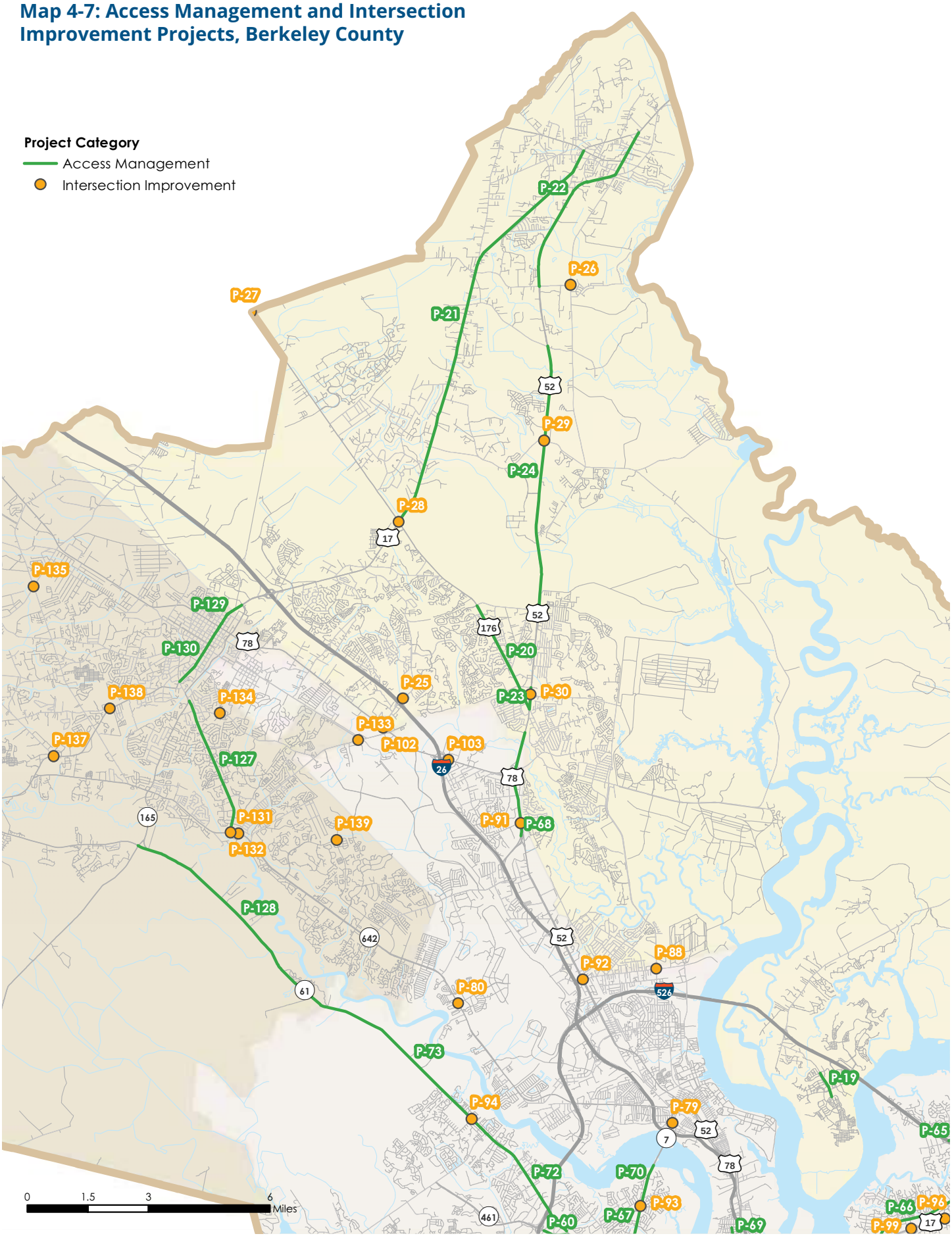


Table 4-5: Access Management and Intersection Improvement Projects for Berkeley County

ID	Location	Limits	Est. Cost (000s)	Existing Lanes
ACCESS MANAGEMENT				
P-19	Daniel Island Dr	Barfield St to Fairchild St	$999	2 (D)
P-20	US-176	Old Mt. Holly Rd to N. Goose Creek Blvd.	$4,291	4 (D)
P-21	US-17A/Live Oak Rd	St. James Ave to E. Main St	$15,887	4 (D)
P-22	US-52	N. Live Oak Dr to Gaillard Rd	$7,408	4 (D)
P-23	US-52	Button Hall Ave to Red Bank Rd	$823	6 (D)
P-24	US-52	Montague Plantation Rd to Oakley Rd	$9,673	4 (D)
INTERSECTIONS				
P-25	College Park Rd & Treeland Dr		$4,000	n/a
P-26	Old US-52 & Gaillard Rd		$2,500	n/a
P-27	US-176 & Black Tom Rd		$5,000	n/a
P-28	US-17A & US-176		$5,000	n/a
P-29	US-52 & Cypress Gardens Rd		$1,000	n/a
P-30	US-52 & Liberty Hall Rd		$2,000	n/a

Notes: D = Divided; U = Undivided; n/a = not applicable

Map 4-8: Access Management and Intersection Improvement Projects, Charleston County

