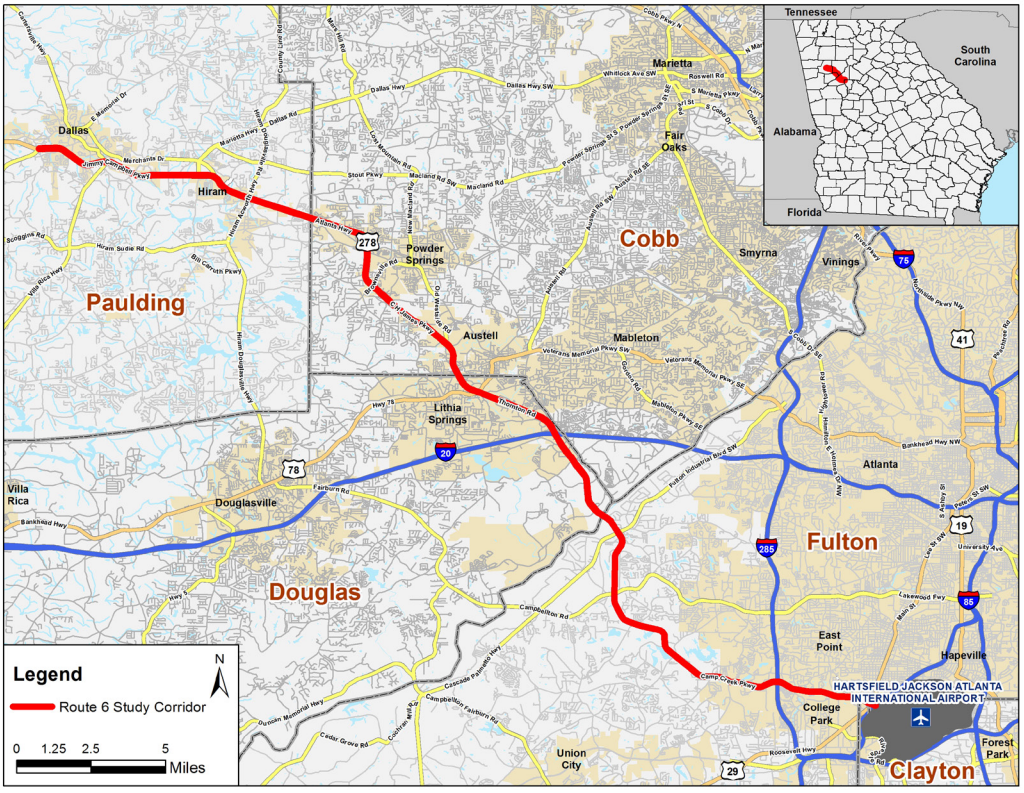
STATE ROUTE 6
ACCESS MANAGEMENT STUDY

August 2015

State Route 6 Access Management Plan



PREPARED FOR

Georgia Department of Transportation

Office of Planning
Georgia Department of Transportation
One Georgia Center
600 West Peachtree St, NW, 5th floor
Atlanta, GA 30308

PREPARED BY

PARSONS TRANSPORTATION GROUP INC.
3577 Parkway Lane
Building V, Suite 100
Norcross, GA 30092

www.parsons.com

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Executive Summary

The Georgia Department of Transportation's (GDOT) Office of Planning conducted the State Route 6 (SR 6) Access Management Study to document and evaluate the existing and future conditions of the SR 6 corridor in an effort to ensure that it retains its intended use as a major thoroughfare serving freight, local traffic, and commuters, including pedestrians. The study analyzed current and future land use patterns, traffic, level of service (LOS), and crash data in conjunction with transportation projects and development opportunities that will impact the SR 6 corridor in the future. Using this comprehensive approach to assess transportation needs along the entire 35-mile corridor, this study is intended to support future development along the SR 6 corridor through recommended access management policies and other supplemental transportation improvements.

The SR 6 study corridor extends approximately 35 miles from its origin at Hartsfield-Jackson Atlanta International Airport in Fulton County to City of Dallas in Paulding County. The study corridor traverses eight municipalities and four counties: Fulton, Douglas, Cobb, and Paulding. This study is intended to evaluate existing and potential operational deficiencies that could arise from access management issues and congestion. The study analyzes current and future year conditions, and provides recommendations that focus on operational improvements, access management strategies, and multi-modal features of the corridor.

Corridor Vision

The corridor vision, goals, and objectives for the improvement of SR 6 access management were developed and refined throughout a collaborative outreach process. This process involved several stakeholder meetings and subgroup meetings in order to effectively capture pertinent access management issues and associated goals for the study corridor. The following vision statement was developed for the SR 6 study corridor based on stakeholder input.

State Route 6 will continue to function as a major thoroughfare in the Atlanta region serving commuters, businesses, residents, freight, pedestrians, and bicyclists. Investments on this corridor will support local and regional economic vitality, mobility, and safety for all users while preserving the essential character of the corridor and minimizing impacts to natural resources. Future access along the corridor will follow a comprehensive corridor plan and will be coordinated among local, regional, and state transportation partners, businesses, and the general public.

Recommendations

Future conditions analysis was conducted for the horizon year 2020 to develop recommendations based on goals and objectives identified for the corridor. Recommendations were clustered by the following five project categories based on the deficiencies and issues identified earlier in the study process:

- Access Points, Driveways, and Medians
- Operations
- Intersections
- Frontage Roads, Alternate Routes, and Inter-Parcel Access
- Bicycles, Pedestrian, and Transit.

Table ES-1 summarizes all the recommendations identified along the study corridor, and **Figure ES-1** shows the location of each recommendation. The purpose of these recommendations is to foster further dialogue regarding possible solutions. Each recommendation is intended for consideration by local government departments of public works and/or GDOT staff to consider implementing and pursuing funding for. This report concludes with project fact sheets that provide basic project information including planning-level cost estimates and a high-level project map.

Table ES-1: Summary of Recommendations

Project Category	Project ID	Recommendation
Access Points, Driveways, and Medians	A1	Provide a median barrier on SR 6 between I-285 and N. Commerce Drive
	A2	Provide a median barrier on SR 6 between Welcome All Road to SR 70/FIB
	A3	Remove driveways on SR 70/FIB near its intersection with SR 6
	A4	Consolidate driveways on SR 6 between N Blairs Bridge Road and Crestmark Way
	A5	Reconfigure driveways between Crestmark Way and Oak Ridge Road/Skyview Drive
	A6	Install a raised median with treatments for drainage for the Cobb County section
Operations	O1	Redirect Publix traffic in Camp Creek Marketplace area from Princeton Parkway to Carmia Drive
	O2	Implement operational improvements between Welcome All Road to Bakers Ferry Road
	O3	Perform an in-depth roadway audit/traffic engineering study between I-20 and Skyview Drive/Oak Ridge Road
	O4	Provide a continuous right turn lane between traffic signals and median openings in Hiram commercial area (Westbound SR 6)
	O5	Perform an in-depth roadway audit study between Old Harris Road and S Main Street
Intersections	I1	Provide a controlled right turn for WB SR 6 at SR 70/FIB intersection
	I2	Perform a signal warrant study for the Bakers Ferry Road intersection with SR 6
	I3	Implement quadrant connectivity at Riverside Parkway intersection
	I4	Perform a traffic engineering study to evaluate feasibility of installing alternative design at Maxham Road intersection
	I5	Perform a traffic engineering study to evaluate feasibility of installing alternative design at Veterans Memorial Highway intersection (Bankhead Highway)

Project Category	Project ID	Recommendation
	I6	Perform a traffic engineering study to evaluate options to improve SR 6 at Garrett Road intersection
	I7	Provide offset left-turn lanes at Best Buy/Target entrance
	I8	Perform a traffic engineering study to evaluate feasibility of a superstreet at multiple intersections in Hiram (SR 6 intersections with Greenfield Road, Target/Best Buy, Sam's Club, Walmart, and Pace Road)
	I9	Perform a traffic engineering study to evaluate removing traffic signal at the Walmart intersection in Hiram
	I10	Perform a study to investigate the need for installing/extending auxiliary turn lanes for all intersections
	I11	Implement intersection improvements at Butner Road
Frontage Roads, Alternate Routes, and Inter-Parcel Access Routes	F1	Install signage on I-285 northbound directing traffic to SR 6
	F2	Provide a connection between Global Gateway Connector and Hershel Road
	F3	Install signage between Washington Road and Princeton Parkway
	F4	Reopen Redwine Road west of Prince George Street
	F5	Connect existing frontage roads between Poplar Springs Road and SR 92
Bicycles, Pedestrian, and Transit	B1	Improve pedestrian facilities in Camp Creek Marketplace area
	B2	Improve pedestrian facilities near the SR 6 intersections with Old Fairburn Road and Butner Road
	B3	Improve pedestrian facilities between I-20 and Maxham Road
	B4	Improve pedestrian facilities at the Maxham Road intersection with SR 6
	B5	Improve pedestrian facilities at the intersection of Power Springs-Dallas Road and Richard Sailors Parkway (GRTA park and ride lot)

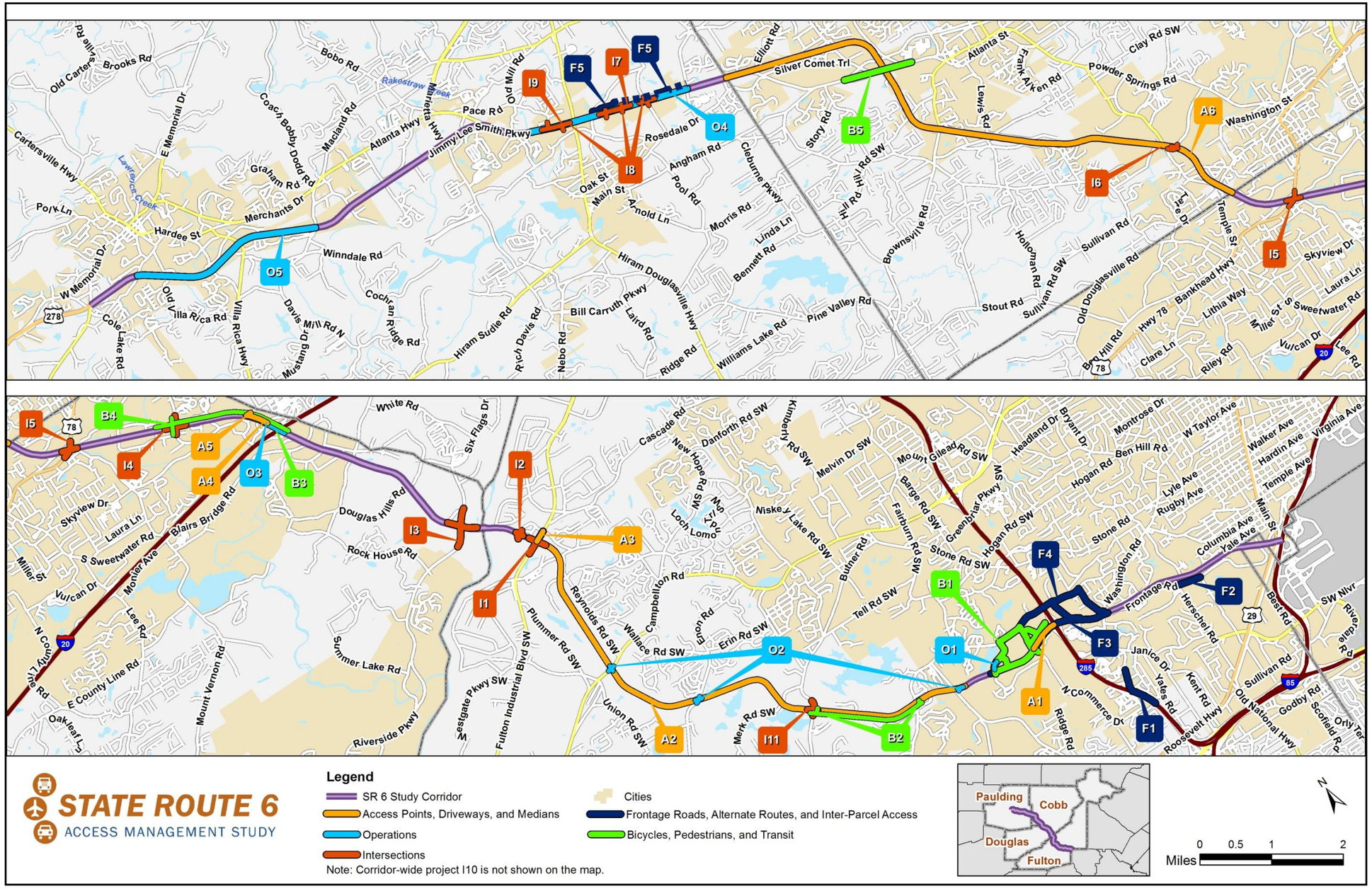


Figure ES-1: Recommended Projects Map – All Project Categories

Chapter 1. Introduction

1A. Purpose

The Georgia Department of Transportation's (GDOT) Office of Planning initiated the State Route 6 (SR 6) Access Management Study to document and evaluate the existing and future conditions of the SR 6 corridor in an effort to ensure that the corridor retains its intended use as a major thoroughfare serving freight, local traffic, and commuters, including pedestrians. The study analyzes current and future land use patterns, traffic, level of service (LOS), and crash data in conjunction with transportation projects and development opportunities that will impact the SR 6 corridor in the future. This comprehensive approach to assessing transportation needs along the entire 35-mile corridor has resulted in this final report, which is intended as a resource to guide future development and access along the SR 6 corridor through recommended access management policies and other supplemental transportation improvements. It is important to emphasize that access management can be achieved through a variety of methods, including traffic signal system upgrades, turn lanes and restrictions, driveway spacing management, intelligent transportation systems, and medians.

1B. Study Area

The SR 6 study corridor extends approximately 35 miles from its origin at Hartsfield-Jackson Atlanta International Airport (HJAIA) in Fulton County to the City of Dallas, in Paulding County. The study area, shown in **Figure 1-1**, traverses four counties (Fulton, Douglas, Cobb, and Paulding) and eight municipalities (Cities of College Park, East Point, Douglasville, Lithia Springs, Austell, Powder Springs, Hiram, and Dallas).

SR 6 serves as a major regional travel corridor that runs southeast to northwest, and the roadway has different names designated by the various jurisdictions, including:

- Camp Creek Parkway (Fulton County)
- Thornton Road (Cobb and Douglas counties)
- C.H. James Parkway (Cobb and Douglas counties)
- Wendy Bagwell Parkway (Paulding County)
- Jimmy Lee Smith Parkway (Paulding County)
- Jimmy Campbell Parkway (Paulding County)
- US Highway 278 (Paulding, Cobb, Douglas counties)

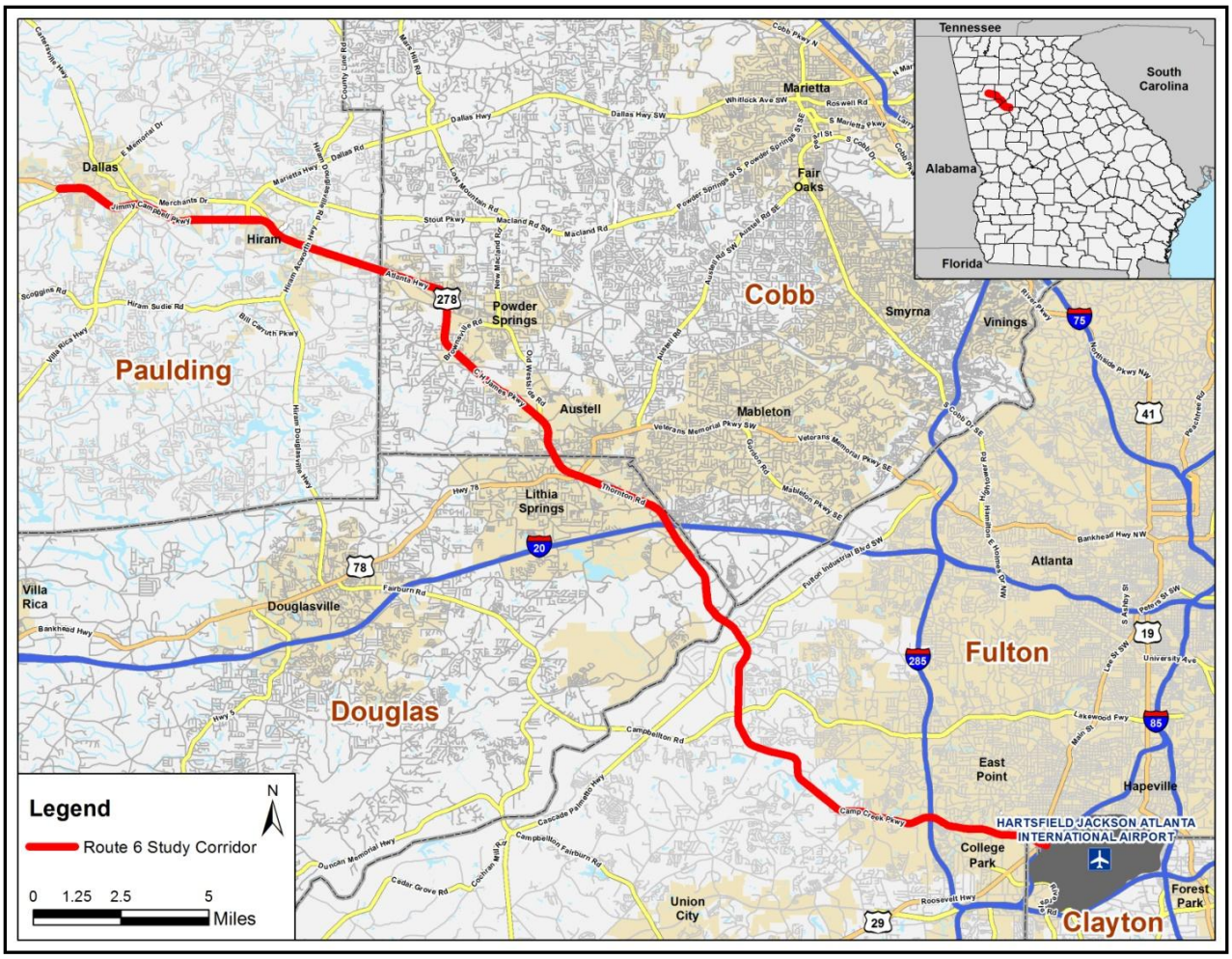


Figure 1-1: Study Area Map

1C. Stakeholder Outreach

The purpose of the stakeholder meetings was to gain input from local agencies for the purpose of developing a vision and goals for the corridor as well as the decision-making process. Local agencies and interested groups were invited to meet at three stakeholder meetings that were held during the course of this study. Four small group meetings were conducted, one for each county, where specific local issues were discussed in more detail. This section provides a summary of the stakeholder meetings and small group meetings.

Stakeholder Identification

The table below shows the key stakeholders identified, which included representatives from county, city, state and local governments, agencies, businesses, and community groups with involvement, oversight, or operations along the SR 6 corridor. In addition to the external stakeholders listed below, GDOT's Office of Planning coordinated with other GDOT offices including the District 6 and 7 Offices and Traffic Operations throughout the course of this study.

SR 6 Identified Stakeholder List	
Airport West Community Improvement District	Douglas County
Atlanta Regional Commission	Fulton County
City of Austell	Fulton Industrial Community Improvement District
City of College Park	Georgia Convention Center
City of Dallas	Georgia Regional Transportation Authority
City of Douglasville	Hartsfield-Jackson Atlanta International Airport
City of East Point	MARTA Office of Transit Planning
City of Hiram	Norfolk Southern
City of Powder Springs	Paulding County
Cobb County	South Fulton CID
CSX Corporation	RTOP Corridor Managers

Initial Stakeholder Meeting

The first meeting was conducted on May 22, 2014. The meeting purpose was to introduce the study and to gather local knowledge of the corridor. After reviewing the existing conditions, a variety of issues and concerns were discussed, including pedestrian safety, high freight volume, excessive U-turns, lack of frontage roads, and lack of inter-parcel access in the Camp Creek Marketplace area. During subsequent small group stakeholder meetings, stakeholders provided input on visions, goals, and the corridor goals and objectives.

Small Group Stakeholder Meetings

The small group meetings were organized by county, with representatives from agencies, municipalities, and major activity centers in and near each county. The representatives from each of these groups provided input about the proposed development and improvements that they anticipate occurring near the SR 6 corridor over the next few years. Congestion issues and locations with safety concerns were also discussed. These are described below.

Fulton County representatives were concerned about the lack of access management and wanted guidelines to help ease congestion by consolidating driveways and controlling access while providing sufficient access to businesses.

In the ***Douglas County*** meeting, the lack of mixed-use development along SR 6 within Douglas County and the potential revitalization of some vacant buildings were discussed. The possible expansion of the Whitaker Intermodal Terminal, already a large trip generator for truck traffic, was also discussed. Pedestrian concerns were also raised, especially along the section between I-20 and Maxham Road.

The meeting in ***Cobb County***, which is the only county along the corridor without a raised median, included discussions about the option of constructing a raised median through the county, with pedestrian access and rain gardens where practical. Proposed truck-friendly lanes through Cobb and Douglas counties were also discussed as a possible relief to some congestion caused by the heavy freight movement along the corridor.

Paulding County representatives were concerned about uncontrolled growth, new developments, and the addition of more signalized intersections. The County is in the process of updating their Comprehensive Plan and intended to incorporate access management and access control guidelines into the plan.

Many stakeholders suggested that quadrant connectivity to bypass SR 6 by utilizing frontage roads could be developed. Stakeholders requested that the study cover key issues, such as improved pedestrian access, by increasing the number of multiuse facilities and lighting along the corridor and congestion mitigation through limiting the number of traffic signals and providing frontage roads for internal access.

Second Stakeholder Meeting

During the second large stakeholder meeting held on October 24, 2014, the study team presented the corridor vision, goals, and objectives developed based on previous stakeholder input and discussed existing access management policies and their potential effectiveness in the future. The stakeholders refined the vision, goals, and objectives identified key subareas for further technical analysis, and identified possible solutions at specific locations on the corridor. The following vision statement and goals resulted from stakeholder input:

Corridor Vision

State Route 6 will continue to function as a major thoroughfare in the Atlanta region, serving commuters, businesses, residents, freight, pedestrians, and bicyclists. Investments on this corridor will support local and regional economic vitality, mobility, and safety for all users while preserving the essential character of the corridor and minimizing impacts to natural resources. Future access along the corridor will follow a comprehensive corridor plan and will be coordinated among local, regional, and state transportation partners, businesses, and the general public.

Corridor Goals and Objectives

Goals	Objectives
G1: Maintain Mobility While Controlling Access	O1.1: Guide access standards for future development
	O1.2: Minimize congestion and travel delay
	O1.3: Maintain travel reliability
	O1.4: Balance the needs of local and through traffic
	O1.5: Accommodate freight movement
	O1.6: Employ technological solutions where applicable
G2: Contribute to the Economic Vitality of the Region	O2.1: Support new and existing development through transportation infrastructure
	O2.2: Support connections between activity centers
G3: Improve Safety for All Users	O3.1: Enhance vehicular safety by identifying high crash locations/segments and developing mitigation measures
	O3.2: Enhance bicycle and pedestrian access to activity centers
G4: Preserve Character Areas along the Corridor	O4.1: Consult local planning documents

During this meeting, stakeholders identified key subareas, needs, and possible transportation improvements and marked up on the large maps as shown below. Subareas were selected for further technical analysis, and additional traffic counts were collected as needed.

Figure 1-2: Maps from Stakeholder Meetings

Third Stakeholder Meeting

The third and final stakeholder meeting was held on June 18, 2015. Highlights of the corridor-wide and subarea analyses were presented, and the preliminary recommendations were outlined. The recommendation overview map was handed out to stakeholders for their review and comments. Overall, stakeholders supported the recommendations. The outcomes of the discussion and questions section were incorporated into the final report, including the addition of an intersection improvement project at Butner Road and SR 6.

Chapter 2. Existing Conditions

This chapter evaluates the existing land use and transportation conditions within the study area. The following sections examine current land use patterns, corridor and intersection LOS, and crash data. This chapter also summarizes recent and ongoing studies, plans, and projects relevant to the study area.

2A. Existing Land Use Assessment

Investigating and understanding the existing land use patterns is essential, because land use decisions and access management strategies need to be coordinated and comprehensive. Collaboration across multiple jurisdictions promotes a consistent approach along the corridor. The 35-mile SR 6 corridor spans across many different land uses. Beginning in Fulton County, the corridor spurs from Hartsfield-Jackson Atlanta International Airport (HJAIA), the busiest passenger airport in the world and the largest employer in the state of Georgia, with over 58,000 workers. The airport covers an area of about 4,700 acres in southwest Atlanta and includes over 30,000 public parking spaces. Access points from the airport and I-85 form the beginning of the study corridor. Located on the opposite side of I-85 from the airport is the 400,000-square-foot Georgia International Convention Center, the second largest convention center in the state. Moving northwest from the airport, land use becomes a blend of low-density residential and transportation uses, (primarily parking for the airport). Approaching the interchange with I-285, some commercial development begins to appear, and just past this interchange is the Camp Creek Marketplace, a large 30-acre development with over 100 businesses, including restaurants, retail, banking, and other services. This development covers about the first mile of SR 6 west of I-285. At this point, the land uses change to mostly undeveloped forests and low-density residential until the approach to the Fulton Industrial District, where industrial and commercial land use comprises a large portion of the land area.

As the corridor crosses into Douglas County, land uses transforms from industrial to undeveloped, until one approaches another commercial center near the interchange with I-20. For the next two miles beyond the interchange, there is a blend of commercial and industrial land uses, which then become low-density residential before the Cobb County line. SR 6 in Douglas County experiences some of the heaviest truck traffic throughout the corridor since it provides a link to I-20 between the industrial centers around Fulton Industrial Boulevard to the south and the Whitaker Intermodal Terminal to the north. This area has experienced some of the highest commercial and industrial growth in the county in the past several years.

Extending into Cobb County, the land use patterns along the corridor become less commercial and industrial, and there is a greater concentration of low and medium residential areas, as well as forests, wetlands, and other undeveloped areas. Characteristic of residential areas, there is very low employment density immediately surrounding SR 6 in Cobb County. Areas immediately adjacent to the corridor are primarily zoned residential, with the exception of some small light and heavy industrial-zoned areas. One such location is Norfolk Southern's John Whitaker Intermodal Terminal, near Clarkdale between Austell and Powder Springs, located along the eastern edge of SR 6. This terminal, the largest intermodal terminal in the United States east of the Mississippi River, is a 450-acre facility with 20,000

feet of unloading tracks, 26,000 feet of support tracks, 3,000 parking spots for 53-foot trailers, 450 container-stack spaces, and 10 inbound/outbound truck lanes.

