



Community Characterization

Draft 06 August 12, 2020



Community Characterization

SC Highway 41 Corridor Improvements Project

Charleston and Berkeley Counties, South Carolina

Draft 06 August 12, 2020

Prepared for
Charleston County

Prepared by



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1 Introduction

1.1 Project Description

HDR, in cooperation with a team of consultants (the project team) has been contracted by Charleston County to provide engineering design and environmental permitting services necessary for the preparation of an environmental document, preliminary road and bridge plans, right of way plans, and final construction plans for roadways and bridges for the proposed SC Highway 41 Corridor Improvements Project.

The proposed project is a transportation corridor improvement project located in Charleston and Berkeley counties. To date, the project study area has been defined as a 4.6-mile-long mainline corridor of SC 41 including from US 17 across the Wando River Bridge to Clements Ferry Road. The project also includes improvements to the intersection of SC 41 and US 17 and completion of the tie in of Gregorie Ferry Road between SC 41 and US 17 (Figure 1). SC 41 is a two-lane highway that provides vehicular access between US 17 and Clements Ferry Road, as well as north to Huger, South Carolina. The purpose of the proposed project is to accommodate an increase in traffic volume by improving roadway capacity and system continuity throughout the project limits. This section of SC 41 serves as a minor arterial that has experienced an increase in traffic due to regional growth, and currently sustains operations that exceed capacity and are projected to worsen over time.

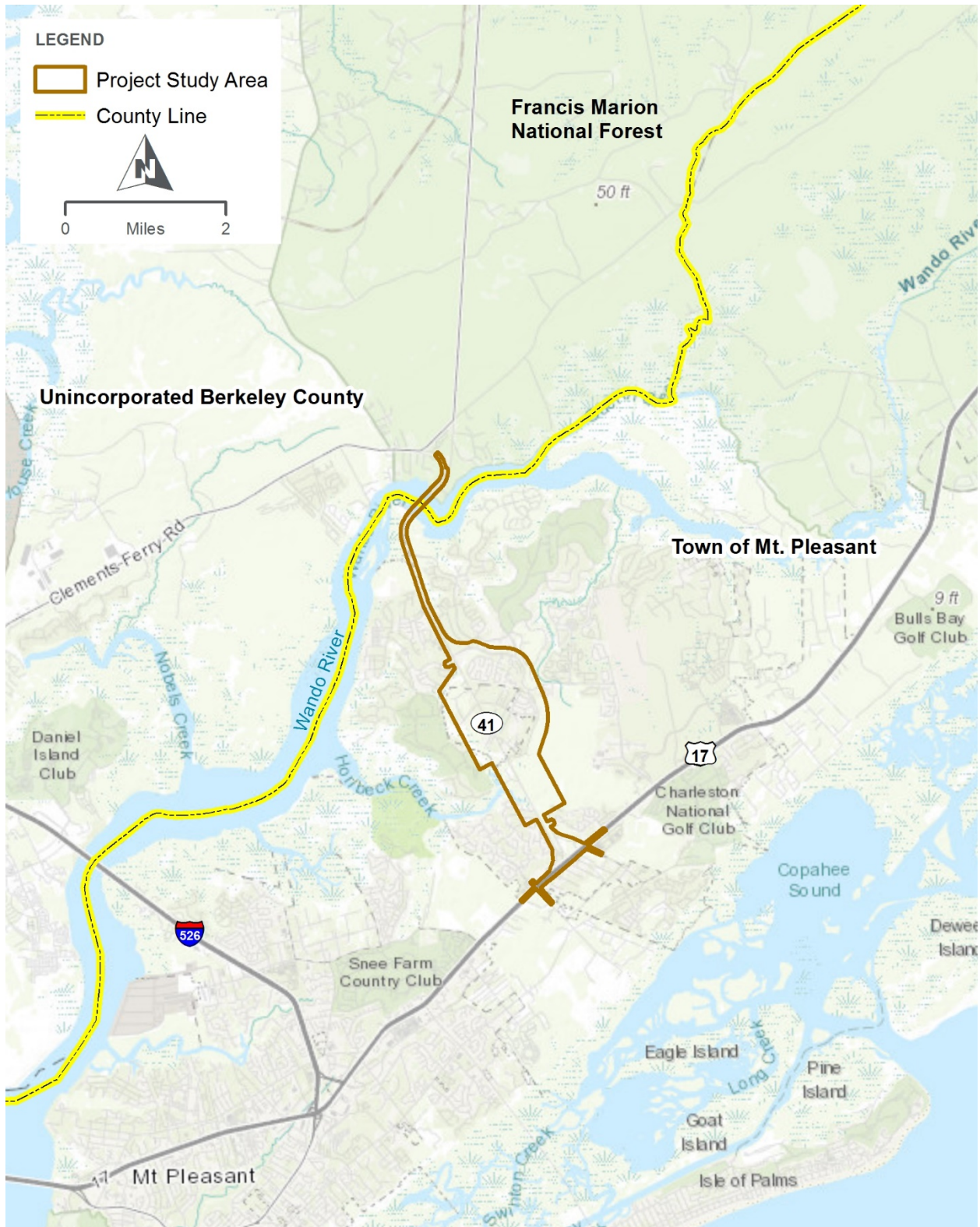


Figure 1. Project Location

1.2 Purpose of Community Characterization

The Community Characterization Report summarizes the existing conditions in the study area and serves as a baseline for the National Environmental Policy Act (NEPA) process. Information from this report will also help inform the Community Impact Assessment, which is an evaluation of effects to the human environment as a result of the proposed project. The consideration and documentation of environmental and socioeconomic effects is a critical part of NEPA, and findings from the Community Characterization and Community Impact Assessment will be used to evaluate project impacts to the human environment in the environmental document for the proposed project.

2 Methodology

2.1 Study Area

The Federal Highway Administration (FHWA) guidance document entitled *Community Impact Assessment: A Quick Reference for Transportation* (FHWA 1996) recommends a process to evaluate the effects of a transportation project on a community and its quality of life. The assessment of effects helps decision-makers ensure that transportation investment addresses concerns and minimizes effects to communities.

The guidebook has various definitions of community, all of which were considered in determining the overall study area for the community characterization work, as well as the smaller divisions of the study area discussed in the report. The guidebook defines community as an area where behavior patterns of individuals or groups of individuals are common and where shared perceptions or attitudes create an identifiable area. Communities may be based on a common characteristic that is not spatial in nature, such as religion, income, ethnicity, etc. Community characterization study areas typically include communities within, and immediately adjacent to, project study areas, as well as where social effects may be felt. The boundaries of study areas may be delineated based on physical barriers, land use trends, political divisions, certain demographic characteristics, and/or resident perceptions.

As currently defined, the proposed SC Highway 41 Corridor Improvements Project area encompasses a 4.6-mile-long mainline corridor of SC 41 including from US 17 across the Wando River Bridge to Clements Ferry Road. The project also includes improvements to the intersection of SC 41 and US 17 and completion of the tie in of Gregorie Ferry Road between SC 41 and US 17. In developing the community characterization study area for the project, the project team identified neighborhoods and communities in areas adjacent to the SC 41 corridor, and for ease of data collection, used the US Census Bureau (Census Bureau) geographies, either census tracts or smaller block groups, and the Traffic Analysis Zones (TAZ) that encompass those neighborhoods and communities to delineate the study area. TAZs are geographical units used for travel demand modeling. The Census Bureau geographies and TAZ boundaries also generally follow visible natural or man-made features such as streams, rivers or major roadways. It should be noted that the Census Bureau geographies are not a perfect match to the TAZ boundaries, and both are larger than the extent of the communities discussed in this study.

The community characterization study area in this report is made up of five larger sub-areas, which are delineated similarly to the Census Bureau's county census tract divisions. The area's history is discussed at the larger sub-area level and addresses either side of the Wando River in Charleston and Berkeley counties. The study area is further organized into 12 smaller, project team-defined communities, which are based on similarities in land use and context, while still typically following Census Bureau geographies, TAZ boundaries, and visible features. The Charleston County portion of the study area, located to the south of the Wando River, includes two Census Bureau census tracts encompassing five Census Bureau block groups and 11 of the 12 identified communities, consisting of Phillips Community, Rivertowne, Brickyard Plantation and The Colonnade (hereafter Brickyard/Colonnade), Horlbeck Creek, Planters Pointe, Park West, Dunes West, Seven Mile, Gregorie Ferry, Ivy Hall, and Cardinal Hill. The Berkeley County portion of the study area, located to the north of the Wando River, includes two census tracts and one block group within each tract and the remaining identified community, Cainhoy.

Data from the communities are used as the foundation for the existing conditions analysis. Census Bureau census tract and TAZ data are used in the evaluation of demographics, economics, environmental justice (EJ) populations, and growth trends within the overall study area and each of the four census tracts. Data from Census Bureau block groups, which are smaller than the census tracts, were used to refine the EJ analysis to a more detailed geographic level. The 12 communities within the study area are described in detail in later sections of this report. The study area and its four associated Census Bureau census tracts and seven associated Census Bureau block groups are shown in Figure 2. The 12 communities within the study area are shown in Figure 3.

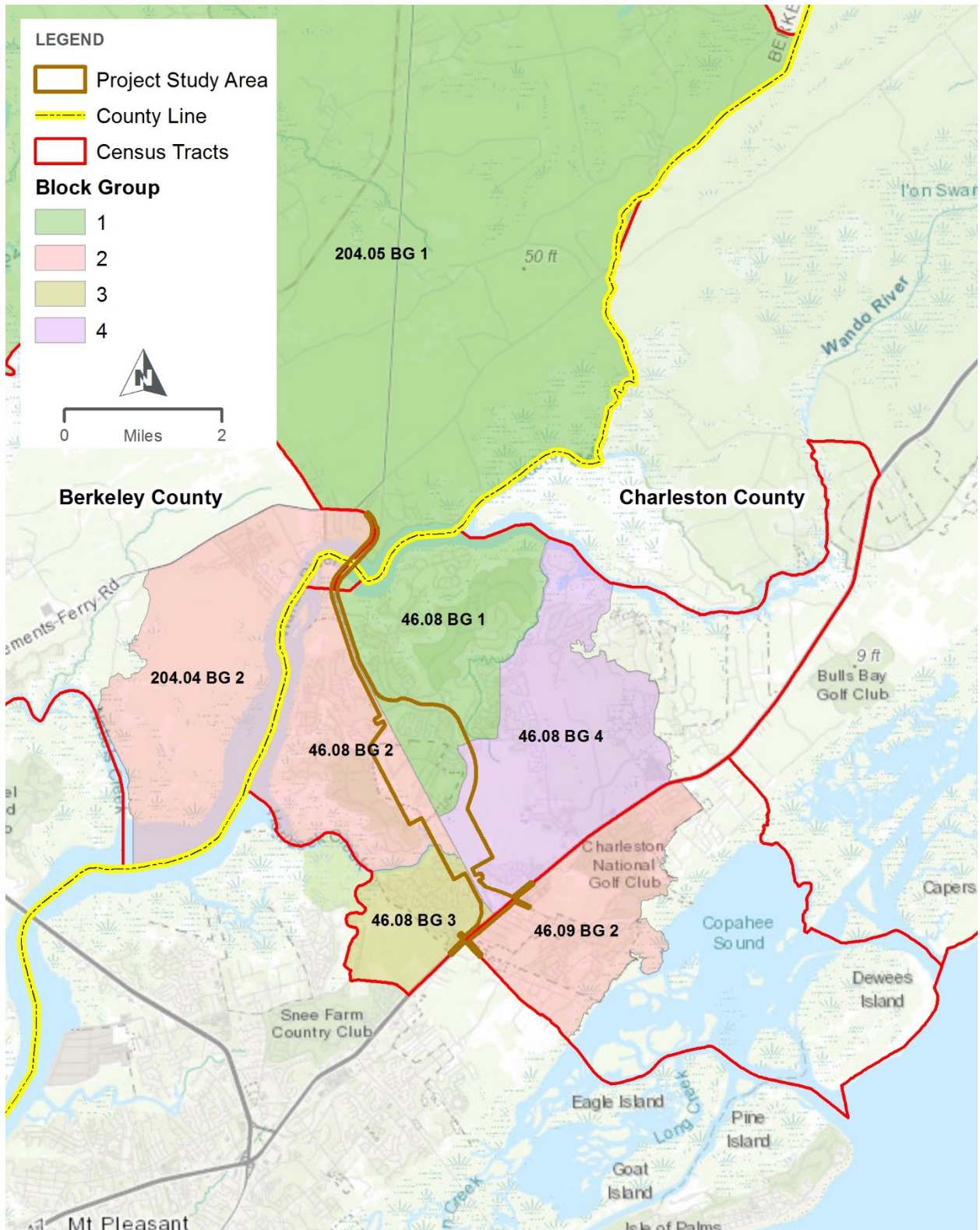


Figure 2. Study Area

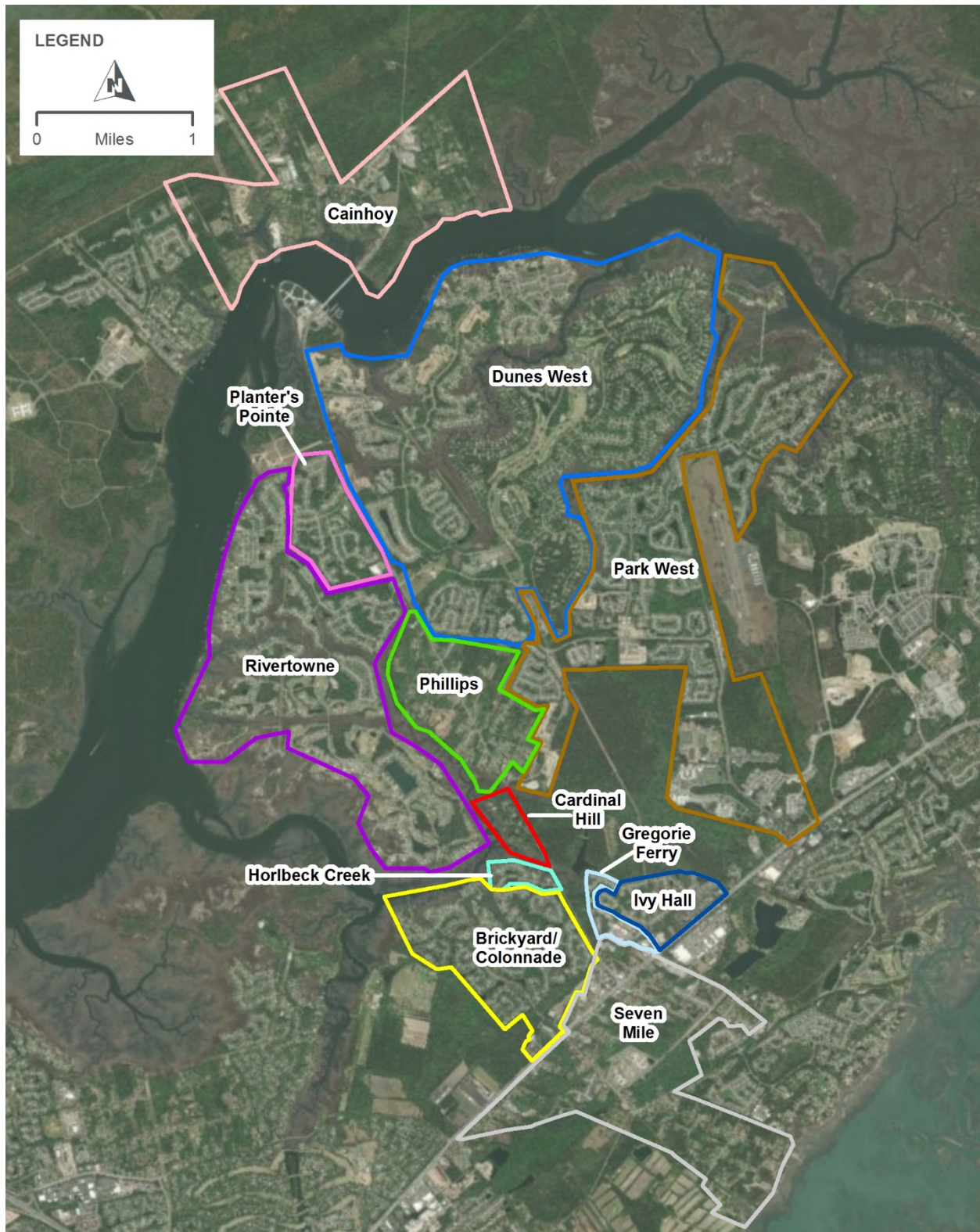


Figure 3. Communities

2.2 Demographic, Economic and Socioeconomic Data

Demographic, economic, and EJ conditions were identified using Census Bureau data at the county (Charleston and Berkeley counties) and census tract levels. To better understand the EJ populations that comprise the study area, Census Bureau block group data were used to refine identification of minority and low-income populations.

