



Appendix D: Environmental Screening Report



I-16 INTERCHANGE MODIFICATION REPORT

DRAFT ENVIRONMENTAL SCREENING REPORT

P.I. No. 001744

Prepared for

**Chatham County – Savannah Metropolitan Planning Commission
Coastal Region Metropolitan Planning Organization
110 East State Street
Savannah, Georgia 31412**

Prepared by

**Jacobs
Ten 10th Street NW, Suite 1400
Atlanta, Georgia 30309**

**In association with:
Metro Planning and Engineering
Symbioscity
Charles McMillan and Associates**

August 14, 2015



TABLE OF CONTENTS

1. Introduction	3
1.1 Report Purpose	3
1.2 Project Overview	3
1.3 Study Area	3
2. Natural Environment	5
2.1 Ecoregion and Watershed	5
2.2 Waters	5
2.3 Wetlands	6
2.4 Floodplains	7
2.5 Soils	10
2.6 Protected Species	12
2.7 Designated Critical Habitat	17
3. Physical Environment	19
3.1 Hazardous Materials Facilities	19
3.2 Community Facilities	19
3.3 Historic Resources	23
3.4 Archaeology	25
3.5 Air Quality	26
3.6 Parklands	26
4. Environmental Justice Populations	27
4.1 Minority Population	27
4.2 Low Income Population	27
4.3 Senior Populations	28

I-16 Interchange Modification Report DRAFT Environmental Screening Report



LIST OF TABLES

Table 2.1: Wetland Systems Present in Study Area	6
Table 2.2: Summary of the Soil Mapping Units in the Study Area.....	10
Table 2.3: Threatened and Endangered Species of Potential Occurrence within the Study Area.....	12
Table 3.1: Hazardous Materials Facilities in the Study Area	19
Table 3.2: Community Facilities.....	21
Table 3.3: Historic Districts and Buildings in the Study Area	23
Table 3.4: Historic Districts and Buildings in the Study Area	25
Table 4.1: Minority Population.....	27
Table 4.2: Median Household Income and Low-Income Individuals	28
Table 4.3 Senior Population.....	28

LIST OF FIGURES

Figure 1.1: Study Area.....	4
Figure 2.1: Wetlands in the Study Area.....	8
Figure 2.2: Floodplains	9
Figure 2.3: Soils	11
Figure 3.1: Hazardous Materials Locations	20
Figure 3.2: Community Facilities	22
Figure 3.3: Historic Resources.....	24
Figure 4.1: Minority Population	29
Figure 4.2: Median Household Income	30
Figure 4.3: Low-Income Population	31
Figure 4.4: Senior Populations.....	32

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



1. Introduction

1.1 Report Purpose

This report describes the existing environmental conditions in the study area for the I-16 Interchange Modification Report. As the preferred alternative advances, a general understanding of environmental conditions is important in determining next steps towards project delivery and the potential for adverse effects to the natural, physical and social environments. The purpose of the study is to complete an IMR for submittal to the Federal Highway Administration (FHWA) with the information necessary to evaluate the request to modify the of the eastern terminus of I-16 at the Martin Luther King, Jr. Boulevard and Montgomery Street interchange (exit #167). The environmental conditions of the study area are provided in a separate Environmental Screening Report.

1.2 Project Overview

The I-16 exit ramps at MLK Jr. Boulevard and Montgomery Street are seen as a physical and psychological barrier to economic development, pedestrian activity and neighborhood revitalization. While the area to the north of the flyover has thrived in recent years, the areas to the south and west of I-16/US 17 have not seen the same rate of revitalization. Potential benefits of the I-16 exit ramp removal as identified in previous planning studies include: reclaiming eight acres of developable land, 650 linear feet fronting MLK Jr. Boulevard, and 350 linear feet fronting Montgomery Street; reclaiming MLK Jr. Boulevard as a major economic mixed-use corridor, reinventing it as a gateway to the City instead of as the edge of downtown; establishing additional connectivity between downtown to West Savannah and to the potential civic center development; creating the opportunity to make Montgomery Street two-way; improving traffic flow with a new street grid; providing economic opportunities in the newly created City-owned land; bringing more people to area which will in turn create a larger marketplace; and finally laying the groundwork for expansion of streetcar system. The feasibility of the ramp removal has been determined through a series of previous planning studies including Reclaiming Old West Broad Street (2012), and studies conducted by the Savannah Development and Renewal Authority (SDRA) in 1998, 2002, 2004 and 2009; and the 2008 GDOT I-16 Terminus/MLK Jr. Boulevard Flyover Analysis and Concept Development Study.