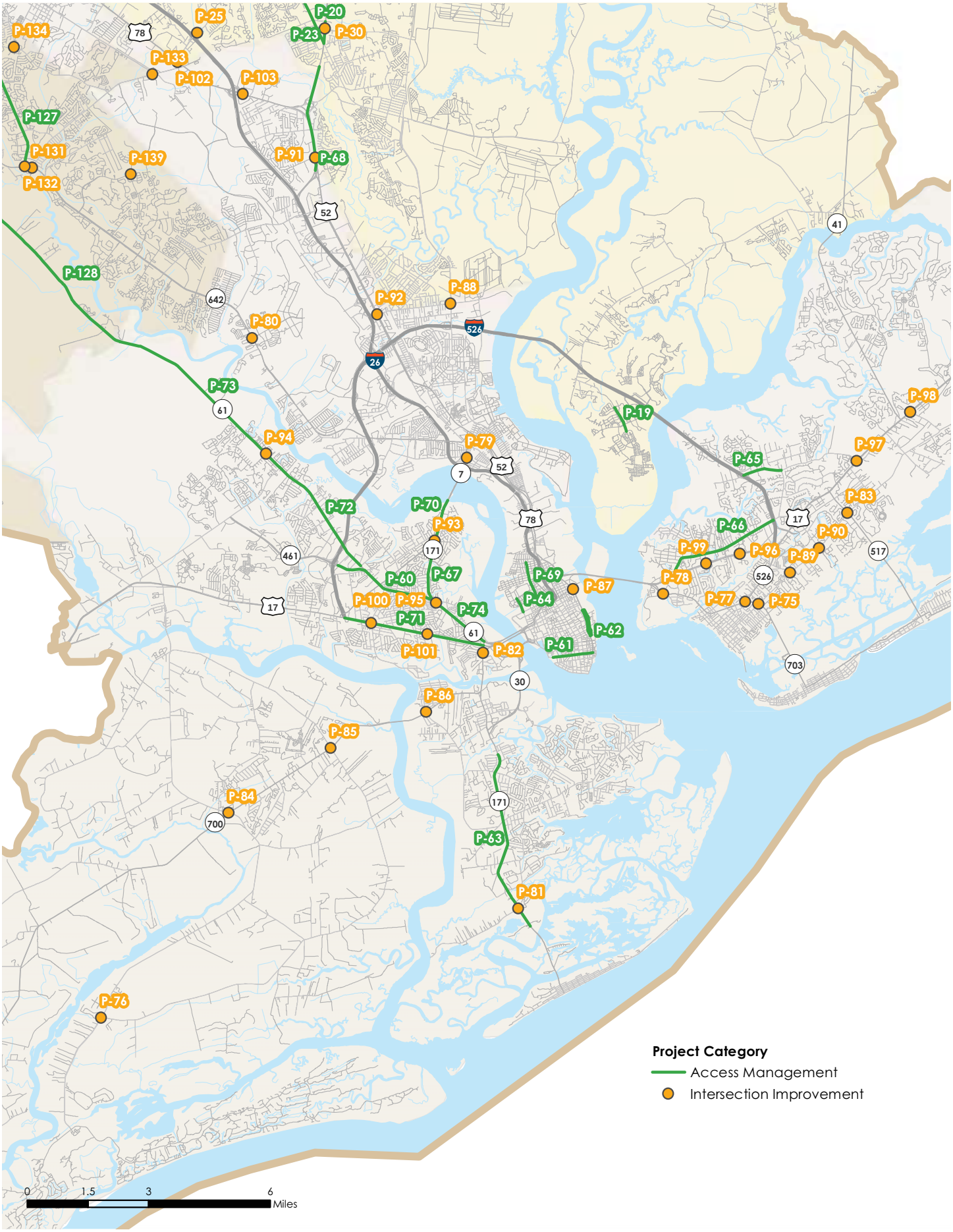


Table 4-6: Access Management and Intersection Improvement Projects for Charleston County

ID	Location	Limits	Est. Cost (000s)	Existing Lanes
ACCESS MANAGEMENT				
P-60	Ashley River Rd	Saint Andrews Blvd to Paul Cantrell Blvd	$4,211	4 (D)
P-61	Broad St	Lockwood Drive to East Bay St	$1,770	2 (U)
P-62	East Bay Street	Chapel St to Hasell St	$2,133	2 (U)
P-63	Folly Rd	Tides End Rd to Brantley Dr	$6,863	4 (D)
P-64	Hagood Ave	Moultrie St to Fishburne St	$953	4 (D)
P-65	Long Point Rd	I-526 to Whipple Rd	$1,453	4 (D)
P-66	Mathis Ferry Rd	US-17 to I-526	$4,390	2 (D)
P-67	Old Towne Rd	Sam Rittenburg Blvd to Gunn Ave	$2,850	4 (D)
P-68	Rivers Ave / US-52	Camelot Dr to Greenridge Rd	$3,930	8 (D)
P-69	Rutledge Ave	Peachtree St to Sumter St	$1,453	4 (D)
P-70	Sam Rittenberg Blvd.	Old Towne Rd to Northbridge Park	$1,585	6 (D)
P-71	Savannah Highway	Wesley Dr to I-526	$5,239	4 (D)
P-72	SC-61/Ashley River Rd	Raoul Wallenberg Blvd to Bees Ferry Rd	$19,883	2 (U)
P-73	SC-61/Ashley River Rd	Bees Ferry Rd to Charleston County Line	$53,427	2 (U)
P-74	SC-61/St. Andrews Blvd	Wesley Dr to Old Towne Rd	$16,161	4 (D)
INTERSECTIONS				
P-75	Ben Sawyer Blvd & Rifle Range Rd		$1,500	n/a
P-76	Betsy Kerrison Pkwy / Bohicket Rd & River Rd		$2,000	n/a
P-77	Coleman Blvd & Chuck Dawley Blvd.		$6,000	n/a
P-78	Coleman Blvd & Patriots Point Blvd.		$5,000	n/a
P-79	Cosgrove Ave & Azalea Dr		$2,000	n/a
P-80	Dorchester Rd & West Hill Blvd		$2,000	n/a
P-81	Folly Rd & Sol Legare Rd		$4,000	n/a
P-82	Folly Rd & Wesley Dr		$5,000	n/a
P-83	IOP Connector & Rifle Range Rd		$2,000	n/a
P-84	Maybank Hwy & Main Rd		$4,000	n/a
P-85	Maybank Hwy & River Rd		$2,000	n/a
P-86	Maybank Hwy & Riverland Dr		$5,000	n/a
P-87	Morrison Dr / Cooper Street / Lee Street		$1,000	n/a
P-88	Remount Rd & Rhett Ave		$4,000	n/a
P-89	Rifle Range Rd & Bowman Rd		$3,000	n/a
P-90	Rifle Range Rd & Venning Rd		$3,000	n/a
P-91	Rivers Ave & Greenridge Rd		$1,500	n/a
P-92	Rivers Ave & Remount Rd		$5,000	n/a
P-93	Sam Rittenberg & Old Towne Rd		$4,000	n/a
P-94	SC-61 & Shadowmoss Pkwy		$1,500	n/a
P-95	St. Andrews Blvd & 5th Ave		$2,000	n/a
P-96	US-17 & Anna Knapp Blvd		$1,500	n/a
P-97	US-17 & Long Point Rd		$3,000	n/a
P-98	US-17 & Porcher's Bluff Rd		$4,000	n/a
P-99	US-17 & Shelmore Blvd		$1,500	n/a
P-100	US-17 & Wappoo Rd		$1,500	n/a
P-101	US-17 & West Oak Forest Dr / US-17 & Farmfield Ave		$1,500	n/a
P-102	US-78 & Ladson Rd / Ancrum Rd		$4,000	n/a
P-103	US-78 / University Blvd & Medical Plaza Dr		$5,000	n/a

Notes: D = Divided; U = Undivided; n/a = not applicable

Map 4-9: Access Management and Intersection Improvement Projects, Dorchester County