The non-white, or minority population was calculated at the census tract and block group levels by adding all races other than white. This includes Black or African American; American Indian and Alaska Native; Asian; Native Hawaiian and Other Pacific Islander; and some other race. The Census Bureau block group geographies with minority populations exceeding 50 percent of the overall population are presented as the portions of the study area where the chance for disproportional environmental and human health effects may be the greatest, per EJ guidance from the President's Council on Environmental Quality (CEQ). Low-income populations were calculated at the census tract level by adding the below poverty population and the near poor population between 100 percent and 149 percent of poverty level as prescribed by the US Health and Human Services poverty guidelines. At the block group level, per capita income rates were assessed using the 2015 United States individual income poverty threshold reported by the Census Bureau (\$12,082; US Census Bureau 2016), per CEQ EJ guidance, to refine the analysis. The limited English proficiency (LEP) population was calculated at the census tract level and also considered at the block group level by adding all populations that self-reported speaking other languages and English less than very well. U.S. Department of Justice (DOJ) LEP guidance advises recipients of DOJ funds to provide "written translations of vital documents for each eligible LEP language group that constitutes five percent or 1,000, whichever is less, of the population of persons eligible to be served or likely to be affected or encountered" [Federal Register 67(117):41463-41464, June 18, 2002].

For socioeconomic trends, 2015 base year data and 2040 horizon year estimates were used. The 2015 data and 2040 population, housing, and employment estimates were obtained from socioeconomic data prepared for the Berkeley-Charleston-Dorchester Council of Government's (BCDCOG) Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017a, 2020). The 2010 county- and state-level population data were obtained from the Census Bureau's 2010 Demographic Profile (US Census Bureau 2010).

Base year (2015) data and horizon year (2040) estimates were obtained from TAZs that largely match the census tracts within the study area. The number of people, households, and jobs were calculated within each community for the years 2015 and 2040. Population, housing, and employment data were also reviewed at county levels, though it should be noted that the available TAZ data covered the entirety of Charleston County, but the northernmost portion of Berkeley County was not included in the TAZ data (BCDCOG 2017a).

2.3 Data Sources

Data for the community characterization study were obtained from a number of sources, including:

- map data from Google (Google 2017);
- ESRI World Imagery (ESRI 2017);
- historical to current USGS 7.5 minute series topographic quadrangles;
- Census Bureau, American FactFinder, 2010 Decennial Census;
- Census Bureau, American FactFinder, 2011-2015 American Community Survey (ACS) 5-Year Estimates;

- BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017a, 2020);
- published books and articles obtained from regional libraries; and
- local plans and websites.

The local plans and websites are identified in Section 5 References. In addition, information was collected and confirmed during visits to the study area in the summer and fall of 2017, during community/home owners' association (HOA) and business meetings held September 20-22, 2017, and during interviews with local residents at a public kickoff meeting held at the Park West Gym on November 13, 2017.

Stakeholder Working Group meetings were held on September 26, 2017, April 26, 2018, November 14, 2018, and March 6, 2019. Additional meetings included four meetings with leadership from community, neighborhood and business groups on April 25-26, 2018, the NEPA Scoping Meeting on May 16, 2018, and a series of community/HOA meetings on March 5-6, 2019.

3 Existing Conditions

This section summarizes the existing conditions in Charleston County, Berkeley County, the overall study area, and in each of the twelve communities identified by the project team. Topics covered in this section include history of the area, transportation network, local plans and initiatives (including land use), demographic and economic information, and community resources such as neighborhoods and facilities (including cemeteries, houses of worship, parks and recreational amenities, schools or other regional facilities).

The study area is split between two counties, though it is nearly all in Charleston County, except for the small portion to the north of the Wando River, which is in Berkeley County. Some of the existing conditions are discussed at the county and larger sub-area level in order to give context to the smaller communities, at which level other, more specific resources are discussed.

3.1 History

Though the majority of the project study area is located within Charleston County, the northern end of the project extends into Berkeley County, just across the Wando River. The following history presents a background for both Charleston and Berkeley counties, with a focus on the areas surrounding the Wando River.

Settlers in the Carolina Lowcountry were caught up in and were an integral part of wide-ranging disputes and rivalries among the English, Spanish, Native Americans, and African slaves. These disputes and rivalries encompassed nearly all of the Lowcountry, an area that spanned hundreds of miles from Georgetown, South Carolina, to northern Florida. The Spanish had routed the French in East Florida in 1565, and established a settlement at what is now St. Augustine. This Spanish presence was a continual threat to the English settlers, particularly after the 1670s, when Spain learned of the Charles Towne settlement.

King Charles II of England disregarded Spain's claim to the region, and in 1663 he granted Carolina to the Lords Proprietors. The next year, a group of Barbados planters hired William Hilton to explore the acquisition. He spent over a month in the waters of both Port Royal and St. Ellens, leaving with a high

opinion of the area's potential as a colony. Prompted by the account of tall pines and good soils, a small colony set out for Port Royal. Tales of hostile tribes convinced them to move farther north, though, where they founded Charles Towne in 1670 (Holmgren 1959:39). One of the first orders of business for the settlers was initiating trade with the native tribes as a way of ensuring both economic and physical survival (Covington 1978:9).

Scottish dissenters established Stuart's Town on Port Royal Island in 1684; it was short-lived and was destroyed by the Spanish in 1686. A series of large land grants beginning in 1698 signaled a renewed interest in settling Port Royal (Holmgren 1959:42). When the town of Beaufort was chartered in 1711, the Yamasee had 10 villages in what are now Beaufort and Jasper counties. Angered by mistreatment from traders, the Native Americans attacked in the Yamasee War in 1715 but did not succeed in dislodging the English (Covington 1978:12). At the time, the war was blamed on Spanish influence from Florida, but a more likely cause was the English traders' practice of seizing Native American women and children and holding them as slaves to meet tribal debts.

The conclusion of the Yamasee War also made settlement in the Charleston vicinity easier. The early economic development in the Wando Basin near Charleston initially focused on tribal trade. Trade with the Native Americans was pursued aggressively through the beginning of the eighteenth century, but by 1716 conflicts with the Europeans and disease had drastically reduced or displaced the local native population. As a result, naval stores and agricultural industries soon replaced the furs and other local commodities acquired from the aboriginal inhabitants of the region. However, trade with the interior Catawba and Cherokee would continue throughout the eighteenth century.

Many early settlements and plantations in the area had focused on the Cooper and Wando rivers. These streams provided the best opportunity for profitable agricultural production (i.e., rice cultivation) and the best avenues for transportation to Charleston or other settlements in the region (South and Hartley 1985). Evidence of the many plantations along these rivers remains today primarily as archaeological sites, although some, such as Rice Hope Plantation near Moncks Corner, are still occupied.

The new colony was organized with the parish as the local unit of government by the Church Act of 1706. The church building itself served both religious and political purposes. As Gregorie (1961:5) explains, "The parish church as a public building was to be the center for the administration of some local government in each parish, for at that time there was not a courthouse in the province, not even in Charleston." The project area on the south side of the Wando River lies in Christ Church Parish. The boundaries of Christ Church Parish were established in 1708 as the Wando River, Awendaw Creek, and the Atlantic Ocean. On the north side of the Wando lies St. Thomas Parish, often referred to as St. Thomas and St. Denis after the immigration of many French Huguenots into this portion of Berkeley County during the early eighteenth century.

After 1720 the economy of the Wando region shifted to farming and stock husbandry. As early as 1720, rice accounted for half the colony's profits, and the importance of rice increased over the next 140 years. It was complemented by the introduction of indigo as a cash crop in 1740 (Pinckney 1976). While rice production was restricted to interior swamps and (later) river marshes, indigo grew best in well-drained soils. Plantations in Christ Church Parish were consistently located along the Wando River and its tributaries; most of the 700 slaves present in the parish in 1724 were also probably concentrated on the Wando River plantations.

The last recorded Native American skirmish of Christ Church Parish occurred in 1751. The location of the encounter between raiding northern tribes and the parish militia is described as “near the seaside, about two miles from the parish-church” (Drayton 1802 [cited in Gregorie 1961:44]). This last encounter was significant for removing any final fears of the settlers and for prompting greater movement of people into the Lowcountry.

The colonies declared their independence from Britain in 1776, following several years of increasing tension due to unfair taxation and trade restrictions imposed on them by the British Parliament. South Carolinians were divided during the war, although most citizens ultimately supported the American cause. Those individuals who remained loyal to the British government tended to reside in Charleston or in certain enclaves within the interior of the province.

Britain’s Royal Navy attacked Fort Sullivan (later renamed Fort Moultrie) near Charleston in 1776. The British failed to take the fort, and the defeat bolstered the morale of American revolutionaries throughout the colonies. The British military then turned their attention northward. They returned in 1778, however, besieging and capturing Savannah late in December. A major British expeditionary force landed on Seabrook Island in the winter of 1780, and then marched north and east to invade Charleston from its landward approaches (Lumpkin 1981:42-46). The rebel South Carolinians were not prepared for an attack from this direction. They were besieged and entirely captured in May after offering a weak defense. Charleston subsequently became a base of operations for British campaigns into the interior of South Carolina, Georgia, and North Carolina. However, the combined American and French victory over Lord Cornwallis at Yorktown in 1782 effectively destroyed British military activity in the South and forced a negotiated peace (Lumpkin 1981). The 13 colonies gained full independence, and the English evacuated Charleston in December 1782.

The project area was not directly involved in any battles of the Revolutionary War, and South Carolina saw little action between the failed British attempt to take Charleston in 1776 and their successful occupation of Charleston in 1780. An important outcome of the Revolutionary War was the removal of royal trade protection, which caused a drastic reduction in rice profitability. As a result, many planters along the Wando River and surrounding areas began to supplement their rice plantings with cotton agriculture. Unfortunately, Wando Basin soils were not as productive as those of the Sea Islands.

Christ Church Parish accounted for only 1.7 percent of the cotton production in the Charleston District by 1860, although the parish contained 10 percent of the improved land in that district. Furthermore, the rice production of the parish had decreased drastically from 1850 to 1860. Similar conditions prevailed in the neighboring portions of St. Thomas Parish. As Brockington et al. (1985:41) report, “The heretofore principal economic base of the parish was lost in the 1850s as production of rice during that decade fell from 964,000 to 180,000 pounds, a precipitous drop of 81.3%. The Christ Church rice planters relied on the Wando River for cultivation of the crop, an estuary not ideally suited for the more efficient and productive method of tidal rice agriculture. The higher saline content of the Wando restricted the amount of freshwater tidal agriculture that could be conducted along the river. As a result, the rice planters in the parish could neither effectively compete with the tidal rice plantations in the other parishes of the Charleston District nor withstand the pressures of oversupply and outside competition (see various census data presented by Lees 1980:48).”

Farmers in Christ Church Parish in turn put greater emphasis on ranching and truck farming (Brockington et al. 1985:41). Thus, as the Civil War approached, the economy of Christ Church Parish had already begun to move away from the old plantation system associated with rice agriculture.

Although the Civil War brought extensive battles to Charleston, the project area saw relatively little action. Confederate defensive works were constructed early in the war to prevent Union land forces from advancing on Charleston, but the Union strategy bypassed the Wando Neck and the Cainhoy Peninsula, and the earthworks did not see battle. The remains of this defense line are present east of US Highway 17, culminating in the Palmetto Battery (38CH953) on the edge of Copahee Bay (Espenshade and Poplin 1988; Fletcher et al. 2016).

The Civil War effectively destroyed the plantation system in South Carolina and the rest of the South. This meant profound changes for the area both economically and socially. The antebellum economic system disintegrated as a result of emancipation and the physical destruction of agricultural property through neglect and (to a lesser extent) military action. A constricted money supply coupled with huge debt made the readjustments worse. The changes were enormous. Land ownership was reshuffled as outsiders began purchasing plots and former plantations that had been abandoned in the wake of the Civil War. Newly freed slaves often exercised their freedom by moving, making the labor situation even more unsettled.

One result of this migration was a variety of labor systems for whites as well as freed African Americans; this fostered a period of experimentation and redefinition in the socioeconomic relationships between the freed African Americans and white landowners. The Reconstruction period also witnessed a drastic increase in the number of farms and a drastic decrease in average farm size as predominantly white landowners began selling and/or renting portions of their holdings. Brockington et al. (1985:49) summarize the census data and report an increase in Christ Church Parish farms from 61 in 1860 to 517 in 1870, with 77 percent of the later farms containing 10 acres or less. Diversified land use was common within single farms in the parish; corn, cotton, and beef were the major products. In 1880, 55 percent of the farms in Charleston County were tenant operated.

Besides corn, cotton, and cattle, truck farming was a major element of postbellum agriculture in the region. Truck crops accounted for 24 percent of the agricultural value for Charleston County by 1900. The importance of truck farming in Charleston County grew significantly, and in 1930 truck crops represented 79 percent of all crops grown in Charleston County (Brockington et al. 1985:49). This level of importance has remained relatively stable through the present.

World War II had a profound impact on the entire Charleston area, as it had on so much of the South. The war created an economic boom throughout the nation, made more dramatic in the South by the number of military bases constructed there. The Charleston Navy Yard received new destroyers, shipbuilding plants, and other support facilities, while other military activities emerged in the city's surrounding region. While the population rose modestly in the central city, it rose dramatically in the suburbs and villages in the area. The area was put on a war footing as a result of the harbor and the Navy Yard, as German U-boats patrolled the harbor in the early years of the war (Fraser 1989:387-389). The area's waterways became important avenues for civilian patrols and other shipments.

Since World War II, the region has continued to possess many small farms. In addition, timber harvesting returned as a major industry, particularly in the northern and more inland portions of Charleston and Berkeley counties. Limited industrial developments occurred along the Wando; however, the greatest change is evidenced by the development of Mount Pleasant, at the mouth of the Wando, and adjacent areas as a bedroom community for the expanding greater Charleston area. Service facilities for these residents also have increased. Much of the agricultural and forest land of the lower Wando River has been, and is currently being developed as residential tracts. The portion of the study area in Mount

Pleasant (south of the Wando River) is largely heavily developed in residential neighborhoods. A 9,000-acre master-planned, mixed-use development has been approved by the City of Charleston for areas to the north and west of the Cainhoy community.