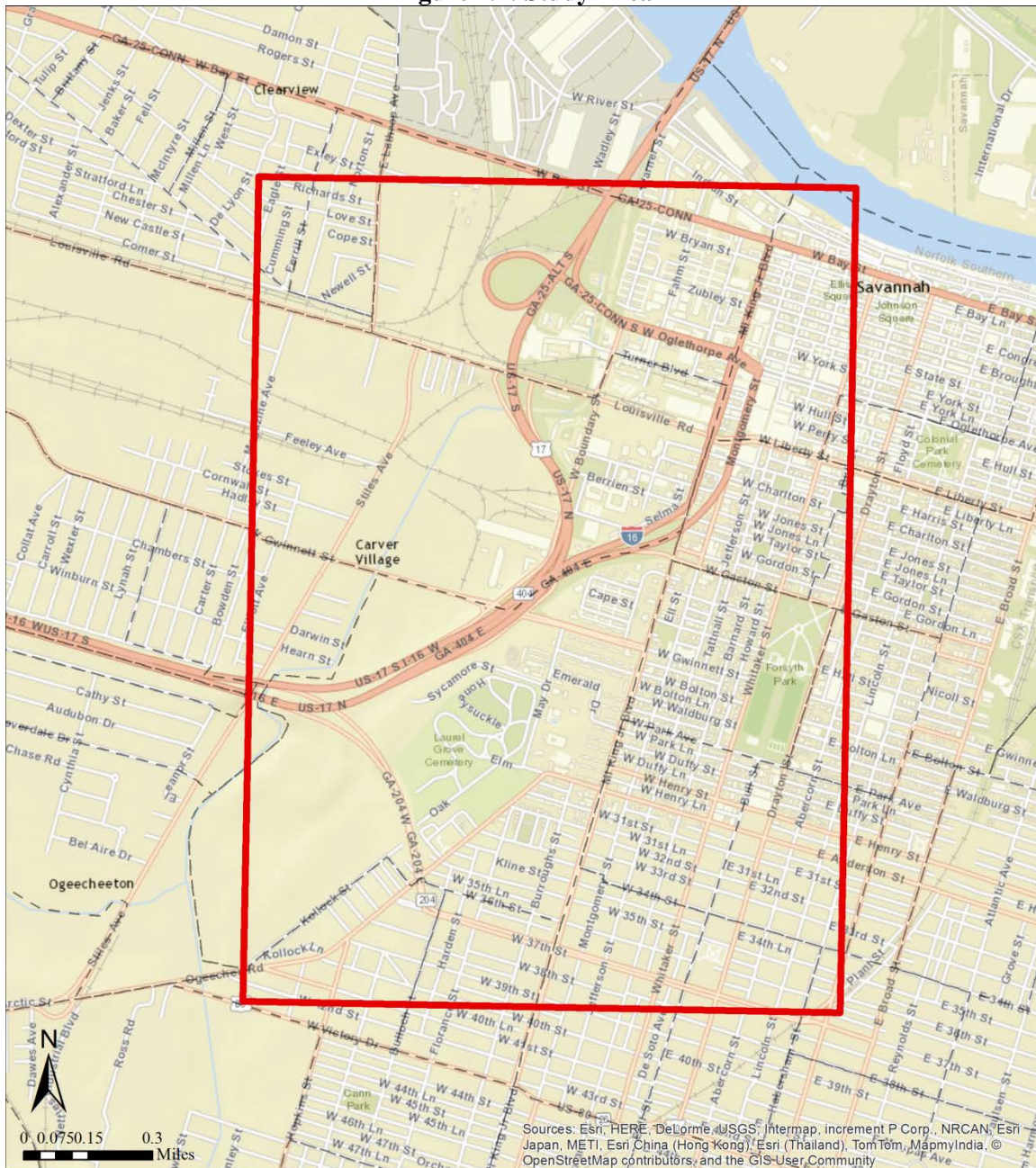
1.3 Study Area

The study area is located entirely within the City of Savannah, Georgia, in Chatham County, at the existing flyover exit ramps from I-16 to MLK Jr. Boulevard. As can be seen in **Figure 1.1**, the rectangular study area extends to the north and south of the I-16, US 17 split. The study area extends from just north of the US 17 overpass over West Bay Street/SR 25 Connector to just south of the SR 204/West 37th Street intersection at MLK Jr. Boulevard. The study area has its western extent where SR 204 splits from I-16 and its eastern extent just east of Forsyth Park.

I-16 Interchange Modification Report DRAFT Environmental Screening Report



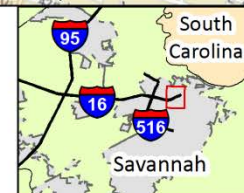
Figure 1.1: Study Area



I-16 IMR STUDY AREA

Sources: American Community Survey 2010,
CORE-MPO, Jacobs Engineering

Block Groups



I-16 Interchange Modification Report

DRAFT Environmental Screening Report



2. Natural Environment

2.1 Ecoregion and Watershed

An ecoregion denotes geographical areas of similar ecosystems in the type, quality, and quantity of environmental resources relevant to integrated ecosystem management, development of biological criteria, water quality standards, and to set up management goals for nonpoint source pollution. The project study area is located in the Level IV Sea Island Flatwoods (75f) and Sea Islands/Coastal Marsh (75i) ecoregions of the Southern Coastal Plain. The Southern Coastal Plain is a subtropical, low-elevation ecoregion that receives abundant precipitation where the predominant land cover types in the Southern Coastal Plain are evergreen forest and forested wetlands. The Sea Island Flatwoods are comprised of mostly forested lowland area of little relief with poorly drained flat plains with Pleistocene terraces and shoreline deposits. The Sea Islands/Coastal Marsh ecoregion is dominated by tidal creeks, marshes, and estuaries that function as critical nursery areas for marine wildlife.

The project study area is located in the Ogeechee River Coastal Watershed [Hydrologic Unit Code (HUC) 03060204] and Savannah River Watershed (HUC 03060109), which are designated as high priority watersheds by the US Environmental Protection Agency (USEPA). Watershed Management Plans outline protection of watersheds and detail the total maximum daily loads (TMDLs) of pollutants that affect water quality.

Transportation recommendations must be consistent with the management plans in place to ensure that water quality is maintained or improved.

2.2 Waters

The Savannah River is located immediately north of the project study area and is designated as a high priority stream by the USEPA. This designation is based on the presence of high priority species and aquatic communities within the system.

The project study area is located upstream and within ten linear miles of one non-supporting 303(d) listed waterbody: Casey Canal. This system is located approximately 1.5 miles southeast of the study area. Fishing is the designated use being violated in Casey Canal, and the exceeded criterion is Fecal Coliform Bacteria (FC) and Dissolved Oxygen (DO) from urban runoff. The TMDL for the segment of Casey Canal was completed in 2005. This system is located within the Ogeechee River Coastal Watershed (HUC) 03060204.

The 303(d) list refers to Section 303(d) of the Clean Water Act and functions to identify stream segments and other water bodies that do not meet their designated use. Identifying the locations of non-supporting 303(d) listed waters located within or downstream of the study area is important when recommending transportation improvements because crossing water features and potential impacts to water features can influence design.

Impacts to waters are monitored closely by regulatory agencies such as the US Army Corps of Engineers (USACE) and the Georgia Environmental Protection Division. Even

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



if a transportation project is funded locally, impacts to waters may need to be permitted through these agencies to minimize potential harm to water quality. The impaired waters are monitored in accordance with Section 303(d) of the Clean Water Act and have controlled levels of permitted discharges in order to maintain or improve water quality. This is important when planning for transportation improvements because the stormwater run-off from roadways and bridges are a major contributor to pollutants within these areas. Additional design considerations are often required to control not only the stormwater run-off, but also to control erosion and sedimentation.

2.3 Wetlands

The identification of wetlands is completed using methodologies outlined in the *1987 US Corps of Engineers Wetlands Delineation Manual* and the *Regional Supplement Delineation Manual: Atlantic and Gulf Coastal Plain Region*. Evaluation of a habitat to determine if it meets the criteria defining a jurisdictional wetland takes into account the presence of hydrophytic vegetation, hydric soils, and wetland hydrology.

According to data retrieved from the US Fish and Wildlife (USFWS) National Wetland Inventory (NWI) and a preliminary field investigation, wetlands are present in the study area from the I-16 Oglethorpe ramps to the I-16 Ogeechee Road split, primarily to the west of the transportation facility. Wetlands have not been identified in the immediate vicinity of the I-16 Montgomery Street ramps. The approximate locations of all known wetlands are presented in **Figure 2.1**, and a summary of the wetland systems present within the study area is presented in **Table 2.1**. Prior to construction of the I-16 Interchange Modification, a survey of the project area would be required and all wetlands shall be delineated with a GPS device that is capable of sub-meter accuracy. Surveys may identify additional jurisdictional features that are not accounted for in the USFWS NWI.

Section 404 permitting with the USACE will be required if wetlands or other jurisdictional waters are impacted as a result of fill, culverting, or dredging activities.

Table 2.1: Wetland Systems Present in Study Area

Wetland System	Cowardin Classifications	Total Acres
Estuarine Subtidal	E1UBL	6.85
Palustrine Emergent	PEM1B	2.59
	PEM1F	1.63
Palustrine Scrub Shrub	PSS1Ad	4.34
	PSS1C	3.99
Palustrine Forested	PFO1Ad	19.57
	PFO1C	7.03
	PFO1A	14.33

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



Wetland System	Cowardin Classifications	Total Acres
	PFO1/4A	25.02
	PFO1/4C	4.05
Open Water	PUBHx	2.37

Source: National Wetland Inventory 2015

2.4 Floodplains

Floodplains are designated as Special Flood Hazard Areas by the Federal Emergency Management Agency (FEMA) and are defined as areas that will be inundated by a flood event that has a 1-percent chance of being equaled or exceeded in any given year. A desktop survey of the project study area for floodplains has identified transverse crossings of the 100-year floodplains associated with the Ogeechee Canal, Savannah River, and Springfield Canal. The boundaries of these floodplains, as reported by FEMA, are depicted in **Figure 2.2**.

If construction of the I-16 Interchange Modification would require the placement of fill material within these floodplains, then the project shall be designed in such a way that it would have no significant encroachment on the floodplains and any required coordination with the FEMA shall be completed. The project shall not represent a significant risk to life or property. It shall not have a significant impact on natural and beneficial floodplain values; it shall not support incompatible floodplain development; and it shall not interrupt or terminate a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.