When the corridor crosses into Paulding County, the land use adjacent to SR 6 becomes increasingly commercial, with strip malls, restaurants, and retail developments lining the corridor from the Cobb County line until Bill Carruth Parkway west of Hiram. These commercial developments are heavy trip generators. Population density along this portion of the corridor is relatively low, with values ranging from 0.6 to 2.0 persons per acre. The majority of the population is centered north of Hiram along SR 120. The employment in Paulding County, however, is centered in these commercial developments along SR 6 from the Cobb County line all the way to Dallas. Employment density ranges from 0.26 jobs per acre to above 1 job per acre. The future expectations, according to the Paulding Comprehensive Transportation Plan, are that both population and employment growth in the county will center around SR 6. Beyond Hiram, moving west toward Dallas, land use patterns become more varied, with a mix of high and low density residential, commercial, industrial, and forests and other undeveloped land until the corridor reaches the study termination point at South Main Street in Dallas.

Figure 2-1 and **Figure 2-2** show existing land use and land cover. **Figure 2-3** shows major landmarks and trip generators along the SR 6 corridor.

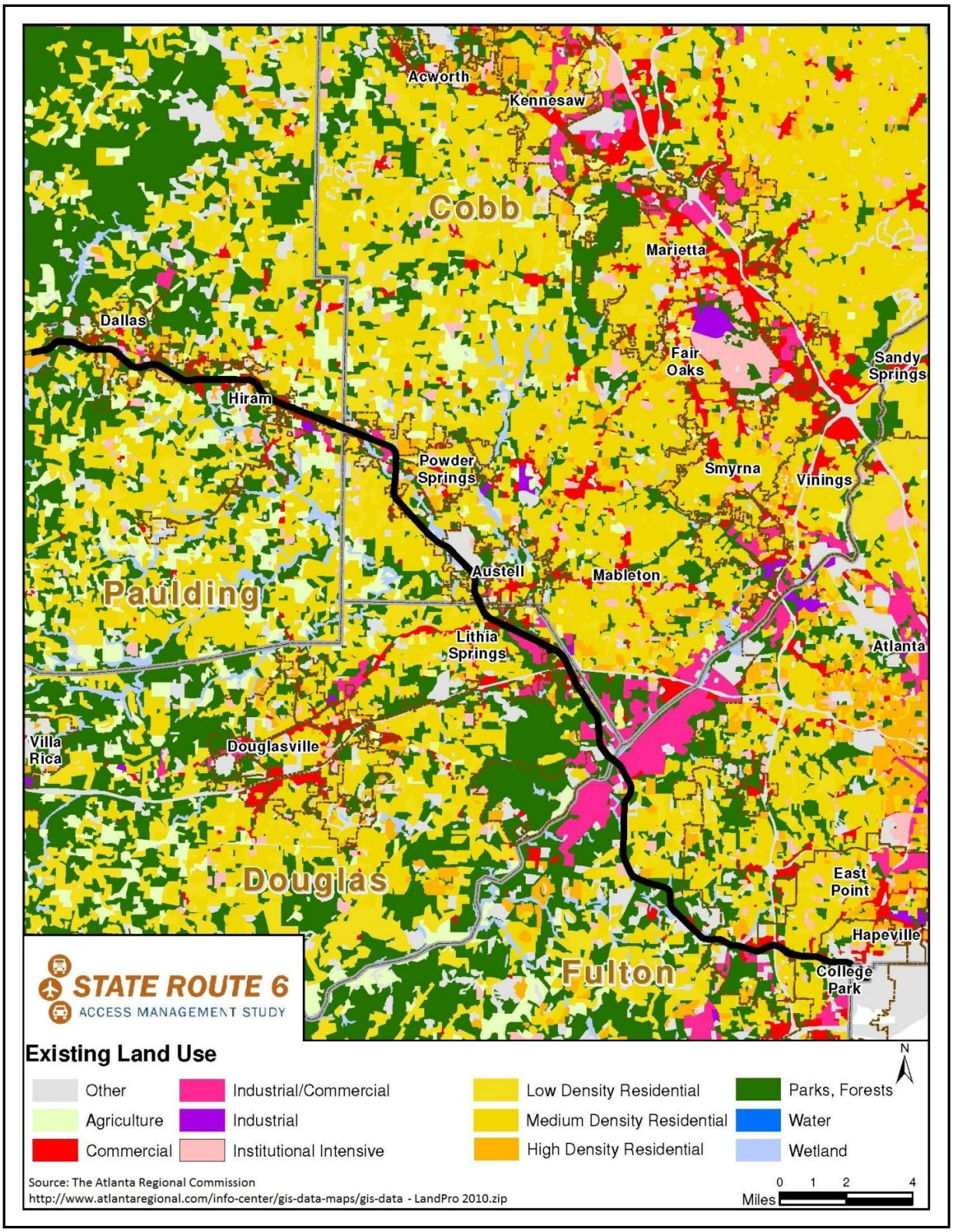


Figure 2-1: Existing Land Use Map

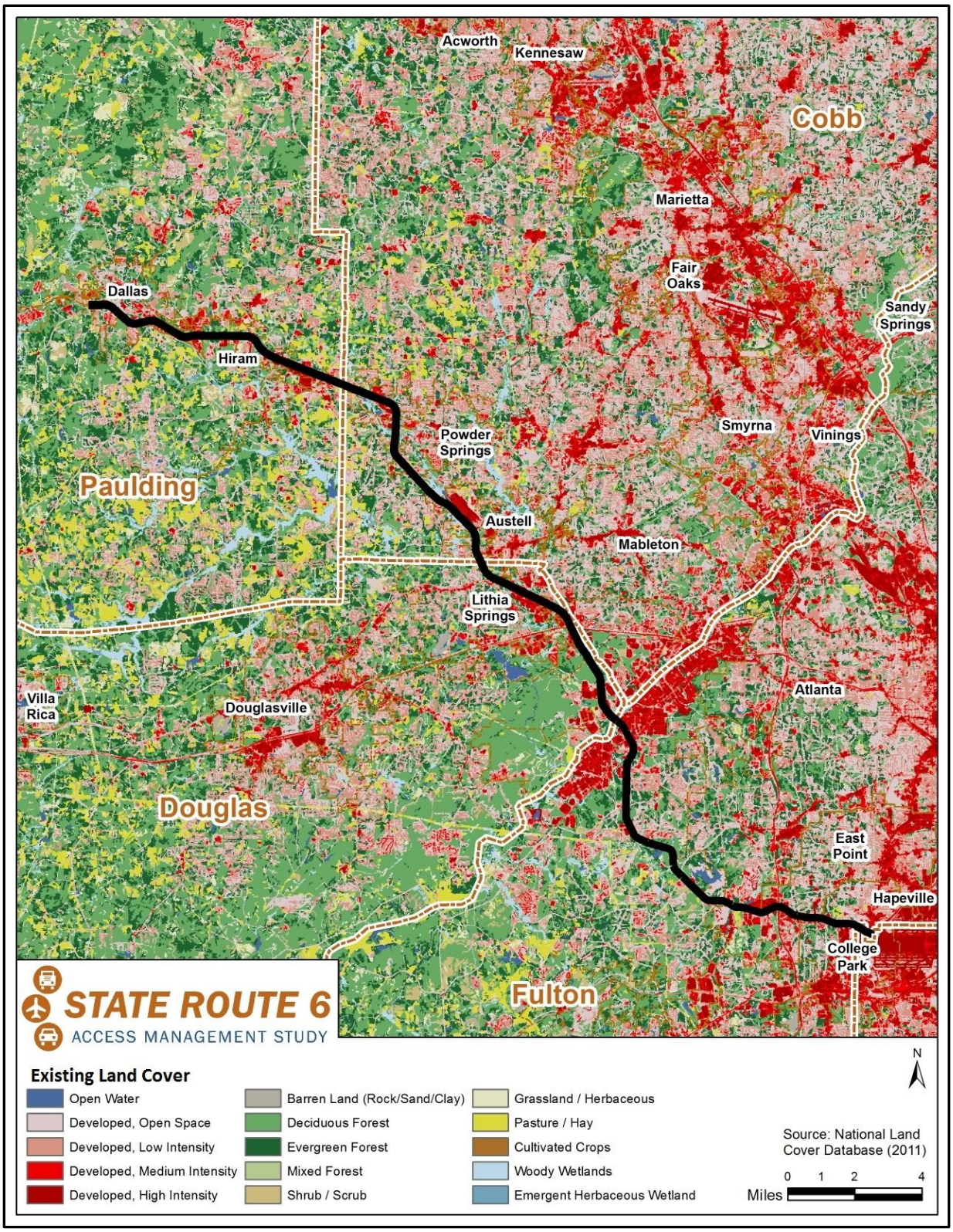


Figure 2-2: Existing Land Cover Map

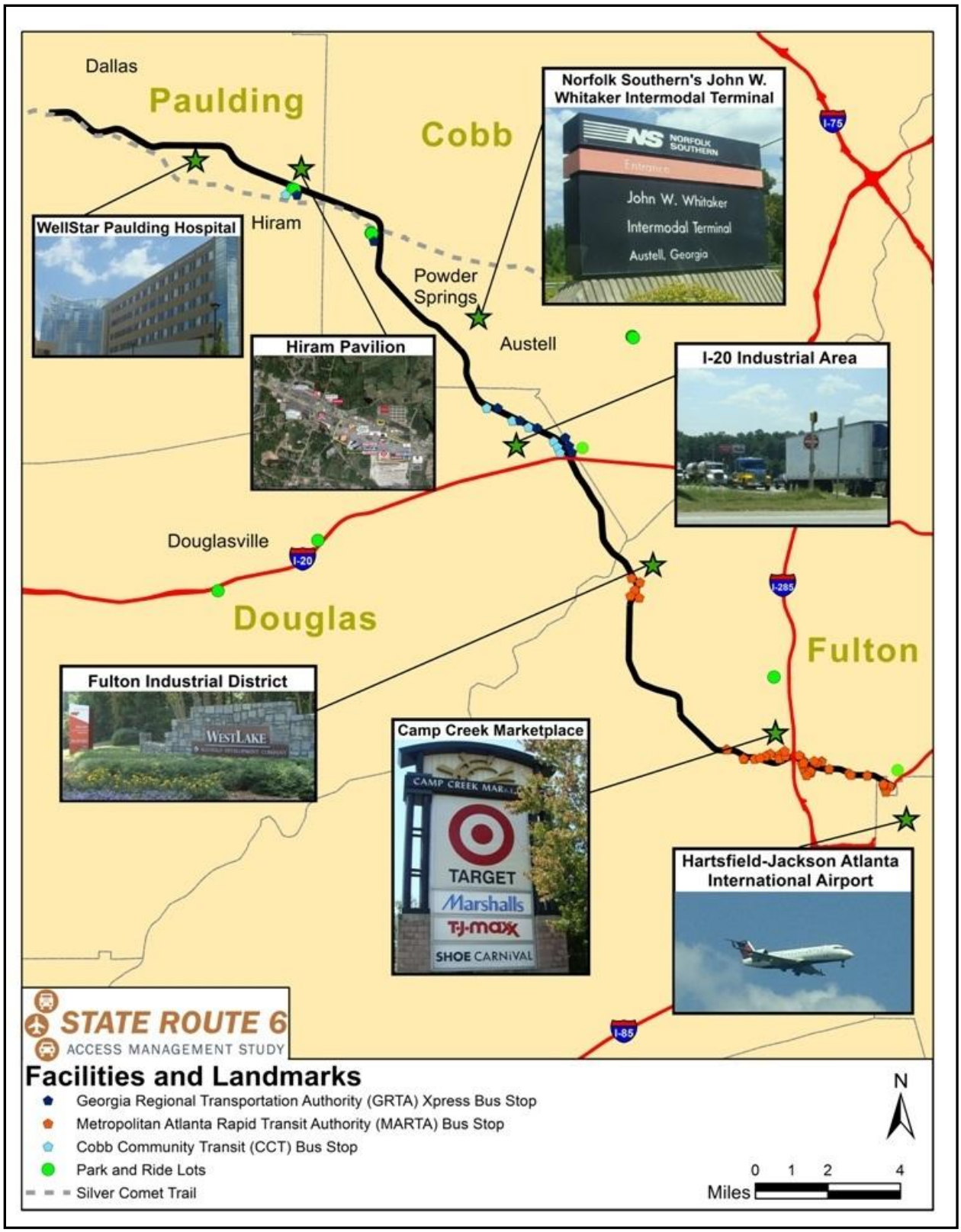


Figure 2-3: Facilities and Landmarks Map

2A.1. Existing Environmental Justice Information

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, requires federal agencies to address environmental justice for all actions by identifying disproportionately high and adverse effects to minority or low-income populations and communities. The potential for environmental justice (EJ) issues were examined, and efforts were made to identify minority and low-income populations that have the potential to be underserved. The US Census Bureau American Fact Finder tool and the US Environmental Protection Agency (EPA) EJ Mapper (EnviroMapper®) were used to identify minority, low-income, and limited-English-speaking populations along the study corridor. Maps depicting the percent of population for each of these EJ populations by census tract along the project corridor are included in **Figure 2-4, Figure 2-5**, and **Figure 2-6**.

Table 2-1 presents the US Census Bureau data for race (minority and Hispanic), limited English proficiency, low-income, and population over the age of 65 for each of the four counties along the SR 6 corridor, as well as the data for populations found within a half-mile of the SR 6 corridor.

Table 2-1: US Census Bureau Data (2010)

RACE	Fulton County	Douglas County	Cobb County	Paulding County	County Average	SR 6 Corridor (w/in 0.5 mile)
White	45.8%	55.3%	63.2%	79.7%	61.0%	32.0%
Black or African American	44.2%	39.5%	25.1%	17.1%	31.5%	62.0%
Asian	5.7%	1.6%	4.5%	0.8%	3.2%	1.0%
Hispanic or Latino (of any race)	7.8%	8.3%	12.2%	5.1%	8.4%	6.0%
LIMITED ENGLISH PROFICIENCY	Fulton County	Douglas County	Cobb County	Paulding County	County Average	SR 6 Corridor (w/in 0.5 mile)
Speak English less than "very well"	3.6%	3.0%	5.2%	1.2%	3.3%	4.0%
LOW INCOME/POVERTY LEVEL	Fulton County	Douglas County	Cobb County	Paulding County	County Average	SR 6 Corridor (w/in 0.5 mile)
Population for whom poverty status is determined	16.8%	13.4%	11.9%	10.3%	13.1%	12.0%
OVER THE AGE OF 65	Fulton County	Douglas County	Cobb County	Paulding County	County Average	SR 6 Corridor (w/in 0.5 mile)
Total population	9.1%	8.7%	8.9%	7.5%	8.5%	8.0%

A comparison between corridor-wide data and county average indicates that minority populations (specifically Black or African American populations) tend to be located in close proximity to the SR 6 corridor. The percentage of population that speaks English less than “very well” is slightly above county average for three of the four counties along the corridor.

This study investigates access management alternatives and potential transportation improvements along the SR 6 corridor. Projects resulting from the study’s recommendations would be unlikely to cause disproportionate adverse effects on any particular population, as all residents along and users of the corridor would experience the same benefits of the access management plan’s implementation.

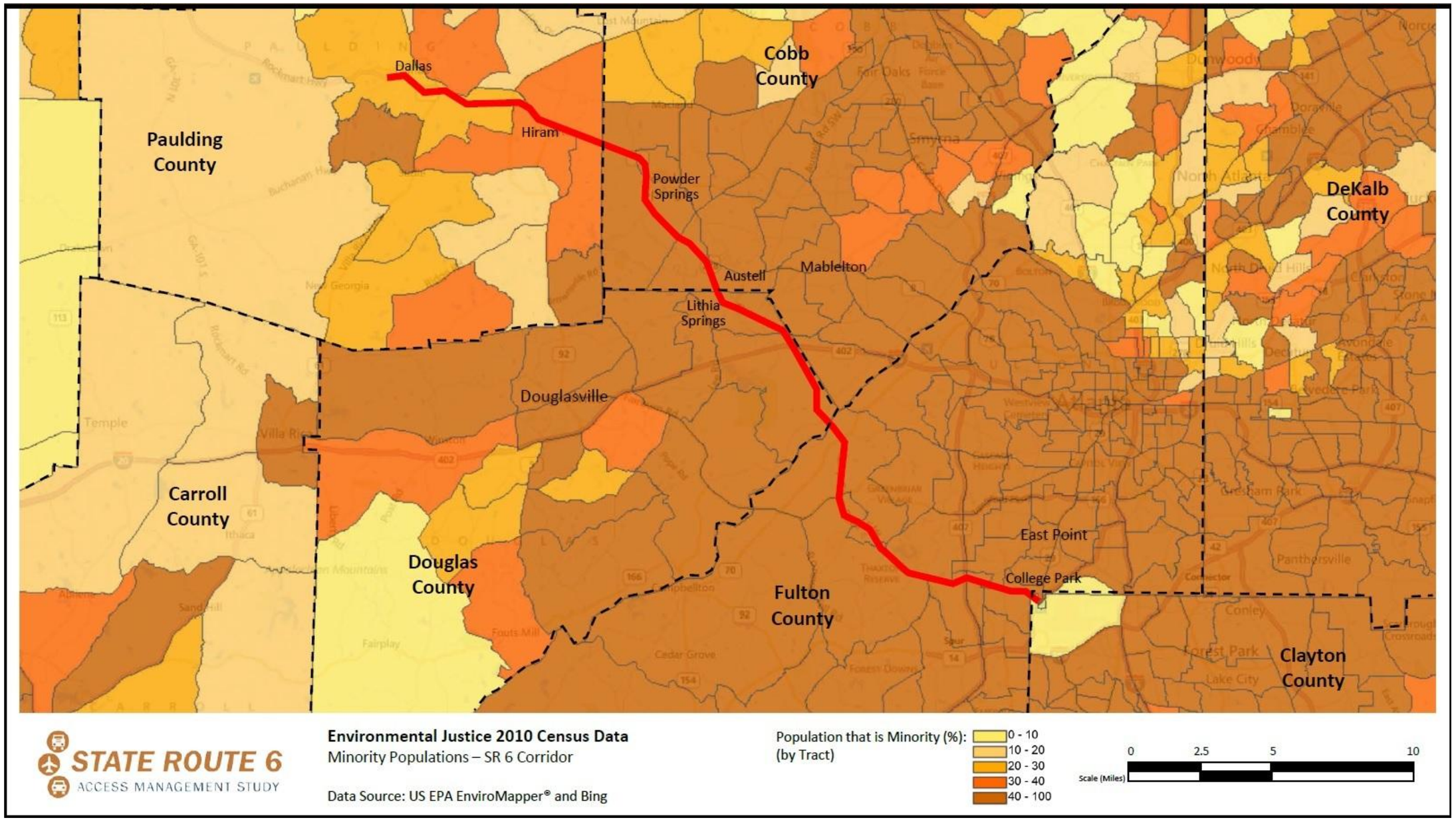


Figure 2-4: Minority Populations – EJ 2010 Census Data

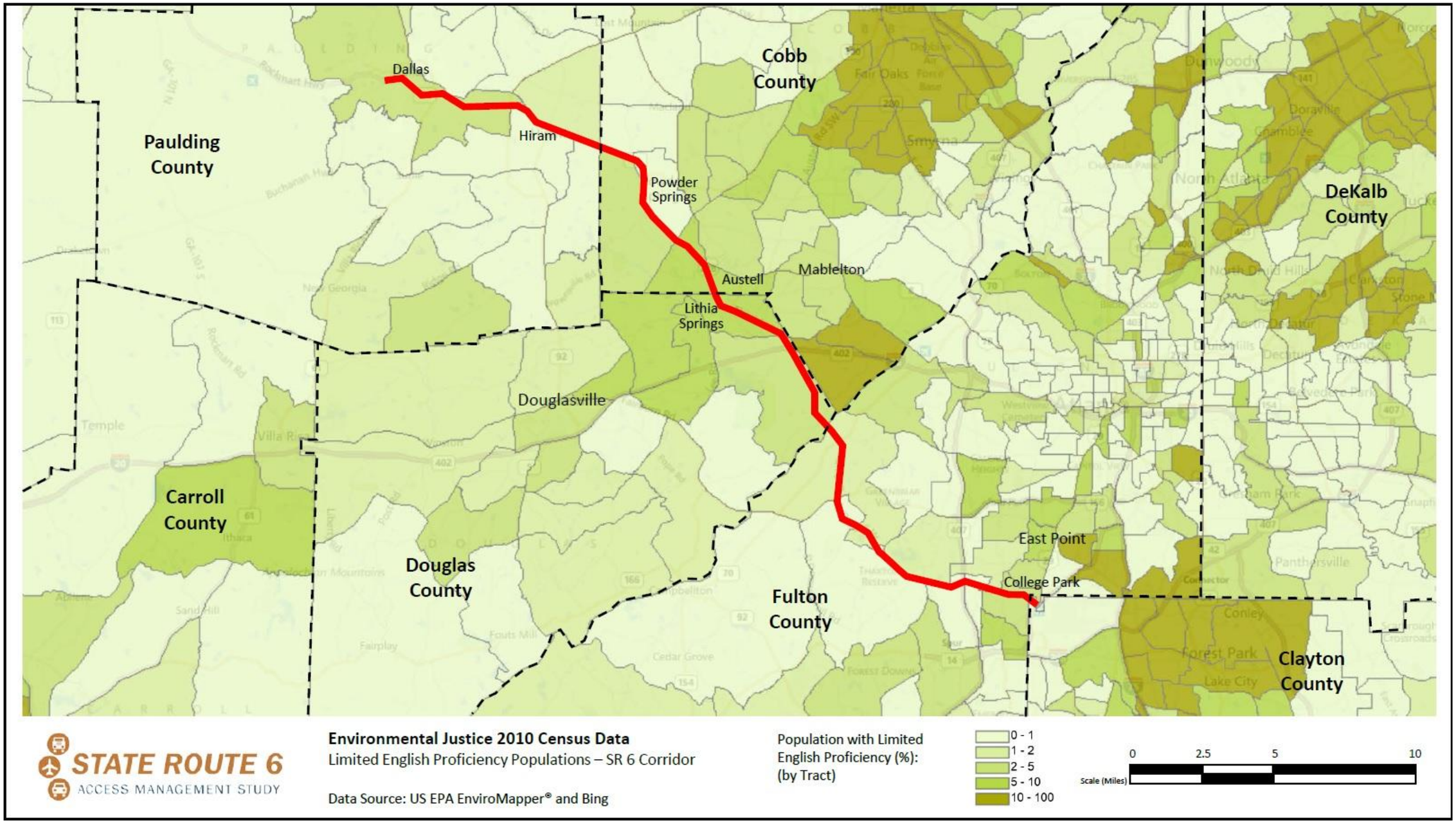


Figure 2-5: Limited English Proficiency Populations – EJ 2010 Census Data

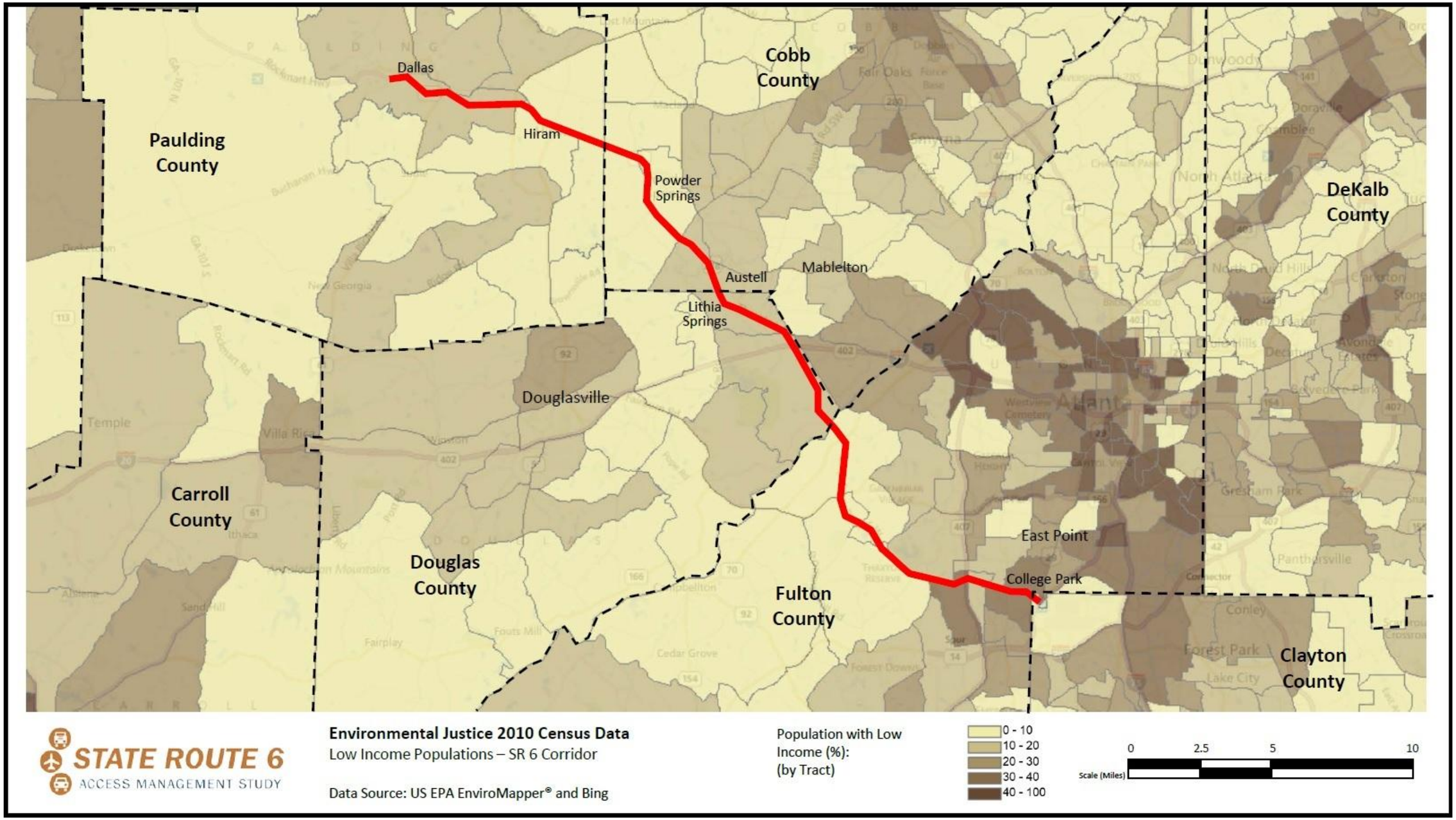


Figure 2-6: Low-Income Populations – EJ 2010 Census Data

2B. Existing Transportation Assessment

The following sections provide an overview of the existing transportation system, including the following elements:

- Roadway classifications and characteristics
- Existing traffic conditions
- Travel time
- Crash analysis
- Freight
- Public transportation
- Bicycle and pedestrian facilities
- Transportation regulations

2B.1. Roadway Classifications and Characteristics

To analyze existing travel conditions, roadway classifications and characteristics have been compiled first using GDOT's functional classification maps, and subsequently verified through site visits. Functional classifications, typical sections, and posted speeds of the SR 6 study corridor and its major crossroads are shown in **Table 2-2.** All other crossroads classified as local roads are excluded from the table. **Figure 2-7** shows existing geometry and lane assignment of the major intersections along the corridor.