3.2 Charleston County

Charleston County is located along the eastern edge of South Carolina in the coastal region of the state. The county is mostly rural in character but is also composed of several urban areas. Charleston is the largest municipality in the county. Other municipalities include Awendaw, Folly Beach, Isle of Palms, James Island, Johns Island, McClellanville, Mount Pleasant, Sullivan's Island, and West Ashley. The study area within Charleston County includes a narrow portion of the Town of Mount Pleasant. Being within Mount Pleasant, some of the most populated areas of Charleston County are located in the study area.

3.2.1 Local Plans and Initiatives

3.2.1.1 Regional Level

The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) serves as both the Regional Planning Council and the Metropolitan Planning Organization for Berkeley, Charleston, and Dorchester counties (BCDCOG 2012). BCDCOG administers federal community and economic development grants; coordinates environmental, land use and transportation planning; and, through its programs, helps reduce duplication across the three counties and their participating municipalities. One of the key functions of BCDCOG is its transportation planning responsibilities, particularly in relation to public, freight, intermodal, and multimodal transportation and congestion issues across the region.

BCDCOG's *Our Region Our Plan* (OROP) recognizes that the region will continue to experience substantial population growth and presents a "framework for future growth, development and infrastructure improvements" developed from data collected through community workshops and public forums (BCDCOG 2012). OROP envisions future land use patterns similar to traditional Lowcountry patterns: activity centers framed by natural areas with corridors connecting these spaces. OROP indicates that continued population growth presents challenges such as preserving the region's natural resources, maintaining affordable housing, and providing reasonable mobility options that lessen environmental impacts and lost productivity. Strategies to help overcome these challenges include:

- Encouraging mixed-use, compact development within existing activity centers and coordinating transportation planning and land use to allow for natural areas interspersed between human developments
- Increasing employment and educational opportunities in professional, high-tech fields to help support the region economically
- Creating a robust transportation system, to include freight and transit, that supports communities and nurtures businesses

BCDCOG's OROP prioritizes infrastructure investments such as transit and serves as a "Vision Plan" for the tri-county region (BCDCOG 2012).

BCDCOG's CHATS 2040 Long-Range Transportation Plan (LRTP) addresses regional transportation needs through continuous coordination with representatives of numerous stakeholders in the study area, including:

- CHATS Metropolitan Planning Organization
- Cities of Charleston and North Charleston
- Towns of Summerville and Lincolnville
- Berkeley, Dorchester, and Charleston counties
- Various local, regional, state, and federal agencies, including the local transit authorities (Charleston Regional Transportation Authority [CARTA] and TriCounty Link [TCL]), South Carolina Department of Transportation, FTA, and FHWA (BCDCOG 2018).

The LRTP identifies specific and general transportation system improvement recommendations and strategies to accommodate future transportation demands while promoting safety and efficiency. This plan supports a multimodal transportation system that addresses the economic, social, and environmental needs of the Berkeley-Charleston-Dorchester county region by assessing not only automobile accessibility, but also freight, bicyclist, pedestrian, and transit components of the system.

The LRTP identifies the SC 41 Corridor Improvements, the Gregorie Ferry Connector, the Clements Ferry Road Widening (Phase 2), and the Park West Boulevard Widening projects on its list of committed roadway improvement projects. The Gregorie Ferry Connector is a proposed road connecting Colonnade Drive (at SC 41) to Emma Lane (at Gregorie Ferry Road). The Clements Ferry Road Widening (Phase 2) involves widening Clements Ferry Road from Jack Primus Road to SC 41 from two lanes to four lanes. The Park West Boulevard Widening involves widening Park West Boulevard from Bessemer Road to the entrance to the Mount Pleasant Recreation Complex (south of Turgot Lane) from two lanes to four lanes. The LRTP also recommends the following transportation improvement projects near the project study area: All-American Boulevard Extension and US 17/Porcher's Bluff Road intersection improvement. All-American Boulevard serves as a frontage to US 17 to provide access to local businesses and neighborhoods. Its proposed extension involves three phases. Phase 1 involves improvements from the existing termini of All-American Boulevard to George Browder Boulevard at the Church at LifePark. Phase 2 would extend from the intersection of George Browder Boulevard and the termini of Phase 1 and connect to Park West Boulevard via the existing leg of the roundabout (Town of Mount Pleasant 2018). Phase 3 would extend from the existing termini and connect to Silent Harbor Court (BCDCOG 2018).

The LRTP identifies a number of recommended pedestrian trails and bicycle lanes in the project study area on SC 41 across the Wando River Bridge to Clements Ferry Road and along the entire length of Bessemer Road between SC 41 and Park West Boulevard. *Walk+Bike BCD-Planning for a Walkable and Bikeable Region*, the regional active transportation master plan for the tri-county area, provides the basis for identifying where walking and biking investments should be directed in the CHATS planning area (BCDCOG 2017b).

3.2.1.2 County/Municipal Level

Several county and municipal plans are described herein. Because Charleston and Berkeley counties code mapped land uses differently, they are presented below in two separate figures. Existing land uses can be seen in Figure 4 and 5 and are discussed in general in this section, as well as in each of the 12 community characterization sections. Reasonably foreseeable actions near the project study area include various proposed developments and roads (Figure 6).

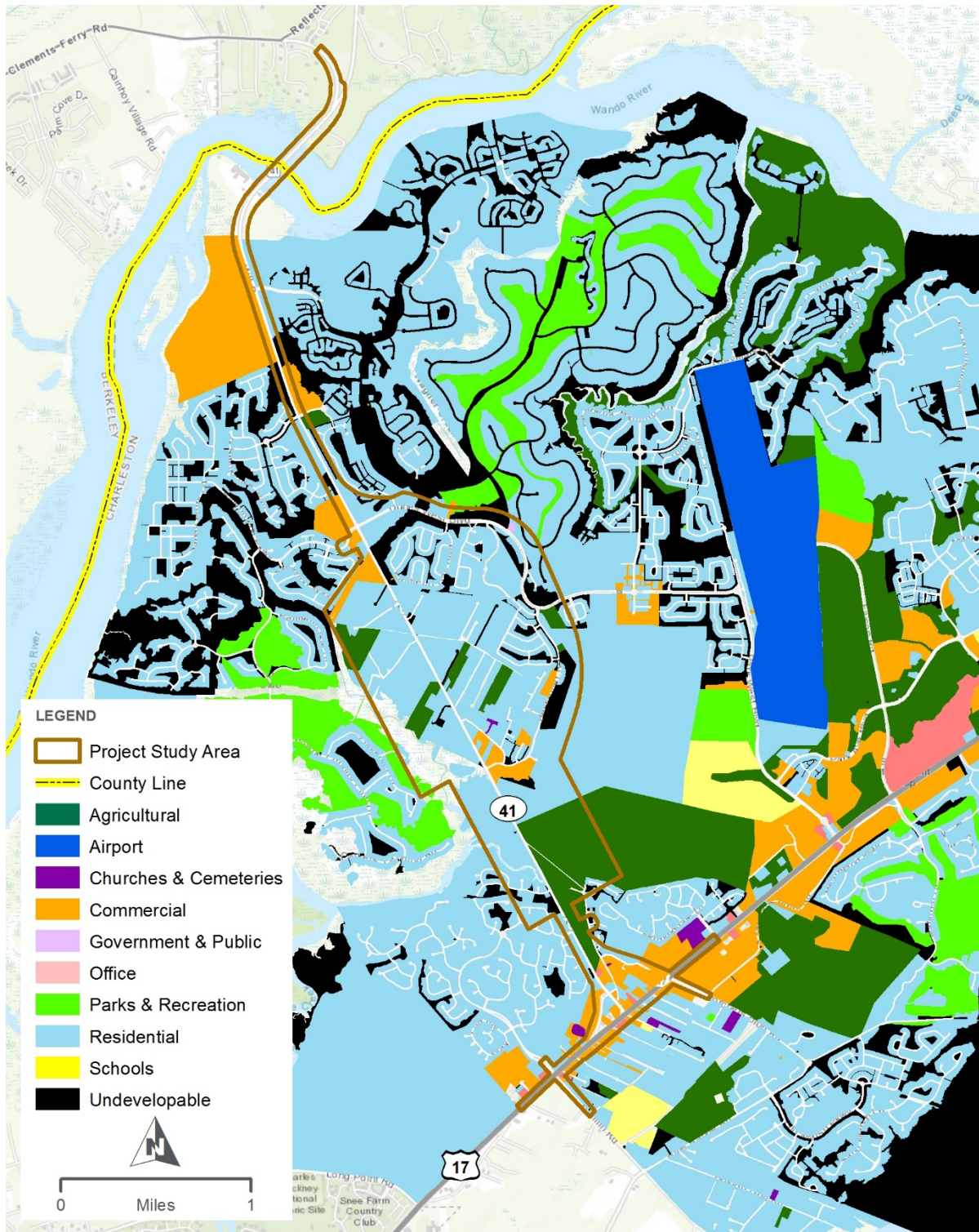


Figure 4. Charleston County Land Use

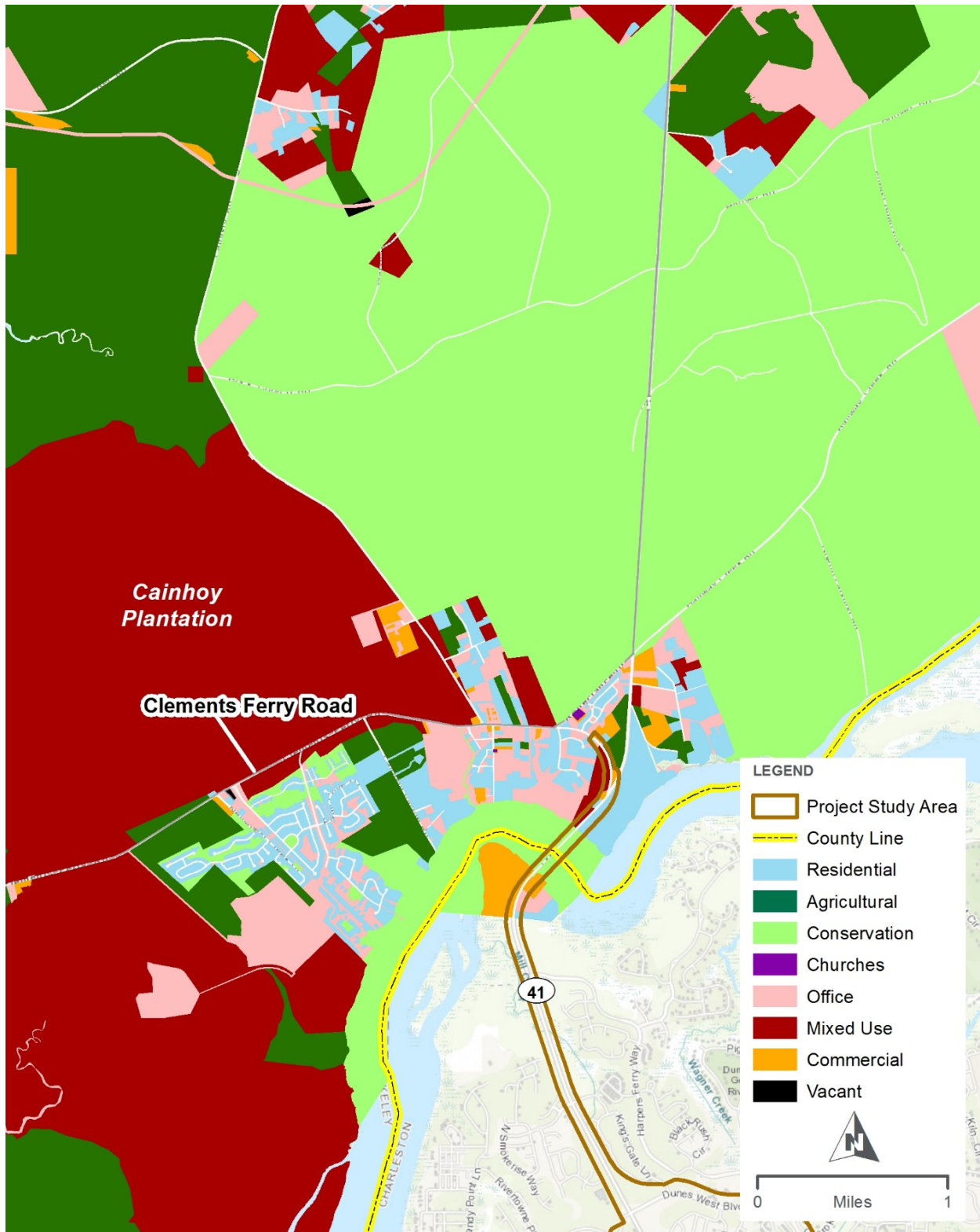


Figure 5. Berkeley County Land Use



Figure 6. Proposed Developments and Roads

The *2018 Charleston County Comprehensive Plan* (CCCP; Charleston County Council 2018) covers the project study area south of the Wando River. The CCCP presents particular elements designed to accomplish the county's vision regarding the pattern, quality, and intensity of land uses; the provision of public facilities and services; economic development; availability of housing; and preservation of natural and cultural resources. Future land uses identified by the CCCP in the study area vicinity consist of urban/suburban cultural community protection, urban/suburban mixed use, parks/recreation/open space, residential/special management, planned development, commercial, and sweetgrass basket stand special consideration area. The project study area is within the county's designated Urban Growth Boundary (UGB). The CCCP encourages compact growth in already developed areas, redevelopment, and infill of existing vacant sites inside the UGB, particularly where employment and residential density are the greatest, and discourages development in low-growth areas.

The *2016 Charleston County People 2 Parks Plan* (Charleston County Park and Recreation Commission 2017a) objectively prioritizes bicycle and pedestrian network recommendations throughout Charleston County, provides cost estimates, and recommends project implementation strategies. The plan identifies a potential bicycle and pedestrian corridor in the project study area along SC 41 between Harper's Ferry Way and US 17 and along the entire length of Dunes West and Park West Boulevards.

The *2019 Town of Mount Pleasant Comprehensive Plan* (Town of Mount Pleasant 2019) identifies future land uses in the immediate vicinity of the project study area as recreation/open space, conservation/marsh/wetlands, settlement community, mixed neighborhood, conventional residential neighborhood, traditional residential neighborhood, rural residential, community scale commercial, neighborhood scale commercial, business and industry, community facilities, and marine/waterfront gateway. The marine/waterfront gateway designation at the Wando River Bridge at the entrance to the Town of Mount Pleasant on SC 41 is intended to provide an integrated district with a network of pedestrian paths and streetscapes, including walks along the waterfront.

Most of the town's growth in recent years has been outwards or northwards along US 17 and SC 41. For a number of reasons, infill and redevelopment have become more compelling as a policy issue for the town. The plan recommends that infill and redevelopment should occur in such a way as to preserve the character of nearby residential areas, with buffers and transition zones where appropriate (Town of Mount Pleasant 2019).

The Mount Pleasant Way bicycle and pedestrian network continues the efforts of its predecessor, the *2013 Town of Mount Pleasant Bicycle and Pedestrian Master Plan*. The Mount Pleasant Way was conceived as an effort to create a safe, viable, functional network that can serve Town citizens and visitors as both a recreational amenity and transportation alternative. This facility would function as a linear park, expanding outdoor recreation opportunities to the citizens and visitors, and connecting destinations throughout town (Town of Mount Pleasant 2019). The Mount Pleasant Way recommends improving large-scale connectors in the project study area, such as SC 41, to provide citizens with the ability to use alternative modes of transportation for a greater percentage of their traveling needs.