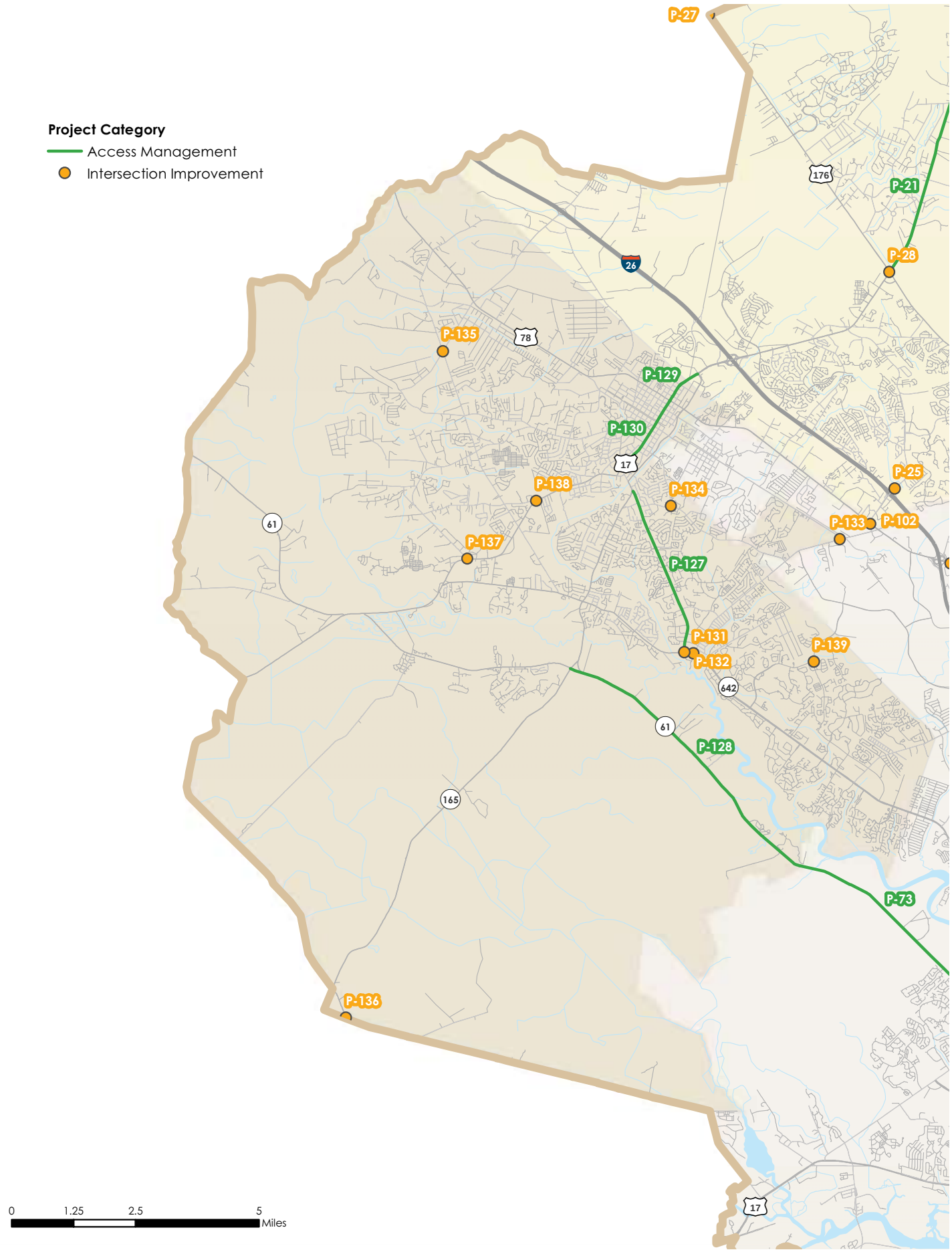


Table 4-7: Access Management and Intersection Improvement Projects for Dorchester County

ID	Location	Limits	Est. Cost (000s)	Existing Lanes
ACCESS MANAGEMENT				
P-127	Old Trolley Rd	Dorchester Road to Bacons Bridge Rd	$5,224	4 (D)
P-128	SC-61	Charleston County Line to Bacons Bridge Rd	$19,193	4 (D)
P-129	US-17A / North Main St	5th St to Berlin Myers Parkway	$1,212	4 (D)
P-130	US-17A / South Main St	Carolina St to US-78	$2,512	2 (D)
INTERSECTIONS				
P-131	Dorchester Rd & Ladson Rd		$2,000	n/a
P-132	Dorchester Rd & Old Trolley Rd		$5,000	n/a
P-133	Ladson Rd & Lincolnville Rd		$2,000	n/a
P-134	Miles Jamison Rd & Gahagan Rd		$4,000	n/a
P-135	Orangeburg Rd & E. Butternut Rd / Mallard Rd		$4,000	n/a
P-136	SC-165 & County Line Rd		$4,000	n/a
P-137	US-17A & Central Ave		$2,000	n/a
P-138	US-17A & Tupperway Dr		$5,000	n/a
P-139	Wescott Blvd & Patriot Blvd.		$4,000	n/a