The SR 6 study corridor is classified as an urban principal arterial throughout the project area. Arterials are intended to provide the highest LOS at the greatest speed for the longest uninterrupted distance, and provide some degree of access control. According to the Federal Highway Administration (FHWA), urban principal arterials are characterized as roadways that serve major centers of metropolitan areas, provide a high degree of mobility, and can provide mobility through rural areas. Abutting land uses for principal arterials can be served directly. The typical sections for the corridor include:

- A four-lane, median-divided section (with either raised median or grass median) from I-85 to Interstate West Parkway/Bob Arnold Drive (15 miles) and from Elliott Road to Buchanan Street (9 miles)
- A six-lane, median-divided section (with either raised median or grass median) from Interstate West Parkway/Bob Arnold Drive to Veterans Memorial Parkway/Bankhead Highway/US 78 (3 miles)
- A four-lane, flush-median section from Veterans Memorial Parkway/Bankhead Highway/US 78 to Elliott Road (8 miles)

Several minor roadways and driveways with varying functional classifications have access to the SR 6 study corridor. Large numbers of roadway and driveway access points can hinder optimal operations of the corridor. Ideally, local roads and driveways should not be connected to freeways or arterials directly; rather, they should be connected to collector roads. Georgia guidelines for access onto state facilities and for driveway spacing are specified in GDOT's *Regulations for Driveway and Encroachment Control (2009).*

This Access Management Study will review existing access points and existing policies in order to develop a comprehensive access management plan to guide the future development of the corridor. One component of the plan will include guidance on driveway consolidation and limiting new access points to reduce conflict points and help achieve the intended level of mobility along the corridor, keeping safety and mobility in mind.

Table 2-2: Roadway Characteristic Inventory

Facility	Functional Classification	Typical Section	Shoulders	Posted Speed (mph)
	State Route 6			
SR 6 (I-85 to Welcome All Connector)	Principal Arterial (Urban)	4 Lanes w/ Limited Turn Lanes	2' to 4' Paved	45
SR 6 (Welcome All Connector to Interstate W Pkwy/Bob Arnold Dr)	Principal Arterial (Urban)	4 Lanes w/ Limited Turn Lanes	2' to 4' Paved	55
SR 6 (Interstate W Pkwy/Bob Arnold Dr to Veterans Memorial Pkwy/Bankhead Hwy/US 78)	Principal Arterial (Urban)	6 Lanes w/ Limited Turn Lanes	2' to 4' Paved	45
SR 6 (Veterans Memorial Pkwy/Bankhead Hwy/US 78 to Elliott Rd)	Principal Arterial (Urban)	4 Lanes w/ Semi-Limited Turn Lanes	2' to 6' Paved	55
SR 6 (Elliott Rd to Hiram Pavilion/Sam's Club Driveway)	Principal Arterial (Urban)	4 Lanes w/ Limited Turn Lanes	2' to 4' Paved	55
SR 6 (Hiram Pavilion/Sam's Club Driveway to Pace Rd)	Principal Arterial (Urban)	4 Lanes w/ Limited Turn Lanes	2' to 4' Paved	45
SR 6 (Pace Rd to Buchanan St)	Principal Arterial (Urban)	4 Lanes w/ Limited Turn Lanes	2' to 4' Paved	55
	Intersecting Roads			
Herschel Rd	Major Collector (Urban)	2 Lanes w/Turn Lanes	Curb and Gutter (C/G)	35
Washington Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	C/G	35
Desert Dr		2 Lanes w/Turn Lanes	2' to 4' Paved	N/A
I-285	Interstate Principal Arterial (Urban)	8 Lanes	8' to 12' Paved	55
Princeton Pkwy SW		4 Lanes w/Turn Lanes	C/G	N/A
Welcome All Conn	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	C/G	
Old Fairburn Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	C/G	45
Butner Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	C/G	45
Enon Rd	Major Collector (Urban)	2 Lanes w/Turn Lanes	C/G	45
Campbellton Rd	Minor Arterial (Urban)	4 Lanes w/Turn Lanes	C/G	45
Boat Rock Rd SW	Major Collector (Urban)	2 Lanes Bridge	8' to 12' Paved	N/A
Fulton Industrial Blvd SW	Minor Arterial (Urban)	6 Lanes w/ Turn Lanes	C/G	45
Riverside Pkwy	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	N/A
Douglas Hills Rd		2 Lanes w/Turn Lanes	1' to 2' Paved	35
Factory Shoals Rd		2 Lanes w/Turn Lanes	2' to 4' Paved	40
Interstate West Pkwy/Bob Arnold Dr	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	N/A
Interstate West Pkwy/Blairs Bridge Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	N/A
I-20	Interstate Principal Arterial (Urban)	6 Lanes	8' to 12' Paved	55
Oak Ridge Rd		2 Lanes w/Turn Lanes	2' to 4' Paved	35
Maxham Rd	Minor Arterial (Urban)	4 Lanes w/Turn Lanes	C/G	35
Westfork Blvd		2 Lanes w/Turn Lanes	1' to 2' Paved	N/A

Facility	Functional Classification	Typical Section	Shoulders	Posted Speed (mph)
Westfork Dr		2 Lanes w/Turn Lanes	1' to 2' Paved	N/A
Veterans Memorial Pkwy/Bankhead Hwy/US 78	Principal Arterial (Urban - East of SR 6) Minor Arterial (Urban - West of SR 6)	4 Lanes w/Turn Lanes	C/G	N/A
Humphries Hill Rd SW		2 Lanes w/Turn Lanes	C/G & 2' to 4' Paved	35
Garrett Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	4' to 8' Paved	N/A
Oglesby Rd		2 Lanes w/Turn Lanes	C/G	35
Brownsville Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	C/G	35
Hill Road SW		2 Lanes w/Turn Lanes	2' to 4' Paved	35
Powder Springs-Dallas Rd/Marietta St	Minor Arterial (Urban)	2 Lanes below S.R. 6 Bridge	2' to 4' Paved	35
Richard D Sailors Pkwy	Minor Arterial (Urban)	4 Lanes w/Turn Lanes	C/G	45
Florence Rd	Major Collector (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	35
Elliot Rd/Powder Springs Dallas Rd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	35
Poplar Springs Rd/Hiram Bypass/SR 120 (Projected)	Minor Arterial (Urban – East of SR 6) Major Collector (Urban – West of SR 6)	2 Lanes w/Turn Lanes	C/G	40
Metromont Rd		2 Lanes w/Turn Lanes	C/G	35
Lake Rd		2 Lanes w/Turn Lanes	C/G	35
SR 92	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	45
Pace Rd		2 Lanes w/Turn Lanes	C/G	N/A
SR 6 Business (Atlanta Hwy)	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	55
Paulding Pkwy/SR 120/Bill Carruth Pkwy	Principal Arterial (Urban - North of SR 6) Minor Arterial (Urban - South of SR 6)	4 Lanes w/Turn Lanes	2' to 4' Paved	45
Thomas B Murphy Dr		2 Lanes w/Turn Lanes	C/G	25
SR 61/Nathan Dean Blvd	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	45
Seaboard Ave		2 Lanes w/Turn Lanes	2' to 4' Paved	30
Buchanan St	Minor Arterial (Urban)	2 Lanes w/Turn Lanes	2' to 4' Paved	45

*N/A – no posted speed limit signs

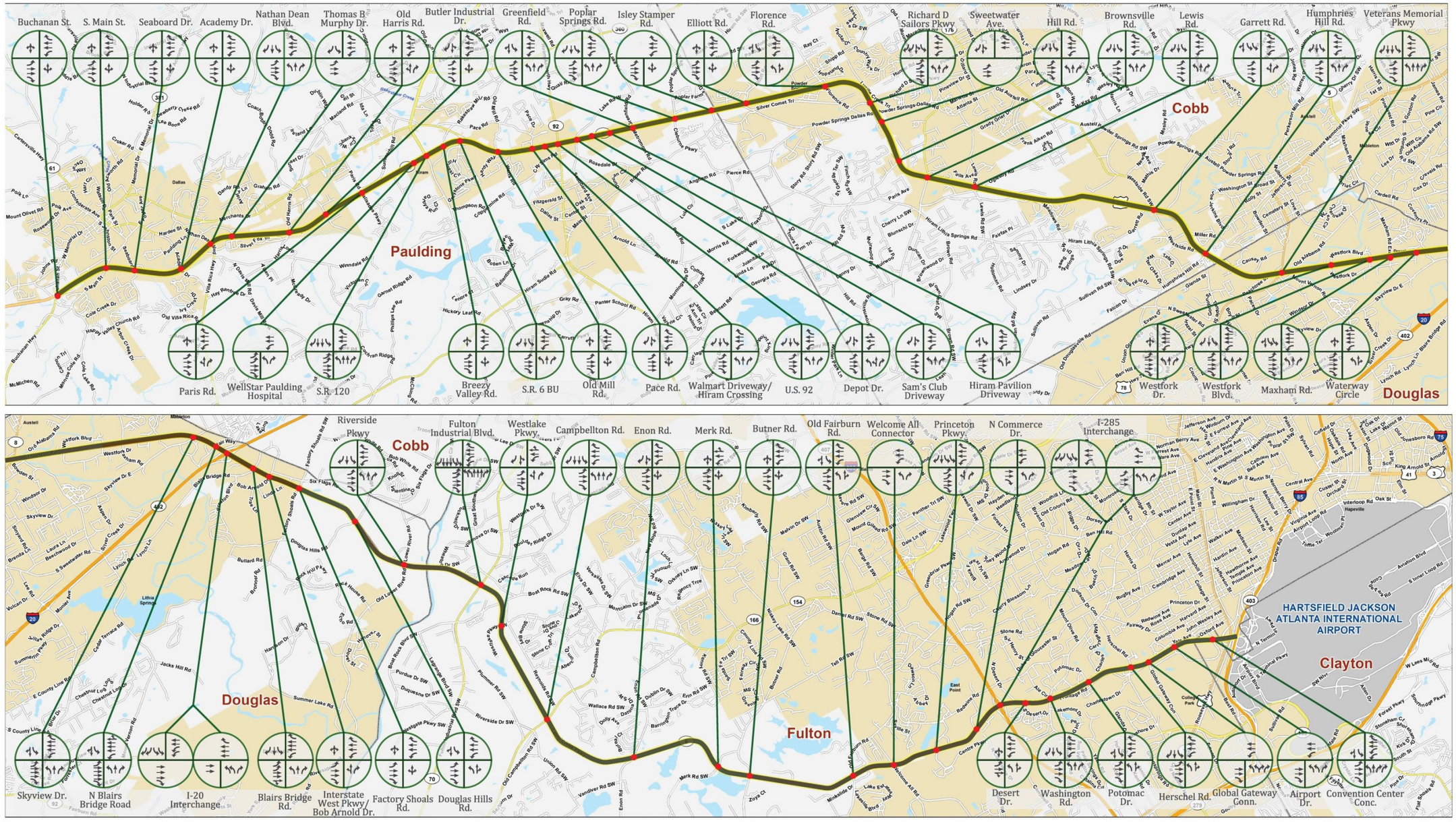


Figure 2-7: Existing Geometry of Major Intersections

2B.2. Existing Traffic Conditions

The evaluation of existing operating conditions provides a framework for analyzing the performance of the transportation system in the study area. Operational analysis was performed using current traffic volumes, lane configurations, and signal operations to identify deficiencies along the corridor. Highway Capacity Software (HCS 2010) and Synchro 8 were used for the analysis of traffic operations. The study corridor was divided into 25 segments based on the location of GDOT traffic counters for Georgia's State Traffic and Report Statistics (STARS). These segments were used for the analysis of LOS and crash data.

LOS is a qualitative measure of the operational conditions of traffic flow based on measures of effectiveness (MoE) for a particular facility. LOS is designated by letters A through F, with LOS A indicating the best operating condition and LOS F indicating the worst. Segment LOS is a function of the free-flow travel speed, which for the purpose of this study can be assumed to be the posted speed limit. A description of the different levels of service, based on the Highway Capacity Manual (HCM) 2010, is provided below.

- LOS A – Describes primarily free-flow operation. Travel speed exceeds 85 percent of the speed limit, and vehicles can maneuver within the traffic stream with no impedance. There is minimal delay at intersections.
- LOS B – Describes reasonably unimpeded operation. Travel speed is between 67 percent and 85 percent of the speed limit, and vehicles experience a slight restriction in their ability to maneuver within the traffic stream. Delay at intersections is not significant.
- LOS C – Describes stable operation. Travel speed is between 50 percent and 67 percent of the speed limit, and vehicles experience a higher delay and restriction in their ability to maneuver and change lanes within the traffic stream in comparison to LOS B. Longer queues at intersections may contribute to lower travel speeds.
- LOS D – Indicates a less stable condition, in which small increases in flow may cause substantial increases in delay and decreases in travel speed. Travel speed is between 40 percent and 50 percent of the speed limit.
- LOS E – Characterized by unstable operation and significant delay with travel speeds between 30 percent and 40 percent of the speed limit. The facility is operating at capacity, and drivers have difficulty maneuvering between travel lanes.
- LOS F – Characterized by flow at extremely low speeds with high delay and extensive queuing. Traffic flow is stagnant, as the number of vehicles in the roadway network approaches or exceeds capacity. Drivers experience frequent drops in speeds to nearly zero miles per hour. Travel speed is 30 percent or less of the speed limit.

Table 2-4 describes the locations of the 25 segments noted above, as well as the current traffic volumes and LOS. The latest 2012 average annual daily traffic (AADT) information, as shown in **Figure 2-8**, was used to calculate segment LOS along SR 6.

Figure 2-9 shows LOS for the segments and major intersections. Segment LOS is based on AADT, not peak period traffic, and intersection LOS was not taken into consideration when calculating the overall segment LOS. LOS analysis shows that segments operate between LOS A through C, with most of the corridor operating at LOS A between intersections. However, intersection LOS (as shown in **Table 2-5** and **Figure 2-9**) is based on peak-period volumes and shows about 58 percent of the intersections operating at LOS D or worse. For intersection capacity analysis, control delay per vehicle is the MoE for determining LOS. Control delay is the component of delay that results from the type of control at the intersection. It can be further explained as the difference between the travel time that would have occurred in the absence of the intersection control and the travel time that results because of the presence of the intersection control. The LOS threshold for signalized intersections is defined in the 2010 HCM and is shown in **Table 2-3**. The segment and intersection LOS results indicate that traffic is relatively smooth on uninterrupted stretches of the corridor and that most of the congestion occurs at signalized intersections with major roadways. Intersection LOS has been identified separately in **Figure 2-9**, which shows LOS for the worse peak condition (AM or PM peak period), while **Table 2-5** shows intersection LOS for existing year (2012) based on ongoing Regional Traffic Operations Program (RTOP) data and supplemental traffic count data obtained in August 2014.

The RTOP, initiated in spring 2010, is a multijurisdictional, cutting-edge signal timing program with the goal of increasing travel throughput by minimizing congestion and reducing delays and vehicle emissions along regional commuter corridors through improved signal operations. Under this program, GDOT provides additional signal timing experts focusing solely on Atlanta's busiest arterial roadways. There are currently two programs under RTOP with 10 and 7 managed corridors in RTOP 1 and RTOP 2, respectively. SR 6 is currently one of the corridors under RTOP 2. RTOP is an ongoing process that includes the upgrade of signal infrastructure (vehicle/pedestrian detection, LED signals, cameras, etc.), active traffic timing, and assisting local jurisdictions to quickly find and repair problems. It should provide remote monitoring of all corridors once complete. RTOP's Synchro models have been supplemented with truck percentages and peak-hour factor (PHF) for each approach at intersections where traffic count data is available. The data shows that most intersections operate at LOS A through D, which is considered acceptable, with a few at LOS E (unacceptable) and F (failing) in the PM peak period.

Table 2-5 shows the intersection LOS as well as the control delay per vehicle, which is defined as the additional travel time experienced by a user that can be attributed to a control device, such as a stop sign or traffic signal.

Table 2-3: LOS Criteria for Signalized Intersections

Level of Service	Control Delay Per Vehicle (sec/vehicle)
A	<=10
B	>10-20
C	>20-35
D	>35-55
E	>55-80
F	>80

Table 2-4: Segment Termini and Segment LOS along SR 6

Segment ID	From	To	County	AADT	Begin MP	End MP	Length (miles)	LOS
01	Airport Blvd.	Airport Dr.	Fulton/ Clayton	30,790	--	--	1.42	B
02	Airport Dr.	Washington Rd.	Fulton	26,460	9.68	10.69	1.01	A
03	Washington Rd.	Princeton Lakes Pkwy.	Fulton	33,240	9.03	9.68	0.65	B
04	Princeton Lakes Pkwy.	Old Fairburn Rd.	Fulton	44,960	7.12	9.03	1.91	A
05	Old Fairburn Rd.	Butner Rd.	Fulton	36,420	5.82	7.12	1.3	A
06	Butner Rd.	Enon Rd.	Fulton	29,810	4.16	5.82	1.66	A
07	Enon Rd.	Campbellton Rd.	Fulton	26,720	2.83	4.16	1.33	A
08	Campbellton Rd.	Fulton Ind Blvd.	Fulton	24,680	0.71	2.83	2.12	A
09	Fulton Ind Blvd.	Riverside Pkwy.	Fulton/ Douglas	30,420	0	0.71	0.71	A
10	Riverside Pkwy.	Douglas Hill Rd.	Douglas	30,190	6.28	6.58	0.3	C
11	Douglas Hill Rd.	Factory Shoals Rd.	Douglas	26,450	4.07	6.28	2.21	A
12	Factory Shoals Rd.	I-20	Douglas	45,010	3.5	4.07	0.57	B
13	I-20	Skyview Dr.	Douglas	59,400	3.03	3.5	0.47	B
14	Skyview Dr.	Westfork Dr.	Douglas	59,950	0.8	3.03	2.23	B
15	Westfork Dr.	Cobb/Douglas CO Line	Douglas	32,670	0	0.8	0.8	A
16	Cobb/Douglas CO line	Garrett Rd.	Cobb	33,560	6.34	7.36	1.02	A
17	Garrett Rd.	Oglesby Rd. (Lewis Rd.)	Cobb	27,470	4.08	6.33	2.25	A
18	Oglesby Rd. (Lewis Rd.)	Brownsville Rd.	Cobb	26,920	3.34	4	0.66	A
19	Brownsville Rd.	Richard D Sailors Pkwy.	Cobb	31,090	2.13	3.34	1.21	A
20	Richard D Sailors Pkwy.	Cobb/Paulding CO Line	Cobb	33,920	0	2.12	2.12	A
21	Cobb/Paulding CO Line	SR 92	Paulding	34,640	14.82	16.7	1.88	A
22	SR 92	Charles Hardy Pkwy. (SR 120)	Paulding	30,930	13.17	14.82	1.65	A
23	Charles Hardy Pkwy. (SR 120)	Old Harris Rd.	Paulding	31,300	10.42	13.17	2.75	A
24	Old Harris Rd.	S Main St.	Paulding	31,460	9.37	10.42	1.05	A
25	S Main St.	W Memorial Dr.	Paulding	19,740	8.38	9.37	0.99	A

Notes: LOS calculated using HCS 2010 with GDOT AADT STARS data (2012)
AADT – Average Annual Daily Traffic

Table 2-5: LOS of Major Intersections along SR 6

Name	Configuration	County	AM PEAK		PM PEAK	
			Delay (s/vehicle)	LOS	Delay (s/vehicle)	LOS
Conley St/Convention Center Conc.	Signalized	Fulton	25.1	C	32.2	C
Airport Dr	Signalized	Fulton	8.8	A	24.2	C
Global Gateway Connector	Signalized	Fulton	6.2	A	11.2	B
Herschel Rd	Signalized	Fulton	26.4	C	44.0	D
Potomac Dr/Hampshire Plaza	Signalized	Fulton	7.6	A	13.9	B
Washington Rd	Signalized	Fulton	56.7	E	56.4	E
Desert Dr	Signalized	Fulton	22	C	31.8	C
I-285 NB Ramp	Signalized	Fulton	58.2	E	101.5	F
I-285 SB Ramp	Signalized	Fulton	33.8	C	24.8	C
N Commerce Dr	Signalized	Fulton	45.5	D	116.0	F
Princeton Pkwy SW	Signalized	Fulton	24.5	C	61.2	E
Welcome All Rd	Signalized	Fulton	17.8	B	18.0	B
Old Fairburn Rd	Signalized	Fulton	36.5	D	28.6	C
Butner Rd	Signalized	Fulton	52.4	D	76.8	E
Merk Rd	Signalized	Fulton	9.6	A	12.4	B
Enon Rd	Signalized	Fulton	29.6	C	41.8	D
Campbellton Rd	Signalized	Fulton	58.5	E	48.7	D
Westlake Pkwy	Unsignalized	Fulton	13.4	B	7.0	A
Fulton Industrial Blvd	Signalized	Fulton	313.1	F	100.4	F
Bakers Ferry Rd	Unsignalized	Fulton	117.8	F	338.5	F
Riverside Pkwy	Signalized	Douglas	68.9	E	42.6	D
Douglas Hills Rd	Signalized	Douglas	16.2	B	33.2	C
Factory Shoals Rd	Signalized	Douglas	37.7	D	34.1	C
Bob Arnold Dr/Interstate W Pkwy	Unsignalized	Douglas	*	F	*	F
Blairs Bridge Rd/Interstate W Pkwy	Signalized	Douglas	31.8	C	56.5	E
I-20 EB Ramps	Signalized	Douglas	77.3	E	17.6	B
I-20 WB Ramps	Signalized	Douglas	11.9	B	23.5	C
Blair Way/N Blairs Bridge Rd	Signalized	Douglas	26.7	C	21.1	C
Skyview Dr/Oak Ridge Rd	Signalized	Douglas	44.5	D	80.6	F
Waterway Circle/W Corporate Ct	Signalized	Douglas	25.5	C	27.6	C
Maxham Rd	Signalized	Douglas	49	D	108.2	F
Westfork Blvd	Signalized	Douglas	12.6	B	26.7	C
Westfork Dr	Signalized	Douglas	15.6	B	24.7	C
Veterans Memorial Hwy/Bankhead Hwy	Signalized	Douglas	54.3	D	61.6	E

Name	Configuration	County	AM PEAK		PM PEAK	
			Delay (s/vehicle)	LOS	Delay (s/vehicle)	LOS
Humphries Hill Rd	Signalized	Cobb	44.6	D	44.1	D
Garrett Rd	Signalized	Cobb	114.3	F	118.3	F
Lewis Rd	Signalized	Cobb	41.1	D	23.1	C
Brownsville Rd	Signalized	Cobb	45	D	41.4	D
Hill Rd	Signalized	Cobb	40.4	D	23.9	C
Sweetwater Ave	Unsignalized	Cobb	0.2	A	0.0	A
Richard D Sailors Pkwy	Signalized	Cobb	58.9	E	93.2	F
Florence Rd	Signalized	Cobb	42.2	D	28.7	C
Elliot Rd/Powder Springs Dallas Rd	Signalized	Cobb	30	C	35.9	D
Isley Stamper	Unsignalized	Paulding	0.6	A	0.5	A
Cleburn Pkwy/Poplar Springs Rd	Signalized	Paulding	56.9	E	189.2	F
Greenfield Rd	Signalized	Paulding	11.1	B	21.5	C
Hiram Pavilion Driveway	Signalized	Paulding	8.4	A	170.5	F
Sam's Club Driveway	Signalized	Paulding	5.7	A	34.8	C
Depot Dr/Lake Rd	Signalized	Paulding	19.5	B	50.4	D
Hwy 92	Signalized	Paulding	65.1	E	97.3	F
Wal-Mart Driveway/Hiram Crossing	Signalized	Paulding	12.7	B	44.5	D
Pace Rd	Signalized	Paulding	24.8	C	18.4	B
Old Mill Rd	Unsignalized	Paulding	16.6	B	23.7	C
Highland Falls Blvd/Atlanta Hwy	Signalized	Paulding	27.1	C	33.7	C
Breezy Valley Rd/Hiram Dr	Unsignalized	Paulding	1.9	A	0.5	A
Bill Carruth Pkwy/Charles Hardy Pkwy	Signalized	Paulding	66.9	E	86.9	F
WellStar Paulding Hospital	Signalized	Paulding	6	A	9.9	A
Paris Rd	Unsignalized	Paulding	12.2	B	32.3	D
Butler Industrial Dr/Cadillac Pkwy	Signalized	Paulding	18.1	B	34.3	C
Old Harris Rd	Signalized	Paulding	23.2	C	32.4	C
Thomas B Murphy Dr	Signalized	Paulding	27.2	C	34.9	C
SR 61/Nathan Dean Blvd	Signalized	Paulding	66.7	E	53.5	D
Academy Dr	Signalized	Paulding	52.6	D	16.5	B
Seaboard Dr	Signalized	Paulding	21.1	C	20.2	C
S Main St	Unsignalized	Paulding	2.5	A	*	F
Buchanan St	Signalized	Paulding	37.7	D	48.5	D

*Software limits exceeded; Volume exceeds capacity. Source: Existing intersection LOS from Regional Traffic Operations Program (RTOP) data with supplemental August 2014 traffic count data (with truck percentage and PHF applied)