The 2040 Mobility Plan continues the efforts of its predecessor, the *2006 Town of Mount Pleasant LRTP*. In addition to the recommendations included in the above-mentioned BCDCOG CHATS LRTP, the 2040 Mobility Plan recommends the following transportation improvement projects near the project study area: SC 41 Extension, Billy Swails Boulevard Widening, and New Parallel Road (West of US 17). The SC 41 Extension would involve extending the southern terminus of SC 41 at the intersection of US 17 to Billy Swails Boulevard via a 2 lane divided road. The Billy Swails Boulevard Widening would widen Billy Swails

Boulevard from 2 lanes to 4 lane divided between the Isle of Palms Connector and Porcher's Bluff Road. The New Parallel Road (West of US 17) would be a new 2 lane roadway from Long Point Road to SC 41 (Town of Mount Pleasant 2019).

3.2.2 Economics

According to the *Community Profile: Charleston County* (SCDEW 2019a), as of February 2019, 203,008 people were employed in Charleston County, with an unemployment rate of 2.7 percent (as compared to 3.2 percent in South Carolina). The 20 largest employers in Charleston County were Autozoners LLC, Carealliance Health Services, Charleston County, Charleston County School District, City of Charleston, City of North Charleston, College of Charleston, Comcast Cable Communications, Department of Defense, Harris Teeter LLC, Kiawah Island Inn Company LLC, Medical University of South Carolina Hospital Authority, Medical University of South Carolina, The Boeing Company, The Citadel, Trident Medical Center LLC, Trident Technical College, University Medical Associates Inc., Wal-Mart Associates Inc., and William Jennings Bryan Dorn VA Medical Center , (SCDEW 2019a).

The Quarterly Census of Employment and Wages indicated that the three industry sectors with the largest employment numbers were Health Care and Social Assistance (39,021), Accommodation and Food Services (35,992), and Retail Trade (29,285). Accommodation and Food Services was hiring in the largest numbers, while Health Care and Social Assistance had the greatest projected employment growth, by gross numbers, through 2024 (SCDEW 2019a).

According to the South Carolina Association of Counties, for fiscal year 2016, revenues in Charleston County totaled \$624,024,070, the highest of any county across the state. The total property value in 2016 was \$3,725,590,579 (SC Association of Counties 2018).

3.3 Berkeley County

Berkeley County adjoins Charleston County to the west and is located near the eastern edge of South Carolina in the coastal region of the state. The county is mostly rural in character but is also composed of several urban areas. Goose Creek is the largest municipality in the county. Other municipalities include Bonneau, Hanahan, Jamestown, Moncks Corner (county seat), Pinopolis, St. Stephen, and Sangaree. The study area within Berkeley County includes the Cainhoy community. Portions of the Francis Marion National Forest are located to the north and west of the Cainhoy community.

3.3.1 Local Plans and Initiatives

3.3.1.1 County/Municipal Level

The *2010 Berkeley County Comprehensive Plan* (BCCP; Berkeley County 2010) covers the project study area north of the Wando River. The BCCP was intended to identify the positive attributes and components that define Berkeley County, while guiding growth and development for the next 15 to 20 years. The plan identifies the future land use in the immediate vicinity of the project study area as moderate density suburban. The moderate density suburban designation encourages compatible mixed use development and a general land use pattern that includes a variety of housing types, retail, service, employment, civic, and compatible industrial uses, as well as public and open spaces and linkages to public transit in a walkable environment. Proposed developments adjacent to the project study area include Wando Village, a mixed-use development combining retail/commercial uses with 416 units of various residential types; and Rivers Bend, a retail center including a gas station and other retail spaces such as a hardware store, bank, fast-food restaurant, garden center, etc. A 9,000-acre master-planned,

mixed-use development known as Cainhoy Plantation is proposed near the study area on Clements Ferry Road in Berkeley County. Two schools have already been constructed as part of the development.

3.3.2 Economics

According to the Community Profile: Berkeley County (SCDEW 2019b), as of February 2019, 99,034 people were employed in Berkeley County, with an unemployment rate of 2.9 percent (as compared to 3.2 percent in South Carolina). The 20 largest employers in Berkeley County were Bechtel Marine Propulsion Corporation, Benefitfocus Com Inc., Berkeley Citizens Inc., Berkeley County Government, Berkeley County Schools, Blackbaud Inc., C. R. Bard Inc., Century Aluminum of South Carolina, City of Goose Creek, Department of Defense, J. W. Aluminum Company Inc., Nucor Corporation, Publix Super Markets Inc., SAIC Gemini Inc., Santee Cooper SC Public Service Authority, T Mobile USA Inc., Volvo Car US Operations Inc., Wal-Mart Associates Inc., and XPO Logistics Supply Chain Inc. (SCDEW 2019b).

The Quarterly Census of Employment and Wages indicates that the three industry sectors with the largest employment numbers are Retail Trade (6,814), Manufacturing (6,615), and Professional, Scientific, and Technical Services (6,133). Accommodation and Food Services was hiring in the largest numbers, while Health Care and Social Assistance had the greatest projected employment growth by gross numbers through 2024 (SCDEW 2019b).

According to the South Carolina Association of Counties, for fiscal year 2016, revenues in Berkeley County totaled \$263,722,707, and the total property value in 2016 was \$979,126,342 (SC Association of Counties 2018).

3.4 Study Area Context and Community Characterization

3.4.1 Transportation Context

3.4.1.1 Roadway Network

The roadway network in the study area includes one US route (US 17), one state highway (SC 41), and several local roadways. Local and regional commuters use these roadways. US 17 travels in a southwest to northeast route along the southern end of the study area. Within the vicinity of the study area, US 17 links Georgetown to Charleston. SC 41 traverses the study area as the main north-south route. This highway serves as the backbone of the Phillips Community, Rivertowne, Brickyard/Colonnade, Horlbeck Creek, Planters Point, and Dunes West. In the northern portion of the study area, to the north of the Wando River, Clements Ferry Road splits to the west of SC 41 and provides access to the Cainhoy community.

3.4.1.2 Public Transit

The Berkeley Charleston Dorchester Region's two transit agencies, CARTA and TriCounty Link, coordinate their routes and scheduling to provide an interregional transit connection for transit patrons in and around the SC 41 area. The SC 41 segment between the Wando River and US 17 is a vital link in making this collaborative effort feasible. The TriCounty Link transit agency operates fixed-route services that connect transit patrons from communities north of the Wando River to the Charleston urbanized area. This includes a route that provides service along this section of SC 41, from Cainhoy/Clements Ferry Road to the SC 41/ US 17 junction, where it connects with CARTA service. While CARTA does not operate buses along this section of SC 41, it does have a stop at the SC 41/US 17 junction that connects with the TriCounty Link service. In addition, there is a CARTA Park-and-Ride facility located within one-

half of a mile from the SC 41/US 17 junction (CHATS 2014). Mount Pleasant areas/facilities that can be accessed from the bus routes include Patriots Point, shopping areas along Houston Northcutt Boulevard, shopping areas along US 17, shopping areas and medical facilities along Bowman Road, the Wando Crossing Shopping Center, and Mount Pleasant Towne Centre.

3.4.1.3 Pedestrian and Bicycle Amenities

There are very few existing sidewalks and bicycle lanes/trails within the study area. Along SC 41 within the Phillips Community, bicycle and pedestrian facilities include 1.3 miles of sidewalks on both sides of the highway between Virginia Rouse Road and Joe Rouse Road. Also along SC 41 is a four-foot shoulder on the new Wando River Bridge. The Mount Pleasant Way recommends improving large-scale connectors, such as SC 41, to provide citizens with the ability to use alternative modes of transportation for a greater percentage of their traveling needs. Bicycle and pedestrian facilities in the project study area include 1.3 miles of sidewalks along SC 41 between Virginia Rouse Road and Joe Rouse Road, sidewalks along US 17, a four-foot shoulder on the new Wando River Bridge, and several miles of biking trails in Laurel Hill County Park (Town of Mount Pleasant 2019).

There is only one concentration of recreational trails within the study area, located in Laurel Hill County Park, to the north/east of SC 41. This 745-acre park abuts the Park West subdivision, Ivy Hall subdivision, and SC 41. Laurel Hill County Park features several miles of running, walking, or biking trails that provide bicycle and pedestrian connections between various neighborhoods and the Town's Park West Recreation Complex (Town of Mount Pleasant Bicycle and Pedestrian Master Plan 2013; Charleston County Park and Recreation Commission 2017b). Access to Laurel Hill County Park is primarily from Park West Recreation Complex off of Park West Boulevard. A controlled-access event entrance to the park is present on SC 41; however, this does not provide ongoing public access to the park.

The proposed improvements to SC 41, as recommended by CHATS, are to widen the existing roadway to a four lane curb and gutter section with landscaped median, bicycle lanes and sidewalks or a multiuse path. The proposed widening may include some improvements to the existing alignment. Due to the existence of a number of subdivisions within the study area, sidewalks and four-foot bike lanes or a 10-foot multiuse path is recommended to be incorporated into the design of the project. In addition, the bicycle and pedestrian circulations at non-signalized intersections should be considered (CHATS 2014).

The 2016 *Charleston County People 2 Parks Plan* (Charleston County Park and Recreation Commission 2017a) objectively prioritizes bicycle and pedestrian network recommendations throughout Charleston County, provides cost estimates, and recommends project implementation strategies. The plan identifies a potential bicycle and pedestrian corridor in the project study area along SC 41 between Harper's Ferry Way and US 17 and along the entire length of Dunes West and Park West Boulevards. The BCDCOG CHATS LRTP identifies additional potential bicycle and pedestrian lanes on SC 41 across the Wando River Bridge to Clements Ferry Road and along the entire length of Bessemer Road between SC 41 and Park West Boulevard (Town of Mount Pleasant 2019; Charleston County Park and Recreation Commission 2017a; BCDCOG 2018).

3.4.1.4 Airports\Waterways\Rail

There are no airports (commercial or general aviation) in the study area. There is one major waterway in the study area. The headwaters of the Wando River originate to the northeast of the study area, in the Francis Marion National Forest. The river serves as the boundary between Charleston and Berkeley counties in the northern portion of the study area. A newly-opened fixed span bridge along SC 41 crosses

the Wando River. There are recreational uses along the Wando River. There are no railroads (commercial or passenger) in the study area.

3.4.2 Study Area and Community Characterization

The study area is primarily located within four Census Bureau census tracts, as shown on Figure 2. Census Tracts 46.08 and 46.09 are in the Charleston County portion of the study area and encompass 94.1 and 2.0 percent of the study area, respectively. Census Tracts 204.04 and 204.05 are in the Berkeley County portion of the study area, and these overlap approximately 1.5 and 2.1 percent of the study area, respectively. The southwestern corner of the study area overlaps a small portion of an additional census tract, 46.10. As this tract constitutes only a small fraction (0.3 percent) of the study area, data associated with Census Tract 46.10 and associated block group were not considered representative of the study area and were not assessed in this analysis. Thus, four census tracts, consisting of Charleston County Census Tracts 46.08 and 46.09 and Berkeley County Census Tracts 204.04 and 204.05, inform this analysis.

The 12 communities in the study area were defined by the project team based on similarities in land use and context and by following Census Bureau and TAZ boundaries and visible features. The Census Bureau tracts/block groups are used in the evaluation of demographics. While the TAZ boundaries align fairly closely to the census tract boundaries, they are not an exact match. Therefore, economics and growth trends within the study area are based on the TAZ boundaries, but will be referred to by the census tract numbers for consistency. Charleston County Census Tract 46.08 contains TAZs 548-549 and 558-561. Charleston County Census Tract 46.09 contains TAZs 553-55 and 571-572. Berkeley County Census Tract 204.04 contains TAZs 1154-1157. Berkeley County Census Tract 204.05 contains TAZs 1158-1160. Figure 7 presents a map showing the TAZ boundaries.



Figure 7. TAZ Boundaries

Demographic and economic data presented in Tables 1 and 2 include information related to race (non-white) and ethnicity (Hispanic or Latino), age, LEP, zero-vehicle households, median household income, low-income populations, median home value and unemployment. The Black/African American population is the largest non-white population group in communities throughout the study area. In general, populations under the age of eighteen and over the age of sixty-five, zero-vehicle households and low-income populations are considered more reliant on public transportation and are, therefore, included in the demographic analysis in order to better evaluate the potential demand for public transportation services.

Table 1. Study Area Demographic Profile

Census Tract	% Non-white	% Hispanic or Latino	% LEP Households	% Age: under 18 & 65 and over	% Zero Vehicle Households
Charleston County	34.2%	5.4%	1.4%	33.5%	8.2%
46.08	7.8%	2.7%	0%	41.4%	1.7%
46.09	25.5%	2.4%	0%	37.5%	4.2%
Berkeley County	30.8%	6.0%	2.3%	35.3%	4.5%
204.04	20.5%	2.1%	0.5%	30.9%	3.6%
204.05	65.8%	1.9%	2.0%	35.1%	10%
South Carolina	32.2%	5.1%	1.6%	37.1%	7.0%

Source: US Census Bureau, 2010 Demographic Profile and American Community Survey 5-year Estimates (2011-2015) Tract and BlockGroup data.

Table 2. Study Economic Profile

Census Tract	Median household income	% Low - income	Median home value	% Unemployed
Charleston County	\$53,437	25%	\$243,200	7.7%
46.08	\$93,180	9%	\$387,100	6.4%
46.09	\$86,588	28%	\$311,800	3.6%
Berkeley County	\$52,506	22%	\$153,500	9.9%
204.04	\$70,458	45%	\$244,500	8.4%
204.05	\$46,397	58%	\$123,600	16.8%
South Carolina	\$45,483	29%	\$139,900	9.5%

Source: US Census Bureau, 2010 Demographic Profile and American Community Survey 5-year Estimates (2011-2015) Tract and BlockGroup data. Median Home Value is for owner-occupied housing units.

Table 3 shows the socioeconomic trends of the counties and census tracts, and each census tract is described in more detail in the sections following these tables.

Table 3. Study Area Socioeconomic Trends

Census Tract	2015 Population	2040 Population	% Change	2015 Households	2040 Households	% Change	2015 Employment	2040 Employment	% Change
Charleston County	365,512	480,661	31.5%	160,496	206,799	28.8%	235,338	308,125	30.9%
46.08	23,194	28,919	24.7%	8,130	10,310	26.8%	2,127	6,675	214%
46.09	6,914	9,087	31.4%	2,738	3,791	38.4%	1,900	2,743	44.4%
Berkeley County	167,509	359,311	114.5%	65,533	141,096	115.3%	71,650	125,335	74.9%
204.04	4,324	25,270	484.4%	1,755	10,051	472.7%	3,687	7,003	89.9%
204.05	2,853	4,982	74.6%	1,126	1,918	70.3%	1,874	2,213	18.1%

Source: Socioeconomic data prepared for the BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017a, 2020)

3.4.3 Demographics

3.4.3.1 Charleston County Census Tract 46.08

Charleston County Census Tract 46.08 extends to both sides of SC 41, and within the study area, is bound to the north by the Wando River/county line and to the south by US 17. Communities within this census tract include Brickyard/Colonnade, Cardinal Hill, Dunes West, Gregorie Ferry, Horlbeck Creek, Ivy Hall, Park West, Phillips Community, Planters Pointe, Rivertowne, and the northern portion of Seven Mile. This census tract is located within the Town of Mount Pleasant. Within the study area, the majority of the census tract is residential, with several commercial areas largely concentrated along US 17. Resources including churches and cemeteries, parks and recreation, and schools are discussed below in the individual communities located within this census tract.