Notes: D = Divided; U = Undivided; n/a = not applicable

Purpose

Showcase the types of roadways proposed in the LRTP

cross sections

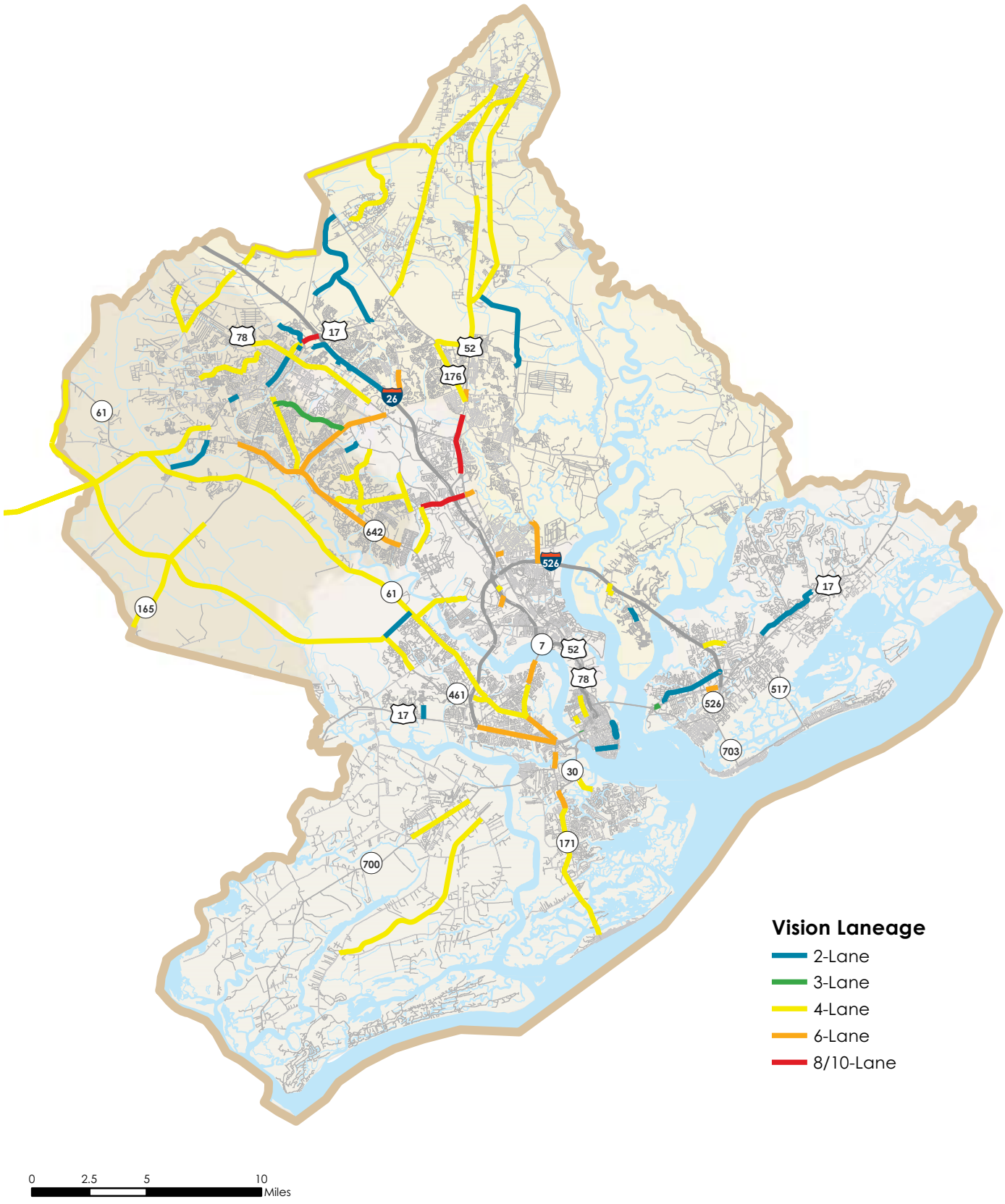
Recommended Cross Sections

While examining how roadways spread and connect across a region, it is vital to consider how the roadway looks and feels from the perspective of the users. To understand how a roadway appears from the perspective of the users (pedestrians, cyclists, drivers, and transit riders), a cross section is often used to illustrate scale and design features. Cross sections illustrate information such as the number and width of travel lanes, parking lanes, sidewalks, and multiuse paths, and they can illustrate how much programmable space exists within existing and proposed right-of-ways or curb to curb. In looking at proposed laneage, generalized cross sections are used, while specified cross sections were created to illustrate conceptual designs found in the Hot Spots and Corridors section.

In determining the recommended cross sections for each road type, pedestrian and bicycle improvements were considered in addition to roadway strategies. The recommended cross sections are color-coded (in the associated table) to correspond directly to the proposed laneage indicated in the table, with red indicating the 8/10-lane sections and orange the 6-lane sections. For the 2- (blue), 3- (green), and 4-lane (yellow) sections, multiple cross sections are presented to indicate possible pedestrian and bicycle improvements that may accompany the roadway. Final design will determine the ultimate cross section of the roadway. The total right-of-way widths along with an example facility are shown with each cross section.

Map 4-10 represents potential laneage and possible alignment/configurations for the purpose of estimating planning level costs and travel demand modeling performance. More detailed studies will be required through the project development process to confirm planning level assumptions.

Map 4-10: Roadway Projects Vision Laneage

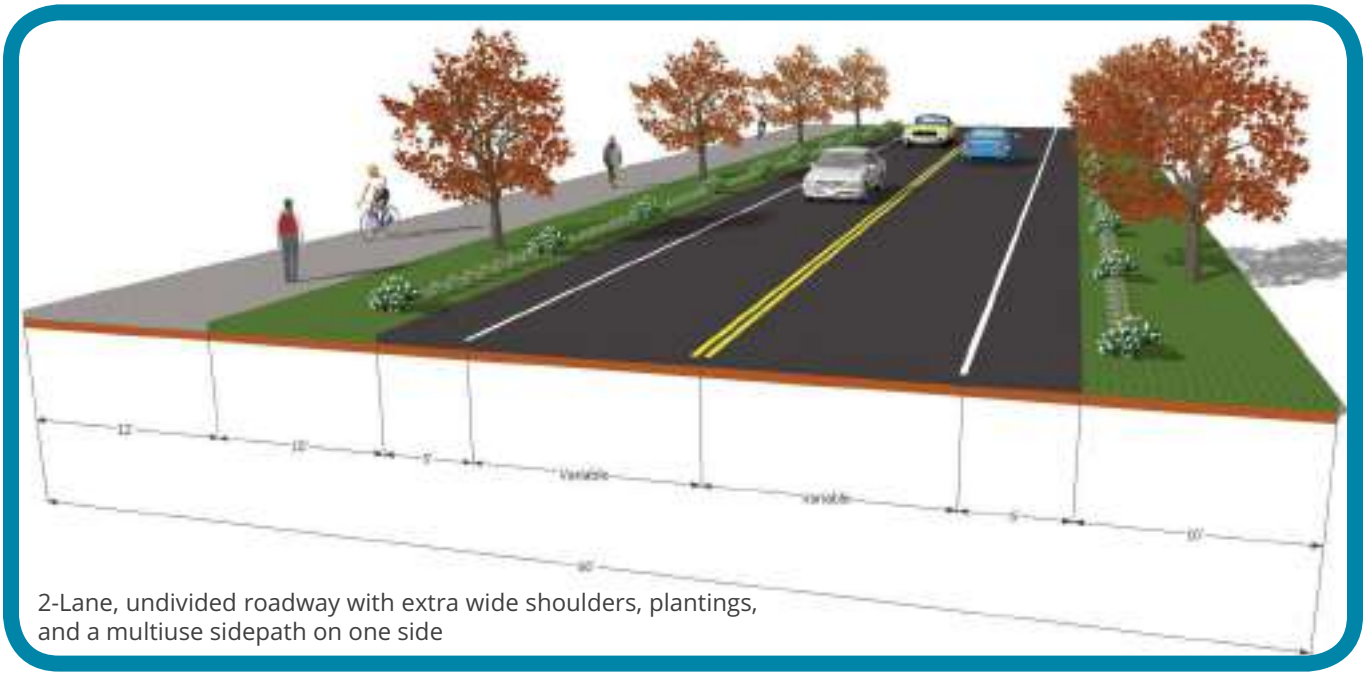


2-Lane Cross Sections

2-Lane, undivided roadway with sharrow markings, parallel on-street parking, gutters, curbs, planted strip, and sidewalks on both sides, with a wider sidewalk in front of commercial storefronts

2-Lane, undivided roadway with bicycle lanes, curbs, gutters, and sidewalks on both sides

2-Lane Cross Sections (cont.)



2-Lane, undivided roadway with extra wide shoulders, plantings, and a multiuse sidepath on one side

2-Lane, undivided roadway with wide shoulders, drainage ditches, and plantings on both sides

3-Lane Cross Sections

3-Lane, undivided roadway with gutters, curbs, planted strip, and pedestrian level lighting on both sides, and a sidewalk and a multiuse sidepath on opposite sides

3-Lane, undivided roadway with a center turning lane, buffered bicycle lanes, curbs, gutters, planted strips, , pedestrian level lighting and sidewalks on both sides

4-Lane Cross Sections

4-Lane, undivided roadway with bicycle lanes, parallel on-street parking on one side, gutters, curbs, planted strip, pedestrian level lighting, and sidewalks on both sides

4-Lane, divided roadway with planted median, street lamps, drainage ditches, and plantings on both sides and a multiuse sidepath on one side.

4-Lane Cross Sections (cont.)