I-16 IMR WETLANDS

Sources: National Wetland Inventory,
CORE-MPO, Jacobs Engineering

	Interstate / Freeway		Buildings
	Major Arterial		Water
	Minor Arterial		Block Groups
	Collector		Wetlands
	Unclassified		

A detailed map of the Savannah area focusing on the I-16 corridor. The map shows various wetland areas highlighted in green with diagonal hatching. Major roads are color-coded: Interstates/Freeways in yellow, Major Arterials in orange, Minor Arterials in light orange, Collectors in light blue, and Unclassified roads in grey. Land use is indicated by colors: Buildings in green, Water in blue, and Block Groups as dashed black lines. A north arrow and a scale bar (0 to 0.2 miles) are located in the bottom left corner. An inset map in the bottom right corner shows the location of the study area within South Carolina, near Savannah.



metropolitan police community

I-16 IMR FLOODPLAINS

Sources: FEMA FIRM,
MPC, Jacobs Engineering

- 100-Year Floodplain
- Buildings
- Water

Scale: 0 0.05 0.1 0.2 Miles

Inset Map: South Carolina, Savannah, I-95, I-16, I-16B

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



2.5 Soils

The National Resource Conservation Service (NRCS) Web Soil Survey database for Chatham County was consulted to determine soils series within the project study area. Five soil mapping units are located in the study area, consisting of Chipley-Urban land complex, Ocilla-Urban land complex, Ogeechee-Urban land complex, Urban land, and Wahee-Urban land complex. These soil series were cross-referenced against the NRCS National Hydric Soils List to determine if hydric soils are known to occur within the study area. Four soils are designated as hydric soils: Chipley-Urban land complex, Ocilla-Urban land complex, Ogeechee-Urban land complex, and Wahee-Urban land complex. A brief description of each soil series found along the project study area is included in **Table 2.2**. For a location of each mapping unit along the corridor, please refer to **Figure 2.3**. Understanding of the area soils is important for understanding constructability. The area is relatively wet soils and further geotechnical investigations will need to be completed in future project stages to support infrastructure improvements.

Table 2.2: Summary of the Soil Mapping Units in the Study Area

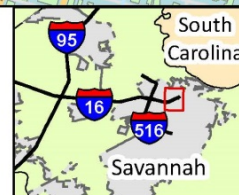
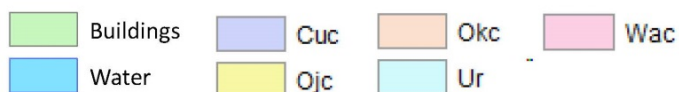
Map Unit Symbol	Unit Name	Slope Range (%)	Hydric (Yes/No)	Soil Description
Cuc	Chipley-Urban land complex	0-5	Yes	This unit consists of very deep, somewhat poorly drained, very rapid or rapidly permeable soils formed in sandy marine sediments.
Ojc	Ocilla-Urban land complex	0-2	Yes	This unit consists of very deep, somewhat poorly drained, moderately permeable soils formed in sandy and loamy marine sediments.
Okc	Ogeechee-Urban land complex	0-2	Yes	This unit consists of very deep, poorly drained, moderately permeable soils that formed in thick beds of loamy fluvial and marine sediments.
Ur	Urban land	--	No	This unit consists of materials that have been manipulated and transported for use in developed areas.
Wac	Wahee-Urban land complex	0-2	Yes	This unit consists of very deep, somewhat poorly drained, slowly permeable soils formed in clayey and loamy marine or fluviomarine sediments.

Source: NRCS Web Soil Survey 2015



This map shows the Atlanta, Georgia area, including the city of Atlanta and the surrounding county. The Atlanta-Fulton County Stadium is highlighted with a red dot and labeled. The map displays a network of roads, including major highways (I-75, I-85, I-20) and local streets (e.g., Peachtree St, Peachtree Dunwoody Rd, Peachtree Industrial Park Rd). The stadium is located in the northern part of the city, near the intersection of Peachtree St and Peachtree Dunwoody Rd. The map also shows the city's boundaries and the surrounding county.

Sources: Natural Resources Conservation Service, MPC, Jacobs Engineering



I-16 Interchange Modification Report

DRAFT Environmental Screening Report



2.6 Protected Species

Under the terms of Section 7 of the Endangered Species Act of 1973 (ESA), federal agencies shall “ensure that any action authorized, funded or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary to be critical...” Furthermore, the USACE requires protected species surveys for project sites that require a permit under Section 404 of the Clean Water Act.

An office review of available resources was performed to develop a list of federal and state listed species that are known to occur in Chatham County, Georgia. A tentative list of protected species was compiled by review of the USFWS Information, Planning, and Conservation (IPaC) database, and a review of the Georgia Department of Natural Resources-Nongame Conservation Section (GDNR) Element Occurrence by County website database for Chatham County.

Per the review of available databases, 17 federally listed species are known to occur in Chatham County, Georgia. Please refer to **Table 2.3** for a summary of protected species for Chatham County, Georgia. A brief discussion of the natural history for each species is included at the end of this section and was researched using the NatureServe Explorer database and GDNR rare species profiles.

A survey of the project area for protected species and their suitable habitat would be required prior to the construction of the I-16 Interchange Modification. If federally protected species or their suitable habitat is identified during field surveys, Section 7 coordination with the USFWS would be required.

Table 2.3: Threatened and Endangered Species of Potential Occurrence within the Study Area

Common Name	Scientific Name	Federal Status	State Status
Amphibians			
Frosted flatwoods salamander	<i>Ambystoma cingulatum</i>	T	T
Striped newt	<i>Notophthalmus perstriatus</i>	C	T
Birds			
Piping plover	<i>Charadrius melodus</i>	T	T
Red knot	<i>Calidris cantus rufa</i>	T	R
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	E
Wood stork	<i>Mycteria americana</i>	T	E
Fish			
Atlantic sturgeon	<i>Acipenser oxyrinchus oxyrinchus</i>	E	E
Shortnose sturgeon	<i>Acipenser brevirostrum</i>	E	E
Plants			
Pondberry	<i>Lindera melissifolia</i>	E	E

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



Common Name	Scientific Name	Federal Status	State Status
Mammals			
North Atlantic right whale	<i>Eubalaena glacialis</i>	E	E
West Indian manatee	<i>Trichechus manatus</i>	E	E
Reptiles			
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T
Gopher tortoise	<i>Gopherus polyphemus</i>	C	T
Green sea turtle	<i>Chelonia mydas</i>	T	T
Kemp's Ridley sea turtle	<i>Lepidochelys kempii</i>	E	E
Leatherback sea turtle	<i>Dermochelys coriacea</i>	E	E
Loggerhead sea turtle	<i>Caretta caretta</i>	T	E

Protection status is as follows: E – Endangered; T – Threatened; C- Federal Candidate; R – Rare.

Frosted flatwoods salamander (*Ambystoma cingulatum*) – The frosted flatwoods salamander is approximately 4.5 to 6 inches in total length. The pattern on this species appears more “frosted” in comparison to the closely related reticulated flatwoods salamander (*Ambystoma bishopi*). This salamander is endemic to mesic flatwood habitats with semi-hydric soils within longleaf and slash pine-wiregrass communities. During the spring and summer months of May through September, this salamander species typically remains underground in burrows and is rarely encountered above ground. Breeding sites for this species are typically shallow, ephemeral cypress or swamp tupelo ponds or domes that are conducive to submerged grass, sedge and forbs growth, although roadside ditches and firebreaks are occasionally used. This salamander is restricted to the Coastal Plain of Alabama, Florida, Georgia, and South Carolina. In Georgia, frosted flatwoods salamander populations are found east of the Flint River through Baker, Bryan, Evans, Liberty, McIntosh, and Miller counties. Threats to this species include reduced range, habitat loss, and alteration of hydrology via ditching and draining wetlands within suitable habitat.