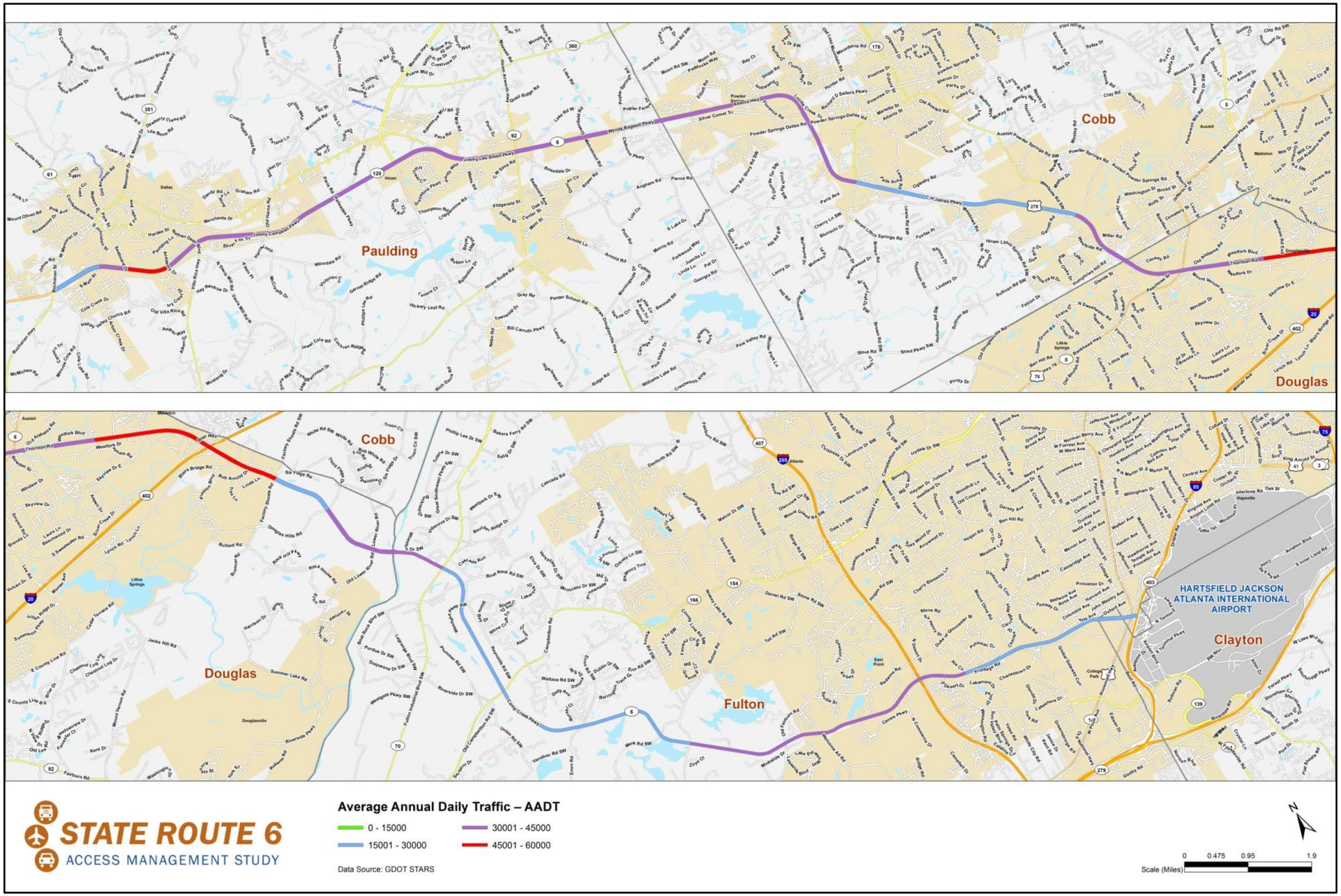


Figure 2-8: Segment Average Annual Daily Traffic (AADT)

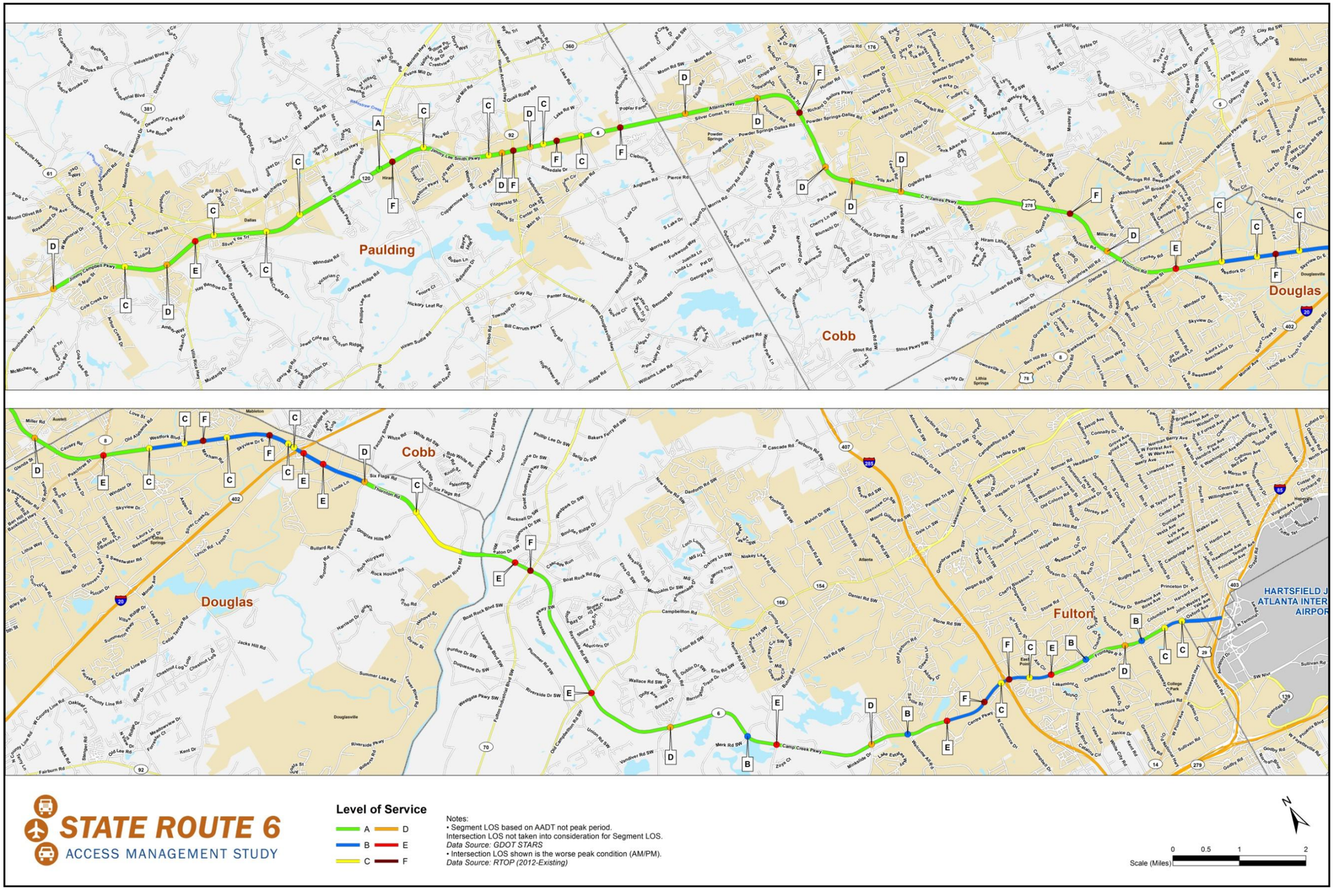


Figure 2-9: Segment and Intersection Level of Service (LOS)

2B.3. Travel Time Runs

Travel-time runs were conducted along the SR 6 corridor on Wednesday, August 27, 2014. Travel runs were conducted for both morning and evening peak hours and for both peak and off-peak directions for each time period. The runs extended from Buchanan Street in Paulding County to Conley Street/ Convention Center intersection in Fulton County. This 34.5-mile corridor includes 57 signalized intersections. The distance between each signalized intersection was measured using a Global Positioning System (GPS), and the travel time for each segment was measured using a stopwatch. Morning-peak-hour travel runs were conducted between 7:00AM and 9:00AM and evening runs were conducted between 4:00PM and 6:00PM using the floating-car method.

For the 34.5-mile corridor, travel time during the morning peak period was recorded as 49 minutes in the peak direction (eastbound) and 48 minutes in the off-peak direction (westbound). In the evening peak period, travel time was recorded as 56 minutes in the peak direction (westbound) and 53 minutes in the off-peak direction (eastbound). This information is shown in **Table 2-6.** Based on this information, the average speed over both time periods and direction of travel were calculated to be 40 miles per hour. Most of the delays during the travel-time runs were associated with stopping at signalized intersections. This is evident in the LOS tables shown in the previous section. Minimal delays and good travel time along the corridor could be related to the fact that the SR 6 corridor is a part of GDOT's RTOP program.

Travel-time data was also collected by RTOP. This data was gathered by zone, where Zone A represents most of Fulton County, Zone B represents most of Douglas County, and Zone C represents most of Cobb and Paulding counties. The AM travel times represent an average over a two-hour period, from 7:00-9:00 AM, and the PM travel time represents an average from 4:00-6:00 PM. This information is shown in **Table 2-7.**

Table 2-6: Field Travel Times along SR 6

County	AM Eastbound (minutes)	AM Westbound (minutes)	PM Eastbound (minutes)	PM Westbound (minutes)
Fulton	18.7	17.6	12.9	17.9
Douglas	11.4	8.6	13.9	13.6
Cobb	8.0	10.4	6.7	9.7
Paulding	10.9	11.0	19.8	14.3
Total	49.0	47.6	53.3	55.5

Table 2-7: RTOP Travel Times along SR 6

Zone	AM Eastbound (minutes)	AM Westbound (minutes)	PM Eastbound (minutes)	PM Westbound (minutes)	Dates Data Collected
A	13.77	13.67	14.42	16.63	May 21 & 22, 2014
B	9.04	10.96	10.58	14.29	May 15 & 20, 2014
C	14.34	15.69	17.34	15.77	May 15 & 20, 2014
Total	37.15	40.32	42.34	46.68	

Source: Regional Traffic Operations Program (2014)

This field-measured data is similar to the Synchro model output for the corridor. Existing Synchro travel times per county are shown in **Table 2-8**, below.

Table 2-8: Synchro Travel Times along SR 6

County	AM Eastbound (minutes)	AM Westbound (minutes)	PM Eastbound (minutes)	PM Westbound (minutes)
Fulton	15.0	14.0	15.0	14.0
Douglas	7.9	7.9	8.4	8.4
Cobb	8.5	8.7	8.5	8.7
Paulding	10.1	10.7	10.3	10.8
Total	41.4	41.2	42.2	41.9

2B.4. Crash Analysis

Historical crash data was obtained from GDOT's Office of Traffic Safety and Design for the most recent five years (2008 to 2012) for the SR 6 study corridor. The crash data was used to determine potential safety deficiencies along the study corridor. One measure that is used to determine potential safety deficiency is crash rate. Crash rates are expressed per 100 million vehicle miles traveled (100 MVM) and are determined by the following equation:

$$Crash\ Rate = \frac{Total\ \#\ of\ Crashes\ \times\ 10^8}{Average\ ADT\ x\ Length\ of\ Segment\ x\ 365\ x\ Number\ of\ Years}$$

Crash rates were calculated and compared with the statewide average rates for roadways with the same functional classification. The SR 6 corridor is an urban principal arterial and has been designated by the FHWA as a part of the National Highway System (NHS), so statewide average rates for urban principal arterials, non-freeway NHS were used for comparison. The roadway segments applied to this analysis are consistent with congestion analysis segments defined in Section 2B.2. This analysis identifies segments with relatively high crash rates by comparing the crash rates of the segments to statewide average crash rates, shown as **Table 2-9.**

Table 2-9: Georgia Statewide Average Crash Rates (2008 to 2012)

Statewide Averages for Urban Principal Arterial, National Highway System (NHS)					
Year	**Fatal Crashes**	**Fatalities**	**Injury Crashes**	**Injuries**	**All Crashes**
2008	1.31	1.33	108	167	430
2009	1.15	1.25	119	185	461
2010	1.16	1.23	103	160	408
2011	1.10	1.23	99	155	422
2012	1.15	1.25	119	185	461
5-Year Average	**1.17**	**1.26**	**110**	**170**	**436**

Source: GDOT

The segments and intersections along the study corridor experienced a total of 6,734 crashes with 2,187 injuries and 18 fatalities during the five-year period. **Table 2-12** indicates the crash rate by segment and crash type from 2008 to 2012: fatal crashes (defined as crashes that involve at least one fatality), total fatalities, injury crashes (defined as crashes that involve at least one injury), total injuries, and all crashes. The rates were then compared by segment to the statewide average crash rates (five-year average) from **Table 2-9**. Those segments where the rate exceeds the statewide average are highlighted in bold text in **Table 2-10**. In addition, **Table 2-11** and **Table 2-12** show the crash type, lighting conditions, and surface conditions for each segment.

Eight out of 25 segments, one third of the segments, exceed statewide averages for fatal crashes and fatalities. Six out of 25 segments, a quarter of the segments, exceed statewide averages for the remaining categories: injury crashes, injuries, and all crashes. There are four segments that exceed statewide averages for all the categories: Airport Drive to Washington Road (1.5 miles), Washington Road to Princeton Lakes Parkway (1.5 miles), I-20 to Skyview Drive (0.5 miles), and Old Harris Road to South Main Street (1.1 miles). Among these segments, the segment between Washington Road and Princeton Lakes Parkway in Fulton County and the segment between Old Harris Road and South Main Street in Paulding County show the highest crash rates. The injury crash rate, injury rate, and overall crash rate were 10 to 12 times higher than the statewide averages in the segment between Washington Road and Princeton Lakes Parkway. The fatality crash rate and fatality rate in the segment between Old Harris Road and South Main Street were 10 to 11 times higher than the statewide averages. In the same segment, the injury crash rate and overall crash rate were approximately three times higher than the statewide averages, while the injury rate was 2.5 times the statewide average.

Out of total crashes along the corridor, rear-end collisions are the most common, accounting for nearly 60 percent of crashes. The high percentage of rear-end crashes is an indication of congestion along the SR 6 corridor. Angle and same-direction sideswipe crashes account for 17 percent and 13 percent, respectively. The occurrence of angle and sideswipe crashes can be considered an indication of high turning movements at intersections, possible speeding, improper lane delineation, or poor lighting conditions. Seven percent of crashes (497) involved a collision with a non-motor vehicle, out of which 11 percent involved deer and 8 percent involved median barriers.

Roadway lighting conditions can have implications on crash rates and severity as well. The FHWA reports that although only 25 percent of vehicle miles traveled occur at night, about half of all fatal crashes occur at night. Along the SR 6 study corridor, 72 percent and 13 percent of all crashes were recorded during daylight and dark-lighted conditions, respectively, with 12 percent also occurring during dark, non-lighted conditions. Of the 25 segments, 14 (56 percent) had more crashes occurring in dark, non-lighted conditions than in the dark-lighted conditions. This suggests that corridor lighting may need to be reviewed and/or improved along these sections. These are the extents between Enon Road to Campbellton Road, Riverside Parkway to Oglesby Road, Richard D Sailors Parkway to SR 92, and Charles Hardy Parkway to West Memorial Drive. The segment between Riverside Parkway and Douglas Hill Road had the highest percentage of crashes, 32 percent, occurring in dark, non-lighted conditions.

Of all these crashes, 83 percent also occurred in dry surface conditions, indicating that pavement condition was not a significant contributing factor to the crash history along the corridor. It was not possible to provide any analysis or conclusions for crashes involving trucks, as the current GDOT crash data format does not provide truck information.

Records for bicycle and pedestrian crashes from 2008 through 2012 were examined to offer insight into safety concerns for bicyclists and pedestrians traveling within the study corridor. There were 10 reported crashes related to pedestrians and one crash related to bicycles. All pedestrian crashes occurred on dry surface conditions, with 45 percent occurring in dark, non-lighted conditions. These crashes involved eight injuries and three fatalities. All three fatal crashes were pedestrian crashes, two of which occurred in Fulton County and one in Douglas County. These fatalities occurred at the unsignalized intersection of Camp Creek Parkway and Westlake Parkway, on Camp Creek Parkway eastbound, with an approximate location of about 300 feet east of the intersection with Welcome All Road (based on crash coordinates), and on Thornton Road north of North Blairs Bridge Road. One pedestrian-involved crash also occurred at the intersection with Princeton Lakes Parkway (signalized), with one injury and no fatalities, and at Crestmark Way (driveway), with no resulting injury or fatality. One bicycle crash occurred at Thornton Way approaching Skyview Drive.

A crash analysis summary for manner of collision, lighting, and surface conditions are shown in **Figure 2-10**, **Figure 2-11**, and **Figure 2-12**, respectively. **Figure 2-13** shows the number of crashes and the severity of crashes per segment.

Table 2-10: Segment Crash Analysis (2008 to 2012) – Crash Rates

Segment ID	From	To	2008 to 2012 Average Crash Rates (100 MVM)				
			Fatal Crashes	Fatalities	Injury Crashes	Injuries	All Crashes
01	**Airport Blvd**	**Airport Dr**	**1.3**	**1.3**	85.6	121.2	413.7
02	**Airport Dr**	**Washington Rd**	**2.1**	**2.1**	**115.0**	**178.9**	**458.0**
03	**Washington Rd**	**Princeton Lakes Pkwy**	**2.6**	**2.6**	**1093.3**	**1668.6**	**5354.6**
04	Princeton Lakes Pkwy	Old Fairburn Rd	0.7	0.7	69.3	103.9	323.7
05	**Old Fairburn Rd**	**Butner Rd**	**1.2**	**5.9**	30.5	62.1	144.1
06	Butner Rd	Enon Rd	1.0	1.0	56.6	92.6	327.1
07	**Enon Rd**	**Campbellton Rd**	**1.6**	**1.6**	35.3	75.3	128.2
08	**Campbellton Rd**	**Fulton Ind Blvd**	**2.1**	**2.1**	43.5	75.3	222.8
09	**Fulton Ind Blvd**	**Riverside Pkwy**	0.0	0.0	**116.8**	**176.6**	**839.3**
10	Riverside Pkwy	Douglas Hill Rd	0.0	0.0	40.1	57.3	177.7
11	Douglas Hill Rd	Factory Shoals Rd	0.0	0.0	4.8	4.8	14.4
12	Factory Shoals Rd	I-20	0.0	0.0	31.2	42.4	151.6
13	**I-20**	**Skyview Dr**	**1.9**	**1.9**	**216.6**	**303.6**	**775.4**
14	Skyview Dr	Westfork Dr	0.0	0.0	40.8	59.4	139.3
15	**Westfork Dr**	**Cobb/Douglas CO Line**	0.0	0.0	**246.6**	**361.5**	**988.4**
16	Cobb/Douglas CO line	Garrett Rd	0.0	0.0	70.7	96.6	151.8
17	Garrett Rd	Oglesby Rd (Lewis Rd)	0.0	0.0	3.8	4.7	16.0
18	Oglesby Rd (Lewis Rd)	Brownsville Rd	0.0	0.0	0.0	0.0	3.1
19	Brownsville Rd	Richard D Sailors Pkwy	0.0	0.0	0.0	4.5	22.4
20	Richard D Sailors Pkwy	Cobb/Paulding CO Line	0.9	0.9	13.7	21.4	47.1
21	Cobb/Paulding CO Line	SR 92	0.0	0.0	10.1	12.6	61.4
22	SR 92	Charles Hardy Pkwy (SR 120)	0.0	0.0	57.6	64.8	354.1
23	Charles Hardy Pkwy (SR 120)	Old Harris Rd	0.0	0.0	24.2	35.4	161.9
24	**Old Harris Rd**	**S Main St**	**7.6**	**7.6**	**319.0**	**407.6**	**1263.4**
25	S Main St	W Memorial Dr	0.0	0.0	20.3	40.6	81.1

**Segments where the crash rate exceeds the statewide average are highlighted in bold text.

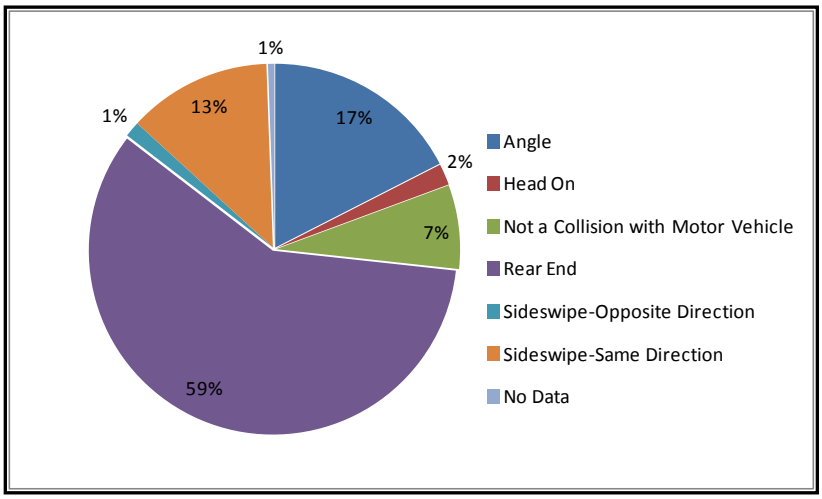


Figure 2-10: 2008 to 2012 Crashes – Manner of Collisions

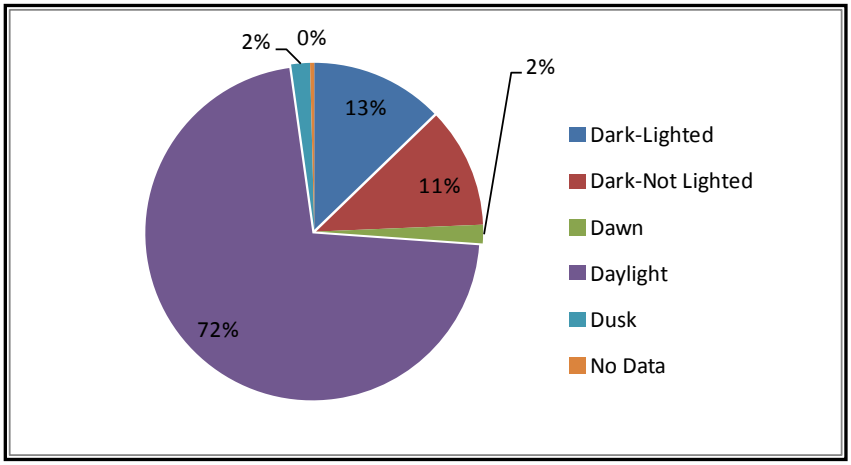


Figure 2-11: 2008 to 2012 Crashes – Lighting Conditions

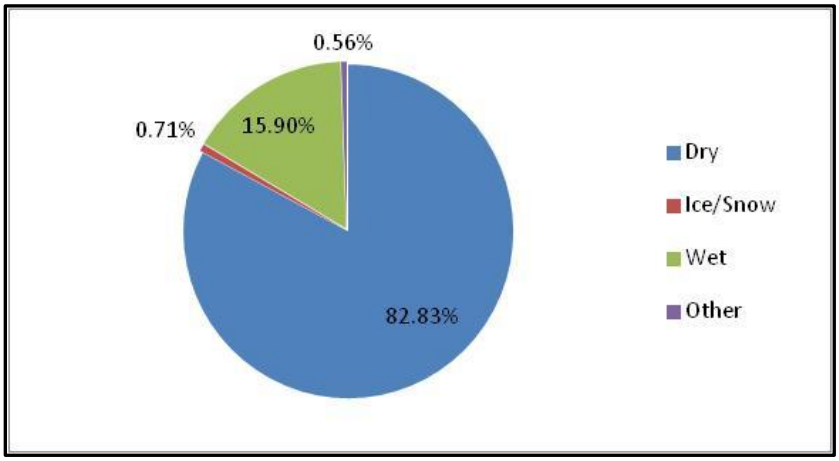


Figure 2-12: 2008 to 2012 Crashes – Surface Conditions

Table 2-11: Segment Crash Analysis (2008 to 2012) – Crash Type, Lighting, Surface Conditions

Segment ID	From	To	Crash Type								Light Conditions							Surface Conditions								
			Angle	Head-On	Not a Collision with a Motor Vehicle	Rear-End	Sideswipe – Opposite Direction	Sideswipe – Same Direction	Blank (No Data)	TOTAL	Dark-Lighted	Dark, Non-Lighted	Dawn	Daylight	Dusk	Blank (No Data)	TOTAL	Dry	Icy	Wet	Oil	Snowy	Slush	Other	Blank (No Data)	TOTAL
01	Airport Blvd	Airport Dr	45	2	41	177	1	47	1	**314**	56	33	5	212	7	1	**314**	251	4	57	1	0	0	0	1	**314**
02	Airport Dr	Washington Rd	55	7	9	120	4	19	1	**215**	50	9	0	153	1	2	**215**	176	2	35	0	0	0	0	2	**215**
03	Washington Rd	Princeton Lakes Pkwy	379	31	136	1132	41	334	4	**2057**	369	195	25	1426	39	3	**2057**	1720	11	319	0	3	1	1	2	**2057**
04	Princeton Lakes Pkwy	Old Fairburn Rd	87	9	21	292	14	30	5	**458**	57	39	4	339	13	6	**458**	386	0	66	0	2	0	0	4	**458**
05	Old Fairburn Rd	Butner Rd	45	3	12	48	1	13	1	**123**	32	16	3	69	3	0	**123**	97	1	25	0	0	0	0	0	**123**
06	Butner Rd	Enon Rd	52	9	34	195	3	25	0	**318**	37	46	9	219	7	0	**318**	265	0	51	0	0	1	0	1	**318**
07	Enon Rd	Campbellton Rd	25	7	13	30	0	5	0	**80**	12	19	2	47	0	0	**80**	65	0	14	0	0	0	1	0	**80**
08	Campbellton Rd	Fulton Ind Blvd	68	7	15	105	2	12	1	**210**	38	26	7	136	3	0	**210**	186	1	23	0	0	0	0	0	**210**
09	Fulton Ind Blvd	Riverside Pkwy	62	7	14	167	7	46	6	**309**	45	27	6	218	7	6	**309**	249	1	53	0	0	0	0	6	**309**
10	Riverside Pkwy	Douglas Hill Rd	1	0	4	21	2	3	0	**31**	2	10	0	18	1	0	**31**	27	1	3	0	0	0	0	0	**31**
11	Douglas Hill Rd	Factory Shoals Rd	1	1	5	8	0	3	0	**18**	1	4	1	11	1	0	**18**	8	2	8	0	0	0	0	0	**18**
12	Factory Shoals Rd	I-20	9	5	2	45	1	4	2	**68**	2	8	1	53	2	2	**68**	51	0	14	0	1	0	0	2	**68**
13	I-20	Skyview Dr	37	5	34	228	3	92	2	**401**	21	68	6	301	5	0	**401**	333	1	66	0	1	0	0	0	**401**
14	Skyview Dr	Westfork Dr	59	1	13	216	2	52	2	**345**	39	40	5	257	3	1	**345**	285	2	56	0	1	0	0	1	**345**
15	Westfork Dr	Cobb/Douglas CO Line	51	4	27	288	4	98	1	**473**	19	72	10	368	4	0	**473**	376	7	90	0	0	0	0	0	**473**
16	Cobb/Douglas CO line	Garrett Rd	24	5	3	50	2	3	1	**88**	8	15	3	60	1	1	**88**	76	0	10	0	0	0	0	1	**88**
17	Garrett Rd	Oglesby Rd (Lewis Rd)	1	2	4	9	0	1	1	**18**	3	5	2	7	0	1	**18**	12	0	5	0	0	0	0	1	**18**
18	Oglesby Rd (Lewis Rd)	Brownsville Rd	0	0	0	1	0	0	0	**1**	0	0	0	1	0	0	**1**	0	0	1	0	0	0	0	0	**1**
19	Brownsville Rd	Richard D Sailors Pkwy	1	0	0	10	0	1	3	**15**	1	0	0	12	0	2	**15**	10	0	3	0	0	0	0	2	**15**
20	Richard D Sailors Pkwy	Cobb/Paulding CO Line	4	1	13	33	0	4	0	**55**	2	10	0	42	1	0	**55**	40	0	14	0	0	0	1	0	**55**
21	Cobb/Paulding CO Line	SR 92	12	1	2	55	0	3	0	**73**	2	5	0	66	0	0	**73**	67	0	6	0	0	0	0	0	**73**
22	SR 92	Charles Hardy Pkwy (SR 120)	73	5	6	190	1	20	0	**295**	27	10	11	240	7	0	**295**	270	0	25	0	0	0	0	0	**295**
23	Charles Hardy Pkwy (SR 120)	Old Harris Rd	23	6	10	200	1	5	2	**247**	7	38	4	189	7	2	**247**	209	0	36	0		0	0	2	**247**
24	Old Harris Rd	S Main St	62	8	73	317	3	30	6	**499**	29	77	17	367	8	1	**499**	405	5	88	0	0	0	0	1	**499**
25	S Main St	W Memorial Dr	1	0	6	17	0	0	0	**24**	1	7	0	14	2	0	**24**	22	0	2	0	0	0	0	0	**24**
	TOTAL		**1177**	**126**	**497**	**3954**	**92**	**850**	**38**	**6734**	**860**	**779**	**121**	**4825**	**122**	**27**	**6734**	**5586**	**38**	**1072**	**1**	**8**	**2**	**4**	**23**	**6734**