4-Lane, divided roadway with planted median islands to break up turning lane, gutters, curbs, planted strip on both sides and pedestrian level lighting and sidewalk on one side

6-Lane Cross Section

6-Lane, divided roadway with a planted median, curbs, gutters, planted strips, pedestrian level lighting and sidewalks on both sides

8- and 10-Lane Cross Sections

8- or 10-Lane, divided roadway with a planted median, curbs, gutters, planted strips, pedestrian level lighting and sidewalks on both sides

Purpose

Provide examples of how design can promote safety and walkability in various locations around the CHATS planning area.

hot spots & corridors

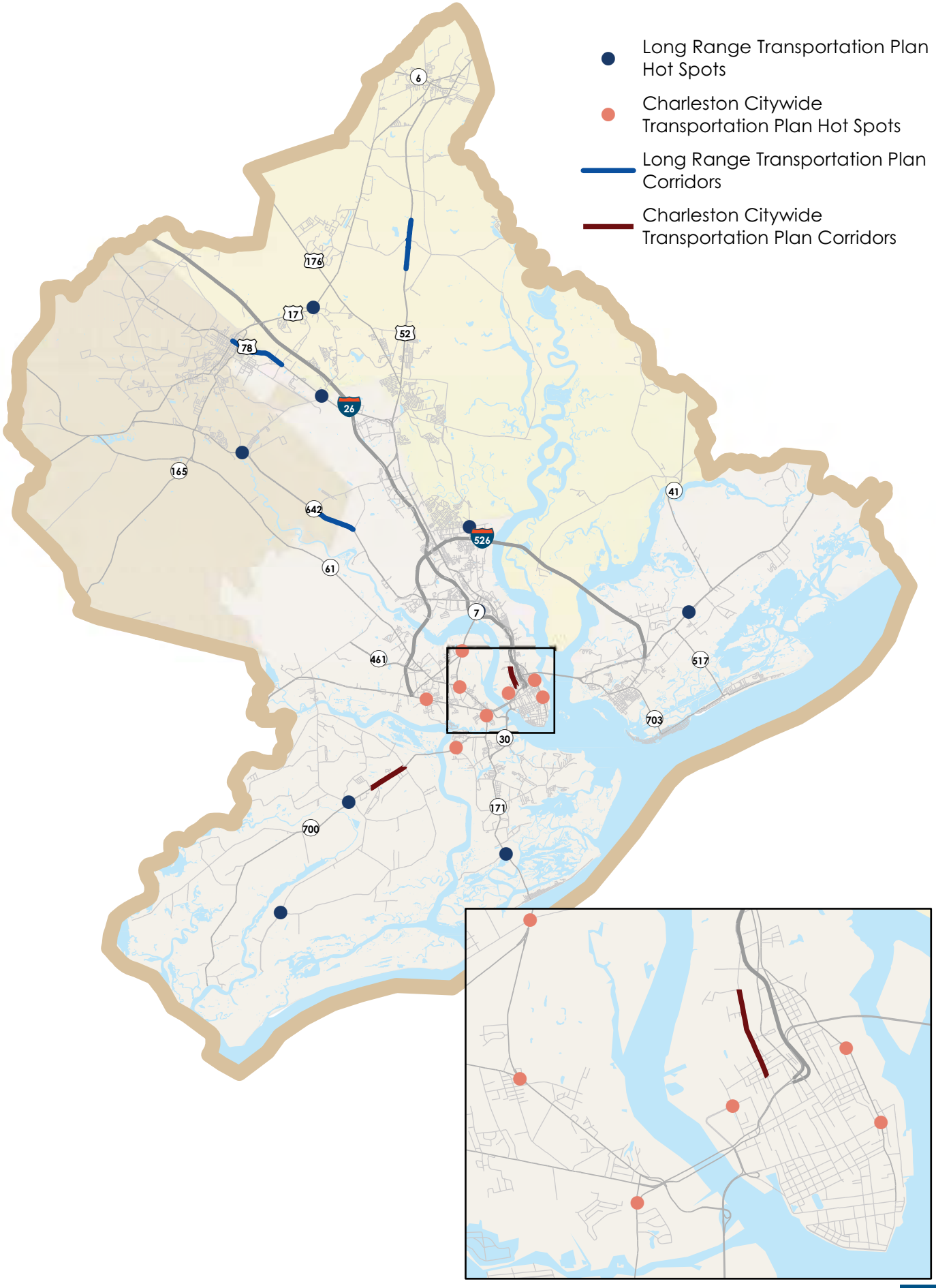
Concept Designs

It is apparent that large, costly highway projects are becoming less frequent and more controversial every day. Our gas tax dollars are not able to fund projects of significant magnitude. However recently, smaller, more cost-effective projects have been successfully implemented through smaller funding sources like Spot Safety and Hazard Elimination programs. The purpose of this section is to provide a higher level of detail for specific high priority projects through the development of Hot Spot and Corridor Concept Designs (20% design detail). The intent of the Hot Spot projects is to highlight specific projects within the planning area that were selected by the Study Team and BCDCOG staff as "High Priority."

In turn, the information contained in the concept designs could be used by local champions to lobby for future funding and ultimately, full implementation. In today's environment and with SCDOT's prioritization process, small type projects are less likely to compete at the level of major mobility carrier type projects. This innovative program leverages alternative funding sources to administer and implement smaller type projects.

The following 17 Hot Spot and 5 Corridor Concept Designs are all eligible for federal funding and were created during the LRTP and the Charleston Citywide Transportation Plan (CTP) planning processes. An additional 2 Hot Spot and 1 Corridor Concept designs created for the CTP are not shown due to their ineligibility for federal funding dollars. All of the CTP specific Hot Spot and Corridor Concepts Designs are viewable in the CTP Report.

Map 4-11: Hot Spot and Corridor Concept Design



1

US 17 Alternate & Myers Road

Berkeley County

Problem Statement:	Although recently re-constructed, this intersection lacks bicycle and pedestrian amenities and beautification improvements. Surrounding area is primed for development. Current design is very car-centric and there is no shading available.
Design Considerations:	■ Limit curb and gutter displacement ■ Focus on intersection treatments ■ Minimize pedestrian crossing distance
Recommendations:	■ Extend curbing in the northeast quadrant of the Main and Old Summerville Road to provide shorter pedestrian crossing distance and room for shade trees ■ Plant medians for pedestrian refuge
Probable Construction Cost:	**TBD**

US 17 Alternate & Myers Road

2

Long Point Road & US 17 North

Mt. Pleasant

Problem Statement:	Long Point Road does not line up with SR S-10-1808 or Johnie E Brown Road, creating an offset intersection which leads to traffic operational issues. The City of Mt. Pleasant desires to realign this intersection with Johnie E Brown Road and improve connectivity for all users.
Design Considerations:	■ US Highway 17 is designed for vehicles in this area, however, it becomes a multi-modal corridor as it transitions into town ■ This area is primed for development ■ Free-flow right turn lanes and overall laneage at intersection make it difficult for pedestrians and bicyclists
Recommendations:	■ Realign Long Point Road to create an attractive gateway into town ■ Remove free-flow right turn, install high visibility crosswalks, planted medians, and pedestrian refuges ■ Construct meandering sidepath lined with street trees
Probable Construction Cost:	**$2 Million**

Long Point Road & US 17 North

3

Main Road, Bohicket Road & Maybank Highway

Johns Island

Problem Statement:	This intersection represents the crossroads of two major arterials. The roadways meet at a sharp angle, leading to sight line problems when turning. Combined with multiple commercial driveways, this intersection is problematic for vehicular traffic and unsafe for pedestrians and cyclists.
Design Considerations:	■ Need to address the sharp angle and fast moving right turns ■ Access management should be a consideration to limit driver confusion and contact between pedestrians and car travel
Recommendations:	■ Install high visibility crosswalks as well as right turn "pork chops" at intersections to create a safer environment for pedestrian and limit turn radii ■ Consolidate multiple drivesways to commercial retial businesses ■ Install median islands along Maybank to calm traffic and provide pedestrian refuge ■ Construct adequate and ADA compliant sidewalks
Probable Construction Cost:	**$350K**