3.4.3.1.1 Census Tract Demographic Profile

The demographic characteristics within Census Tract 46.08, based on the US Census Bureau data, are shown in Table 1. The non-white population of Census Tract 46.08 makes up 7.8 percent of the total population, much lower than that of the entirety of Charleston County, which contains 34.2 percent. This percentage is also the lowest by a large margin of any of the four census tracts within the study area. The Black/African American population makes up 4.8 percent of the total population, compared to that of Charleston County, whose population is 29.8 percent Black/African American. This low percentage in Census Tract 46.08 obscures the presence of the Phillips Community and Seven Mile, both of which are predominately Black/African American. The Hispanic or Latino population makes up 2.7 percent of the total population, which is lower than that of the county, which contains 5.4 percent. It should be noted that, while low, the Hispanic or Latino population of Census Tract 46.08 is the highest of any of the four census tracts within the study area. The LEP population in this census tract (zero percent) is less than the Charleston County average of 1.4 percent. The percentage of the population under the age of 18 and over the age of 65 within this census tract is 41.4 percent (the highest of the four census tracts in the study area), compared to the county average of 33.5 percent.

3.4.3.1.2 Census Tract Economic Profile

The percent unemployed for Census Tract 46.08 is 6.4 percent, compared to Charleston County, which contains 7.7 percent unemployed (Table 2). The median household income for this census tract is \$93,180, which is much higher than that of Charleston County (\$53,437) and is also the highest of any of the four census tracts within the study area. Of the census tract population, 9.0 percent is considered low-income, which is much lower than the Charleston County average of 25 percent, and is also the lowest by far of any of the four census tracts within the study area. The median value of owner-occupied homes in the census tract is \$387,100, which is the highest by far of any of the four census tracts within the study area. In comparison, Charleston County has a median home value of \$243,200.

3.4.3.1.3 Census Tract Socioeconomic Trends

3.4.3.1.3.1 Population

Census Tract 46.08 contains the highest population of any of the four census tracts within the study area, with a 2015 total population of 23,194 (Table 3). The total population of this census tract is expected to increase by 24.7 percent to 28,919 by 2040. Charleston County is estimated to see a 31.5 percent increase by 2040.

3.4.3.1.3.2 Households

As listed in Table 3, there were 8,130 total households in Census Tract 46.08 in 2015. The total number of households in this census tract is expected to increase by 26.8 percent to 10,310 by 2040. Charleston County is predicted to see a 28.8 percent increase in households by 2040.

3.4.3.1.4 Employment

In 2015, the total number of jobs in Census Tract 46.08 was 2,127 (Table 3). The total number of jobs in 2040 in this census tract is expected to be 6,675, a 214 percent increase. Charleston County is predicted to see a 30.9 percent increase in the number of jobs.

3.4.3.2 Charleston County Census Tract 46.09

Charleston County Census Tract 46.08 is located to the south of US 17. The southern half of the Seven Mile community is the only community in the study area within this census tract, and it only occupies a small portion of this census tract. This census tract is located within the Town of Mount Pleasant. The

census tract within the study area is a mixture of lightly developed residential throughout and fairly dense commercial developments at the intersection of US 17 and SC 41. Resources including churches and cemeteries are discussed below in the Seven Mile community section.

3.4.3.2.1 Census Tract Demographic Profile

The demographic characteristics within Census Tract 46.09, based on the US Census Bureau data, are shown in Table 1. The non-white population of Census Tract 46.09 makes up 25.5 percent of the total population, lower than that of the entirety of Charleston County, which contains 34.2 percent. This percentage is the second highest of the four census tracts within the study area. The Black/African American population makes up 23.9 percent of the total population, compared to that of Charleston County, whose population is 29.8 percent Black/African American. The Hispanic or Latino population makes up 2.4 percent of the total population, which is lower than that of the county, which contains 5.4 percent. The LEP population in this census tract (zero percent) is less than the Charleston County average of 1.4 percent. The percentage of the population under the age of 18 and over the age of 65 within this census tract is 37.5 percent, compared to the county average of 33.5 percent.

3.4.3.2.2 Census Tract Economic Profile

The percent unemployed for Census Tract 46.09 is 3.6 percent, compared to Charleston County, which contains 7.7 percent unemployed (Table 2). This figure is the lowest of any of the four census tracts within the study area. The median household income for this census tract is \$86,588, which is much higher than that of Charleston County (\$53,437) and is also the second highest of any of the four census tracts within the study area. Of the total population, 28 percent is considered low-income, which is slightly higher than the Charleston County average of 25 percent. The median value of owner-occupied homes in the census tract is \$311,800. In comparison, Charleston County has a median home value of \$243,200.

3.4.3.2.3 Census Tract Socioeconomic Trends

3.4.3.2.3.1 Population

Census Tract 46.09 has a 2015 total population of 6,914 (Table 3). The total population of this census tract is expected to increase by 31.4 percent to 9,087 by 2040. Charleston County is estimated to see a 31.5 percent increase by 2040.

3.4.3.2.3.2 Households

As listed in Table 3, there were 2,738 total households in Census Tract 46.09 in 2015. The total number of households in this census tract is expected to increase by 38.4 percent to 3,791 by 2040. Charleston County is predicted to see a 28.8 percent increase in households by 2040.

3.4.3.2.3.3 Employment

In 2015, the total number of jobs in Census Tract 46.09 was 1,900 (Table 3). The total number of jobs in 2040 in this census tract is expected to be 2,743, a 44.4 percent increase. Charleston County is predicted to see a 30.9 percent increase in the number of jobs.

3.4.3.3 Berkeley County Census Tract 204.04

Berkeley County Census Tract 204.04 is largely bound to the east by Cainhoy Road and Flagg Creek, to the west by the Cooper River, and to the south by the Wando River and I-526. The western portion of Cainhoy is located within this census tract. The census tract within the study area is a mixture of lightly developed residential, with a commercial development at the intersection of Clements Ferry Road and Cainhoy Road. Resources including churches and cemeteries are discussed below in the Cainhoy community section.

3.4.3.3.1 Census Tract Demographic Profile

The demographic characteristics within Census Tract 204.04, based on the US Census Bureau data, are shown in Table 1. The non-white population of Census Tract 204.04 makes up 20.5 percent of the total population, lower than that of the entirety of Berkeley County, which contains 30.8 percent. The Black/African American population makes up 17.8 percent of the total population, compared to that of Berkeley County, whose population is 25.0 percent Black/African American. The Hispanic or Latino population makes up 2.1 percent of the total population, which is lower than that of the county, which contains 6.0 percent. The LEP population in this census tract (0.5 percent) is less than the Berkeley County average of 2.3 percent. The percentage of the population under the age of 18 and over the age of 65 within this census tract is 30.9 percent, compared to the county average of 35.3 percent.

3.4.3.3.2 Census Tract Economic Profile

The percent unemployed for Census Tract 204.04 is 8.4 percent, compared to Berkeley County, which contains 9.9 percent unemployed (Table 2). The median household income for this census tract is \$70,458, which is considerably higher than that of Berkeley County (\$52,506). Of the total population, 45 percent is considered low-income, which is slightly more than double the Berkeley County average of 22 percent. The median value of owner-occupied homes in the census tract is \$244,500. In comparison, Berkeley County has a median home value of \$153,500.

3.4.3.3.3 Census Tract Socioeconomic Trends

3.4.3.3.3.1 Population

Census Tract 204.04 has a 2015 total population of 4,324 (Table 3). The total population of this census tract is expected to increase by 484.4 percent to 25,270 by 2040. This is by far the largest projected population increase of any census tract within the study area. Berkeley County is estimated to see a 114.5 percent increase by 2040.

3.4.3.3.3.2 Households

As listed in Table 3, there were 1,755 total households in Census Tract 204.04 in 2015. The total number of households in this census tract is expected to increase by 472.7 percent to 10,051 by 2040. This is by far the largest projected household increase of any census tract within the study area. Berkeley County is predicted to see a 115.3 percent increase in households by 2040.

3.4.3.3.3.3 Employment

In 2015, the total number of jobs in Census Tract 204.04 was 3,687 (Table 3), the highest number of jobs in all census tracts within the study area. The total number of jobs in 2040 in this census tract is expected to be 7,003, an 89.9 percent increase. Berkeley County is predicted to see a 74.9 percent increase in the number of jobs.

3.4.3.4 Berkeley County Census Tract 204.05

Berkeley County Census Tract 204.05 is largely bound to the west by Cainhoy Road and Flagg Creek, to the east by Quimby Creek, and to the south by the Wando River/county line. The eastern portion of Cainhoy is located within this census tract. The census tract within the study area is a mixture of lightly developed residential to the east of SC 41, with a large townhouse development located along Reflectance Road. Commercial developments include a large self-storage facility and a boat storage facility. Resources including churches and cemeteries are discussed below in the Cainhoy community section.

3.4.3.4.1 Census Tract Demographic Profile

The demographic characteristics within Census Tract 204.05, based on the US Census Bureau data, are shown in Table 1. The non-white population of Census Tract 204.05 makes up 65.8 percent of the total population, more than double than that of the entirety of Berkeley County, which contains 30.8 percent. The non-white population of this census tract is also much higher than that of any of the other three census tracts within the study area. The Black/African American population makes up 64.1 percent of the total population, compared to that of Berkeley County, whose population is 25.0 percent Black/African American. This percentage is also the highest by far of the four census tracts within the study area. The Hispanic or Latino population makes up 1.9 percent of the total population, which is lower than that of the county, which contains 6.0 percent. This population is also the lowest of any of the four census tracts within the study area. The LEP population in this census tract (2.0 percent) is slightly less than the Berkeley County average of 2.3 percent, but it is the highest of the four census tracts within the study area. The percentage of the population under the age of 18 and over the age of 65 within this census tract is 35.1 percent, compared to the county average of 35.3 percent.

3.4.3.4.2 Census Tract Economic Profile

The percent unemployed for Census Tract 204.05 is 16.8 percent, compared to Berkeley County, which contains 9.9 percent unemployed (Table 2). This is the highest unemployed figure by far of any of the four census tracts in the study area. The median household income for this census tract is \$46,397, which is lower than that of Berkeley County (\$52,506), and is also the lowest by far of any of the four census tracts in the study area. Of the total population, 58 percent is considered low-income, which is more than double the Berkeley County average of 22 percent and the highest by far of any of the four census tracts in the study area. The median value of owner-occupied homes in the census tract is \$123,600, which is the lowest of any of the four census tracts in the study area. In comparison, Berkeley County has a median home value of \$153,500.

3.4.3.4.3 Census Tract Socioeconomic Trends

3.4.3.4.3.1 Population

Census Tract 204.05 contains the lowest population of any of the four census tracts within the study area, with a 2015 total population of 2,853 (Table 3). The total population of this census tract is expected to increase by 74.6 percent to 4,982 by 2040. Berkeley County is estimated to see a 114.5 percent increase by 2040.

3.4.3.4.3.2 Households

As listed in Table 3, there were 1,126 total households in Census Tract 204.05 in 2015. The total number of households in this census tract is expected to increase by 70.3 percent to 1,918 by 2040. Berkeley County is predicted to see a 115.3 percent increase in households by 2040.

3.4.3.4.3.3 Employment

In 2015, the total number of jobs in Census Tract 204.05 was 1,874 (Table 3), the lowest number of jobs in all census tracts within the study area. The total number of jobs in 2040 in this census tract is expected to be 2,213, an 18.1 percent increase. Berkeley County is predicted to see a 74.9 percent increase in the number of jobs.

3.4.4 Communities

There are 12 communities within the study area. The 11 communities within Charleston County include Brickyard/Colonnade, Cardinal Hill, Dunes West, Gregorie Ferry, Horlbeck Creek, Ivy Hall, Park West,

Phillips Community, Planters Pointe, Rivertowne, and Seven Mile. Cainhoy is the only community in the study area within Berkeley County. The following discussion presents brief summaries of each of the communities. Table 4 provides a general description of each community, as well as a reference to the census tract that encompasses all or the majority of the community; the census tract number can be referenced in Appendix A to learn more detailed information about the demographic makeup of the general area. Table 5 presents a summary of resources (churches and cemeteries, parks and recreation, and schools) located within the study area, along with the communities they are located within. Figure 8 shows the locations of resources within the study area.

Table 4. Communities

Community	Census Tract	Description
Charleston County		
Brickyard/Colonnade	46.08	Suburban single-family detached homes
Cardinal Hill	46.08	Suburban single-family detached homes
Dunes West	46.08	Suburban single-family detached homes, apartments, and townhouses
Gregorie Ferry	46.08	Suburban single-family detached homes, apartments, and townhouses
Horlbeck Creek	46.08	Suburban single-family detached homes
Ivy Hall	46.08	Suburban single-family detached homes
Park West	46.08	Suburban single-family detached homes and townhouses
Phillips Community	46.08	Suburban single-family detached homes
Planters Pointe	46.08	Suburban single-family detached homes
Rivertowne	46.08	Suburban single-family detached homes
Seven Mile	46.08 and 46.09	Suburban single-family detached homes
Berkeley County		
Cainhoy	204.04 and 204.05	Suburban single-family detached homes and townhouses

Source: US Census Bureau; field review and aerial photography (including Google Maps); Charleston and Berkeley Counties GIS

Table 5. Resources

Resource	Name	Community	Location	Map ID
Churches & Cemeteries	Lighthouse Church Worship Center	Gregorie Ferry	1177 Gregorie Ferry Road, Mt. Pleasant	1
	Eastbridge Presbyterian Church	Ivy Hall	3058 North US 17, Mt. Pleasant	5
	Greater Goodwill AME Church	Seven Mile	2818 North US 17, Mt. Pleasant	2
	Kingdom Hall of Jehovah's Witnesses	Seven Mile	1142 Dingle Road, Mt. Pleasant	4
	Saint Peters AME Church	Cainhoy	1024 Fogarty Lane, Charleston	3
	Wando Baptist Church	Cainhoy	1081 Reflectance Drive, Charleston	6
Parks & Recreation	Laurel Hill County Park	n/a	1251 Park West Blvd., Mt. Pleasant	10
	Shipyards Park	n/a	2383 SC 41, Mt Pleasant	15
	Brickyard Plantation Clubhouse	Brickyard/Colonnade	1100 Brickyard Pkwy, Mt Pleasant	19
	Dunes West Athletic Club	Dunes West	3535 Wando Plantation Way, Mt. Pleasant	12
	Dunes West Golf/River Club	Dunes West	3535 Wando Plantation Way, Mt. Pleasant	11
	Park West Clubhouse	Park West	2950 Park W Blvd, Mt Pleasant	18
	Phillips Community Park	Phillips	n/a	17
	Planters Pointe Clubhouse	Planters Pointe	2801 Planters Pointe Boulevard, Mt. Pleasant	14
	RiverTowne Country Club	Rivertowne	1700 Rivertowne Country Club Dr., Mt. Pleasant	13
	RiverTowne Swim and Tennis Center	Rivertowne	n/a	16
Schools	Laurel Hill Primary School	Park West	3100 Thomas Carlo Boulevard, Mt. Pleasant	7
	Charles Pinckney Elementary School	Park West	3300 Thomas Carlo Boulevard, Mt. Pleasant	8
	Thomas C. Carlo Middle School	Park West	3500 Thomas Carlo Boulevard, Mt. Pleasant	9

Source: local plans, field review and aerial photography (including Google Maps); Charleston and Berkeley Counties GIS