Table 2-12: Segment Crash Analysis (2008 to 2012) – Crash Type, Lighting, Surface Conditions (%)

Segment ID	From	To		Crash Type								Light Conditions							Surface Conditions								
			Total Crashes	Angle	Head-On	Not a Collision with a Motor Vehicle	Rear-End	Sideswipe – Opposite Direction	Sideswipe – Same Direction	Blank	TOTAL	Dark-Lighted	Dark, Non-Lighted	Dawn	Daylight	Dusk	Blank	TOTAL	Dry	Icy	Wet	Oil	Snowy	Slush	Other	Blank	TOTAL
01	Airport Blvd	Airport Dr	**314**	14%	1%	13%	56%	0%	15%	0%	100%	18%	11%	2%	68%	2%	0%	100%	80%	1%	18%	0%	0%	0%	0%	0%	100%
02	Airport Dr	Washington Rd	**215**	26%	3%	4%	56%	2%	9%	0%	100%	23%	4%	0%	71%	0%	1%	100%	82%	1%	16%	0%	0%	0%	0%	0%	100%
03	Washington Rd	Princeton Lakes Pkwy	**2057**	18%	2%	7%	55%	2%	16%	0%	100%	18%	9%	1%	69%	2%	0%	100%	84%	1%	16%	0%	0%	0%	0%	0%	100%
04	Princeton Lakes Pkwy	Old Fairburn Rd	**458**	19%	2%	5%	64%	3%	7%	1%	100%	12%	9%	1%	74%	3%	1%	100%	84%	0%	14%	0%	0%	0%	0%	1%	100%
05	Old Fairburn Rd	Butner Rd	**123**	37%	2%	10%	39%	1%	11%	1%	100%	26%	13%	2%	56%	2%	0%	100%	79%	1%	20%	0%	0%	0%	0%	0%	100%
06	Butner Rd	Enon Rd	**318**	16%	3%	11%	61%	1%	8%	0%	100%	12%	14%	3%	69%	2%	0%	100%	83%	0%	16%	0%	0%	0%	0%	0%	100%
07	Enon Rd	Campbellton Rd	**80**	31%	9%	16%	38%	0%	6%	0%	100%	15%	24%	3%	59%	0%	0%	100%	81%	0%	18%	0%	0%	0%	1%	0%	100%
08	Campbellton Rd	Fulton Ind Blvd	**210**	32%	3%	7%	50%	1%	6%	0%	100%	18%	12%	3%	65%	1%	0%	100%	89%	0%	11%	0%	0%	0%	0%	0%	100%
09	Fulton Ind Blvd	Riverside Pkwy	**309**	20%	2%	5%	54%	2%	15%	2%	100%	15%	9%	2%	71%	2%	2%	100%	81%	0%	17%	0%	0%	0%	0%	2%	100%
10	Riverside Pkwy	Douglas Hill Rd	**31**	3%	0%	13%	68%	6%	10%	0%	100%	6%	32%	0%	58%	3%	0%	100%	87%	3%	10%	0%	0%	0%	0%	0%	100%
11	Douglas Hill Rd	Factory Shoals Rd	**18**	6%	6%	28%	44%	0%	17%	0%	100%	6%	22%	6%	61%	6%	0%	100%	44%	11%	44%	0%	0%	0%	0%	0%	100%
12	Factory Shoals Rd	I-20	**68**	13%	7%	3%	66%	1%	6%	3%	100%	3%	12%	1%	78%	3%	3%	100%	75%	0%	21%	0%	1%	0%	0%	3%	100%
13	I-20	Skyview Dr	**401**	9%	1%	8%	57%	1%	23%	0%	100%	5%	17%	1%	75%	1%	0%	100%	83%	0%	16%	0%	0%	0%	0%	0%	100%
14	Skyview Dr	Westfork Dr	**345**	17%	0%	4%	63%	1%	15%	1%	100%	11%	12%	1%	74%	1%	0%	100%	83%	1%	16%	0%	0%	0%	0%	0%	100%
15	Westfork Dr	Cobb/Douglas CO Line	**473**	11%	1%	6%	61%	1%	21%	0%	100%	4%	15%	2%	78%	1%	0%	100%	79%	1%	19%	0%	0%	0%	0%	0%	100%
16	Cobb/Douglas CO line	Garrett Rd	**88**	28%	6%	3%	57%	2%	3%	1%	100%	9%	17%	3%	69%	1%	1%	100%	87%	0%	11%	0%	0%	0%	1%	1%	100%
17	Garrett Rd	Oglesby Rd (Lewis Rd)	**17**	6%	12%	24%	53%	0%	6%	0%	100%	18%	29%	12%	41%	0%	0%	100%	71%	0%	29%	0%	0%	0%	0%	0%	100%
18	Oglesby Rd (Lewis Rd)	Brownsville Rd	**1**	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	0%	100%	0%	0%	100%	0%	0%	100%	0%	0%	0%	0%	0%	100%
19	Brownsville Rd	Richard D Sailors Pkwy	**15**	7%	0%	0%	67%	0%	7%	20%	100%	7%	0%	0%	80%	0%	13%	100%	67%	0%	20%	0%	0%	0%	0%	13%	100%
20	Richard D Sailors Pkwy	Cobb/Paulding CO Line	**55**	7%	2%	24%	60%	0%	7%	0%	100%	4%	18%	0%	76%	2%	0%	100%	73%	0%	25%	0%	0%	0%	2%	0%	100%
21	Cobb/Paulding CO Line	SR 92	**73**	16%	1%	3%	75%	0%	4%	0%	100%	3%	7%	0%	90%	0%	0%	100%	92%	0%	8%	0%	0%	0%	0%	0%	100%
22	SR 92	Charles Hardy Pkwy (SR 120)	**295**	25%	2%	2%	64%	0%	7%	0%	100%	9%	3%	4%	81%	2%	0%	100%	92%	0%	8%	0%	0%	0%	0%	0%	100%
23	Charles Hardy Pkwy (SR 120)	Old Harris Rd	**247**	9%	2%	4%	81%	0%	2%	1%	100%	3%	15%	2%	77%	3%	1%	100%	85%	0%	15%	0%	0%	0%	0%	1%	100%
24	Old Harris Rd	S Main St	**499**	12%	2%	15%	64%	1%	6%	1%	100%	6%	15%	3%	74%	2%	0%	100%	81%	1%	18%	0%	0%	0%	0%	0%	100%
25	S Main St	W Memorial Dr	**24**	4%	0%	25%	71%	0%	0%	0%	100%	4%	29%	0%	58%	8%	0%	100%	92%	0%	8%	0%	0%	0%	0%	0%	100%
	TOTAL		**6734**	**17%**	**2%**	**7%**	**59%**	**1%**	**13%**	**1%**	**100%**	**13%**	**12%**	**2%**	**72%**	**2%**	**0%**	**100%**	**83%**	**1%**	**16%**	**0%**	**0%**	**0%**	**0%**	**0%**	**100%**

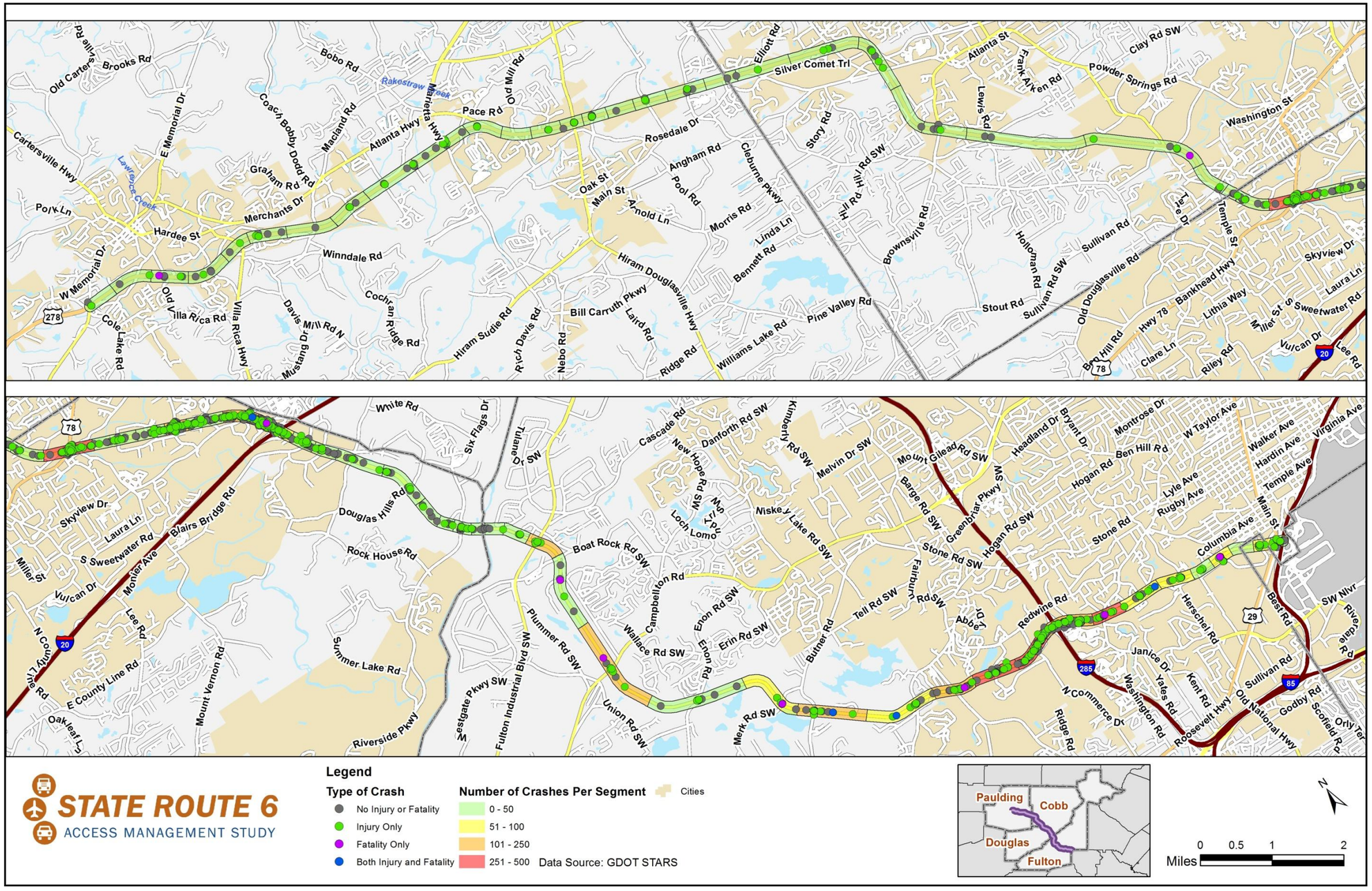


Figure 2-13: Segment Crash Map

2B.5. Freight

The Atlanta Regional Commission's 2008 Atlanta Regional Freight Mobility Plan describes Atlanta as one of the strongest and fastest-growing logistics clusters in the nation, and also one of the three largest inland distribution centers. SR 6 is a designated truck route for oversize trucks that handles a large amount of truck traffic through and within the metropolitan Atlanta region (**Figure 2-14**). GDOT's 2013 Georgia Statewide Freight and Logistics Truck Plan (Truck Modal Profile) identified SR 6 (Thornton Road) between Butner Road and Enon Road in Fulton County as having the ninth highest truck volumes of all non-interstate locations in Georgia. Additionally, a 1-mile section of SR 70 (Fulton Industrial Boulevard) adjacent to its intersection with SR 6 was identified as having the second highest truck counts for non-interstate locations in Georgia (GDOT Classification Data, 2009). SR 6 is currently considered a part of the following freight networks:

- Georgia Statewide Designated Freight Corridor – GDOT 2012 (**Figure 2-14**)
- Atlanta Strategic Truck Route Master Plan (AstroMAP) – Atlanta Regional Commission (ARC)

Both Norfolk Southern and CSX use the Atlanta area as a major hub for intermodal shipping. New terminals for both companies have opened in the region to handle the volume of freight shipped into and out of Atlanta, which has become one of America's greatest inland ports. Norfolk Southern currently operates trains between its Austell hub and six other cities, namely, Charleston, South Carolina; Chicago, Illinois; Cincinnati, Ohio; Kansas City, Missouri; New Orleans, Louisiana; and Savannah, Georgia.

Table 2-13 shows segment AADT, truck percentage, and truck AADT. The segments highlighted in bold font denote the segments with the highest truck volumes along the corridor. GDOT's recent freight study, Georgia Statewide Freight and Logistics Plan 2010 to 2050, included truck-friendly lanes on SR 6 between the Whitaker Intermodal Terminal in Austell and I-20 as one of its priority freight projects. This project is also listed in Atlanta Regional Commission's Long-Range Transportation Plan and is considered the "last-mile" connection from I-20 to the intermodal terminal. Other operational improvements recommended for this roadway as part of the truck friendly lanes project include:

- Improve signal timing to improve truck-travel-time reliability
- Separate truck and automobile traffic
- Reduce truck stops and eliminate "dilemma zones"
- Reduce truck rollovers at intermodal center access
- Improve visibility of traffic control and guidance for automobiles

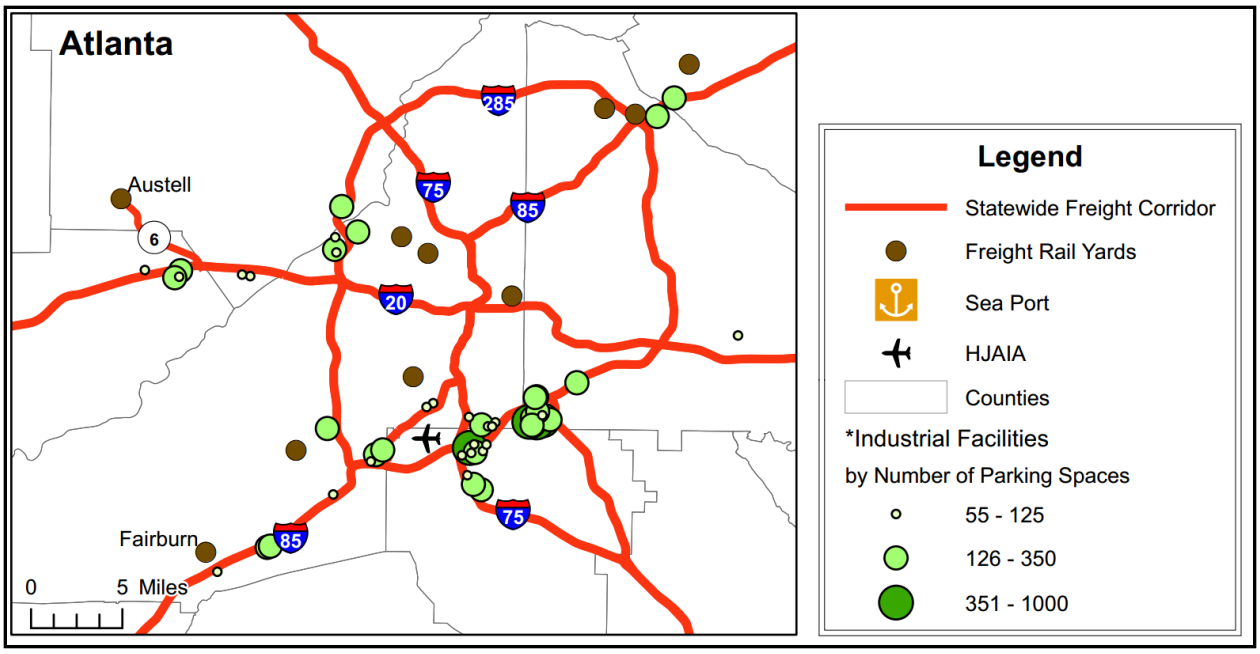
Because SR 6 is a major regional travel corridor that runs southeast to northwest, this route has high volumes of both truck and automobile traffic, as it also serves Atlanta-area commuters. The presence of industrial developments and distribution centers along the corridor contribute to the significant freight traffic along the corridor. Furthermore, the SR 6 study area is included in the Atlanta Regional Commission's Regional Thoroughfare Network (RTN), which identifies the region's most critical surface

roads. Roadways on the RTN are intended to receive priority consideration for investment due to their functions in serving multiple modes of travel and connecting people and goods to important locations.

Table 2-13: Segment Truck Percentage and Truck AADT (2012)

Segment ID	From	To	County	2012 AADT	2012 Truck %	Truck AADT
01	Airport Blvd	Airport Dr	Fulton/ Clayton	30,790	12	3,695
02	Airport Dr	Washington Rd	Fulton	26,460	6	1,768
03	Washington Rd	Princeton Lakes Pkwy	Fulton	33,240	3	997
04	**Princeton Lakes Pkwy**	**Old Fairburn Rd**	**Fulton**	**44,960**	**9**	**4,046**
05	**Old Fairburn Rd**	**Butner Rd**	**Fulton**	**36,420**	**11**	**4,006**
06	**Butner Rd**	**Enon Rd**	**Fulton**	**29,810**	**13**	**3,875**
07	Enon Rd	Campbellton Rd	Fulton	26,720	12	3,474
08	Campbellton Rd	Fulton Ind Blvd	Fulton	24,680	13	3,208
09	Fulton Ind Blvd	Riverside Pkwy	Fulton/ Douglas	30,420	11	3,346
10	Riverside Pkwy	Douglas Hill Rd	Douglas	30,190	12	3,623
11	Douglas Hill Rd	Factory Shoals Rd	Douglas	26,450	12	3,174
12	Factory Shoals Rd	I-20	Douglas	45,010	N/A	N/A
13	I-20	Skyview Dr	Douglas	59,400	N/A	N/A
14	Skyview Dr	Westfork Dr	Douglas	59,950	N/A	N/A
15	Westfork Dr	Cobb/Douglas CO Line	Douglas	32,670	10	3,267
16	Cobb/Douglas CO line	Garrett Rd	Cobb	33,560	8	2,685
17	Garrett Rd	Oglesby Rd (Lewis Rd)	Cobb	27,470	6	1,648
18	Oglesby Rd (Lewis Rd)	Brownsville Rd	Cobb	26,920	7	1,884
19	Brownsville Rd	Richard D Sailors Pkwy	Cobb	31,090	5	2,487
20	Richard D Sailors Pkwy	Cobb/Paulding CO Line	Cobb	33,920	8	2,714
21	Cobb/Paulding CO Line	SR 92	Paulding	34,640	6	2,078
22	SR 92	Charles Hardy Pkwy (SR 120)	Paulding	30,930	6	1,856
23	Charles Hardy Pkwy (SR 120)	Old Harris Rd	Paulding	31,300	N/A	N/A
24	Old Harris Rd	S Main St	Paulding	31,460	9	2,831
25	S Main St	W Memorial Dr	Paulding	19,740	8	1,579

Note: Truck AADT calculated using AADT and truck percentage from GDOT STARS data
N/A – No information available
Segments highlighted in bold font denote the segments with the highest truck volumes along the corridor



*Source: GDOT

Figure 2-14: Georgia Statewide Designated Freight Network – Atlanta

2B.6. Public Transportation

The Metropolitan Atlanta Rapid Transit Authority (MARTA) provides both heavy rail and bus service near the study area. The MARTA South Rail Line has two stations within the study area: Airport and College Park. The College Park station includes a park-and-ride lot for travelers continuing north into Atlanta. Two MARTA local bus routes provide service along SR 6 in the study area:

Route 82 (Camp Creek/Welcome All which connects the College Park MARTA station (red/gold rail lines) to the intersection of Camp Creek Parkway and Welcome All Road, providing service along the SR 6 corridor, including the Camp Creek Market Place. The route then turns south, operating along Welcome All Road to Roosevelt Highway, then operates along Roosevelt Highway and terminates at the South Fulton Service Center. Route 82 operates weekdays from 5:40 AM to 1:00 AM with 20-minute headways during peak hours and at 45-minute headways during non-peak hours.

Route 84 (East Point/Camp Creek), which runs from the East Point MARTA station (red/gold rail lines) along Washington Road, Desert Drive, Redwine Rd, Princeton Lakes Pkwy, SR 6/Camp Creek Pkwy, and Old Fairburn Road. This route also provides access to the Camp Creek Market Place.

Two other routes operate near the SR 6 corridor, including:

Route 73 (Fulton Industrial), which does not operate on SR 6 directly but runs from the Hamilton E. Holmes MARTA station (blue rail line), along MLK Jr. Drive and SR 70/Fulton Industrial Boulevard, crossing SR 6 at Fulton Industrial Boulevard, which is a large employment center.

Route 183 (Barge Rd/Lakewood), which does not operate on SR 6 directly but runs from the Lakewood/Fort McPherson MARTA station (red/gold rail lines) to Butner Rd about a mile north of SR 6 and stops at the Barge Road park and ride lot.

Also, the Georgia Regional Transportation Authority (GRTA) and Cobb Community Transit (CCT) collaborate to provide two weekday commuter bus routes from Hiram and Powder Springs to downtown and midtown Atlanta, routes 470 and 477. These routes run along SR 6 to I-20, and then continue eastward to Atlanta. Travelers wishing to utilize these routes can only do so by boarding at one of the two provided park-and-ride lots. Route 470 operates four morning trips and four afternoon trips, plus one "reverse commute" afternoon trip to Atlanta. Route 477 operates six morning and afternoon trips, plus a reverse trip in the morning (from Atlanta) and a reverse trip in the afternoon (to Atlanta). A 2010 study by Cobb County measured average daily ridership levels for these routes around 330 riders per day for Route 470 and around 240 riders per day for Route 477.

The two park-and-ride lots GRTA provides for these routes are located in Hiram and Powder Springs. The Hiram park-and-ride lot is within the Hiram Pavilion development, just one block from the intersection of SR 6 and Metromont Road. In 2011, this lot had 159 parking spaces and usage was 20 percent. The Powder Springs park-and-ride lot is located just off the intersection of SR 6 and Richard D. Sailors Parkway. In 2011, this lot had 271 parking spaces and usage was 50 percent. There are two other park-and-rides lots in close proximity to SR 6 along the study corridor operated by other agencies. The southernmost is the MARTA lot at the College Park station, which had 2,219 spaces in 2011 and a usage percentage of 91 percent. The second, at the northeast quadrant of the I-20 interchange at SR 6, is Douglas County's Thornton Road park-and-ride lot, with 116 parking spaces. This lot is for users of the county's rideshare program, which has both carpooling and vanpooling options available.

Major destinations in the corridor that are not served by existing transit service include the Whitaker Intermodal Terminal, other distribution facilities, and the Sandtown Community. On the western end of the corridor, some commercial and residential areas and the City of Dallas are not served by transit. Transit stops on SR 6 are shown on **Figure 2-3**, under Section 2A.

2B.7. Bicycle and Pedestrian Facilities

Currently, there are neither dedicated bike facilities nor major sidewalks on or immediately adjacent to the corridor at the surveyed intersections. Although no contiguous sidewalks were identified, some disjointed sidewalk locations exist, as listed below:

- Near I-285: Along the westbound leg of SR 6, just past Camp Creek Marketplace and terminating about 1,000 feet downstream of the intersection with Princeton Parkway
- Along SR 6 eastbound between Crestmark Way and North Blairs Bridge Road
- Along a few driveway approaches near Oak Ridge Road/Skyview Road
- Along SR 6 westbound between Waterford Club Drive and Waterway Circle

The sample picture shown in **Figure 2-15** exemplifies the fragmented sidewalk conditions along the corridor.

Source: Google Street View (2013)

Figure 2-15: Sample Disjointed Sidewalk Locations

Additionally, according to the Atlanta Regional Commission's Connect 6 Study (2008), which inventoried almost 50 locations (intersections and driveways along the corridor), six "footpaths that show pedestrian activity" were identified near the following four interchanges/intersections. Sample pictures are shown in **Figure 2-16**.

- I-20 (eastbound and westbound)
- I-285 (southbound and northbound)
- South Blairs Bridge Road
- Washington Road

Source : Connect 6 Study (ARC, 2008)

Source : Connect 6 Study (ARC, 2008)

Figure 2-16: Sample "Footpath" Locations

Although no sidewalks are provided for a significant portion of the corridor, about 55 percent of the intersections have crosswalks provided on at least three legs, and 36 percent have crosswalks provided on all legs.

The Silver Comet Trail is a non-motorized, paved trail for pedestrians and bicyclists that runs parallel to the SR 6 study corridor in Cobb and Paulding counties (**Figure 2-17**). This 60-mile trail, converted from an abandoned portion of the CSX railroad bed, begins in Smyrna, Georgia, and extends to the west through Paulding and Polk counties to connect to Alabama's Chief Ladiga Trail, while providing a major cross-regional connection within the Atlanta region. New residential areas are being constructed near the Silver Comet Trail, and a few have direct pedestrian and bicycle connections to the trail.

Figure 2-17: Silver Comet Trail

According to bicycle suitability maps from the ARC Bicycle Transportation and Pedestrian Walkways Plan (2007), which show a qualitative assessment of bicycling conditions along a roadway, from less favorable to more favorable, SR 6 rates extremely low in bicycle road conditions and is considered to be difficult for cyclists to traverse. The overall conditions for the SR 6 corridor are considered inadequate for serving even the most experienced cyclists. Several bicycle- and pedestrian-related recommendations were made in the previously completed Connect 6 study. These recommendations include:

- Connect the Silver Comet Trail and Sweetwater Creek State Park with pedestrian and bicycle infrastructure
- Provide pedestrian infrastructure in conjunction with new development and redevelopment
- Provide pedestrian facilities, bicycle lanes, or route connections to Silver Comet trailheads and crossings as appropriate

2B.8. Transportation Regulations

GDOT currently manages access along its state highway systems through its *Regulations for Driveway and Encroachment Control (RDEC 2009)*. This document defines the process for driveway permits and other encroachments into state highway rights-of-way.