Striped Newt (*Notophthalmus perstriatus*) – The striped newt is an olive color with two distinctive parallel red stripes along its back and ranges from 2.5 to 4 inches in length. This newt species can be found in longleaf pine-wiregrass communities, but prefer sandhills and well-drained flatwoods. Within these habitats, the striped newt can be found in sinkhole ponds, depression ponds, and ditches. Terrestrial juveniles typically inhabit wooded areas near breeding ponds while larvae and adults remain in aquatic habitats. This species can be found distributed throughout the southeastern part of Georgia along with the mid-south region as well. Threats to this species are due primarily to loss of open-canopied longleaf pine communities caused by growth of agricultural development. Loss of wetland areas has also decreased the available breeding grounds for the striped newt.

Piping plover (*Charadrius melodus*) – The piping plover is a small, stocky shorebird resembling a sandpiper. Piping plovers nest along the sandy beaches of the Atlantic Coast, the gravelly shorelines of the Great Lakes, and on river sandbars and alkali wetlands throughout the Great Plains Region. They prefer to nest in sparsely vegetated

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



areas with scattered grass tufts that are slightly raised in elevation. Nests may also occur on sandy open flats among shells or cobble behind foredunes and on suitable dredge oil deposits. During nonbreeding seasons, the piping plover can be found on ocean beaches, sandflats, sandy mudflats, and algal flats in protected bays. Wintering grounds for this bird extend the length of the southeast Atlantic Coast. The barrier islands located in Georgia and South Carolina, including Little Egg Island and Little St. Simons Island, are major wintering grounds for this species. Threats to this species include loss of nesting habitat due to beachfront development.

Red knot (*Calidris canutus*) – The red knot is a medium-sized shorebird that reaches a length of 10 inches and is distinguished by its brick red head, neck, breast, and abdomen. This species tends to breed near coastal areas that are generally dry, sunny, well-vegetated, and somewhat elevated. During their migration, they switch from coastal beaches to the mouths of bays, estuaries, and tidal inlets. The wintering habitats for the red knot are generally intertidal such as beaches with substantial wave action or currents. In Georgia, this species is typically found along the barrier islands along the coast. Threats to this species include loss of food resources and habitat loss.

Red-cockaded woodpecker (*Picoides borealis*) – The red-cockaded woodpecker has a black back with broken white horizontal stripes and reaches a total body length of approximately eight inches. This woodpecker species needs large expanses of mature pine forests that contain an overstory of large pine trees and an open mid-story. Nest and roost cavities are excavated in old living pines (60 to 80 years old) that are usually infected with red heart fungus (*Phellinus pini*), which softens the heartwood, making excavations easier. Historically, the habitat that supported the largest populations of red-cockaded woodpeckers was the fire-maintained longleaf pine forest of the coastal plain. This woodpecker has a fragmented range throughout the southeastern US from eastern Texas and Oklahoma to the Atlantic Coast and north to Kentucky, Maryland, and Missouri. In Georgia, there are five population centers including Fort Benning, Fort Stewart, Okefenokee National Wildlife Refuge, Piedmont National Wildlife Refuge/Brender Experimental Forest/Oconee National Forest, and plantations in the Red Hills region of Thomas and Grady counties. Threats to this species include destruction and fragmentation of suitable habitat and isolation of breeding groups.

Wood stork (*Mycteria americana*) – The wood stork is large, long-legged wading bird that roosts and feeds in colonies of various sizes in freshwater and estuarine wetlands. This species typically nests in upper parts of cypress trees, mangroves, or dead hardwoods over water, on islands along streams or adjacent to shallow lakes in lagoons, scrub-shrub wetlands, and forested wetlands. During the breeding season, this species range includes the southeastern United States, both coasts of Mexico and Central America, Cuba, Hispaniola, and South America from Columbia to Argentina. During late fall, it can be found in the Georgia Piedmont but usually prefers coastal marshes. In Georgia, this species is known to nest in areas including Harris Neck National Wildlife Refuge, Ossabaw, St. Catherines, Cumberland Islands, and Kings Bay Naval Submarine

I-16 Interchange Modification Report DRAFT Environmental Screening Report



Base. Threats to this species include habitat loss, excessively low water levels, disruption to the natural cycle of seasonal drying, human disturbance and contamination of water.

Atlantic sturgeon (*Acipenser oxyrinchus*) – The Atlantic sturgeon is a large anadromous fish that can reach a total length of approximately 14 feet. This species can typically be found in large, low gradient rivers or estuarine habitats along the Atlantic Coast. This species is primarily found close to shore in marine habitats when not breeding, and migrates to rivers for spawning. Spawning areas typically occur in rivers with hard clay, gravel or shell substrate. Threats to this species include habitat degradation, blockage of spawning areas by dams, and overfishing.

Shortnose sturgeon (*Acipenser brevirostrum*) – The shortnose sturgeon is a large anadromous fish with large, bony scutes on its back and sides. The shortnose sturgeon inhabits large coastal rivers, estuaries, and occasionally enters the Atlantic Ocean. Suitable spawning habitat consists of mid-channel areas of river bends over coarse substrates of rock and gravel. This species swim up large coastal rivers to spawn then return to lower river habitat or estuaries for the rest of the year. Juveniles typically inhabit the saltwater/freshwater interface of a river in deep, cool channels that have sandy to silty substrata. This particular species can be found in Georgia's larger river systems which include the Savannah, Altamaha, and Ogeechee Rivers. Threats to this species include habitat degradation, blockage of spawning areas by dams, and overfishing.

Pondberry (*Lindera melissifolia*) – Pondberry is a shrub that forms dense colonies of green or brown stems with yellowish bases that can reach up to 6 feet tall. This species occurs in a variety of habitats that include floodplain/bottomland hardwood forests and forest swales, bottoms or edges of shallow seasonal ponds in old dune fields, along the margins of ponds and depressions in pinelands, around the edges of sinkholes located in coastal areas, and along the edges of *Sphagnum* bogs. Pondberry prefers full shade, but can tolerate areas of full sun. These shrubs can also be found on the edges of sandhill ponds and limesinks and are often found in occurrence with pondspice (*Litsea Aestivalis*). The range of this species spans across the Coastal Plain of Georgia, North Carolina, Alabama, South Carolina, Mississippi, Missouri, and Arkansas. Major threats to pondberry include ditching, draining, and filling wetlands, laurel wilt disease, and digging by feral hogs.

Right Whale (*Eubalaena glacialis*) – The right whale is a medium sized, baleen whale that can reach up to 56 feet in length. This whale species inhabits nearshore and offshore waters along the Atlantic coastline, and may also occur over the continental shelf in the North Pacific with relatively warm, shallow, and well-stratified waters. In Georgia, this species can be found off the coast of Camden, Chatham, Glynn, Liberty, and McIntosh Counties during the winter months (December to late March) where calving takes place. Threats to this species include boat collisions and human disturbance.

West Indian manatee (*Trichechus manatus*) – The West Indian manatee is a large gray or brown aquatic mammal. Manatees inhabit both salt and fresh water of sufficient depth

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



(4.92 feet to usually less than 19.69 feet) throughout their range. They may be encountered in canals, rivers, estuarine habitats, saltwater bays, and on occasion have been observed as much as 3.7 miles off the Florida Gulf coast. This species is found in tropical and subtropical coastal and river waters along the southeast US coast. In Georgia, this species can be found in Bryan, Camden, Chatham, Effingham, Glynn, Liberty, and McIntosh Counties. Threats to this species include degradation of natural habitat, mortality from boat collisions, and entrapment due to infrastructure.