Main Road, Bohicket Road & Maybank Highway

Sol Legare Road, Terns Nest Road & Folly Road

James Island

Problem Statement:	The design of this offset intersection may be confusing to travelers as it's difficult to interpret who has the right of way. With surrounding neighborhoods and a grocery store in proximity, pedestrian and bicycle access and safety has become an issue.
Design Considerations:	■ Existing bike lanes along Folly Road must be maintained and considered in final design ■ Very little traffic is crossing Sol Legare to/from Terns Nest ■ Not all bicyclists, including tourists, feel safe on the bike lanes
Recommendations:	■ Install high visibility crosswalk with pedestrian refuge between offset approaches to intersection ■ Construct meandering sidepath and street trees on west side
Probable Construction Cost:	**$220K**

Sol Legare Road, Terns Nest Road & Folly Road

Ancrum Road, Ladson Road & US 78

Ladson

Problem Statement:	This area of US Highway 78 experiences heavy traffic and congestion during peak hours. However, the design of these roadways and intersections are poorly engineered with skewed intersections, poor access management and limited connectivity.
Design Considerations:	■ Clean up access points with driveway consolidation and controlling left turns ■ Look for opportunities to decrease pedestrian crossing distance
Recommendations:	■ Construct planted median to guide left turns ■ Remove free few right turn and install high visibility crosswalks ■ Realign entrance to Bi-Lo to provide adequate separation from intersection
Probable Construction Cost:	**$500K**

Ancrum Road, Ladson Road & US 78

6

Remount Road & Rhett Ave

North Charleston

Problem Statement: This busy intersection is surrounded by commercial and light industrial activity. Current design caters to vehicular movements only, creating a dangerous environment for bicyclists and pedestrians.

Design Considerations:

- With adjacent park, intersection should be redesigned to cater to multi-modal activity
- Lots of roundabout access points and dangerous free-flow movements

Recommendations:

- Implement driveway consolidation and plantable medians
- Replace free-flow right turns with bulbouts and high visibility crosswalks
- Construct cross access between complimentary uses

Probable Construction Cost: **$250K**

Remount Road & Rhett Ave

7

Cosgrove Avenue, Azalea Drive & Interstate 26

North Charleston

Problem Statement:	This section of Cosgrove Avenue is very busy during peak hour travel. Specifically, the Interstate 26 westbound off ramp creates spill back and weaving problems as traffic approaches the Cosgrove Avenue and Azalea Drive intersection.
Design Considerations:	■ Inconsistent lane configuration through intersection ■ Lane weaving problems from off ramp to left turn lanes going northbound on Azalea Drive ■ Dangerous environment for bicyclists and pedestrians
Recommendations:	■ Construct access-control medians to limit dangerous movements ■ Replace free-flow ramp movement with stop controlled intersection to provide additional stacking ■ Redesignate intersection laneage to include two left turn lanes on eastbound Cosgrove Avenue ■ Install sidewalks and high visibility crosswalk with pedestrian countdown signals
Probable Construction Cost:	**$450K**

Note: This is a temporary fix, akin to a band-aid on a larger problem. Interstate 26 and its on- and off-ramps should be further studied to better address stacking issues at intersections.

Cosgrove Avenue, Azalea Drive & Interstate 26

8

Dorchester Road & Ladson Road

Summerville

Problem Statement:	Dorchester Road is a major arterial and commuter route with key commercial and light industrial activity along the corridor. Surburban-style development that is not interconnected continues to put pressure on this important intersection.
Design Considerations:	■ Use access-management (i.e. median islands, cross-access through parking lots, and driveway consolidation to enhance safety, predictability, and traffic flow) ■ Utilize current inter-connectivity wherever possible ■ Extremely dangerous for a bicyclist or pedestrian to travel through current arrangement
Recommendations:	■ Install planted median islands to control left turns ■ Remove free-flow right turns to provide safer pedestrian crossing ■ Install sidewalks and high visibility crosswalks and street trees where possible ■ Retrofit cross access for complimentary uses through existing parking lots
Probable Construction Cost:	**$450K**

Dorchester Road & Ladson Road

9

River Road, Bohicket Road, Betsy Kerrison Parkway & Proposed Sea Island Parkway

Johns Island

Problem Statement:	The Sea Island Parkway is planned as a multi-modal arterial to provide congestion relief to Bohicket Road. The vision for this facility is a street-scaped 4-lane divded roadway with planted medians. It's connection to Bohicket is the focus of this concept.
Design Considerations:	■ Redesign must avoid development and property takings ■ River Road will require realignment ■ Bicycle and pedestrian accommodations should be a priority
Recommendations:	■ Align the proposed Sea Island Parkway into the existing Betsy Kerrison Parkway, a road of similar width and typology ■ Redirect Bohicket Road and River Road to intersect with the parkways at right angles ■ Connect these roads at a signalized intersection ■ Construct a meandering sidepath ■ Include high visibility crosswalks
Probable Construction Cost:	**$1.2 Million**

River Road, Bohicket Road, Betsy Kerrison Parkway & Proposed Sea Island Parkway

Savannah Highway & Wappoo Road

West Ashley

Problem Statement:	High volume intersection with traffic coming from both directions leading in and out of downtown and residential neighborhoods. Intersection marks the end of the West Ashley Bikeway and lacks safe and visible pedestrian and bike facilities. Problematic free-flow right turn traffic from Southbound Wappoo headed west.
Design Considerations:	■ Immediate area is prime for redevelopment ■ Free-flow right is extremely dangerous to pedestrians ■ Sight angles are adequate ■ The DuPont/Wappoo Community Plan recommendations for this intersection
Recommendations:	■ Brick paver or stamped crosswalks ■ High-visibility crosswalks and pedestrian countdowns ■ Remove free-flow right turn while leaving the corner wide enough to accommodate right turn movements of a tractor trailer (Option A) ■ Improve access management and driveway consolidation
Probable Construction Cost:	**$650K**

Savannah Highway & Wappoo Road

Sam Rittenberg Boulevard & Orange Grove Road

West Ashley

Problem Statement:	Orange Grove Road has free-flow turns on both approaches to the intersection, making it extremely dangerous for pedestrians to cross. The gas station on the southwest corner has three driveway entries, two very close to the free-flow right turn. Sharp angle of the intersection creates sight line problems, particularly when combined with the free-flow right turns.
Design Considerations:	■ Sam Rittenberg is a wide, heavily traveled road surrounded by neighborhoods and bordered by retail and office ■ Pedestrians and cyclist should be able to safely cross and travel through this intersection
Recommendations:	■ Close the free-flow turns and shorten the length of roadway for pedestrians to cross ■ Design corners to accommodate right turn movements of tractor trailers ■ Add bike lane striping to Orange Grove on both sides of intersection ■ Add paved median to Orange Grove and close excess driveway for gas station ■ Potentially add painted bike lanes through intersections
Probable Construction Cost:	**$350K**