Tables 3-1, 3-2, and 3-3 from the RDEC specify minimum driveway, median crossover, and signalized intersection spacing criteria, respectively.

Table 2-14 shows the RDEC driveway spacing criteria and maximum number of driveways per mile. **Table 2-15** and **Table 2-16** show similar information for median crossovers and signalized intersections. Rural or urban roadway sections refer to characteristics such as typical section, speed limit, density of street and highway networks, nature of travel patterns, shoulder treatment, and land use. Urban conditions typically refer to roadways that have curb and gutter, sidewalks, posted speed limits of 45 miles per hour or below and higher land use density. The SR 6 corridor has speed limits of 45 miles per hour and 55 miles per hour along various sections and is primarily considered urban based on its existing features and functional classification.

Table 2-14: GDOT Driveway Spacing Criteria and Maximum Number of Driveways per Mile

Posted Speed (MPH)	Driveway Spacing Minimum (ft) (No RT lane)	Number of driveways/mile (No RT lane)	Driveway Spacing Minimum (ft) (With RT lane)	Number of driveways/mile (With RT lane)
25	125	42	125	42
30	125	42	219	24
35	150	35	244	22
40	185	29	294	18
45	**230**	**23**	**369**	**14**
50	275	19	419	13
55	**350**	**15**	**444**	**12**
60	450	12	494	11
65	550	10	550	10

Source: GDOT Regulations for Driveway and Encroachment Control (2009)

Bold items apply specifically to the SR 6 study corridor since posted speeds are 45 miles per hour and 55 miles per hour. An excessive number of driveways along a corridor can directly affect the roadway speeds and crash rates for motorists as they attempt to turn into or turn out of a driveway. The density of driveways significantly varies throughout the study corridor. The highest density of driveways occurs on SR 6 northbound between I-20 and Maxham Road in Douglas County, with a concentration of 19 driveways per mile. The posted speed of this section is 45 miles per hour, and some of the driveways are spaced less than the minimum required distance of 230 feet. The next highest density of driveways occurs on SR 6 northbound between Poplar Springs Road/Cleburne Parkway and SR 92 in Paulding County, with a concentration of 10 driveways per mile. The posted speed of this section is 55 miles per hour, and some of the driveways are spaced less than the minimum required distance of 350 feet. Both

directions of SR 6 between SR 92 and Bill Carruth Parkway in Paulding County also have closely spaced driveways. The density of driveways in this section ranges from 6 to 12 per mile. This section has posted speed limits of 45 miles per hour and 55 miles per hour, and some of the driveways are spaced less than the minimum required distance of 230 feet or 350 feet, respectively.

There are 57 signalized intersections along the study limits of the SR 6 corridor, with 18, 13, 8, and 18 signals in Fulton, Douglas, Cobb, and Paulding counties, respectively. Along the corridor, the intersection spacing meets the minimum spacing of both 1,320 feet (rural) and 1,000 feet (urban), except at three locations in Paulding County. These are between Hiram Pavilion (Sam's Club) and Lake Road/Depot Drive, between SR 92 and Hiram Crossing (Walmart), and between Hiram Crossing (Walmart) and Pace Road. The I-285 and I-20 signalized ramp intersections currently spaced at 590 feet and 780 feet, respectively, are considered exempt from GDOT RDEC requirements because they are part of a signalized diamond interchange, which has operational and design characteristics that differ from traditional intersections. However, these signals are included in the total count for each county. Within each county, the maximum number of signalized intersections per mile is not exceeded. There are 1.6 signalized intersections per mile in Fulton County, 2 signalized intersections per mile in Douglas County, 1 signalized intersection per mile in Cobb County, and 2 signalized intersections per mile for Fulton County.

Median crossovers are paved breaks in the roadway median that allow U-turns and/or driveway access to and from both directions of the road. Too many median crossovers can lead to traffic disturbances and safety conflicts. Too few median crossovers can reduce the mobility of the roadway. Along the SR 6 corridor, there are 14 median crossovers. The GDOT RDEC provides guidance for the spacing between two median crossovers, but this requirement does not specifically apply to the spacing between median crossovers and signalized intersections. On the SR 6 corridor, only three pairs of median openings do not have a signalized intersection separating them. Of these pairs, none is spaced at the preferred urban spacing of 2,000 feet. However, they all meet the minimum spacing of 1,000 feet. The consecutive crossover pairs are located, one each, in Fulton, Douglas, and Paulding counties as follows:

- Fulton County: Between two driveway access locations west of Old Fairburn Road. One driveway provides access to the Piedmont Driving Club, and the other is a residential access road.
- Douglas County: Between the driveway access for Dawn Food Products and the next driveway to the south (located between the Dawns Food Products driveway and Riverside Parkway).
- Cobb County: No unsignalized median crossover pairs.
- Paulding County: Between Old Mill Road and a driveway. This is a unique section, which also has an intermediate median crossover, allowing only northbound to turn left to the cemetery (**Figure 2-18)**. Other businesses located within this section include a gas station and funeral home. This crossover is not included in the overall count.

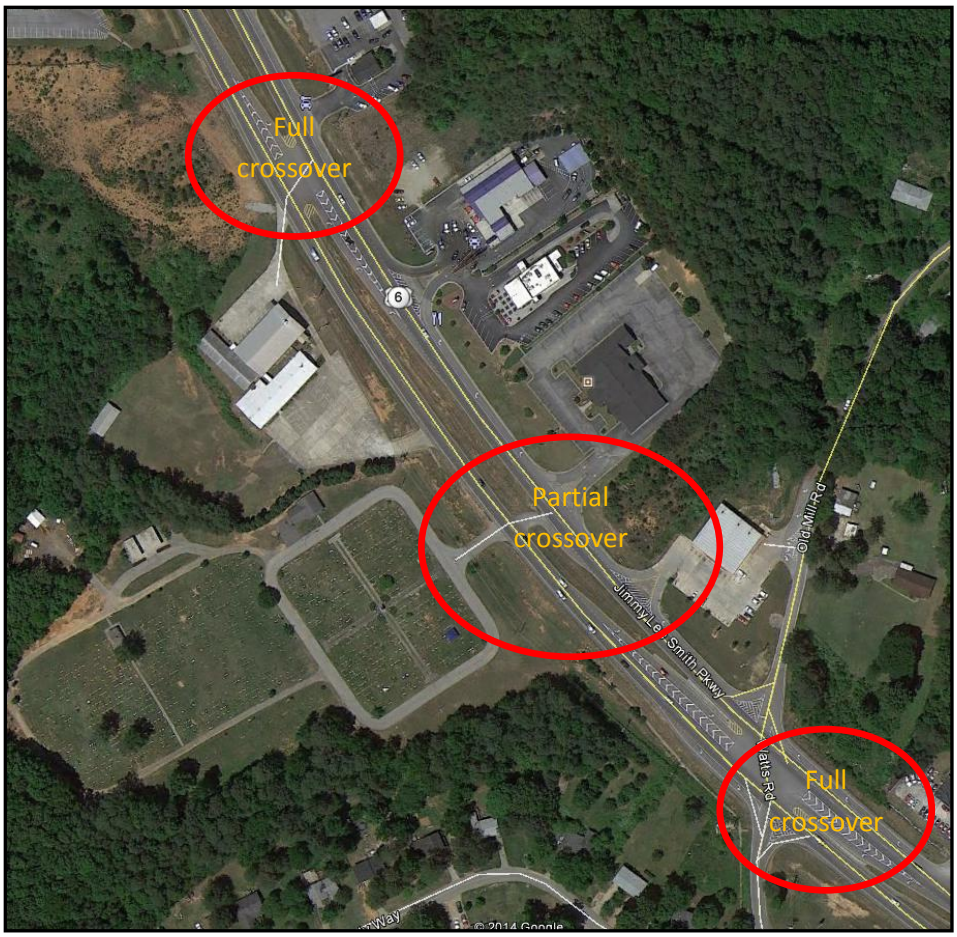
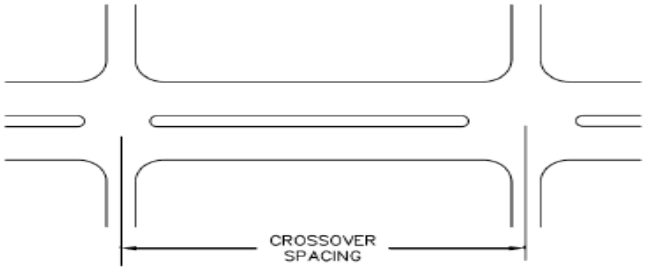


Figure 2-18: Partial Median Crossover (Paulding County)

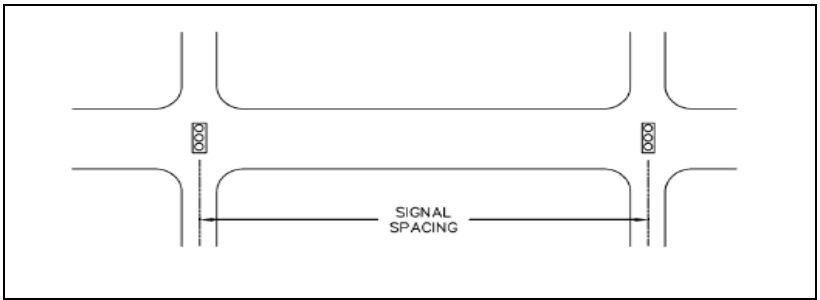
Table 2-15: GDOT Intersection Spacing Criteria and Maximum Number of Crossovers per Mile



Roadway Type	Crossover Spacing (ft)			
	Preferred		Minimum	
	Distance	# per mile	Distance	# per mile
Rural	2640	2	1320	4
Urban	2000	3	1000	5

Source: GDOT Regulations for Driveway and Encroachment Control (2009)

Table 2-16: GDOT Signalized Intersection Spacing Criteria – SR 6 Corridor



Roadway Type	Minimum Intersection Spacing (ft)	
	Distance	# per mile
Rural	1320	4
Urban	1000	5

Source: GDOT Regulations for Driveway and Encroachment Control (2009)

In addition to the GDOT RDEC, the following access management guidelines applicable to the corridor have been identified. Applicable access management techniques and/or provisions highlighted for the counties are summarized in **Table 2-17.**

- Fulton County Driveway Manual – Fulton County adopted this driveway manual in May 2005, and it is a modified version of sections three through five of the GDOT Driveway and Encroachment Manual. It is intended to govern the provision of legal access on county roads in unincorporated Fulton County.
- Douglas County – Douglas County's unified development code includes access management elements. The Douglas County Comprehensive Transportation Plan does not include specific access management strategies, but it lists several treatments that could be appropriate.
- Cobb County – In addition to its comprehensive transportation plan, Cobb County also maintains standards which provide regulations to control features of development (Section 400 Technical Standards, July 2006 revision). This publication provides information to control access in Section 402. Existing access management policies are also discussed in Technical Report C1 of the 2030 Comprehensive Transportation Plan.
- Paulding County – The Paulding County Comprehensive Transportation Plan describes an Access Management Toolkit. This toolkit, while not defining a specific policy, covers the goals and objectives of access management and provides specific techniques with applicable calculation charts. It is noted that the transportation plan is currently undergoing updates. The toolkit, included in Appendix E of the comprehensive plan, provides potential access management techniques to be applied to the prioritized roadways within the county.

Table 2-17: Comparison of Access Management Techniques

Description of Techniques	Access Management Plans Reviewed				
	GDOT	Fulton County	Cobb County	Paulding County	Douglas County
Driveway spacing	√	√		√	
Driveway alignment	√	√			
Non-traversable medians with left turn lanes	√		√	√	√
Spacing of median crossovers	√	√	√	√	
Spacing of signalized intersections	√	√	√	√	
Driveway width	√	√		√	
Design for trucks	√	√			
Driveway consolidation			√	√	√
Minimum corner radii	√	√		√	
Minimum sight distance	√	√		√	
Auxiliary turn lanes	√	√	√	√	√
Raised island	√	√			√
Right-in-right-out (RIRO)	√	√			
Minimum road width	√				
Minimum corner clearance			√	√	
Parcel to parcel access among commercial properties					
Construct parallel access roads				√	
Reverse frontage roads				√	
Adjoined parking areas					√

2C. Previous Studies and Plans

Various agencies and organizations have studied portions of the SR 6 corridor study area. These studies, listed in **Table 2-18**, include ARC's corridor study for SR 6, GDOT's road safety audit, county/community comprehensive transportation plans, and other related studies, as of 2014. Study findings and recommendations applicable to SR 6 are also included in the table.

Table 2-18: Previous Studies and Plans in the Study Area

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6

Atlanta Regional Commission (ARC)	Georgia State Route 6 Transportation Corridor Study (Connect 6) (2008)	**Recommendations**
		Multiple specific roadway capacity and operational improvements were recommended. Corridor-wide recommendations included:
		• Develop truck-friendly lanes with weigh-in-motion and signal priority vehicle control technology.
		• Conduct a corridor-wide traffic operations assessment.
		• Develop a Share the Road program.
		• **Develop an access management plan for the corridor.**
		• Widen SR 6 to six lanes from I-285 to I-85.
		• Extend Lee, Sweetwater, and Hiram-Lithia Springs roads as a parkway from I-20 to a direct SR 6 connection in the vicinity of Old Dallas Highway east of Hiram.
		• Utilize rain gardens in medians or shoulders where conditions are appropriate.
		• Provide operational improvements near the intersection of SR 6 at:
		  ○ SR 61/Nathan Dean Boulevard
		  ○ US 78/278
		  ○ Maxham Road
		  ○ Oak Ridge Road/Skyview Drive
		  ○ I-20
		  ○ Fulton Industrial Boulevard/SR 70
		  ○ I-285
		  ○ SR 92
		• Install changeable message signs regarding parking/other conditions at HJAIA.
		• Develop a subarea plan at Camp Creek Marketplace, which includes the intersection of SR 6 at I-285.
		• Initiate new local bus route from Sandtown to the Lakewood/Fort McPherson MARTA station.
		• Implement planned transit services.
		• Provide transit pedestrian connections, where applicable.
		• Connect the Silver Comet Trail and Sweetwater Creek State Park with pedestrian and bicycle infrastructure.
		• Provide pedestrian infrastructure in conjunction with new development and redevelopment.
		• Provide pedestrian facilities, bicycle lanes, or route connections to the Silver Comet trailheads and crossings within the study area, as appropriate.
		• Coordinate travel demand management (TDM) programs.
		
		Some specific access-related operational improvements were:

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6
		• Prohibit left turns from the Norfolk Southern Whitaker Intermodal Terminal to Westside Drive. • Provide access improvements at Powder Springs; specific location details provided (ref pp. 3-26 to 3-27). • Combine access management strategies within traffic operational improvements along SR 6 within Hiram. • Develop a subarea plan/comprehensive traffic impact study at Camp Creek Marketplace. • Form a multijurisdictional alliance to advocate for land use/access management/funding for transportation improvements and for freight operations. • Coordinate with local jurisdictions and Trust for Public Land to provide access to the Chattahoochee River from SR 6 in Douglas or Fulton counties. Example amenities to support river access include parking area, development of connecting paths, and a boat landing area.
Cobb County	Austell Road Access Management Study (2007)	While there are no recommendations for SR 6, the study recommends alternative access roads, new roadway locations, changes to medians, driveway closures, and pedestrian projects within the Austell Road corridor study.
Cobb County	Comprehensive Transportation Plan (2008)	General recommendation for the county to fund and complete specific corridor access management plans. Plan highlights access management recommendations for some corridors/intersections, but none for the SR 6 segment within the county.
Douglas County	Comprehensive Transportation Plan (2008)	**Recommendations** • Signalize intersection and add dual turn lanes for eastbound and westbound traffic at Riverside Parkway. • Add signage at Douglas Hill Road for left turn truck traffic. • Add westbound turn lane at Oak Ridge Road and at North Blairs Bridge Road. • Add bicycle/pedestrian facilities to connect Riverside Parkway and I-20 interchange. • Operational Improvements to the I-20 interchange at SR 6.
Georgia Department of Transportation (GDOT) District 7	State Route 6/Camp Creek Parkway (Fulton County) Corridor Road Safety Audit (2013)	**Recommendations** Major universal corridor recommendations (between SR 70/Fulton Industrial Boulevard and HJAIA): • Restripe road markings (lane lines, add/replace crosswalk and stop lines). • Replace/upgrade guardrail to current standards. • Provide positive median barriers. • Update signal display and provide backplates for east–west signals as appropriate. • Update road signs (add street name to signal ahead sign, provide WRONG WAY signs). • Repair streetlights. • Widen throat of entrance ramp to I-285 northbound to allow turns from both eastbound and westbound to merge more smoothly. • Add sidewalks.

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6
		• Add overhead directional and lane assignment signing appropriate for multilane approaches to a major freeway interchange. • Remove trees, restore clear zone.
Georgia Department of Transportation (GDOT)	Operational Planning Study (OPS) (2014)	Recommended diverging diamond interchange at I-285 and SR 6/Camp Creek Parkway.
Fulton Industrial Boulevard CID	Master Plan (2013)	Operational improvements include: • Improve wayfinding and transportation mobility at the intersection of Fulton Industrial and SR 6 through geometric and operational improvements. Short- to mid-term improvements include: • Fulton Industrial Boulevard (FIB)/Camp Creek Parkway Intersection Modifications – addition of acceleration lane for right turns onto Camp Creek Parkway, turn radii, and median modifications. • Sidewalk installation on Fulton Industrial from Camp Creek Parkway to Cascade Road. • Pedestrian crosswalks and signals at Fulton Industrial and Camp Creek Parkway. Long Term Improvements include: • Widen Fulton Industrial from Mendel Road to Camp Creek Parkway and from Camp Creek Parkway to Campbellton Road.
Paulding County	Comprehensive Transportation Plan (2008 with update currently underway)	**Recommendations** • SR 6 truck lanes from Bill Carruth Parkway to Cobb County line. • Safety/operational improvements at SR 6 and SR 120 (Buchanan Street) intersection. • Safety/operational improvements at SR 6 and Butler Industrial Drive intersection. • Safety/operational improvements at SR 6 and Cleburne Parkway intersection. • Safety/operational improvements at SR 6 and Charles Hardy Parkway intersection. • Safety/operational improvements at SR 6 and Bill Carruth Parkway intersection. • Safety/operational improvements at SR 6 and Bill Carruth Parkway intersection. • Signalization of Old Harris Drive at SR 6. • SR 6 signal optimization from SR 61 to SR 120.
South Fulton	Comprehensive Transportation Plan (2013)	**Recommendations** • Camp Creek Parkway from I-285 to Old Fairburn Road – Regular signal timing and maintenance program. • Camp Creek Parkway Safety Improvements – Install safety barriers at high crash locations between Fulton Industrial Boulevard and Old Fairburn Road. • Diverging diamond interchange for Camp Creek at I-285. • Widen Camp Creek Parkway from four to six lanes between I-285 and I-85.

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6
		• Add turn lanes and traffic signal for Camp Creek at Airport Drive. • Intersection improvements at Fulton Industrial Boulevard. • 8'- to 10'-wide Wolf Creek greenway and off-road trails for Camp Creek Parkway and Butner Road, Merk Road, Enon Road. • Pedestrian bridge over Camp Creek Parkway to provide Georgia International Convention Center (GICC) pedestrian access. • Intersection improvements for Camp Creek Parkway at Butner Road intersection. • Intelligent transportation systems improvements (cameras, changeable message signs (CMS, truck sensors) between I-285 and Old Fairburn Road. • Multi-city connector (MARTA Route 180) Roosevelt Highway at Campbellton Street to Camp Creek Parkway (PT-3). • Camp Creek to East Point MARTA station (MARTA Route 84) Camp Creek Parkway at Princeton Parkway.
Georgia Department of Transportation (GDOT)	Georgia Statewide Freight and Logistics Plan 2010-2050 (2012)	**Recommendations** Improve "last-mile" connectors (including SR 6)

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6

Atlanta Regional Commission (ARC)	Freight Mobility Plan (2008)	**Findings**
		• Thornton Road at Whitaker Intermodal Terminal – Excessive truck/passenger vehicle interactions as a result of commercial activity growth.
		• Fulton Industrial Boulevard – Traffic volumes leading to prolonged travel times.
		Recommendations
		• Establish Freight Corridor Signalization Improvement program – Entire SR corridor and also Thornton Road at Maxham Road.
		• I-20/I-285 interchange reconstruction to improve safety by improving geometric standards for truck movements.
		• Implement recommendations from SR 6 corridor study, including:
		  ○ Truck-friendly lanes from West Hiram Parkway in Paulding to US 29 in Fulton.
		  ○ Widen Sweetwater/Hiram Lithia Springs Road from two to four lanes from US 278/78 to Pearson Road.
		  ○ New four-lane corridor extending Hiram-Lithia Springs Road from Pearson Road to SR 6.
		  ○ Widen Lee and Sweetwater Road from four to six lanes from I-20 to US 278/78.
		• Develop truck-friendly lanes on intermodal connectors for key freight generators throughout region – Applicable to SR 6 to Whitaker Intermodal Terminal.
		• Improve/modernize signalization equipment and software from SR 61 to I-20.
		• Improve/modernize signalization equipment and software from SR 6 and Maxham Road intersection.

Agency/Organization	Title (Year)	Findings/Recommendations Applicable to SR 6
Douglas County	Urban Redevelopment Plan – Thornton Road and Bankhead Highway (2012) – Amendment to Thornton Road plan (2013)	**Findings** General boundaries for the Thornton Road Urban Redevelopment Area begin at the intersection of Thornton Road and Interstate 20 West. The boundaries include both the east and west sides of Thornton Road, along portions of Skyview Drive and Mt. Vernon Road and Maxham Road and Old Alabama Road, generally north to just south of the intersection of Thornton Road and Bankhead Highway. **Negative conditions within the redevelopment area include:** • Difficulty in business retention. • Difficulty in business attraction. • Predominance of blighted commercial and industrial parcels. • Streets that need to be upgraded or improved. • General property distress. **Goals include:** • Promote smart growth and efficient use of land resources. • Work with State to improve community infrastructure with the addition of truck lanes as well as environmental stability. • Encourage private enterprise and work with the Development Authority on financing mechanisms to redevelop neglected, abandoned, distressed, and blighted properties.

Chapter 3. Overview of Future Conditions

This section presents the future baseline traffic conditions along the State Route 6 (SR 6) project corridor. The analysis projects future travel conditions based on (1) committed transportation projects that are anticipated to improve operations and/or capacity of the corridor and (2) growth in traffic volumes, associated with population and employment forecasts for the region and local communities. The analysis identifies anticipated operational deficiencies and serves as the basis for later evaluation of potential improvements that address various access management goals and objectives.

ARC PLAN 2040 predicts that the 20-county Atlanta region will add 2.6 million residents between 2010 and 2040, resulting in a total 2040 population of nearly 7.9 million; the region is also expected to add 1.6 million jobs over the same period resulting in a total job base of 4.7 million in 2040 (ARC PLAN 2040 Regional Transportation Plan, March 2014 Update). In the four counties that contain the SR 6 study corridor, both population and employment are anticipated to grow significantly. Fulton County is forecasted to add more than 300,000 people over the next 25 years (second highest growth in the region after Gwinnett County). This growth will bring the total population of Fulton County to more than 1.2 million. Douglas County is forecasted to add more than 70,000 people, for a 55 percent increase by 2040. Most growth is anticipated north of I-20, with average densities of 0.3 units per acre (u/a). ARC projects Cobb County will add 179,000 people, for a total population of nearly 870,000, a 26 percent increase, by 2040. Paulding County is forecasted to add more than 114,000 people, an 80 percent increase, by 2040.

Along with this anticipated growth, a wide range of proposed projects have been identified along the study corridor. This chapter evaluates future baseline land use conditions and future travel conditions reflected in adopted local and regional plans, which will help establish the future baseline condition for this corridor study.

3A. Future Land Use Assessment

This section reviews future land use conditions and associated socioeconomic growth trends in the study area. Population growth trends in each county are discussed in further detail, and the annual average population growth rate for each county is calculated. While also considering the relevant future developments that were identified by study stakeholders, Developments of Regional Impact (DRIs) in the vicinity of the study area are also identified to capture any potential regional impacts associated with these large-scale developments.

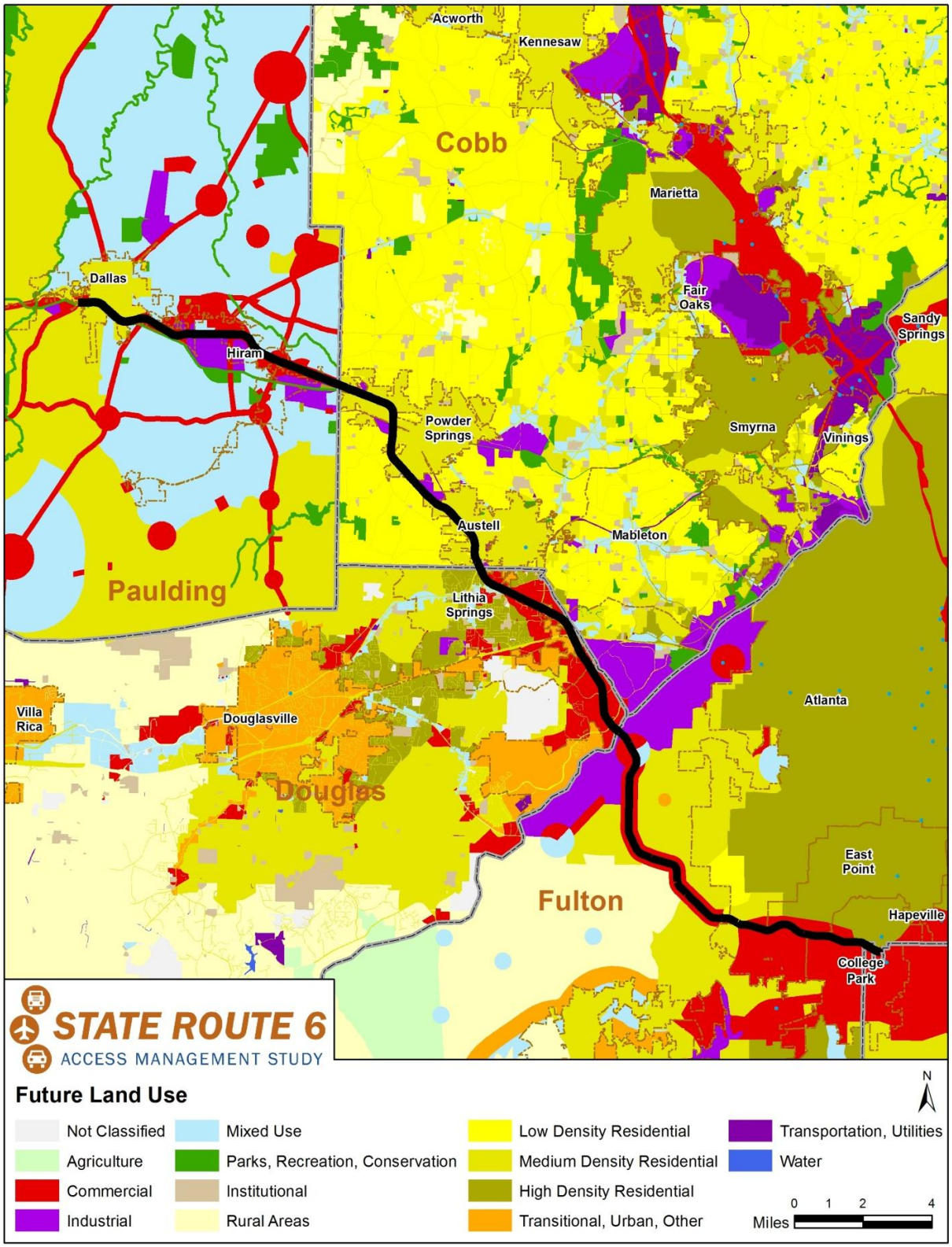
3A.1. Future Land Use

Future land use forecasts identify the location of population and employment through 2040, the horizon year of the study. The data for future land use was initially obtained from each county and then combined into categories that are common across all corridor jurisdictions; this was done because the counties in the corridor do not use identical categories for their future land use maps and because of gaps in the land use data obtained from the counties. Thus, ARC's PLAN 2040 Unified Growth Policy Map

was used to supplement the combined future land use map and as the basis for regrouping land use categories and identifying a more complete picture for the areas without county-level data. **Figure 3-1** shows the future land use map for the study area created using this process. The future land use map shows that both commercial and industrial land use is anticipated to expand significantly in the study area when compared to the existing land use. In particular, future commercial use is expected to concentrate along SR 6 in Fulton and Douglas Counties, and future industrial use will take place mostly along SR 70/Fulton Industrial Blvd. It should also be noted that Paulding County is anticipating substantial commercial and industrial development along SR 6 adjacent to the City of Hiram.