Eastern indigo snake (*Drymarchon couperi*) – The eastern indigo snake is a patternless, iridescent blue-black snake that can reach a maximum length of eight feet. This reptile prefers a habitat with xeric, sandy soils in fire dependent, longleaf pine-scrub oak communities on sand ridges adjacent to rivers and wetlands. The snake has a strong relationship with the gopher tortoise (*Gopherus polyphemus*) in the northern extent of its range and uses its burrows as a winter retreat. During warmer months, this species can be found in floodplains or the periphery of cypress ponds, adjacent to or interspersed in sandy uplands. Sandstone outcroppings are also used as shelter in areas that contain Altamaha Grit. Historically, this species ranged from southeastern Georgia south and west to southeastern Mississippi, however, it has since been restricted to Georgia and Florida. In Georgia, this species primarily occurs in the southeastern portion of the state. Threats to this species include reduction in gopher tortoise abundance, habitat fragmentation due to agricultural practices, indiscriminate killing, and illegal capture.

Gopher tortoise (*Gopherus polyphemus*) – The gopher tortoise is a large terrestrial turtle measuring 9 to 11 inches on average. The key habitat requirements of this species include well-drained sandy soils for burrowing, sunlight availability, and abundant herbaceous vegetation. This tortoise is a characteristic species of the rapidly disappearing longleaf pine and wiregrass community, which includes sandhills, dry flatwoods, and turkey oak scrub. Gopher tortoise burrows can usually be found in disturbed habitats such as roadsides, fence-rows, old fields, and the edges of overgrown uplands. This species occurs in the Coastal Plain from southern South Carolina south and westward to extreme eastern Louisiana. Extant or historical localities in Georgia are known throughout the southern half of the state below the Fall Line. They are absent from the Okefenokee Swamp and most barrier islands. Threats to this species include alteration and loss of habitat, fire suppression, low fecundity, gassing of burrows, and vehicle impacts.

Green sea turtle (*Chelonia mydas*) – The green sea turtle has a broad, smooth, heart-shaped carapace that can reach a length of between 35 and 48 inches. Once the green sea turtle reaches adult hood, they can be found in shallow coastal waters where they feed on algae and sea grasses as well as sargassum weed found in convergence zones of the open ocean. In Georgia, juveniles can be found foraging on macroalgae growing on docks and jetties. During the nesting season, adults can be found on high energy beaches with deep sand along with coral reefs and rocky outcrops. In Georgia, this species can be found in Camden, Chatham, Glynn, and Liberty Counties. Threats to this species include eutrophication, excess sedimentation, oceanic fisheries, and loss of habitat.

I-16 Interchange Modification Report DRAFT Environmental Screening Report



Kemp's Ridley sea turtle (*Lepidochelys kempii*) – The Kemp's Ridley sea turtle is the smallest of all the sea turtle species with a maximum carapace length between 23 to 28 inches. This sea turtle prefers shallow coastal waters and juveniles can be found in Georgia estuaries from April through October. Juveniles often spend their first few years as surface pelagic drifters in weedlines of offshore currents. Adult turtles prefer waters that are often over sandy or muddy bottoms where crabs are abundant. Adult Ridley sea turtles are predominantly found in the Gulf of Mexico. While this species can be found along the coastal counties of Georgia, this species does not nest in the state. Threats to this species include eutrophication, excess sedimentation, oceanic fisheries, and loss of habitat.

Leatherback sea turtle (*Dermochelys coriacea*) – The leatherback sea turtle is the largest known sea turtle species with a maximum carapace length between 53 to 69 inches. These sea turtles tend to be primarily pelagic, but occasionally enter coastal waters, seas, bays, and estuaries. They will also migrate from their nesting sites in the tropics to foraging sites in the sub-Arctic. This species can be found nesting on sloping sandy beaches that back up to vegetation and are often near deep, rough waters. The leatherback sea turtle has a global distribution ranging from the Atlantic, Pacific, and Indian oceans. In Georgia, this species can typically be found along the coast during their annual migrations in the fall and spring. Threats to this species include eutrophication, excess sedimentation, oceanic fisheries, and loss of habitat.

Loggerhead sea turtle (*Caretta caretta*, state endangered) – The loggerhead sea turtle has a maximum carapace length between 31 and 43 inches with scutes covering the carapace and plastron. This sea turtle species maintains a mostly pelagic lifestyle, living in association with rafts of sargassum weed and drifting with the oceanic current, but can also be seen inhabiting bays, estuaries, lagoons, creeks, and mouths of rivers mainly in warm, temperate waters. Nesting sites tend to occur on open, sandy beaches above the high-tide mark. Steeply sloped beaches that gradually slope offshore with high energy waves are preferred. They range from the Atlantic, Pacific, Indian oceans and the Mediterranean Sea. During the warm months in Georgia, loggerhead sea turtles are found throughout the marine and estuarine waters. Threats to this species include eutrophication, excess sedimentation, oceanic fisheries, and loss of habitat.

2.7 Designated Critical Habitat

The ESA identifies critical habitat as specific geographic areas that include physical and biological features essential to the conservation of a listed species. Critical habitat may include an area that is not currently occupied by a protected species but may be needed for its recovery. According to USFWS database searches, critical habitat has been designated for seven federally protected species known to occur in Chatham County: the frosted flatwoods salamander, piping plover, North Atlantic right whale, West Indian manatee, green sea turtle, leatherback sea turtle, and loggerhead sea turtle. Of these species, the piping plover and loggerhead sea turtle have designated critical habitat within Chatham County; however, no critical habitat occurs within the project study area. The

I-16 Interchange Modification Report DRAFT Environmental Screening Report



closest critical habitat to the study area is designated for the frosted flatwoods salamander and is located approximately 11 miles northeast of the study area in Jasper County, South Carolina.

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



3. Physical Environment

This section discusses the existing conditions of the physical environment as related to environmental concerns. The location of hazardous materials sites and cultural resources are identified.

3.1 Hazardous Materials Facilities

In the study area, six sites have been identified at which hazardous materials are present. At one of these locations, there are fuel storage tanks, and the other five are brownfields at which hazardous materials from previous or ongoing uses are believed to be present. These areas must be taken into consideration in the development of improvements to the street network, as there may be limitations to the degree to which these sites may be disturbed. Hazardous materials facilities in the study area are presented in **Table 3.1** and **Figure 3.1**. A search of the US Environmental Protection Agency records revealed that there are no superfund sites (CERCLA) in the study area.

Table 3.1: Hazardous Materials Facilities in the Study Area

ID	Facility	Address	ZIP	Type
1	Greyhound Lines, Inc. #410861	610 Oglethorpe Avenue	31401	Hazardous Materials Site
2	Savannah (Bull Street)	1315 Bull Street	31402	Hazardous Materials Site
3	FreshPoint - Southern Georgia	313 Stiles Avenue	31415	Hazardous Materials Site
4	BellSouth - R2233	1300 Bull Street	31401	Hazardous Materials Site
5	Chatham Steel Corp	501 West Boundary Street	31401	Hazardous Materials Site
6	Savannah City Lot	110 West Gwinnett Street	31415	Fuel Storage