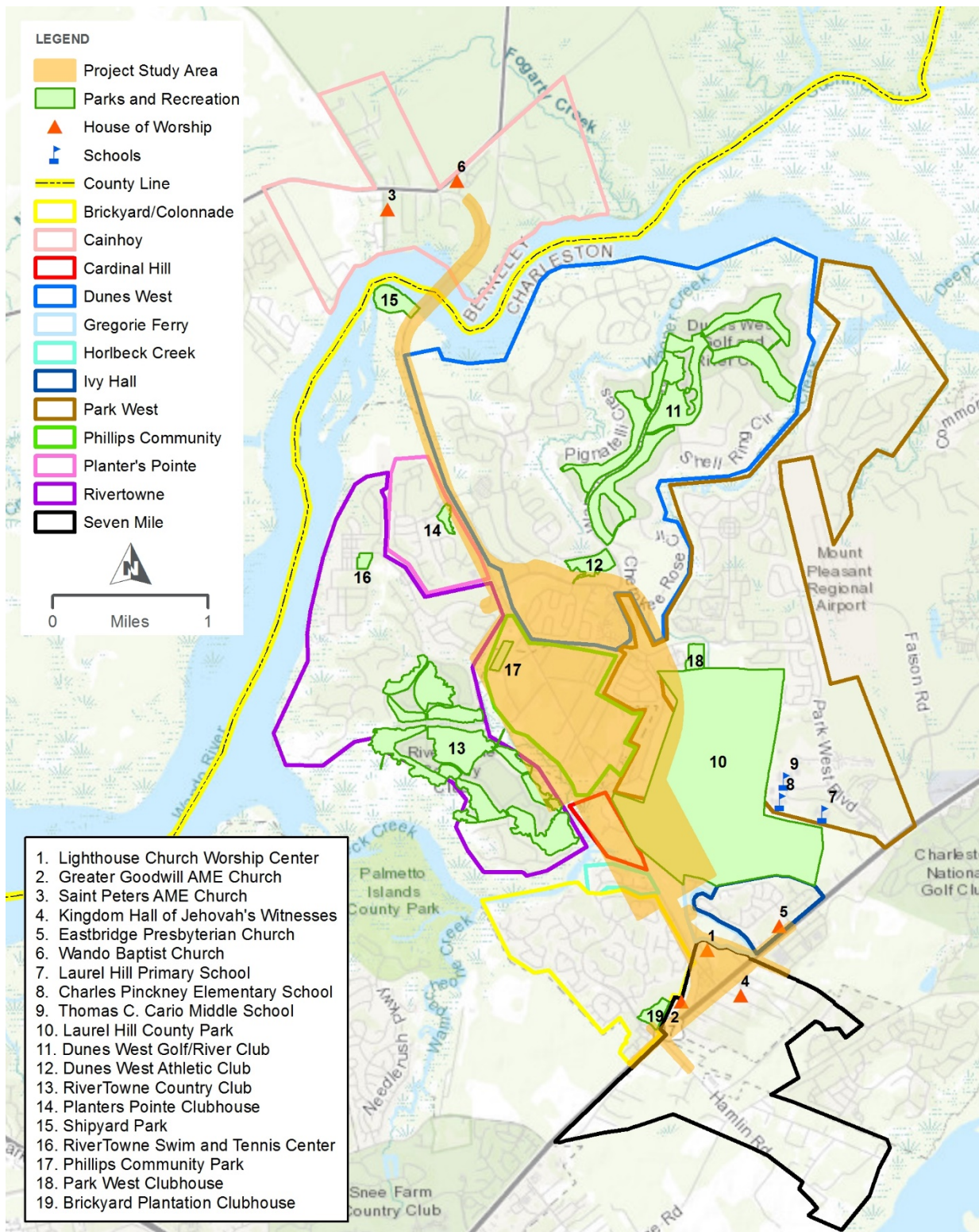


Figure 8. Resources

3.4.4.1 *Brickyard/Colonnade*

Brickyard/Colonnade consists of Brickyard Plantation and The Colonnade, two adjacent, developer-designed neighborhoods located in the southern portion of the study area, to the west of SC 41 and north of US 17. These neighborhoods, together totaling 537 acres but not connected via internal roadway, can be accessed via Brickyard Parkway from US 17 and via Colonnade Drive from SC 41. The neighborhoods are made up of suburban single-family homes. There are sub-areas within the neighborhoods, each with its own price range and style of living. Private recreational facilities include a fitness center, tennis courts, a clubhouse, basketball court and access to Horlbeck Creek. There also are private walking/jogging trails and two swimming pools. Substantial forested buffers are present adjacent to residential portions of these communities, along existing SC 41 and north of commercial properties along US 17, also considered part of Brickyard/Colonnade.

3.4.4.2 *Cardinal Hill*

Cardinal Hill is an approximate 66-acre developer-designed, gated neighborhood located in the southern portion of the study area, to the west of SC 41. The neighborhood can be accessed from SC 41 via Cardinal Hill Drive. The neighborhood is made up of large single-family homes on a densely wooded property bound to the east by SC 41 and to the west by Horlbeck Creek and its adjacent marshes. A substantial forested buffer is present along the east side of the community, adjacent to existing SC 41.

3.4.4.3 *Dunes West*

Dunes West is an approximate 2,674-acre developer-designed neighborhood located in the northern portion of the study area, to the east of SC 41. The neighborhood can be accessed from SC 41 via Bessemer Road, Dunes West Boulevard, Wood Park Drive, and Harpers Ferry Way. The neighborhood is bordered to the south by the Phillips Community. Dunes West is bordered to the east by the Park West neighborhood, and one can also access Dunes West via Park West Boulevard from US 17, which passes through Dunes West and into Park West. Dunes West has approximately 12 miles of waterfront along Wando River, Wagner Creek and Toomer Creek. The neighborhood contains a mixture of single-family homes as well as apartments and townhouses. Dunes West Golf Club and Dunes West Athletic Club are private recreational resources located within the neighborhood. A large supermarket complex has been constructed on a Dunes West parcel along SC 41. Substantial forested buffers are present along the west side of the community, adjacent to existing SC 41, and along existing Dunes West Boulevard, in the southwest portion of the community. A large grassy pasture area along the entrance to Dunes West is used by the community for events.

3.4.4.4 *Gregorie Ferry*

Gregorie Ferry is an approximate 50-acre community that consists of several developer-designed neighborhoods. Gregorie Ferry is located in the southern portion of the study area, to the east of SC 41 and to the north of US 17. The community can be accessed via Gregorie Ferry Road from SC 41 or via Winnowing Way off US 17. The neighborhood is composed of a mixture of suburban single-family homes, townhouses, and apartments. Gregorie Ferry Landing Apartments is a large four-story apartment complex containing 240 units within the neighborhood that can be accessed from Winnowing Way, a road that stretches from US 17 to Gregorie Ferry Road. The Lighthouse Church Worship Center is located in the central portion of the neighborhood. A large commercial building is located at the intersection of SC 41 and US 17. Developed residential portions of the community are substantially set back from existing SC 41 and US 17, and substantial forested buffers are present between the community and these two roadways.

3.4.4.5 Horlbeck Creek

Horlbeck Creek is an approximate 41-acre developer-designed neighborhood located in the southern portion of the study area, to the west of and accessible via SC 41 (Figure 13). The neighborhood is made up of large single-family homes and is bound to the east by SC 41, to the north by the waterway called Horlbeck Creek and its adjacent marshes, and to the south by the Brickyard/Colonnade neighborhood. A forested buffer is present along the east side of the community, adjacent to existing SC 41, and marshes along Horlbeck Creek, adjacent to SC 41, provide a vegetated setback from the extant roadway.

3.4.4.6 Ivy Hall

Ivy Hall is an approximate 144-acre developer-designed neighborhood in the southern portion of the study area, to the east of SC 41 and to the north of US 17. The neighborhood is bordered to the west by the Gregorie Ferry neighborhood and to the north by Laurel Hill County Park. The neighborhood is made up of suburban single-family homes, and a commercial area is located in the southern portion of the neighborhood along US 17. Eastbridge Presbyterian Church and two sweetgrass basket stands are located within the neighborhood, along US 17 in front of other commercial properties, at the southern extent of the neighborhood. Developed residential portions of the community are set back from existing US 17, and forested buffers are present between the community and this roadway.

3.4.4.7 Park West

Park West is an approximate 1,859-acre developer-designed neighborhood located in the eastern portion of the study area, to the east of SC 41 and north of US 17. The neighborhood can be accessed via Park West Boulevard from US 17; a portion of Park West Boulevard is currently being widened from two lanes to four-lanes, ending at a roundabout at Dunes West Boulevard. The neighborhood is located to the west of the Dunes West neighborhood and is connected to it by Park West Boulevard. The neighborhood contains a mixture of single-family homes and townhouses. Three Charleston County schools have been built within Park West in the past decade; these consist of Laurel Hill Primary School, Charles Pinckney Elementary School, and Thomas C. Cario Middle School. A commercial area containing a mixture of businesses is located within the neighborhood in an area close to US 17. Private recreational resources include approximately 6 miles of bike and hiking paths, 4.5 miles of Toomer Creek, and a crabbing dock at the park in the Masonborough section of Park West. Additionally, Town of Mount Pleasant maintains Park West Recreation Complex, featuring several sports fields and courts, an activity building and gym, a pool, a lake, and many walking trails (Town of Mount Pleasant 2019). Park West Recreation Complex provides the main access to Charleston County's Laurel Hill County Park, via a trailhead (Charleston County Parks and Recreation Commission 2017b).

3.4.4.8 Phillips Community

The community of Phillips is an approximate 392-acre long-term, rural-residential settlement area that is positioned along SC 41, approximately halfway between the bridge over the Wando River and US 17 and is centrally located within the study area. The communities of Phillips, Seven Mile, and portions of the Cainhoy community (see below) were settled by freed African Americans following the Civil War. The people of these and similar coastal communities of South Carolina are known as Gullah people (NPS 2005). Gullah people are descendants of enslaved Africans who were brought to North America to labor on Atlantic Coast plantations between the late seventeenth and early nineteenth centuries. Once on plantations, they developed a unique culture from a fusion of the many different cultural traditions they had practiced in Africa. Following the Civil War, many Gullah communities were created as an aspect of federal Reconstruction initiatives that focused on assisting freed African Americans in establishing themselves (Reed 2016). Many of the communities were formed when African Americans purchased

lands from subdivided plantations. In the Mount Pleasant vicinity, an estimated 18 postbellum African American communities were established (Gibbs 2006).

Phillips was originally platted in 1875 by members of the Horlbeck family, and parcels were sold to African American individuals between the late 1870s and early 1880s. Ranging from 8.5 to 25 acres, the original 25 parcels were created from a portion of the Laurel Hill Plantation “formerly known as the Phillips Tract.” Previously, the original purchasers may have been enslaved on Laurel Hill and other nearby plantations, such as Boone Hall, Parker’s Island, and Snee Farm. Early in its settlement history, Phillips was characterized by large, family-held tracts primarily developed as agricultural fields. The second generation of Phillips community members tended to settle on undeveloped portions of the individual parcels, and subsequent generations inherited the properties of their parents and divided those between their siblings. Ownership of the larger parcel was often transferred to a person’s heirs, rather than named individuals. These inheritance patterns still characterize the community of Phillips today, and a large percentage of the original parcels remain whole. Several single-family residences are scattered across most parcels, and small dirt roads provide access to these. SC 41 and its predecessor, SC 511, divided these family properties, resulting in relatives living on either side of SC 41 from one another. Several sweetgrass basket stands are extant in the community along SC 41. More details on the Phillips Community and other Gullah communities of the region are provided in Richardson Seacat’s (2018) traditional cultural property study of the Phillips Community.

3.4.4.9 Planters Pointe

Planter’s Pointe is an approximate 221-acre developer-designed neighborhood located in the northern portion of the study area, to the west of SC 41. The planned neighborhood can be accessed via Planters Pointe Boulevard and contains single-family homes. Planters Pointe is bordered to the west and south by the Rivertowne community. The Planters Pointe Clubhouse is located in the northern portion of the neighborhood, to the west of SC 41 and to the south of Planters Pointe Boulevard. This complex includes a clubhouse, a swimming pool, and four tennis courts. A grocery store is located in the southern portion of the neighborhood along SC 41.

3.4.4.10 Rivertowne

Rivertowne is an approximate 1,333-acre developer-designed neighborhood located in the central portion of the study area, to the west of SC 41. The neighborhood can be accessed via Rivertowne Parkway from SC 41. The neighborhood is located to the south and west of the Planters Pointe neighborhood and to the west of the Phillips Community. Rivertowne is made up of single-family homes and contains two separate communities, each with its own amenities. Rivertowne Country Club is a golfing community and has an 18-hole semi-private golf course, swimming pool, and tennis courts. Rivertowne on the Wando is a river front community located along the Wando River. Both communities within Rivertowne are made up of single-family homes and have a system of bike/pedestrian trails. A grocery store is located in the northern portion of the neighborhood along SC 41. Only a small portion of Rivertowne is adjacent to existing SC 41, and this portion is substantially set back from SC 41 and is shielded from this roadway by relatively wide forested buffers.

3.4.4.11 Seven Mile

The Gullah African-American community of Seven Mile is an approximate 973-acre community located to the north and south of US 17 at the southern extent of the study area. Several small roads to the south of US 17 provide access to largely family-held tracts containing single-family homes. Many of the homes and commercial properties fronting US 17 have associated sweetgrass basket stands; a total of 36 are currently extant in the community. The Kingdom Hall of Jehovah’s Witnesses church is located within the

community, along Dingle Road. The Greater Goodwill AME Church and associated cemetery and the Lighthouse Church Worship Center are both are two other churches located within the community, to the north of US 17 and west and east of SC 41, respectively. Commercial properties are located at the intersection of US 17 and SC 41 and on either side of US 17, through the central portion of the community.