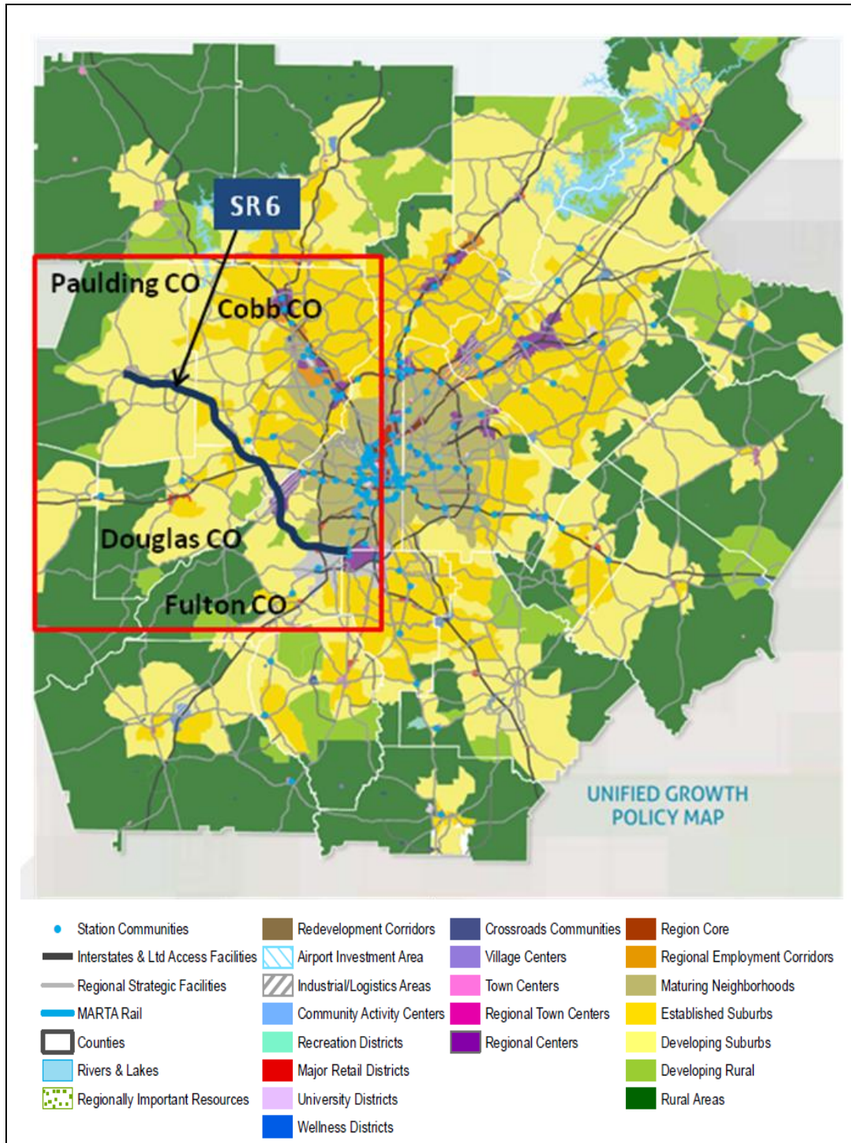
Figure 3-2 shows ARC's Unified Growth Policy Map, which serves as a regional development guide representing local plans as well as regional policies and forecasts. Although this map uses more generalized land use categories, overall growth trends in the study area generally agree with the future land use map created directly based on input from the counties. According to this map, already developed areas will expand in size and function as regional centers, while developing areas currently emerging will become more dense suburbs. Similarly, Paulding County's undeveloped areas will largely become developing suburbs. The map also highlights that the Hartsfield-Jackson Atlanta International Airport (HJAIA) will continue to serve as major activity center in the region, and that the City of College Park in the vicinity of HJAIA will experience a significant increase in commercial development. The Fulton Industrial area is also major regional center along the corridor and is a major industrial and business hub. In addition to these regional centers, the corridor includes three major retail districts: Camp Creek Marketplace, Greenbriar Mall, and Hiram Pavilion. The map insert in Figure 3-2, shows that there will continue to be five town centers, namely College Park, East Point, Austell, Powder Springs, and Dallas, and three wellness districts in Paulding, Douglas, and Cobb-Austell. The Chattahoochee River is also noted as an important resource in the area.

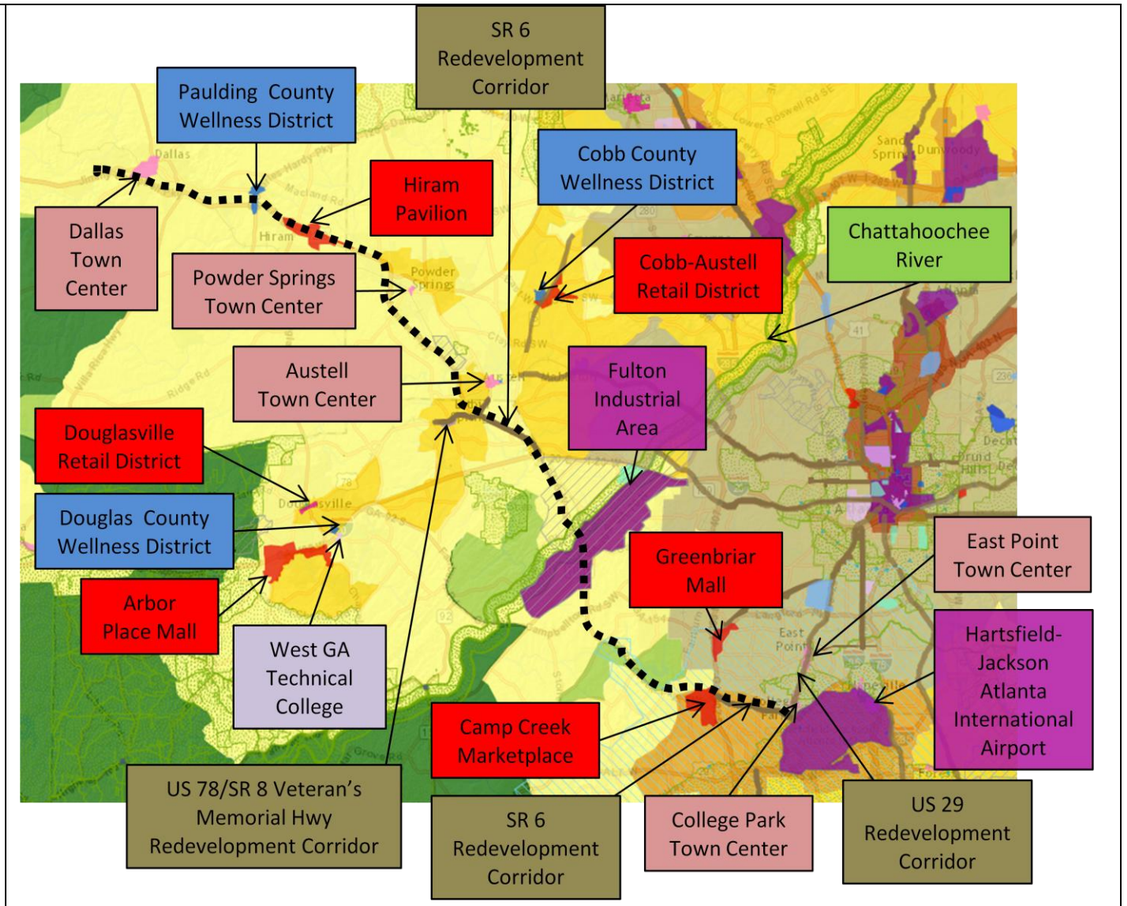
Overall, **Figure 3-1** and **Figure 3-2** show that expected development and anticipated population growth will lead to more industrial and commercial land use along the SR 6 corridor.



Source: Counties' Future Land Use GIS Datasets supplemented by ARC's PLAN 2040 Unified Growth Policy Map

Figure 3-1: Future Land Use





Adapted from: Atlanta Regional Commission PLAN 2040 Unified Growth Policy Map

SR 6 Study Corridor

Figure 3-2: ARC's Unified Growth Map and Major Activity Centers along SR 6

3A.2. Growth Determinants

ARC's PLAN 2040 forecasts indicate that all four counties in the study area will have substantial population and employment growth in the next 30 years.

Table 3-1 and **Table 3-2** detail population and employment growth between 2010 and 2040, respectively. Douglas and Paulding counties are the two counties anticipated to grow their population and employment most significantly in the next 25 years. Paulding County, in particular, is expected to grow at a high rate, with an 80 percent increase in population and a 150 percent increase in employment. Douglas County is anticipated to grow its population and employment by 55 percent and 134 percent, respectively. Fulton and Cobb counties, the two densely populated counties in the study area, are expected to have an approximately 30 percent increase in population and a 110 percent increase in employment by 2040. In order to accommodate this growth, substantial transportation infrastructure changes will be necessary.

Table 3-1: ARC's Population Forecasts 2010-2040

County	2010 Population	2040 Forecast Population	Total Increase	Percent Increase	Average Annual Growth Rate
Fulton	920,581	1,230,497	309,916	33.7%	0.97%
Douglas	132,403	204,829	72,426	54.7%	1.47%
Cobb	688,078	867,037	178,959	26.0%	0.77%
Paulding	142,324	256,410	114,086	80.2%	1.98%

Source: ARC PLAN 2040 Regional Transportation Plan, March 2014 Update

Table 3-2: ARC's Employment Forecasts 2010-2040

County	2010 Employment	2040 Forecast Employment	Total Increase	Percent Increase	Average Annual Growth Rate
Fulton	672,000	1,376,400	704,400	104.8%	2.42%
Douglas	37,600	88,100	50,500	134.3%	2.88%
Cobb	304,700	647,200	342,500	112.4%	2.54%
Paulding	20,400	51,100	30,700	150.5%	3.11%

Source: ARC PLAN2040 County Profiles

Average annual growth rates for population and employment were then calculated using the total increase in population and employment for the 30-year period. Annual population growth rates range from 0.8 percent (Cobb) to 2.0 percent (Paulding), while annual employment growth rates range from 2.4 percent (Cobb) to 3.1 percent (Paulding). These population and employment growth rates provide an overall idea of how each county as a whole in the study area will grow its population and employment in the next 25 years, and they are used as the reference point for the traffic growth rates, specifically along SR 6, generated from the ARC PLAN 2040 travel demand model's future year forecasts.

3A.3. Development Plans/DRIs

DRIs are large-scale developments that are likely to have regional effects beyond the local government jurisdiction in which they are located. Under the Georgia Planning Act of 1989, the Georgia Department of Community Affairs (DCA) established thresholds by size and type of development and procedures for reviewing these large-scale projects. **Table 3-3** presents the DRIs in the vicinity of the study area that were either approved by the Georgia Regional Transportation Agency (GRTA) or determined to be in the best interest of the region and of the state by ARC as the designated regional commission.

Table 3-3: Developments of Regional Impact (DRIs)

DRI ID	Project	Location	Development Type	County	Description	Date DRI Submitted	Status
1627	Village @ Redwine	Redwine Rd. @ North Commerce Drive – Land Lot 255	Mixed Use	East Point, Fulton	81-acre site to include approximately 32% green space, 8,000 SF of retail space, 34,000 SF of office space, and 988 residential units.	10/2007	Pending
1575	BLD Transfer Station, Inc.	1100 West Memorial Drive, Dallas, Georgia 30132	Waste Handling Facilities	Dallas, Paulding	Expanding to add the facilities and operations for a municipal solid waste transfer station.	08/2007	Pending
693	Douglas Hill Business Park (Expansion)	780 Douglas Hills Rd., Lithia Springs, GA 30122	Wholesale and Distribution	Douglas	Two warehouse distribution buildings: one building with 919,099 SF and one building with 150,000 SF.	12/2004	Open
585	Lakeside Golf Course Redevelopment	3600 Old Fairburn Road SW, Atlanta, GA 30331	Mixed Use	East Point, Fulton	Mixed-use residential/retail development with 342 townhomes, 286 single-family detached homes, and 4 acres of neighborhood retail. The lot area for the development is around 171 acres.	5/2004	Approved
572	Terminus West Business Park	1250 Terminus Drive, Lithia Springs, GA 30122	Industrial	Douglasville, Douglas	244 acre warehouse/ distribution park with 900 Employees and 2,321,300 SF of buildings.	4/2004	Open
382	Camp Creek Water Reclamation Facility Design-Build-Operate	7470 Cochran Road, College Park, Georgia 30349	Wastewater Treatment Facilities	College Park, Fulton	Expansion of the Camp Creek Water Reclamation Facility from 13 million	1/2003	Open

DRI ID	Project	Location	Development Type	County	Description	Date DRI Submitted	Status
	(DBO) and South Fulton Maintenance and Operations Center (SFMOC)				gallons per day (MGD) to 24 MGD average monthly flow and the construction of the new South Fulton Maintenance and Operations Center.		
358	Douglas Hill Campus		Wholesale and Distribution	Douglas	1,300,000 SF of distribution and warehousing facility.	12/2002	Open
306	Camp Creek Business Centre	3900 N. Commerce Drive, Atlanta, GA	Industrial	East Point, Fulton	5.5 million SF of light industrial development and associated infrastructure	9/2002	Approved
245	Princeton Lakes	Along Camp Creek Parkway near Interstate 285	Mixed Use	Atlanta, Fulton	1,070 residential units, 642,100 SF of retail, and 792,200 SF of office on 476 acres.	4/2002	Approved
212	Camp Creek Parkway/Butner Road Mixed Use		Mixed Use	Fulton	Total residential: 415,000 SF (399 units), total commercial: 129,000 SF.	1/2002	Open
205	The Village at South Fulton	3475 N Desert Dr., Atlanta, GA 30344	Mixed Use	Fulton	Multifamily residential (476 units on 34.01 acres), townhome (134 units on 14.85 acres), commercial/ retail(10,000 SF/acre on 14.9 acres); commercial/retail(10, 784 SF/acre on 25 acres); office(12,000 SF/acre on 16.07 acres).	1/2002	Open
180	Southmeadow Business Park Expansion	4051 Southmeadow Pkwy., Atlanta, GA	Industrial	Fulton	4,294,250 SF expansion of existing business park.	12/2001	Pending
147	Camp Creek Marketplace	3620 Camp Creek Pkwy., Atlanta, GA	Commercial	East Point, Fulton	650,000 SF Shopping Center.	10/2001	Open

Source: Georgia Department of Community Affairs

Figure 3-3 shows approximate locations of the DRIs that were approved by GRTA or where developments are complete and open. The DRIs pending final decision from GRTA were not included in

the map. Based on the review of past and current DRIs, as of February 2015, no new DRIs have been proposed in the study area since 2007. Therefore, it was determined that the travel demand model accurately accounts for planned development, and that traffic volumes did not need to be adjusted further to account for any specific developments.

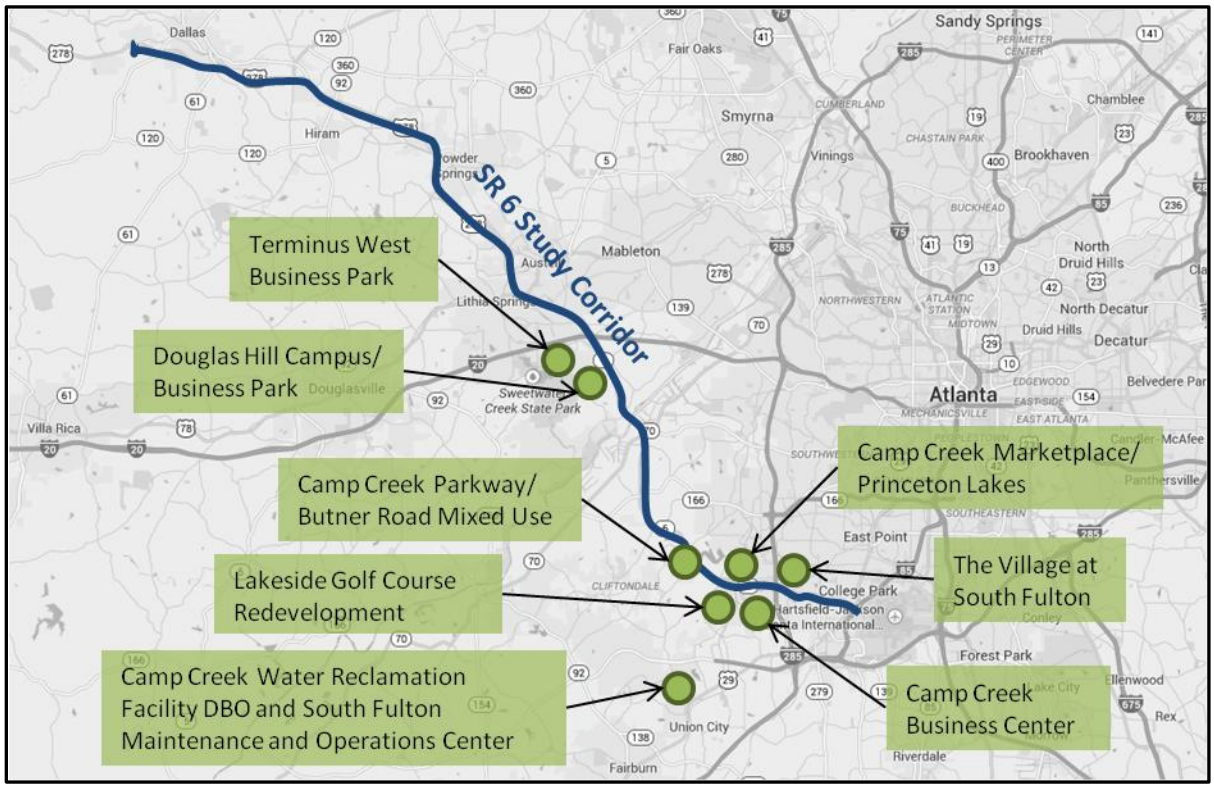


Figure 3-3: Approved or Open DRIs in the Vicinity of Study Corridor

3B. Future Transportation Assessment

Following the review of future land use developments in the last section, this section summarizes future transportation projects identified in the study area and evaluates future baseline conditions. For the purpose of this study, the year 2020 was selected for the analysis of future baseline conditions because anticipated high volumes and severe congestion for the year 2040 are likely to override any improvements achieved through access management strategies. By using 2020 future traffic volumes, the analysis is better able to capture the benefits from the recommendations made in this study. Proposed planned/programmed roadway projects are reviewed, and these projects will be included in future baseline conditions. Annual average growth rates for each county along SR 6 were calculated using ARC's PLAN 2040 and were used to forecast 2020 traffic volumes for the corridor, then future baseline conditions were analyzed to determine the expected operations of the study corridors in 2020 under the baseline conditions.

3B.1. Future Projects along the Corridor

A wide range of planned roadway projects have been identified along the study corridor. The types of projects range from quick-response projects to intersection improvement projects, truck friendly lanes, a diverging diamond interchange, and long-range reconstruction and rehabilitation projects. **Table 3-4** summarizes the planned projects, and **Figure 3-4** depicts the locations of these projects.

Table 3-4: Planned Roadway Projects in the Study Area

County	GDOT PI Number	Project	Project Status	Description
Paulding	N/A	South Main Street Improvements	Construction scheduled to start in 2015. Bids received July 2015. Pending Bid Review.	Quick response project (District 6). Sidewalk and roadway enhancement from the Norfolk Southern Rail to US 278. Construction consists of grading, drainage, base and pa ving, and curb and gutter installation. Also includes placing a pre-cast bridge over Weaver Creek.
Paulding	PI # 0011736	SR 6 @ SR 61; SR 92 & SR 120	PE underway	Quick response project (District 6) operational improvements
Paulding	PI # M004458	SR 6 @ SR 92	Under Construction	Quick response project (District 6) extension of left turn lane, grading and drainage improvements
Cobb/Douglas	PI # 0010821	SR 6 from I-20 WB to SR 6 Spur	Scoping underway	Truck friendly lanes
Cobb/Douglas	PI # 0012620	SR 6 from I-20 to Garrett Road	Construction in TIP timeframe	Overhead signage, nearside signal heads, modification of medians to extend left turn, communications, CCTV, signing, truck rollover warning system at the intersection of SR 6 and Garrett Road for freight traffic departing the Whitaker Intermodal Terminal
Cobb	PI # 0012828	SR 6 @ SR 6 Spur	PE underway	Westbound right turn lane with improved radius
Cobb/Douglas/ Paulding	PI # 0007826	SR 6 from SR 120 - I-20	Long Range (not in constrained ARC RTP)	Reconstruction and rehabilitation –widening to six lanes
Douglas	PI # 0012621	CR 635/Maxham Road from SR 6 to Tree Terrace Pkwy.	PE underway	Safety and traffic flow improvements **on Maxham Rd from SR 6 to Tree Terrace Pkwy, including lane widening, raised median, sidewalks, and signal upgrade at Tree Terrace Pkwy.**
Fulton	PI # 0012671	SR 6 @ SR 70, SR 6 @ Enon Rd., SR 6@ Merk Rd., SR 6 @ Butner Rd.	PE underway	Reconstruction and rehabilitation – signal upgrades
Fulton	PI # 0012818	SR 6 @ Washington Rd. and Desert Dr	PE underway	Reconstruction and rehabilitation – signal upgrades
Fulton	PI # 0012832	SR 6 @ N. Commerce Dr	PE underway	Intersection improvement
Fulton	PI # 0013142	I-285 @ SR 6 Diverging Diamond	PE underway	Diverging diamond interchange
Fulton	PI # M004693	SR 6 @ SR 70	Let for construction	Install median
Fulton/Clayton	PI # 0012882	Global Gateway Connector	Scoping in 2014	Bicycle and pedestrian facility enhancements, including pedestrian bridge over SR 6 connecting downtown College Park to the Georgia International Convention Center (GICC)

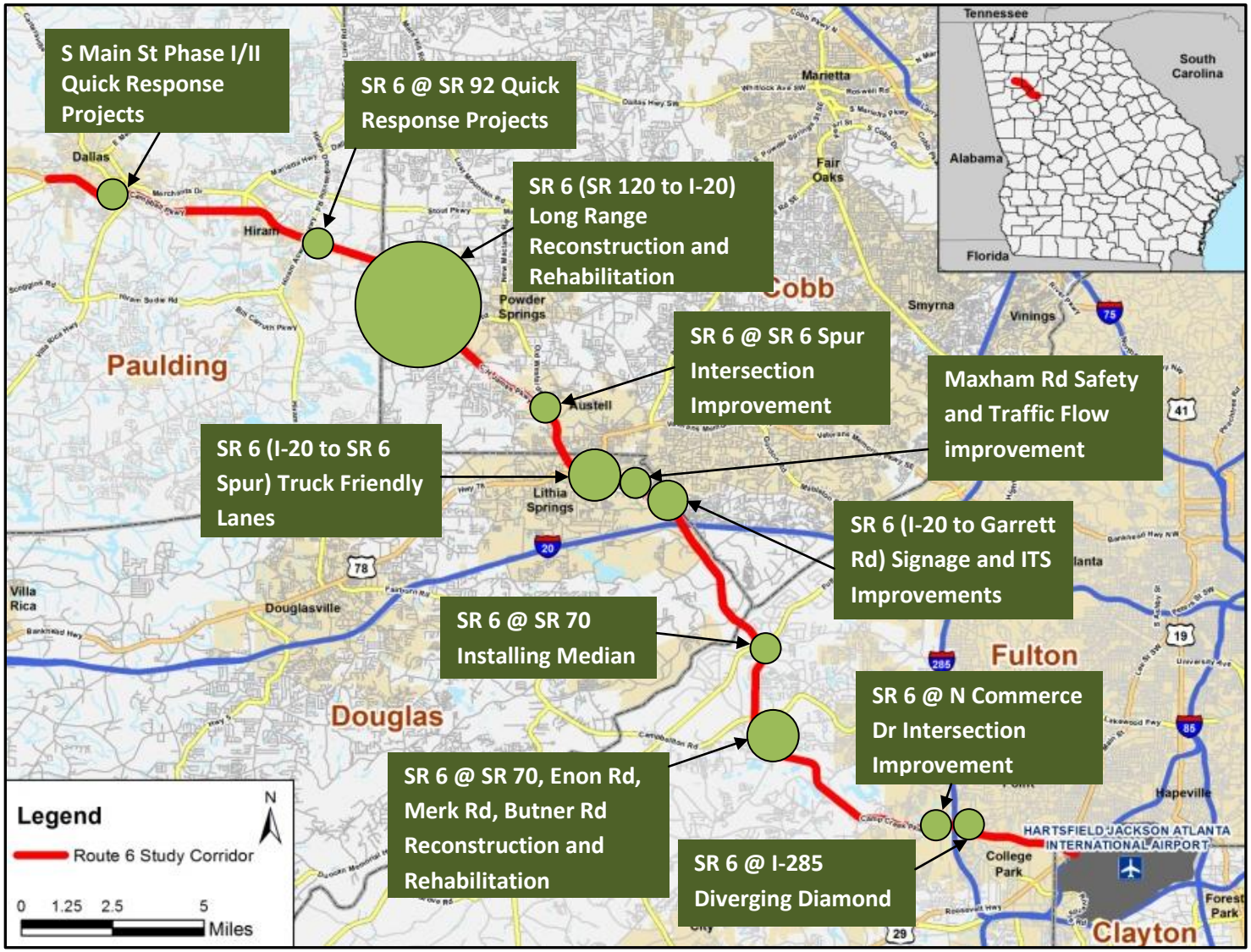


Figure 3-4: Planned Roadway Projects Map

3B.2. Development of Future Baseline Traffic

In Section 3A.2, socioeconomic (population and employment) growth rates for each county as a whole were derived from ARC's population and employment forecasts. While these growth rates provide an overall idea of how each county in the study area will grow its population and employment in the future, they do not necessarily capture future growth specific to the SR 6 study corridor. Therefore, ARC's PLAN 2040 travel demand model traffic volumes for SR 6 were used to forecast future traffic volumes in the study corridor for the year 2020. As shown in **Table 3-5**, the annual average traffic volume growth rate for SR 6 in each county was first calculated by comparing PLAN 2040's annual average daily traffic (AADT) on SR 6 for 2010 and 2040. The results show that the northern half of the study corridor, in Cobb and Paulding counties, is expected to have the highest annual growth rate, 1.7 percent between 2010 and 2040, followed by the study corridor in Fulton County (1.4 percent) and Douglas County (1.1 percent). These growth rates were applied to the existing peak hour volumes and turning movements to estimate the 2020 future baseline volumes at all the intersections along SR 6.