Sam Rittenberg Boulevard & Orange Grove Road

Morrison Drive, Cooper Street & Lee Street

The Peninsula

Problem Statement:	Vital intersection for entering and exiting the Lower Peninsula. East Bay Street becomes the on-ramp to the Ravenel Bridge. A 10 ft multiuse path borders East Bay. Adjacent blocks are used primarily for parking and exit/ entry of side streets make traffic flow and pedestrian crossing hazardous.
Design Considerations:	■ Major bike/ped amenity is inaccessible -- one crossing ■ Vital pump station at the north corner of Lee Street at Morrison ■ Immediate area is prime for redevelopment and park space ■ Site borders the Cooper River Bridge Project ■ Needs traffic calming ■ Better drainage to prevent flooding in the roadway ■ The Cooper Street Bike Plan and Cooper River Bridge Redevelopment
Recommendations:	■ Raise Morrison Drive to higher elevation to address stormwater issues ■ High-visibility crosswalks for pedestrians and cyclists ■ Remove turning lane on southbound Morrison to improve bicycle safety and provide drainage space ■ Add sharrow markings and buffered contra-flow bike lane on Cooper Street, removing parallel parking on onside ■ Replace parking with angle-in parking
Probable Construction Cost:	**$600K**

Morrison Drive, Cooper Street & Lee Street

Fishburne Street & Hagood Avenue

The Peninsula

Problem Statement:	North of this intersection is the Citadel. Directly adjacent are older and low-income neighborhoods, parking lots, and areas prime for redevelopment. Area floods often with water left standing in the road for days after heavy rains. Pedestrian traffic here is often families, children, and students walking to school and community center
Design Considerations:	■ The City's Urban Design Center has released proposed stormwater drainage solutions for this area ■ Area is flanked with schools, a community center, the Citadel, and the Riverdogs Ballpark ■ Creating better connectivity to the WestEdge project
Recommendations:	■ High-visibility crosswalks ■ Potential new roundabout ■ Utilizing the Hagood Green Street plan ■ Planted medians
Probable Construction Cost:	**$350K (Stop light Intersection), $600K (Roundabout)**

Fishburne Street & Hagood Avenue

Folly Road, Wesley Drive & West Ashley Greenway

West Ashley

Problem Statement:	The West Ashley Greenway crosses Folly Road at a problematic intersection. Wesley Drive and Folly Road merge together at a sharp angle before reaching the South Windermere Center. The only place for pedestrians to safely cross is at the Windermere intersection.
Design Considerations:	■ The Greenway is a popular amenity with cyclists and pedestrians ■ This intersection interrupts the greenway more so than at other crossings ■ Neighborhood is very walkable with sidewalks and retail available ■ Safer crossings are needed
Recommendations:	■ Closing the free-flow right turn lane on Southbound Folly Road as well as along Northbound Folly Road ■ High-visibility crosswalks with pedestrian countdowns closer to the Greenway
Probable Construction Cost:	**$400K**

Note: An in depth analysis of this intersection is required to determine feasibility of closing free-flow right turn headed northbound on Folly Road Boulevard

Folly Road, Wesley Drive & West Ashley Greenway

Maybank Highway & Riverland Drive

James Island

Problem Statement:	Maybank Highway is the connecting thread between Johns Island, James Island, and West Ashley. Maybank and Riverland Drive meet in a large golf course and provide a direct connection to residential neighborhoods. Residents in this area have no safe way to travel as pedestrians or cyclists.
Design Considerations:	■ Providing pedestrian amenities to promote active transportation ■ Creating gateways into adjacent neighborhoods ■ Significant and healthy trees along Maybank Highway ■ Stormwater drainage at the intersection
Recommendations:	■ Assumes 10’/11’ lane widths. ■ Left turn lane on westbound approach requires 150’ - 200’ length of widening to the north side of Maybank Hwy approximately 6’-7’ of additional width ■ Context sensitive widening to avoid impacts to mature trees, avoiding the need for additional ROW High-visibility crosswalks with pedestrian countdowns ■ Adding a meandering multiuse path behind the treeline and sidewalks to connect the neighborhoods ■ Improved pedestrian level lighting
Probable Construction Cost:	**$350K**

Maybank Highway & Riverland Drive

St. Andrews Blvd, Old Towne Road & Ashley River Road

West Ashley

Problem Statement:	Ashley River and Old Towne merge into St. Andrews Boulevard, weaving together 8 lanes of traffic into 5 lanes with painted bike lanes on either side. This intersection is designed as an at-grade freeway which caters to vehicles and high speeds. Bike lanes disappear at the intersection. Three streets intersect at this intersection, creating a dangerous place for cars, pedestrians, and cyclists attempting to cross or travel through this intersection.
Design Considerations:	■ This intersection and St. Andrews Boulevard are superimposed onto and disrupts the original street network of this area ■ Bike lanes disappear forcing cyclist to either ride the sidewalk or share the densely traveled road
Recommendations:	■ Consolidate the intersection to meet at a right angle, Options A and B show different configurations of the same idea ■ High-visibility crosswalks with pedestrian countdowns at new intersection ■ Add multiuse path to the west side of St Andrews/Old Towne to move bikes off the street at the intersection ■ Use planted medians and access management to guide left turns
Probable Construction Cost:	**$800K**

St. Andrews Blvd, Old Towne Road & Ashley River Road

Option A

Option B

Calhoun Street & East Bay Street

The Peninsula

Problem Statement:	A key intersection and corridor in the historic district of downtown Charleston for vehicular and bicycle/pedestrian traffic. Connects into major biking corridor that leads to and crosses the Ravenel Bridge. Sidewalks connections are inconsistent in this area and amenities need to be equally accessible for tourists and nearby lower income residents who commute through this area every day.
Design Considerations:	■ Two major biking corridors intersect here, with bike share stations located in each direction ■ Many destination points nearby that require access to parking or alternative transportation accommodations
Recommendations:	■ High visibility crosswalks with dedicated, painted bike lane crossings ■ Realign Washington Street, fixing offset for increased visibility and creating a new plaza ■ Two lane cycle track on Calhoun and Rails-to-Trials multiuse path on Washington
Probable Construction Cost:	**$600K**

Calhoun Street & East Bay Street

A

Dorchester Road / SC Highway 642

From Ashley Phosphate Road to Cross County Road

Length: 2 miles

Problem Statement:	Dorchester Road serves many functions to the various adjacent communities: community route, shopping destination, and regional arterial. Future BRT service is planned for this major regional facility. Reproposing the wide median will be an important design feature as well as safe bicycle and pedestrian access.
Design Considerations:	■ Intersection treatments for bike and pedestrian access will be critical ■ Surburban style development pattern will need to transition into a more dense, walkable environment ■ Access Management
Recommendations:	■ Re purpose median to accommodate dedicated Bus Rapid Transit Lanes (north-south) ■ Install BRT station at Ashley Phosphate intersection ■ Construct 12’ meandering sidepath along Dorchester Road ■ Redesign intersections with high visibility crosswalks, pedestrian signal countdowns, pedestrian refuge islands, street trees, and pedestrian level lighting
Probable Construction Cost:	**N/A**

Proposed

Dorchester Road / SC Highway 642

THIS PAGE INTENTIONALLY LEFT BLANK.