3.4.4.12 Cainhoy

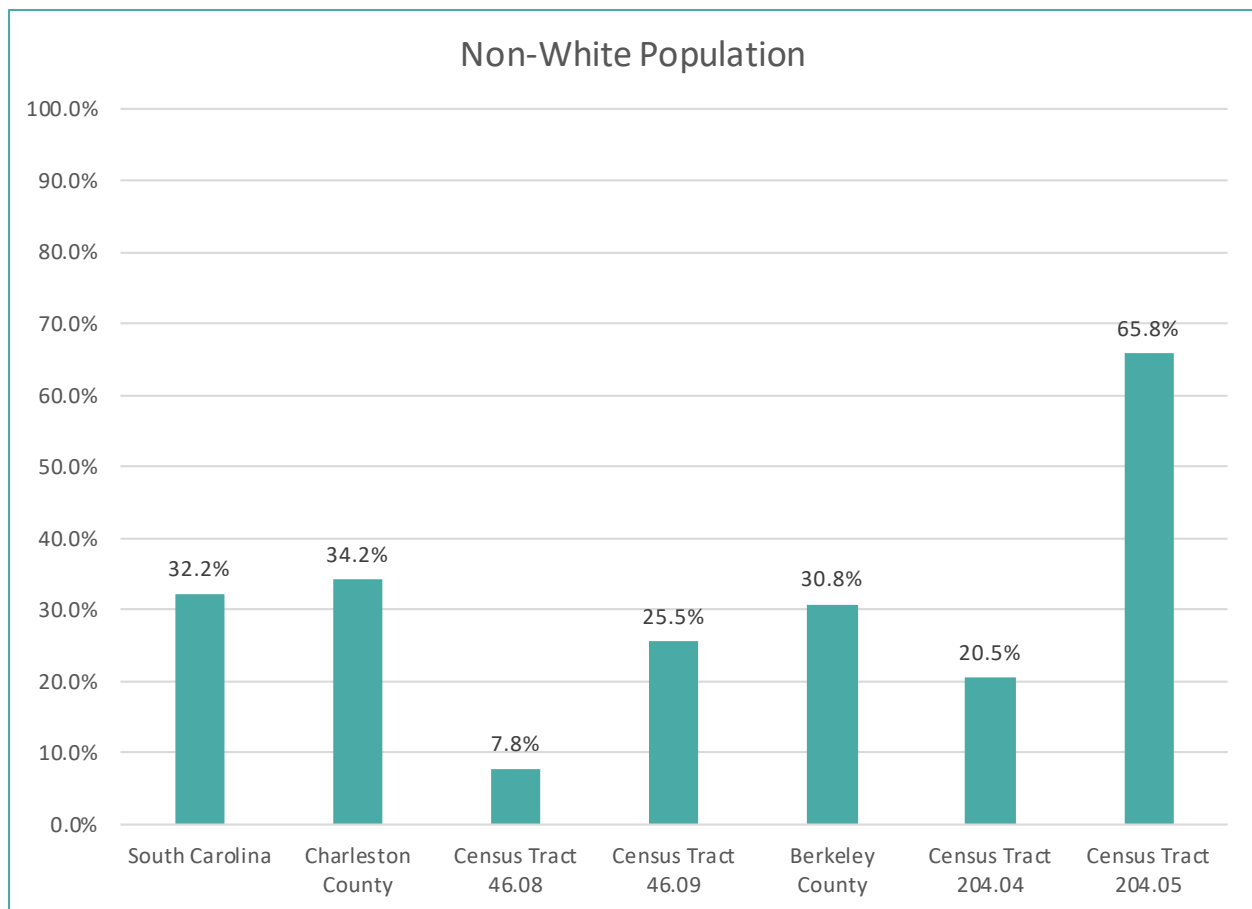
The Cainhoy community is an approximate 1,033-acre community located to the north of the Wando River at the northern extent of the study area in Berkeley County. Portions of Cainhoy were settled by freed African Americans following the Civil War. Larger roads that pass through the community include SC 41, Clements Ferry Road, Cainhoy Road, and Reflectance Road. Several smaller roads branching off of these roads provide access single-family homes. A large townhouse neighborhood is located to the north of Clements Ferry Road and southeast of Reflectance Road. Several commercial developments are present within the community, most notably at the intersection of Clements Ferry Road and Cainhoy Road. Saint Peters African Methodist Episcopal Church is located in the western portion of Cainhoy, along Fogarty Lane. Wando Baptist Church is located in the eastern portion of Cainhoy, along Reflectance Road. Two fire stations are extant in the community along Cainhoy Road, north of Clements Ferry Road. The Cainhoy Historic District, composed of nine mid-eighteenth century to early twentieth century buildings that were part of an early river port and ferry community that connected Berkeley County and Charleston, is extant in the southern portions of Cainhoy, along the northern banks of the Wando River. The Francis Marion National Forest is located to the north and east of the Cainhoy community. Cainhoy Plantation, a 9,000-acre master-planned, mixed-use development with approximately 9,000 new homes, is proposed near the study area on Clements Ferry Road in Berkeley County. Two schools have been constructed as part of the development.

4 Conclusion

4.1 Community Characterization Summary

4.1.1 Environmental Justice

By synthesizing census tract data presented in earlier sections, patterns pertaining to minority and low-income populations became apparent in the study area. As seen in Graph 1, Charleston County Census Tract 46.08 had the lowest percentage of non-whites in the study area (at 7.8 percent), while Berkeley County Census Tract 204.05 had the highest percentage of non-whites (at 65.8 percent). Portions of the Cainhoy community in Berkeley County Census Tract 204.05 were founded by freed African Americans after the Civil War, so the high percentage of non-whites in this area may be at least partly attributable to that historic development. Both of the Charleston County census tracts had a lower percentage of non-whites when compared to Charleston County. Perhaps diluted in the Charleston County census tract data is the presence of the Phillips Community (in Census Tract 46.08) and the Seven Mile community (in Census Tracts 46.08 and 46.09), both of which were founded by freed African Americans after the Civil War, and both of which retain a high percentage of African Americans in their populations.

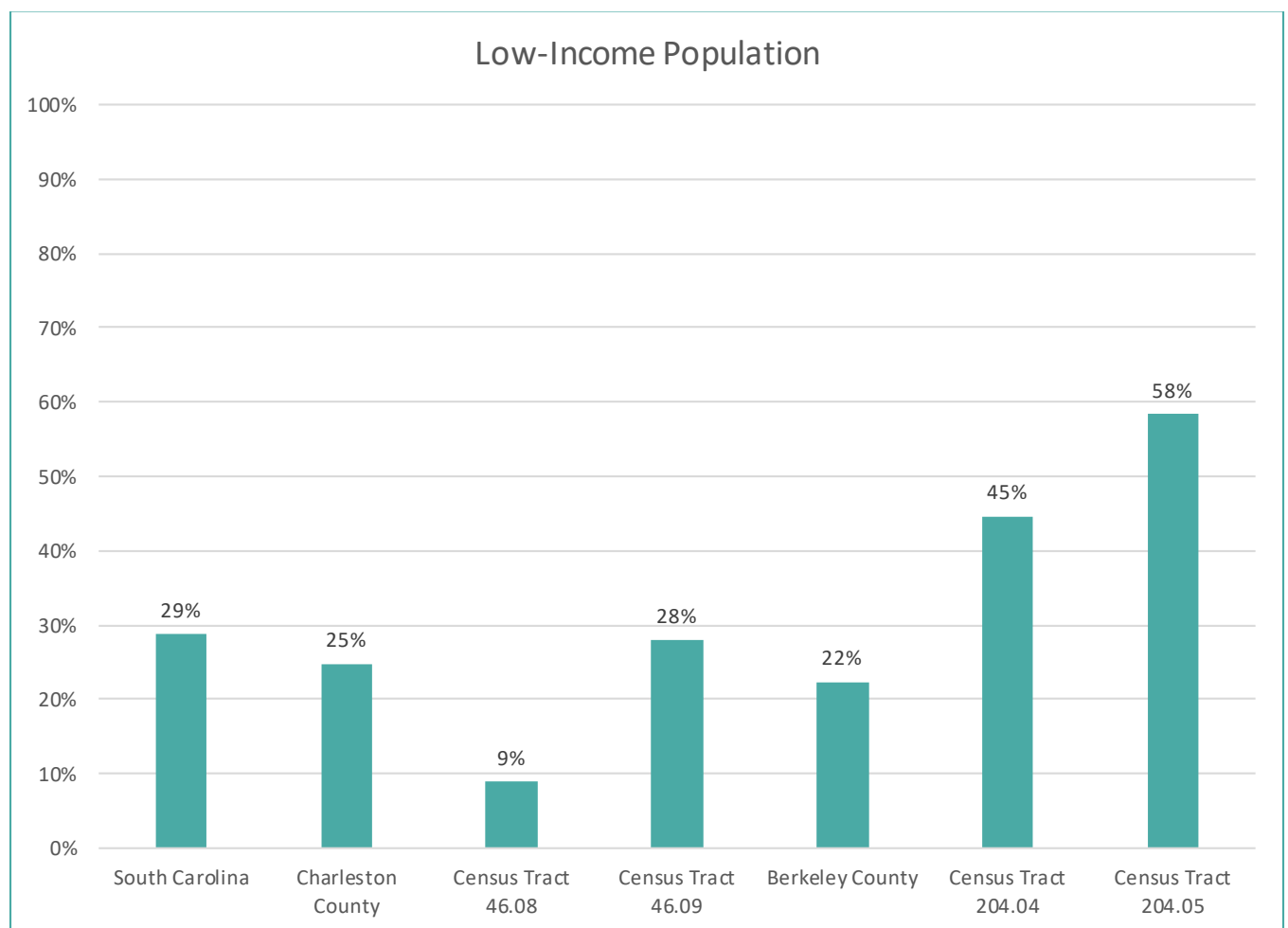


Graph 1. Non-white population

Source: United States Census Bureau, American FactFinder (2015)

The FHWA and United States Department of Transportation (USDOT) define “minority” as a person who is Black, Hispanic or Latino (regardless of race), Asian American, American Indian / Alaska Native, or Native Hawaiian / Other Pacific Islander. In this report, race and ethnicity were examined independently, and racial minorities are illustrated through the “non-white” data and discussions, while ethnicity is illustrated through the “Hispanic or Latino” data and discussions. When discussing minority populations, it is sometimes helpful to look at the combined data for race and ethnicity. In the study area, however, the percentages of Hispanic or Latino in all of the four census tracts are quite low, ranging from 1.9 percent (Berkeley County Census Tract 204.05) to 2.7 percent (Charleston County Census Tract 46.08). These percentages are not enough to change the census tract with the highest percent minority (Berkeley County Census Tract 204.05) and the census tract with the lowest percent minority (Charleston County Census Tract 46.08).

As seen in Graph 2, Berkeley County Census Tract 204.05 also had the highest percentage of low-income populations in the study area (at 58 percent). Both of the Charleston County census tracts had a lower percentage of low-income populations when compared to Charleston County. Conversely, both of the Berkeley County census tracts had a higher percentage of low-income populations when compared to Berkeley County as a whole.



Graph 2. Low-income population

Source: United States Census Bureau, American FactFinder (2015)

To better understand the minority and low-income populations that comprise the study area, Census Bureau block group data were used to refine identification of EJ populations. Table 6 presents minority populations at the block group level, as compared with study area averages. While only one block group exceeded the 50-percent threshold noted as significant in CEQ EJ guidance, several block groups had minority percentages that were greater than study area averages. Census Tract 46.09 Block Group 2, which encompasses western portions of the Phillips Community, and Census Tract 204.05 Block Group 1, which overlaps approximately half of the Cainhoy Community, had overall minority percentages that exceeded the study area average. In both of these Census Bureau geographies, African American was the most prominent race or ethnicity. Also notable were Asian and Hispanic populations comprising 7.8 percent and 16.1 percent, respectively, of the overall population of Census Tract 46.08 Block Group 1, encompassing eastern portions of the Phillips Community and the entirety of Dunes West. These three census geographies are shown in bold in Table 6 due to their potential higher vulnerability. Figure 9 shows minority population percentages at the block group level across the study area.

Table 6. Study Area Minority Populations at Block Group Level

Geography	% Minority	% African American	% American Indian / Alaska Native	% Asian	% Native Hawaiian / Other Pacific Islander	% Some Other Race	% Two or More Races	% Hispanic
Study Area ¹	15.8	11.9	0.0	1.2	0.1	0.0	2.7	3.4
46.08 BG 1	11.2	1.5	0.0	7.8	0.0	0.0	1.9	16.1
46.08 BG 2	9.7	6.4	0.0	0.0	0.0	0.0	2.8	0.0
46.08 BG 3	7.4	0.0	0.0	0.0	0.0	0.0	7.4	3.5
46.08 BG 4	3.3	2.6	0.0	0.0	0.0	0.0	0.6	0.5
46.09 BG 2	19.0	16.0	0.2	0.0	0.6	0.0	2.8	0.0
204.04 BG 2	0.8	0.0	0.0	0.3	0.0	0.0	0.6	0.0
204.05 BG 1	59.5	56.5	0.0	0.0	0.0	0.0	3.0	3.6

Source: 2011-2015 American Community Survey 5-Year Estimates

¹ Study area percentages are averages of the Census Bureau block group data

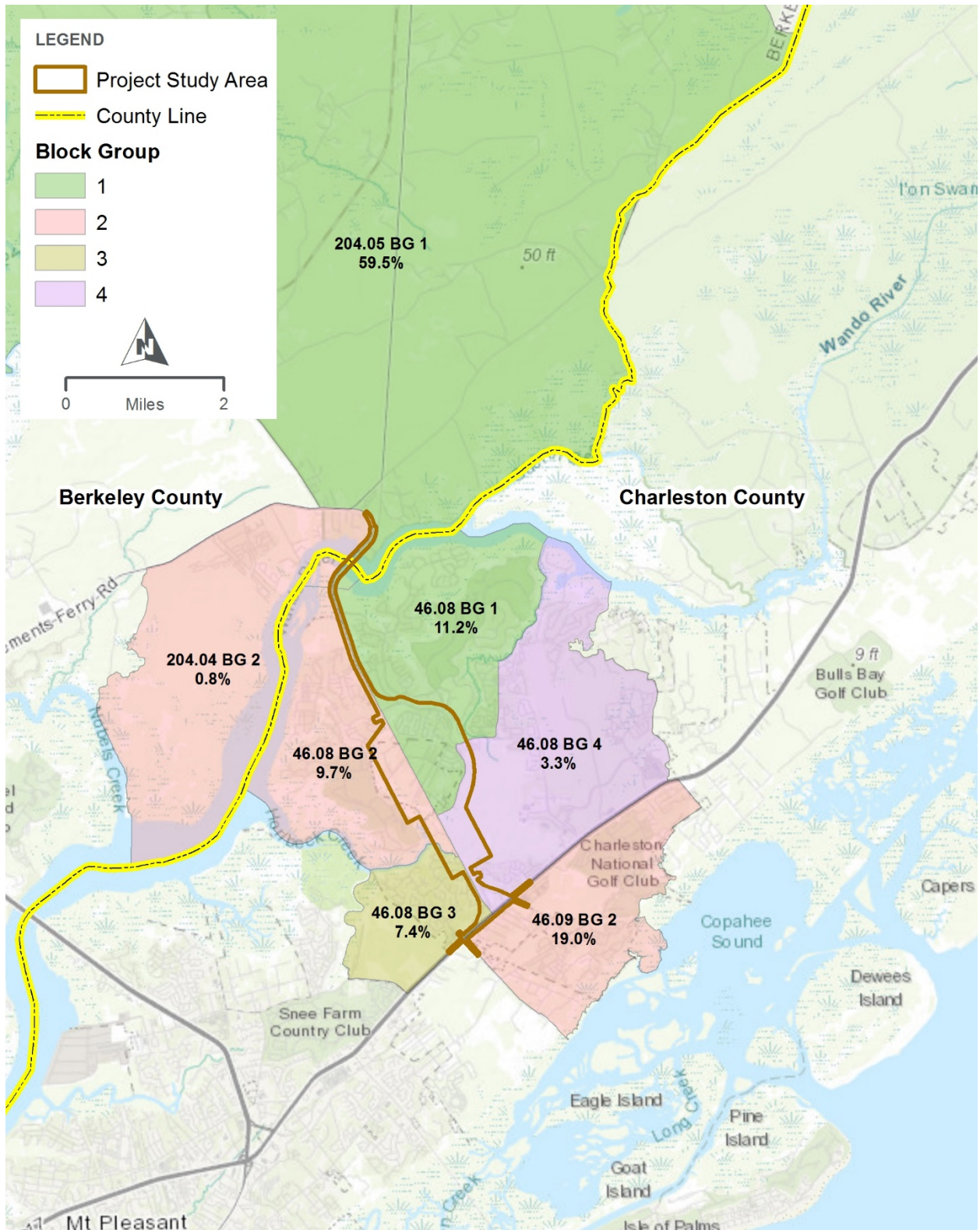


Figure 9. Minority Population Densities

Table 7 presents per capita income rates at the block group level and poverty rates at the census tract level, as compared with study area averages. Across the study area, the per capita income rate was \$38,280, and the proportion of the population below poverty level was 6.9 percent. Four block groups had per capita income rates that were lower than the study area as a whole, and two census tracts that overlap portions of African-American communities had poverty rates that exceeded the study area rate. While none of the block groups had per capita income rates at or lower than the 2015 US poverty threshold for individuals (\$12,082), as reported by the Census Bureau (2016). Across the study area, poverty rates for all but one census geography were lower than the 2015 official US poverty rate (13.5 percent). Census Tract 204.05 Block Group 1, which overlaps portions of the Cainhoy Community, had a poverty rate that exceeded the official US poverty rate threshold and had a per capita income rate lower than the rate across the study area. This census geography is shown in bold in Table 7 due to its potential higher vulnerability. Figure 10 shows per capita income rates at the block group level across the study area.