Source: US Environmental Protection Agency

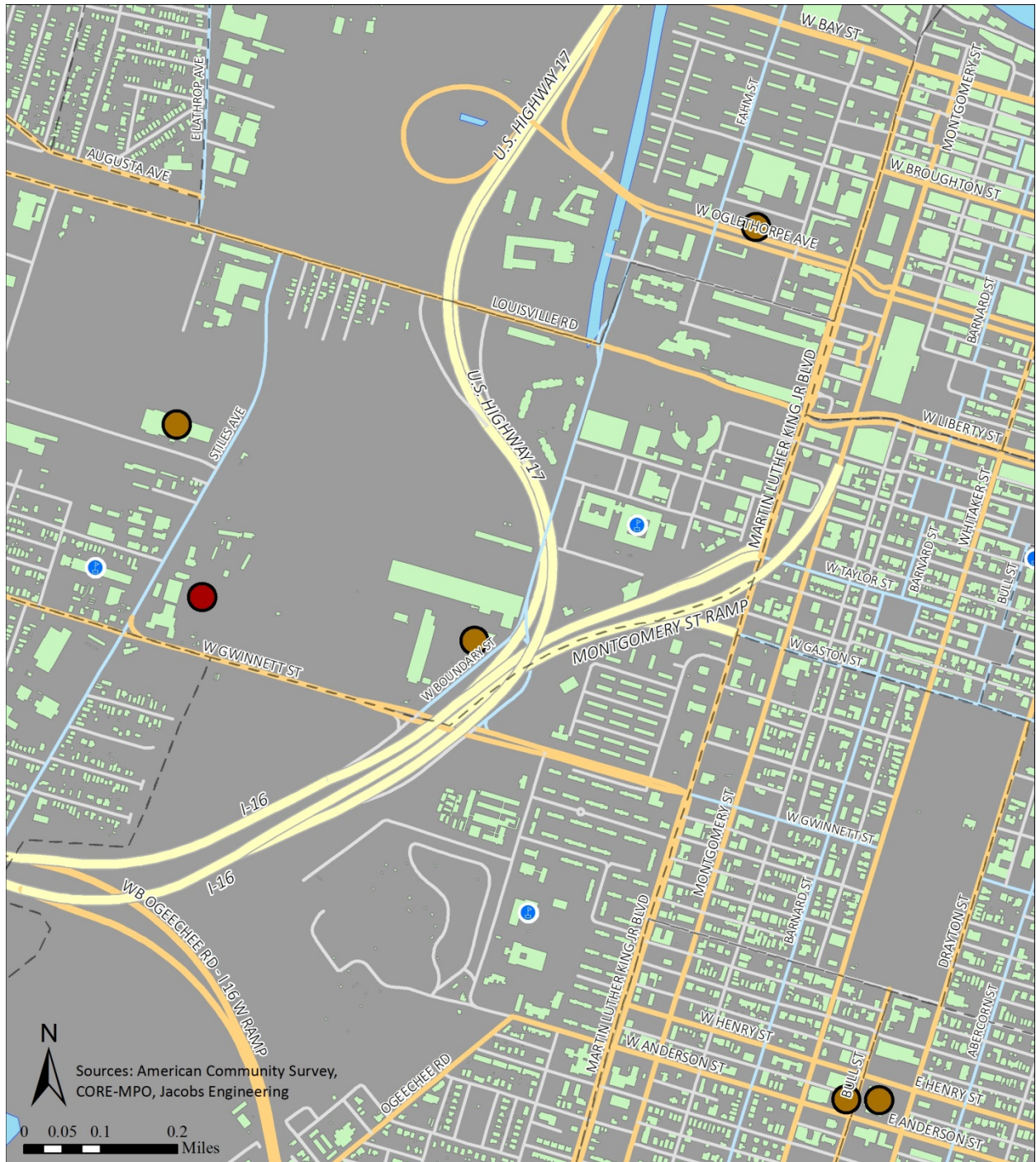
3.2 Community Facilities

The study area is the home to many community facilities, including schools, parks, houses of worship, and government services. Study area community facilities are listed in **Table 3.2** and presented in **Figure 3.2**.

I-16 Interchange Modification Report DRAFT Environmental Screening Report

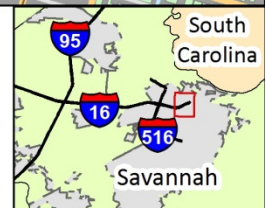


Figure 3.1: Hazardous Materials Locations



I-16 IMR HAZARDOUS MATERIALS

- | | | |
|----------------------|--------------|--------------------------------|
| Interstate / Freeway | Collector | Fuel Storage Facilities |
| Major Arterial | Unclassified | Hazardous Materials Facilities |
| Minor Arterial | Buildings | Water |



I-16 Interchange Modification Report DRAFT Environmental Screening Report




Table 3.2: Community Facilities

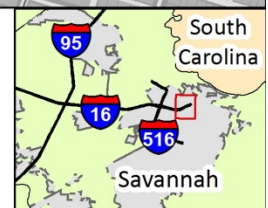
No.	Name	Type
1	First Union Missionary Baptist	Church
2	Saint Philip A.M.E. Church	Church
3	Connor's Temple Baptist Church	Church
4	First Tabernacle Baptist Church	Church
5	Tremont Temple Baptist Church	Church
6	Greater Friendship Baptist Church	Church
7	Saint John's Church	Church
8	First Baptist Church	Church
9	Trinity United Methodist Church	Church
10	First African Baptist Church	Church
11	First Bryan Baptist Church	Church
12	St. Mark's Baptist Church	Church
13	Antioch Holiness Church	Church
14	St. Matthew's Episcopal Church	Church
15	First Smyrna Baptist Church	Church
16	First Mount Sinai Baptist Church	Church
17	United House of Prayer	Church
18	St. Paul's Greek Orthodox Church	Church
19	St. Philip Monumental AME Church	Church
20	Mt. Zion Baptist Church	Church
21	First Saint Peters Baptist Church	Church
22	First New Light Baptist Church	Church
23	Gaines Chapel AME Church	Church
24	House of Favor Full Gospel	Church
25	Glorify Miracle Deliverance	Church
26	Saint Andrew's Independent Episcopal Church	Church
27	Esther F. Garrison Elementary School	School
28	Oglethorpe Charter School	School
29	Savannah College of Art and Design	School
30	Teen Aged Parenting Program	School
31	Forsyth Park	Park
32	Housing Authority	Other
33	Laurel Grove Cemetery	Cemetery
34	Canal District Plan Zone	Other
35	Savannah Civic Center	Attraction
36	Georgia State Railroad Museum	Attraction



A detailed map of Savannah, Georgia, highlighting several key locations. The map features major roads like U.S. Highway 17, I-96, and Montgomery Street, as well as local streets such as W Oglethorpe Ave, W Broughton St, and W Liberty St. Landmarks include the Georgia State Railroad Museum, Savannah Civic Center, Forsyth Park, and the Savannah College of Art & Design. Educational institutions like Esther F. Garrison School and Oglethorpe Charter School are also marked. Other notable areas include the Canal District Plan Zone, Housing Authority, and Laurel Grove Cemetery. A scale bar at the bottom left indicates distances up to 0.2 miles, and a north arrow is provided for orientation.

Sources: American Community Survey, CORE-MPO, Jacobs Engineering

-  Places of Worship
  Schools
 Civic Properties
  Water



I-16 Interchange Modification Report

DRAFT Environmental Screening Report



3.3 Historic Resources

Given the abundance of historic properties in the study area, the location of historic and archeological resources in proximity to the I-16 ramps and surrounding street networks will be an important consideration in the analysis of alternatives for this IMR. As can be seen and **Figure 3.3**, the I-16 ramps lie entirely within the locally designated Downtown Savannah Historic area. The exit ramps to Montgomery Street pass into the Savannah National Historic Landmark District, and the entrance ramps are directly south of the Central of Georgia Savannah Landmark District. In addition, several individual properties in the study area are on the National Register of Historic Places, and there may be additional eligible properties identified during later environmental study. Historic districts and buildings in the study area that are listed on the National Register of Historic Places can be found in **Table 3.3**. Historic properties are protected under the Historic Preservation Act and under Section 4(f) of the US DOT Act and require survey and impact analysis during the environmental documentation phase.