B

Goose Creek Road / US Highway 52

From Red Leaf Boulevard to Tom Hill Road **Length: 2.2 miles**

Problem Statement:	US 52 (through Goose Creek Road) is primed for greenfield development. Currently a 4-Lane divided facility with no amenities for bicycle and pedestrian travel. The corridor also suffers from limited connectivity and complimentary uses.
Design Considerations:	■ Plan for 2-Lane collector street connectivity, supposed by future development and redevelopment ■ Establish spacing standards for intersecting streets, signals, cross access and driveway curb cuts
Recommendations:	■ Redesign signalized intersections to include crosswalks, lighting, and pedestrian refuges ■ Eliminate free-flow right turn lanes ■ Install 10’ meandering sidepath with streets trees along entire corridor
Probable Construction Cost:	**N/A**

Goose Creek Road / US Highway 52

Goose Creek Road / US Highway 52

THIS PAGE INTENTIONALLY LEFT BLANK.

C

US Highway 78 / 5th Street

From Main Street / US 17 Alternate to Von Ohsen Road / Royle Road **Length: 2.5 miles**

Problem Statement:	US Highway 78 is a multilane facility that connects residential neighborhoods to commercial and institutional development. The corridor continues to have problems with crashes and congestion. Poor access management and a plethora of driveways plague this important corridor.
Design Considerations:	■ Improve walkability and bike-ability along corridor ■ Beautification treatments will benefit corridor appearance and speed control ■ Improve connectivity through cross-access and back-door access between complimentary uses
Recommendations:	■ Install high visibility crosswalks, pedestrian countdown signals, pedestrian level lighting at intersections of Main Street and Berlin Myers ■ Plant street trees along entire corridor ■ Construct “Pocket Median” at select locations along corridors
Probable Construction Cost:	**N/A**

US Highway 78 & 5th Street

US Highway 78 & 5th Street

Rutledge Avenue

Rutledge Avenue

Rutledge Avenue

The Peninsula/From Peachtree Street to Sumter Street **Length: 1 miles**
Pictured: Grove St to Moultrie St

Problem Statement:	Along this stretch, the road switches from 1-way to 2-way. Surrounding neighborhood residents prefer the street to return to it's original neighborhood feel. Speeding here has been an issue which is particular dangerous so close to several schools and parks. The area features many small blocks, but few lights and fewer crosswalks.
Design Considerations:	■ Residents and students need safe crossing to schools and parks ■ Needs traffic calming ■ Cut through traffic needs to be deterred
Recommendations:	■ Signalize key intersections like Moultrie Street and add 4-way stop signs at Cleveland Street ■ Add curb bump outs and painted curbs to define on-street parking and shorten crossing distance ■ Add high-visibility cross walks at Maverick and Francis streets ■ Optional: close Cleveland Street at the park and create a pedestrian street park entrance
Probable Construction Cost:	**N/A**

Maybank Highway

Johns Island/From River Road to Southwick Drive
Pictured: Sailfish Rd to Towne St

Length: 1.8 miles

Problem Statement: Congestion is a major concern as more residential and commercial growth comes to the islands. The main highway through needs to grow to meet the new demand. The community has been advocating for the protection of the mature tree canopy as well as increased multi-modal connectivity.

Design Considerations:

- Roadway must be widened to meet increased travel demand
- Residences, businesses, and neighborhoods must retain driveway access
- Connectivity along and around the corridor needs to be improved

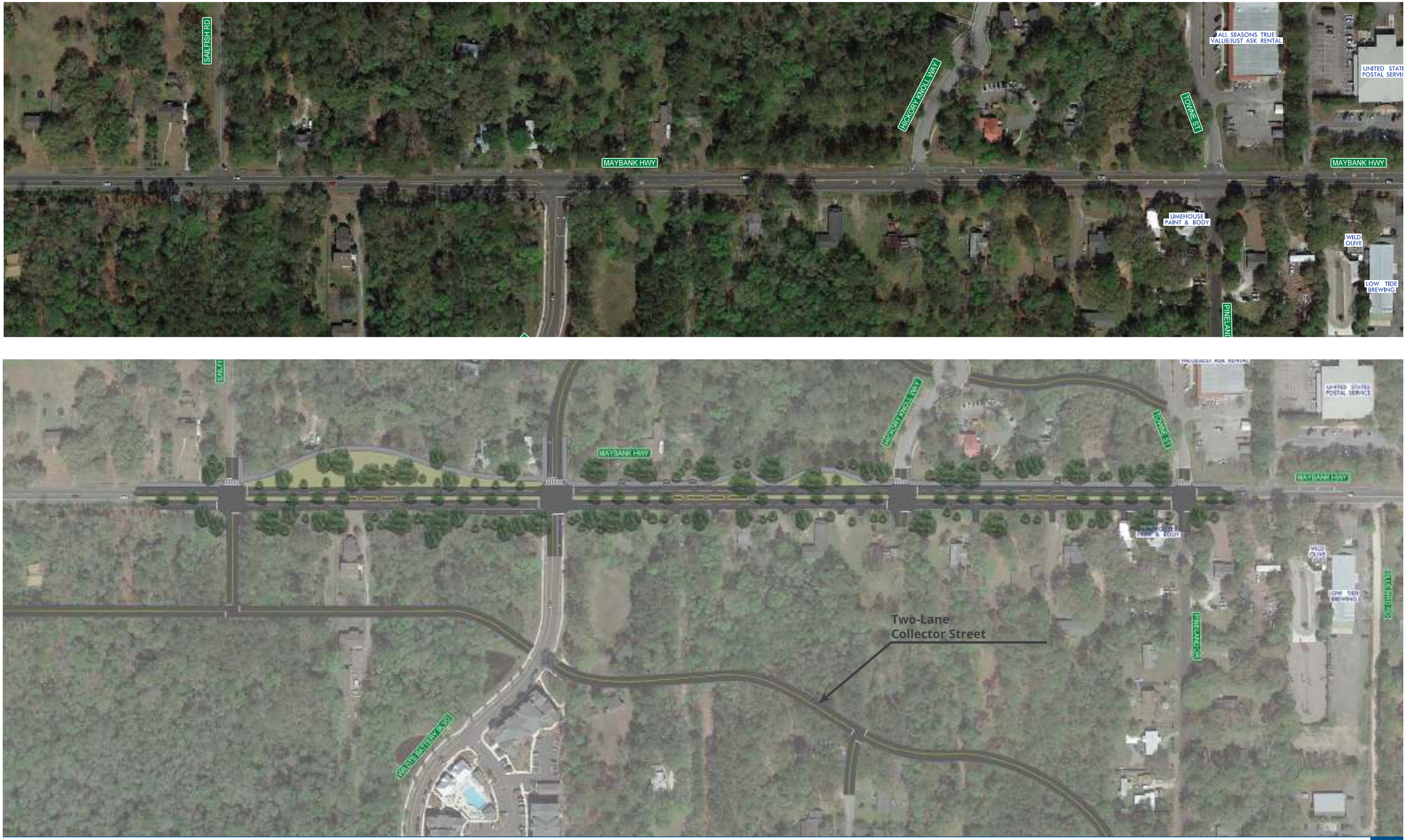
Recommendations:

- Roadway must be widened to meet increased travel demand
- Residences, businesses, and neighborhoods must retain driveway access
- Connectivity along and around the corridor needs to be improved

Probable Construction Cost: N/A

Maybank Highway

Maybank Highway



THIS PAGE INTENTIONALLY LEFT BLANK.

THIS PAGE INTENTIONALLY LEFT BLANK.