Table 7. Study Area Low-Income Populations at Block Group Level

Geography	Per Capita Income	% Below Poverty Level ¹
Study Area	\$38,280	6.9
46.08 BG 1	\$44,770	5.5
46.08 BG 2	\$34,936	5.5
46.08 BG 3	\$50,867	5.5
46.08 BG 4	\$35,900	5.5
46.09 BG 2	\$40,117	8.8
204.04 BG 2	\$31,918	3.5
204.05 BG 1	\$26,085	16.3

Source: 2011-2015 American Community Survey 5-Year Estimates

¹ Provided at the census tract level due to availability

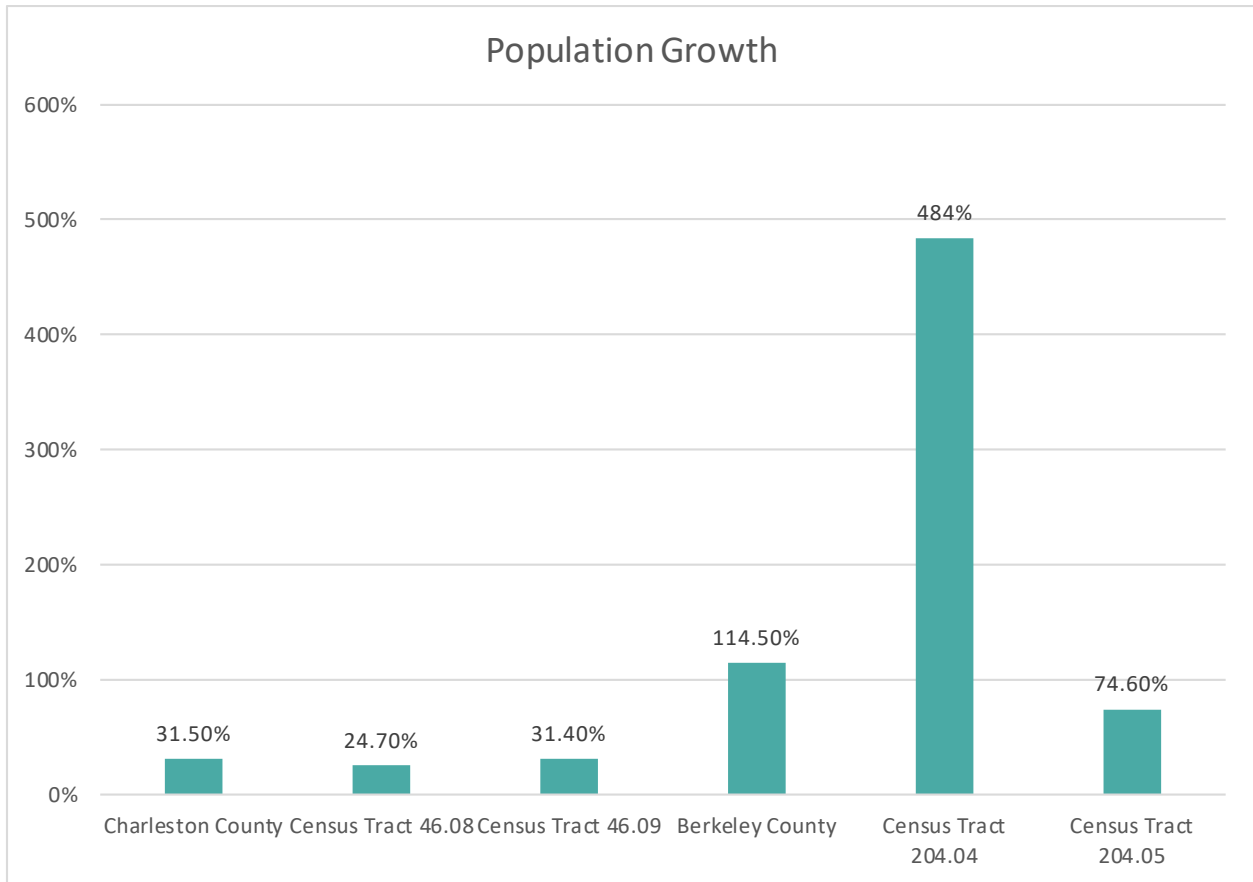
4.1.2 Limited English Proficiency

According to US Census Bureau ACS data, 1.6 percent of South Carolina households are LEP. Similarly, 1.4 percent of Charleston County households are LEP. According to the US Census Bureau ACS data, zero percent of Charleston County Census Tracts 46.08 and 46.09 are LEP. To be certain of this, the EPA's Environmental Justice Screening and Mapping Tool was checked, and none of the Charleston County census tracts within the project study area are linguistically isolated. According to the US Census Bureau ACS data, 2.3 percent of Berkeley County households are LEP. According to the US Census Bureau ACS data, Berkeley County Census Tract 204.04 is 0.5 percent LEP and Census Tract 204.05 is 2.0 percent LEP. Both of these percentages are below the 2.3 LEP percentage for Berkeley County households. There were no requests for translation services at any of the project public meetings held in the fall of 2017. When assessed at the Census Bureau block group level, no LEP population met the DOJ LEP thresholds of constituting five percent or 1,000 individuals.

4.1.3 Study Area Growth Trends

The SC 41 corridor is an important link in Charleston and Berkeley counties, serving residents, commuters, travelers, and commerce. This section of SC 41 serves as a minor arterial that has experienced an increase in traffic due to regional growth, and currently sustains operations that exceed capacity and are projected to worsen over time. The purpose of the proposed project is to accommodate an increase in traffic volume by improving roadway capacity and system continuity throughout the project limits.

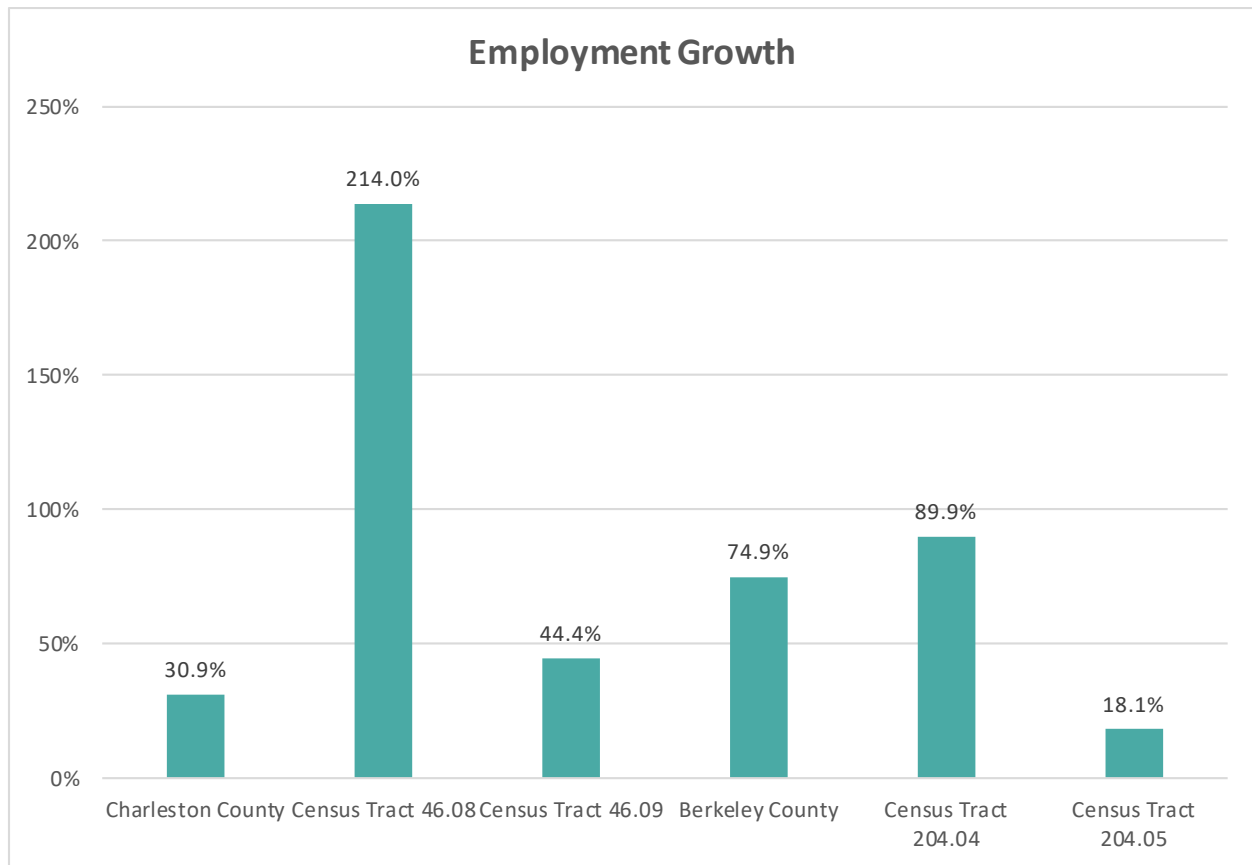
An evaluation of socioeconomic data reveals that population growth and employment growth are expected in all census tracts within the study area between 2015 and 2040. The anticipated population growth ranges from 24.7 percent to 31.4 percent in the Charleston County census tracts, while the anticipated population growth in the Berkeley County census tracts ranges from 74.6 percent to 484.4 percent. While anticipated population growth is high in all portions of the study area, the greatest anticipated population increase is anticipated in the two Berkeley County census tracts, which includes the Cainhoy community (Graph 3).



Graph 3. Population Growth

Source: Population growth data prepared for the BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017a, 2020)

Similar to the anticipated increase in population throughout the study area, considerable employment growth is anticipated, as well. The anticipated employment growth in the Charleston County census tracts ranges from 44.4 percent to 214 percent, while the anticipated employment growth in the Berkeley County census tracts ranges from 18.1 percent to 89.9 percent. While anticipated employment growth is high in all portions of the study area, the greatest anticipated employment increases are anticipated in Charleston County Census Tract 46.08, which includes 11 of the 12 communities in the study area, and in the Berkeley County Census Tract 204.04, which includes the Cainhoy community (Graph 4).



Graph 4. Employment Growth

Source: Employment growth data prepared for the BCDCOG Travel Demand Model for the SC Highway 41 Corridor Improvements Project (2017a, 2020)

This population and/or employment growth is likely to occur in key locations, as identified in local plans. The most extensive growth is projected to occur through 2040 in the Berkeley County portion of the study area, to the north of the Wando River in and around the Cainho community. In general, compared to the Charleston County portion of the project area, this area contains much more open and undeveloped land for new residential and commercial developments. Proposed developments adjacent to the project study area in Berkeley County include Wando Village, a mixed-use development combining retail/commercial uses with 416 units of various residential types; and Rivers Bend, a retail center including a gas station and other retail spaces such as a hardware store, bank, fast-food restaurant, and garden center. The proposed Cainho Plantation development is a 9,000-acre master-planned, mixed-use development along Clements Ferry Road in Berkeley County to the northwest of the project study area. Two schools associated with this development have already been constructed. The proposed development has produced anticipated increases in population and employment in the Berkeley County portion of the study area that has been approved by the City of Charleston for areas to the north and west of the Cainho community.

The Charleston County portion of the study area is currently comparatively densely developed, largely residentially. There are several approved commercial developments in the study area, including a grocery store complex that is nearing completion along SC 41 in the Dunes West community. Most of the Town of Mount Pleasant's growth in recent years has been outwards or northwards along US 17 and SC 41. For a

number of reasons, infill and redevelopment have become more compelling as a policy issue for the Town. The Town's comprehensive plan recommends that infill and redevelopment should occur in such a way as to preserve the character of nearby residential areas, with buffers and transition zones where appropriate.

4.2 Next Steps

As project alternatives are developed and assessed, the project team will make appropriate re-evaluations and adjustments in the study area. This report will serve as a baseline for the NEPA process and will be used to develop the Community Impact Assessment. The consideration of and documentation of environmental and socioeconomic effects is a critical part of NEPA, and findings from the Community Characterization and Community Impact Assessment will be incorporated into the Environmental Report for the SC Highway 41 Corridor Improvements Project.

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Appendix A – United States Census Bureau Data



	2010 Demographic Profile																			American Community Survey (ACS) 5-Year Estimates							
		Race														Ethnicity											
	Total Populatio n	White alone	% White alone	% Non- White	Black or African American alone	% Black or African American alone	American Indian and Alaska Native alone	% American Indian and Alaska Native alone	Asian alone	% Asian alone	Native Hawaiian and Other Pacific Islander alone	% Native Hawaiian and Other Pacific Islander alone	Some other Race alone	% Some other Race alone	Two or more races	Hispanic or Latino	% Hispanic or Latino	Age: Under 18 & 65 and Over (2010)	% Age: Under 18 & 65 and Over (2010)	Total Population for whom poverty level is determined	Below Poverty	% Below Poverty	Near Poor (Between 100% and 149% of Poverty Level)	% Low Income Population	Limited English- speaking households	% LEP Households	Median Household Income
County and Census Tract	4,625,364	3,060,000	66.2%	32.2%	1,290,684	27.9%	19,524	0.4%	59,051	1.3%	2,706	0.1%	113,464	2.5%	79,935	235,682	5.1%	1,712,348	37.1%	4,636,314	830,901	17.9%	503,437	29%	29,006	1.6%	\$ 45,483.00
South Carolina	4,625,364	3,060,000	66.2%	32.2%	1,290,684	27.9%	19,524	0.4%	59,051	1.3%	2,706	0.1%	113,464	2.5%	79,935	235,682	5.1%	1,712,348	37.1%	4,636,314	830,901	17.9%	503,437	29%	29,006	1.6%	\$ 45,483.00
Charleston County	350,209	224,910	64.2%	34.2%	104,239	29.8%	1,068	0.3%	4,719	1.3%	299	0.1%	9,477	2.7%	5,497	18,877	5.4%	117,379	33.5%	360,943	62,119	17.2%	27,536	25%	2,048	1.4%	\$ 53,437.00
Census Tract 46.08	20,842	18,985	91.1%	7.8%	1,000	4.8%	39	0.2%	455	2.2%	13	0.1%	96	0.5%	254	562	2.7%	8,423	41.4%	22,317	1,222	5.5%	768	9%	0	0.0%	\$ 93,180.00
Census Tract 46.09	5,635	4,141	73.5%	25.5%	1,347	23.9%	19	0.3%	55	1.0%	1	0.0%	17	0.3%	55	133	2.4%	2,007	37.5%	7,120	623	8.8%	1,367	28%	0	0.0%	\$ 86,588.00
Berkeley County	177,843	118,232	66.5%	30.8%	44,514	25.0%	1,067	0.6%	4,046	2.3%	184	0.1%	4,990	2.8%	4,810	10,755	6.0%	62,756	35.3%	189,827	26,327	13.9%	16,126	22%	1,579	2.3%	\$ 52,506.00
Census Tract 204.04	3,699	2,891	78.2%	20.5%	658	17.8%	8	0.2%	72	1.9%	9	0.2%	14	0.4%	47	77	2.1%	1,141	30.9%	4,456	154	3.5%	1,836	45%	8	0.5%	\$ 70,458.00
Census Tract 204.05	2,994	992	33.1%	65.8%	1,918	64.1%	9	0.3%	6	0.2%	0	0.0%	35	1.2%	34	57	1.9%	1,054	35.1%	3,413	557	16.3%	1,433	58%	25	2.0%	\$ 46,397.00

Indicates calculation using Census data