Table 3.3: Historic Districts and Buildings in the Study Area

NPS Reference Number	Historic Place Name	Address	Year Listed
76000610	Central of Georgia Depot and Train shed	West Broad and Liberty Streets	1976
78000970	Central of Georgia Railroad: Savannah Shops and Terminal Facilities	West Broad St. and Railroad Avenue	1978
70000199	Central of Georgia Railway Company Shop Property	Between West Jones Street and Louisville Road	1970
78000971	First Bryan Baptist Church	575 West Bryan Street	1978
74000664	Green-Meldrim House	Macon and Bull Streets	1974
77000413	Hodgson, W. B., Hall	501 Whitaker Street	1977
83000187	Laurel Grove-North Cemetery	West Anderson Street	1983
66000276	Low, Juliette Gordon, Historic District	10 Oglethorpe Avenue, East, 330 Drayton Street, 329 Abercorn Street	1966
74000665	Savannah Victorian Historic District	Roughly bounded by Gwinnett, Price, Anderson, and Montgomery Streets	1974
82002392	Savannah Victorian Historic District (Boundary Increase)	Bounded by Gwinnett, Anderson and 31 st Streets	1982
70000201	Scarborough, William, House	41 West Broad Street	1970
83000188	Slotin Building	101 West Broad Street	1983
84000959	St. Philip AME Church	613 West Broad Street	1984
76000612	Telfair Academy	121 Barnard Street	1976

Source: National Register of Historic Places

I-16 IMR HISTORIC RESOURCES

Legend:

- Interstate / Freeway
- Major Arterial
- Minor Arterial
- Collector
- Unclassified
- Buildings
- Water
- Historic Cemeteries
- Downtown Savannah Historic Area
- Historic Places
- Central of Georgia Savannah Landmark District
- Cuyler-Brownsville
- Savannah National Historic Landmark District'
- Savannah Victorian District
- Thomas Square-Trolley Historic District

Map Labels:

- First Bryan Baptist Church
- Slotin Building
- Scarborough House
- Telfair Academy
- Low Historic District
- Central of Georgia Railroad
- Central of Georgia Depot
- Low Historic District
- Green-Meldrim House
- St. Philip AME Church
- Hodgson Hall
- Central of Georgia Railway Company Shop Property
- Laurel Grove-North Cemetery
- Victorian District
- Victorian District

Scale: 0 0.05 0.1 0.2 Miles

Sources: National Register of Historic Places, CORE-MPO, Jacobs Engineering

Inset Map: South Carolina, Savannah, I-95, I-16, I-516

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



3.4 Archaeology

A search of Site Files was performed to determine if there were any previously recorded archaeological sites in the study area. Extensive field work has been performed previously in the study area for prior efforts and several sites were identified. Within the study area, there were 20 sites and 19 reports. Sites are listed in **Table 3.4**. There is the possibility that additional sites could yet be detected in this study area.

Table 3.4: Historic Districts and Buildings in the Study Area

Official Site Number	National Register Standing	Preservation State	Date Recorded
9CH694	Listed	Undisturbed; Graded	1994
9CH695	Listed	Undisturbed; Graded	1994
9CH696	Listed	Destroyed; Redeposited	1994
9CH699	Unknown	Destroyed	1982
9CH701	N/A	N/A	1980
9CH702	Listed	N/A	1980
9CH703 (Revisit)	Listed	Graded	2009
9CH773 (Revisit)	Listed	Undisturbed; Graded	2001
9CH795	Unknown	N/A	1994
9CH879	Recommended Ineligible	Redeposited	1997
9CH881	Unknown	Vandalized	1996
9CH999	Recommended Ineligible	Graded	2000
9CH1221	Listed	Undisturbed	2009
9CH1229	Recommended Ineligible	Destroyed; Razed	2010
9CH1236	Recommended Eligible	Undisturbed; Razed	2011
9CH1237	Recommended Eligible	Graded	2011
9CH1251	Unknown	Redeposited; Graded	2011
9CH1270	Recommended Ineligible	Graded; Razed	2012
9CH1369	Listed	Undisturbed; Razed	2012
9CH1370	N/A	N/A	2014

Source: Georgia Archeological Site File

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



3.5 Air Quality

The study area is not part of any nonattainment area for ozone or particulate matter 2.5. The Clean Air Act (CAA) requires that, in areas experiencing air quality problems, transportation planning must be consistent with air quality goals.

3.6 Parklands

The city of Savannah has 275.8 acres of parks and playgrounds ranging from 0.1 to 77 acres in size. There are several parks in the I-16 study area, totaling approximately 130.4 acres. Historical markers are clustered east of MLK Jr. Boulevard in the historic district with a total of 30 historical markers in the I-16 study area. Seven out of 22 historic Square Parks are located east of MLK Jr. Boulevard:

- Chatham Square
- Pulaski Square
- Orleans Square
- Telfair Square
- Ellis Square
- Monterey Square
- Madison Square

Public parks and recreational facilities are protected under Section 4(f) of the US DOT Act, which emphasizes the avoidance of impacts to publically owned parks and recreational facilities for federally funded transportation projects.

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



4. Environmental Justice Populations

The information gathered about EJ populations will ensure that the following principles from Executive Order 12898 are followed throughout the project planning process:

- Avoid, minimize, and mitigate disproportionately high and adverse effects;
- To ensure the full and fair participation by all potentially affected communities;
- To prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

4.1 Minority Population

A large portion, 65 percent, of I-16 study area residents are minorities (**Table 4.1**). While the percentage of minority residents in the study area is only marginally greater than that seen across the city of Savannah, 64 percent, the potential for environmental justice impacts from transportation infrastructure improvements exists. The assessment of burdens and benefits of the project on EJ communities will be further assessed in the future environmental documentation phase of the project. The majority of minority residents in the study area live west of MLK Jr. Boulevard near the extent of I-16 and the associated flyover ramp, as shown in **Figure 4.1**.

Table 4.1: Minority Population

Area	Minority Population	Total Population	Percentage Minority Residents
Study Area	7,890	12,227	65%
Chatham County	131,636	265,128	50%
Savannah City	86,905	136,286	64%
Georgia	4,273,733	9,687,653	44%

Source: 2010 ACS

4.2 Low Income Population

Nearly half (47 percent) of all residents in the study area live below the poverty line (**Table 4.2**). That is a far greater proportion than found in the city as a whole, where 25 percent of individuals have incomes below the poverty line. At \$20,650, median household income in the study area is less than half of that across the city (\$42,763). The I-16 ramps connect to a relatively high-income area through a low-income area, as can be seen in **Figures 4.2 and 4.3**. There is an income disparity between neighborhoods divided by MLK Jr. Boulevard, with lower incomes to the west and south and higher incomes to the north and east of MLK Jr. Boulevard. The area west of MLK Jr. Boulevard and east of I-16 is home to several public housing complexes which contribute to the lower incomes associated with the area. The concentration of low-income individuals along I-16 indicates that low-income residents may experience more adverse impacts from the modifications to the interstate system or local street network.

I-16 Interchange Modification Report

DRAFT Environmental Screening Report



Table 4.2: Median Household Income and Low-Income Individuals

	Median Household Income	Low Income Individuals	Total Population for whom Poverty is Calculated	Percent of Low-Income Individuals
Study Area	\$20,650	2,235	4,711	47%
City of Savannah	\$32,562	32,242	128,255	25%
Chatham County	\$42,763	48,909	253,999	19%
State of Georgia	\$46,430	1,688,932	9,446,906	18%

Source: 2010 ACS

4.3 Senior Populations

Of the population in the study area, 37 percent are over 65 years old, which is higher than the county, city, or state average (**Table 4.3**). Senior populations greater than 20 percent are located east of MLK Jr. Boulevard and south of W. Gwinnett Street, as shown in **Figure 4.4**. Rose of Sharon Apartments, located immediately outside the study area on East Taylor Street, is a 206-unit, low-income senior housing complex, which accounts for some of the high percentage of seniors east of MLK Jr. Boulevard.

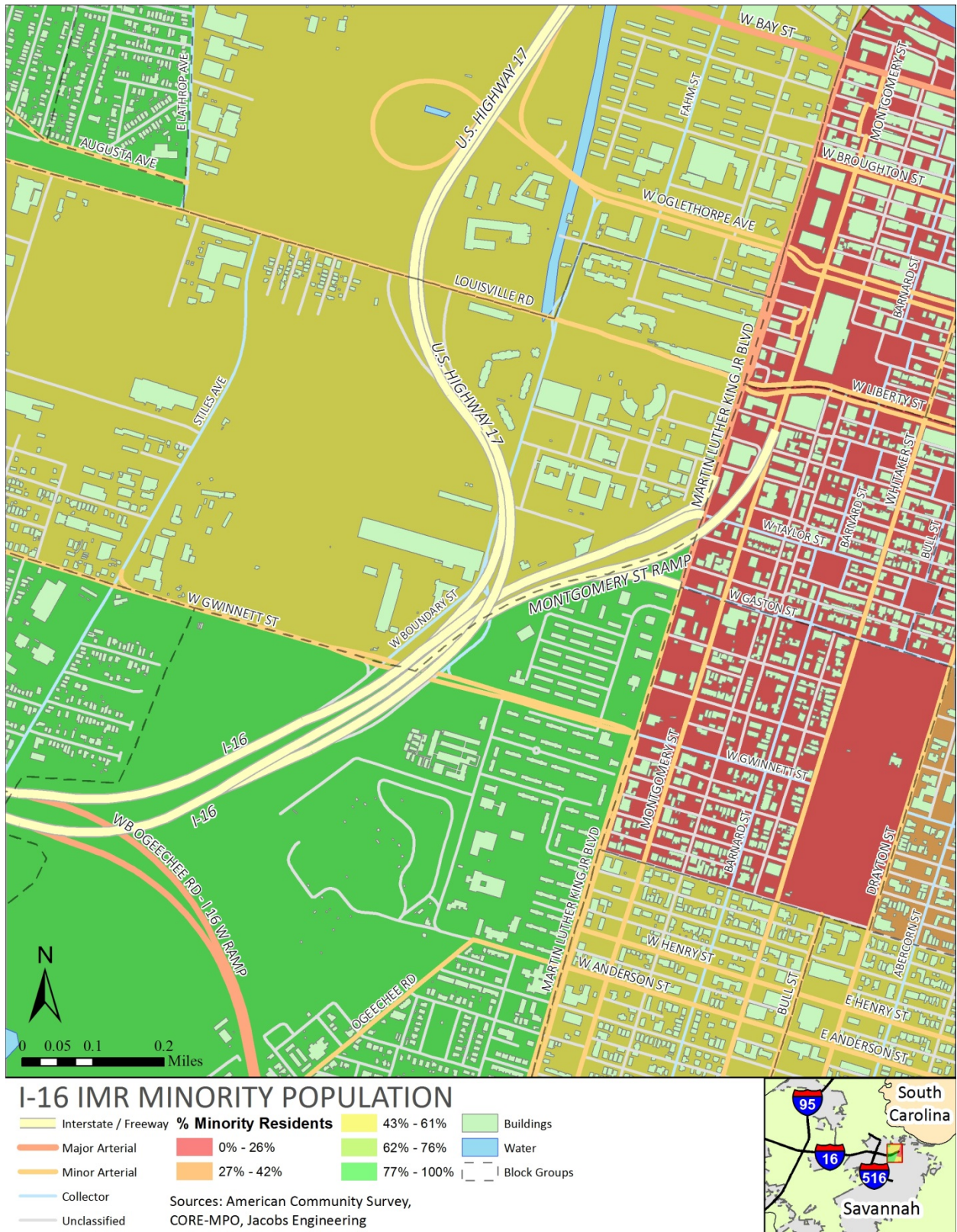
Table 4.3 Senior Population

Area	Senior Population	Total Population	Percentage Senior Residents
Study Area	9,178	24,808	37%
Chatham County	32,864	265,128	12.4%
Savannah City	15,887	136,286	16.5%
Georgia	1,032,035	9,687,653	10.7%

I-16 Interchange Modification Report DRAFT Environmental Screening Report



Figure 4.1: Minority Population



I-16 Interchange Modification Report DRAFT Environmental Screening Report



Figure 4.2: Median Household Income



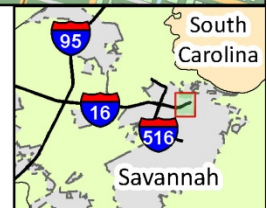
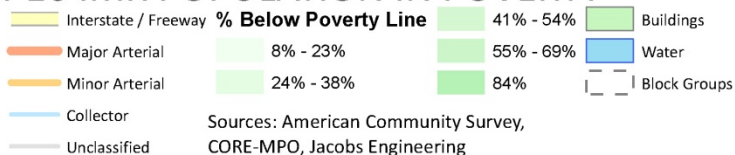
I-16 Interchange Modification Report DRAFT Environmental Screening Report



Figure 4.3: Low-Income Population



I-16 IMR POPULATION IN POVERTY



I-16 Interchange Modification Report DRAFT Environmental Screening Report



Figure 4.4: Senior Populations



I-16 Interchange Modification Report DRAFT Environmental Screening Report



5. Next Steps

As the proposed project moves from the planning into the environmental phase, several next steps should occur. The proposed project will be subject to the National Environmental Policy Act (NEPA) due to the likely use of federal funds and because the modification would occur on an interstate facility which is within the Federal Highway Administration's (FHWA) oversight. An Environmental Assessment (EA) would likely be required if the entire project moves forward. The EA would determine whether or not the proposed action was resulting in significant impacts on its surrounding natural, cultural, and social environments. If the project can be phased into smaller projects with independent utility (standalone projects that need no other project to be successful or does not force future improvements), those smaller projects may be eligible to utilize a Categorical Exclusion, smaller level of NEPA documentation, or may be able to be approved through a series of smaller EAs. Consideration to the appropriate level of NEPA documentation should be discussed with GDOT's Office of Environmental Services and FHWA prior to programming the project into the TIP.

Further identification of environmental constraints should continue into plan development process. With over 90 acres of wetlands identified within the project area, some type of wetland impact is likely to occur. Field studies to identify wetland boundaries should occur with avoidance and minimization efforts implemented to ensure the maximum cumulative impacts remain under 10 acres and no individual impact to a wetland is over 3 acres. In doing so, the project would under the threshold requiring an Individual Permit from the US Army Corps of Engineers and additional coordination processes, such as the Practical Alternatives Review/Report (PAR), would not be required.

Several National Register listed and eligible historic and archaeology resources are located within the project's area of potential effect. Early plan activities should identify the exact boundary for each resource and careful consideration should be given to not performing any project activities within those boundaries. Compliance with Section 106 of the National Historic Preservation Act will be required and coordination with the State Historic Preservation Officer (SHPO) will take place. If any project actions will take place within eligible boundaries, Section 4(f) of the US DOT Act will be required and the intensity of impact will dictate the level of evaluation and coordination required with FHWA.

Finally, a public outreach plan should be developed with an emphasis placed on engaging low-income and minority communities. With high percentages of the area's population falling into one or both of these two categories, public engagement techniques should consider meeting locations, materials presented, and other factors to ensure full and fair public participation in the decision making process.

The environmental process needs to be completed for final approval of the Interchange Modification Report by FHWA.