Table 3-5: Annual Traffic Volume Growth Rates for Study Corridor

Segment ID	From	To	County	ARC Traffic Volumes (2010 AADT)	ARC Traffic Volumes (2040 AADT)	Annual Growth Rate
01	Airport Blvd.	Airport Dr.	Fulton/ Clayton	43,607	63,732	**Fulton 1.4%**
02	Airport Dr.	Washington Rd.	Fulton	34,889	49,667	
03	Washington Rd.	Princeton Lakes Pkwy.	Fulton	42,007	55,690	
04	Princeton Lakes Pkwy.	Old Fairburn Rd.	Fulton	34,785	45,768	
05	Old Fairburn Rd.	Butner Rd.	Fulton	28,148	44,274	
06	Butner Rd.	Enon Rd.	Fulton	28,466	47,232	
07	Enon Rd.	Campbellton Rd.	Fulton	29,865	49,028	
08	Campbellton Rd.	Fulton Ind Blvd.	Fulton	29,438	51,235	
09	Fulton Ind Blvd.	Riverside Pkwy.	Fulton/ Douglas	46,175	70,891	
10	Riverside Pkwy.	Douglas Hill Rd.	Douglas	36,163	49,746	**Douglas 1.1%**
11	Douglas Hill Rd.	Factory Shoals Rd.	Douglas	33,798	47,565	
12	Factory Shoals Rd.	I-20	Douglas	44,530	62,754	
13	I-20	Skyview Dr.	Douglas	66,872	78,824	
14	Skyview Dr.	Westfork Dr.	Douglas	39,542	53,419	
15	Westfork Dr.	Cobb/Douglas CO Line	Douglas	36,483	54,757	
16	Cobb/Douglas CO line	Garrett Rd.	Cobb	36,616	55,499	**Cobb 1.7%**
17	Garrett Rd.	Oglesby Rd. (Lewis Rd.)	Cobb	24,550	43,817	
18	Oglesby Rd. (Lewis Rd.)	Brownsville Rd.	Cobb	24,550	41,933	
19	Brownsville Rd.	Richard D Sailors Pkwy.	Cobb	24,196	38,912	
20	Richard D Sailors Pkwy.	Cobb/Paulding CO Line	Cobb	29,812	50,744	
21	Cobb/Paulding CO Line	SR 92	Paulding	37,449	47,021	**Paulding 1.7%**
22	SR 92	Charles Hardy Pkwy.	Paulding	25,255	40,026	
23	Charles Hardy Pkwy.	Old Harris Rd.	Paulding	34,197	58,294	
24	Old Harris Rd.	S Main St.	Paulding	25,386	42,297	
25	S Main St.	W Memorial Dr.	Paulding	18,092	34,429	

3B.3. Future Baseline Conditions

The future baseline traffic volumes, discussed in the previous section, were developed to determine the expected operations of the study corridors in 2020 under the baseline conditions. All programmed projects reviewed in Section 3B.1 were also included in the future baseline conditions except for the SR 6 widening project (PI 0007862) because it is not in the constrained ARC RTP. **Table 3-6** summarizes the intersection level of service (LOS) of the future baseline conditions, as well as the control delay per vehicle, which is defined as the additional travel time experienced by a user that can be attributed to a control device, such as a stop sign or traffic signal. **Figure 3-5** shows the LOS of these intersections for the worse peak condition (AM or PM peak period).

The LOS analysis shows that approximately half of the intersections are expected to operate at LOS E or worse in future baseline conditions. Therefore, if there are no additional future improvements considered along SR 6, half of the intersections will be either reaching capacity (LOS E) or failing (LOS F) by the year 2020 during either the AM or PM peak hour. One third of the intersections are expected to experience failing conditions during either the AM or PM peak period by 2020. While the locations of failing intersections are distributed throughout the study corridor, they seem to be more congregated in the areas with commercial and industrial developments. The most congested intersections include those in the Camp Creek Marketplace area and the vicinity of Fulton Industrial Blvd. (Fulton County), in the vicinity of the I-20 interchange and commercial area (Douglas County), and in the Hiram commercial area (Paulding County). These areas also coincide with the subarea locations determined based on the stakeholder feedback. The subareas in each county and applicable access management strategies will be discussed further in the next chapter. Other under-performing intersections include the SR 6 intersections with major US/state routes (US 78/SR 8, SR 92, SR 120, and SR 61) and the SR 6 intersections with Humphries Hill Rd., Garrett Rd., Lewis Rd., and Brownsville Rd. in Cobb County near the Whitaker Intermodal Terminal.

Table 3-6: 2020 Future Baseline LOS of Major Intersections

Name	Configuration	County	AM PEAK		PM PEAK	
			Delay (s/vehicle)	LOS	Delay (s/vehicle)	LOS
Conley St. / Convention Center Conc.	Signalized	Fulton	26.1	C	36.6	D
Airport Dr.	Signalized	Fulton	9.2	A	25.9	C
Global Gateway Connector	Signalized	Fulton	6.5	A	12.3	B
Herschel Rd.	Signalized	Fulton	28.0	C	47.1	D
Potomac Dr. / Hampshire Plaza	Signalized	Fulton	8.0	A	16.2	B
Washington Rd.	Signalized	Fulton	63.5	E	70.5	E
Desert Dr.	Signalized	Fulton	30.0	C	41.2	D
I-285 NB Ramp	Signalized	Fulton	31.8	C	17.5	B
I-285 SB Ramp	Signalized	Fulton	35.5	D	52.7	D
N Commerce Dr.	Signalized	Fulton	66.3	E	129.2	F

Name	Configuration	County	AM PEAK		PM PEAK	
			Delay (s/vehicle)	LOS	Delay (s/vehicle)	LOS
Princeton Pkwy. SW	Signalized	Fulton	40.6	D	72.2	E
Welcome All Rd.	Signalized	Fulton	32.3	C	22.8	C
Old Fairburn Rd.	Signalized	Fulton	52.9	D	41.2	D
Butner Rd.	Signalized	Fulton	72.1	E	97.9	F
Merk Rd.	Signalized	Fulton	12.3	B	13.8	B
Enon Rd.	Signalized	Fulton	36.1	D	51.8	D
Campbellton Rd.	Signalized	Fulton	72.4	E	59.4	E
Westlake Pkwy.	Unsignalized	Fulton	946.3	F	210.0	F
Fulton Industrial Blvd.	Signalized	Fulton	360.1	F	140.9	F
Bakers Ferry Rd.	Unsignalized	Fulton	*	F	340.8	B
Riverside Pkwy.	Signalized	Douglas	85.0	F	44.6	D
Douglas Hills Rd.	Signalized	Douglas	18.1	B	35.5	D
Factory Shoals Rd.	Signalized	Douglas	41.3	D	39.9	D
Bob Arnold Dr./Interstate W Pkwy.	Unsignalized	Douglas	*	F	*	F
Blairs Bridge Rd./Interstate W Pkwy.	Signalized	Douglas	35.1	D	59.9	E
I-20 EB Ramps	Signalized	Douglas	85.3	F	18.9	B
I-20 WB Ramps	Signalized	Douglas	12.1	B	25.5	C
Blair Way/N Blairs Bridge Rd.	Signalized	Douglas	27.4	C	23.1	C
Skyview Dr./Oak Ridge Rd.	Signalized	Douglas	52.6	D	103.0	F
Waterway Circle	Signalized	Douglas	27.3	C	31.1	C
McPherson Rd. / W Corporate Ct.	Signalized	Douglas	27.3	C	31.1	C
Maxham Rd.	Signalized	Douglas	62.3	E	128.9	F
Westfork Blvd.	Signalized	Douglas	10.0	B	28.5	C
Westfork Dr.	Signalized	Douglas	14.4	B	27.0	C
Veterans Memorial Hwy. / Bankhead Hwy.	Signalized	Douglas	63.7	E	93.3	F
Humphries Hill Rd.	Signalized	Cobb	68.6	E	71.8	E
Garrett Rd.	Signalized	Cobb	151.3	F	77.1	E
Lewis Rd.	Signalized	Cobb	56.5	E	33.2	C
Brownsville Rd.	Signalized	Cobb	59.6	E	48.1	D
Hill Rd.	Signalized	Cobb	45.9	D	28.0	C
Sweetwater Ave.	Unsignalized	Cobb	16.2	C	0.0	A
Richard D Sailors Pkwy.	Signalized	Cobb	66.8	E	122.4	F
Florence Rd.	Signalized	Cobb	53.5	D	32.6	C
Elliot Rd. / Powder Springs Dallas Rd.	Signalized	Cobb	38.8	D	44.7	D
Isley Stamper Rd.	Unsignalized	Paulding	83.5	F	84.6	F
Cleburn Pkwy. / Poplar Springs Rd.	Signalized	Paulding	67.9	E	216.4	F

Name	Configuration	County	AM PEAK		PM PEAK	
			Delay (s/vehicle)	LOS	Delay (s/vehicle)	LOS
Greenfield Rd.	Signalized	Paulding	12.3	B	26.9	C
Hiram Pavilion Driveway	Signalized	Paulding	9.5	A	196.4	F
Sam's Club Driveway	Signalized	Paulding	6.3	A	41.6	D
Depot Dr./ Lake Rd.	Signalized	Paulding	21.8	C	67.1	E
Hwy 92	Signalized	Paulding	82.8	F	130.9	F
Wal-Mart Driveway / Hiram Crossing	Signalized	Paulding	12.1	B	49.8	D
Pace Rd.	Signalized	Paulding	27.0	C	22.1	C
Old Mill Rd.	Unsignalized	Paulding	*	F	*	F
Highland Falls Blvd./Atlanta Hwy.	Signalized	Paulding	34.4	C	38.2	D
Breezy Valley Rd./Hiram Dr.	Unsignalized	Paulding	20.3	C	12.9	B
Bill Curran Pkwy./Charles Hardy Pkwy.	Signalized	Paulding	69.5	E	110.1	F
WellStar Paulding Hospital	Signalized	Paulding	7.6	A	10.6	B
Paris Rd.	Unsignalized	Paulding	27.9	B	*	F
Butler Industrial Dr./Cadillac Pkwy.	Signalized	Paulding	19.6	B	39.7	D
Old Harris Rd.	Signalized	Paulding	26.1	C	39.7	D
Thomas B Murphy Dr.	Signalized	Paulding	28.9	C	41.1	D
Nathan Dean Blvd.	Signalized	Paulding	81.3	F	77.9	E
Academy Dr.	Signalized	Paulding	68.4	E	17.3	B
Seaboard Dr.	Signalized	Paulding	22.3	C	21.1	C
S Main St.	Unsignalized	Paulding	2.8	A	684.7	F
Buchanan St.	Signalized	Paulding	40.0	D	68.8	E

*Software limits exceeded; volume exceeds capacity.

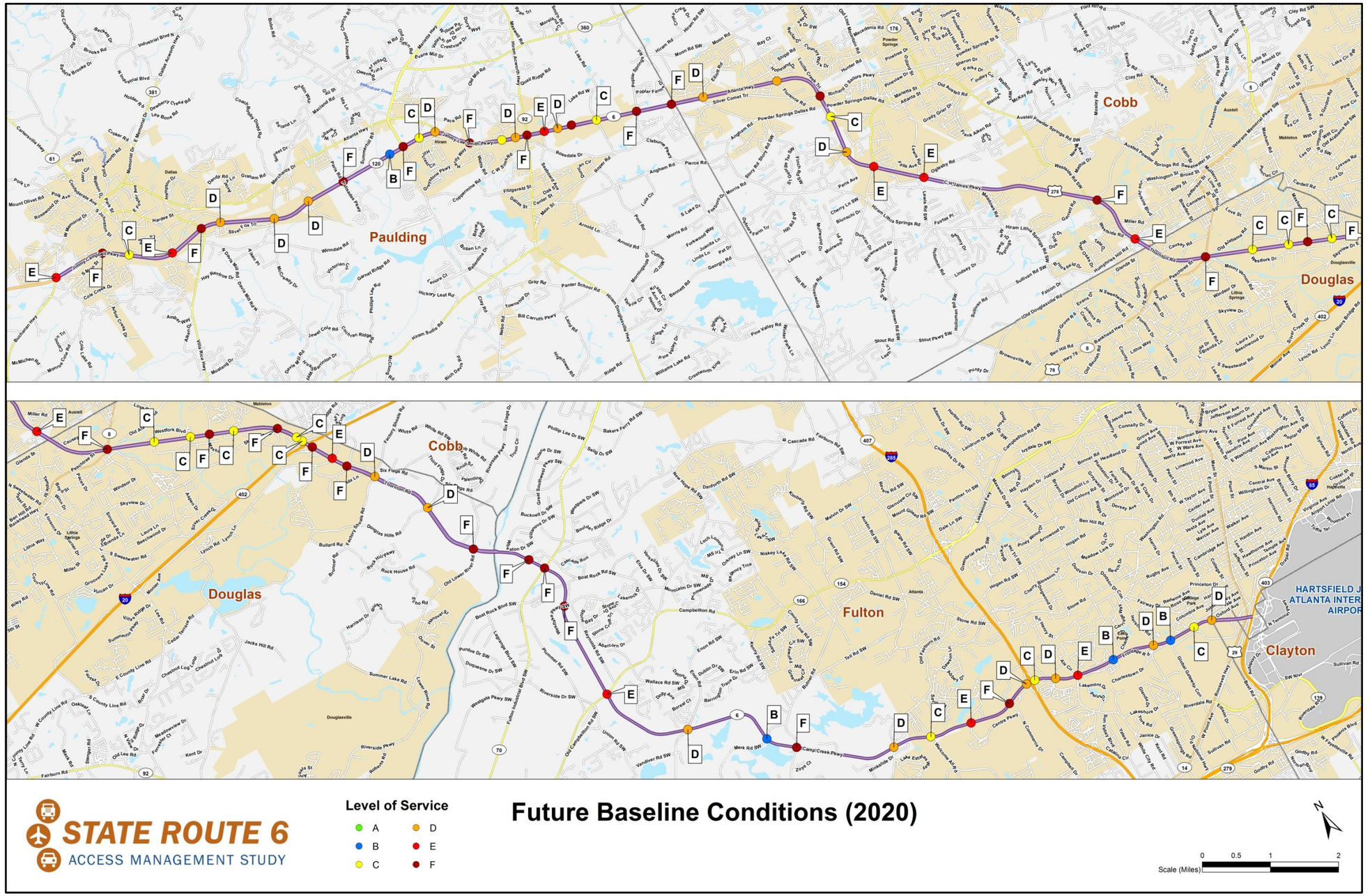


Figure 3-5: 2020 Future Baseline LOS of Major Intersections

Chapter 4. Analysis

This section presents the subarea and corridor-wide analyses along State Route 6 (SR 6) based on the projected future conditions. The future baseline traffic volumes were developed to determine the expected operations of the study corridor in 2020 under the baseline conditions described in Chapter 3 (Future Conditions).

Analysis was performed to identify access management deficiencies and to identify potential improvements and policy options along the SR 6 corridor. SYNCHRO, SIMTRAFFIC, and ARTPLAN software were used to analyze travel conditions along SR 6, as applicable. All analyses included programmed projects and future traffic volumes forecasted based on the ARC travel demand model.

Two formal stakeholder meetings and four small group meetings (one for each county) were conducted for this study. The first stakeholder meeting was held on May 22, 2014, to introduce the study and gather local knowledge and guidance from the stakeholders. Smaller group meetings were conducted for each county separately with local agency and county staff involved where issues specific to the county were discussed. A second large stakeholder meeting was held on October 24, 2014, to discuss preliminary study results, as well as corridor goals, objectives, and vision. The recurring issues that the stakeholders identified for the corridor included congestion, vehicle and pedestrian safety, lack of access management, and lack of frontage roads and inter-parcel access.

This chapter evaluates various potential improvements within key subareas and for the entire SR 6 study corridor. The locations of these subareas and the potential improvements were identified based on stakeholder input and the needs identified in the existing and future conditions analysis. **Figure 4-1** shows selected locations of these subareas in each county. The analyses focused on three elements:

1. Deficiencies that may arise due to future development
2. Major access management improvements – frontage roads, alternative routes, etc.
3. Minor access management improvements – restricted left turns, indirect left turns, spacing of median breaks, consolidation of driveways, raised medians, etc.

Subarea recommendations and overall corridor-wide recommendations were then developed based on the results of these analyses.

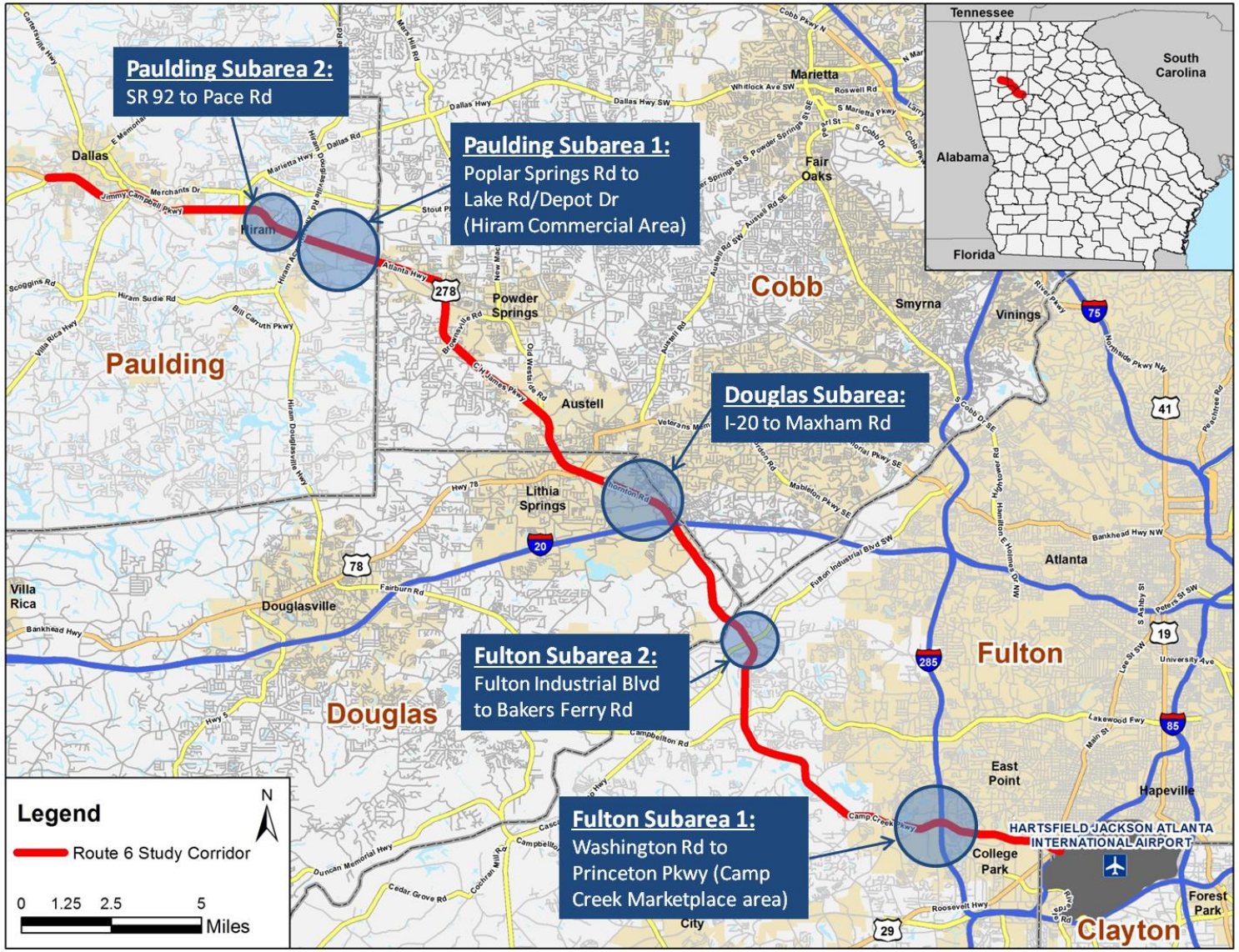


Figure 4-1: Subarea Overview Map

Part A – Subarea Analysis

4A. Fulton County

Based on stakeholder input, the subareas identified for in-depth analyses included: (1) the study area between Washington Road and Princeton Lakes Parkway, including the I-285 interchange and Camp Creek Marketplace, and (2) the study area in the vicinity of SR 70/Fulton Industrial Blvd. and Bakers Ferry Road. Both quantitative and qualitative analyses are included for the selected subareas. The quantitative evaluation examines the impacts of potential improvements on the performance of the SR 6 corridor using Highway Capacity Manual (HCM) methodologies. The qualitative evaluation focuses on potential safety and operational improvements and discusses the possible advantages and disadvantages for businesses and through traffic.

4A.1. Fulton Subarea 1: Washington Road to Princeton Lakes Parkway (Camp Creek Marketplace Area)

This subarea includes the Camp Creek Marketplace area along the SR 6 corridor. The section adjacent to SR 6 is currently fully urbanized with retail development. The areas just beyond Camp Creek Marketplace are still vacant and have potential for future development as identified in **Figure 4-2.** This subarea also includes the SR 6 and I-285 interchange, which is being redesigned by GDOT as a diverging diamond interchange (DDI). This project is currently in concept phase and is programmed to be let for construction in the next few years. Based on the existing conditions analysis, stakeholder feedback, and site visits conducted during this study, the selected Camp Creek Marketplace subarea does not have significant access management or driveway spacing issues. However, the close spacing between the Marketplace and the I-285 interchange creates congestion and adding any potential new development to this area could further degrade the operations of the corridor in this section. The subarea analysis also identifies alternative routes to SR 6 in the area to relieve traffic congestion on the SR 6 corridor. **Figure 4-2** shows the subarea along with potential improvements for the area, and **Table 4-1** provides a summary of the improvements.

Figure 4-2: Improvements Evaluated in Fulton County Subarea 1: Washington Road to Princeton Lakes Parkway

Table 4-1: Potential Improvements in Fulton County Subarea 1

Potential Improvement	Issue/Concern	Description of Improvement
Re-open Redwine Road west of Prince George Street	Disconnected road section	Reopening the small section of Redwine Road would provide a reliable alternative to SR 6 for the entire Camp Creek Marketplace area from Washington Road to Princeton Lakes Parkway.
Install signage between Washington Road and Princeton Lakes Parkway	Lack of driver information on possible bypass route to SR 6	Implementing signage would provide alternative route information to drivers from SR 6 to existing/reopened Redwine Road.
Provide intersection improvement at N. Commerce Drive intersection, increase storage length of the westbound dual left turn lanes	High U-turn volumes	Increasing storage length of the dual left-turn lanes at the intersection would better accommodate high U-turn volumes and improve the operation of the intersection.
Improve pedestrian facilities in Camp Creek Marketplace area	Pedestrian concerns	Improving pedestrian facilities would provide better accommodation in this high-pedestrian-activity area.
Provide a median barrier on SR 6 between I-285 and N. Commerce Drive	Drivers crossing the median	A physical median barrier would be provided in order to encourage the drivers on SR 6 to use the N. Commerce Drive intersection for making turns instead of crossing the median.
Install signage on I-285 northbound directing traffic to SR 6 via Washington Road	Lack of driver information on an alternative way of access to SR 6	Signage would be provided on I-285 northbound south of Washington Road exit to direct traffic to SR 6 via Washington Road and N. Commerce Drive.

Re-Open Redwine Road West of Prince George Street

Redwine Road can be accessed from SR 6 at Washington Road, Ale Circle, Desert Drive, N. Commerce Drive, and Princeton Lakes Parkway. Currently, Redwine Road is closed between Desert Drive and Prince George Street, thus restricting through movement along Redwine Road from Washington Road to N. Commerce Drive. Reopening this small section of roadway would provide a less congested alternative to SR 6 for the entire section. However, at this time the reason for the closure, along with related documentation, could not be determined. In addition, reopening this road is heavily dependent on coordination between the City, County, and State. Should Redwine Road be reopened at its current closed section, it could be signed as an alternative route for SR 6 between Princeton Lakes Parkway and Washington Road. Even if the current closure of Redwine Road remains in effect, this potential alternative route could benefit several intersections by redirecting local traffic through the alternative route via Desert Drive.

Install Signage Encouraging Drivers to use Redwine Road as an Alternative to SR 6

The existing alignment of Redwine Road on the north side of the Camp Creek Marketplace development provides the unique opportunity to implement a bypass route for SR 6 with relative ease and with minimal costs. If this alternative route were signed, it would enable trips to/from the Camp Creek Marketplace area to be diverted away from multiple signals and congestion on SR 6. This would also allow local traffic accessing these driveways to be routed away from the I-285 at SR 6 DDI, thus reducing

volume through the DDI and potentially improving operations. By taking this alternative route, local motorists could avoid four traffic signals on SR 6 (N. Commerce Drive, I-285 southbound ramp intersection, I-285 northbound ramp intersection, and Desert Drive), thus reducing congestion at these locations. In particular, using this alternative route would alleviate traffic on SR 6 between N. Commerce Drive and Washington Road, which was identified in the existing conditions analysis (Chapter 1) as the most congested section in Fulton County. A high volume of vehicular traffic is noted in this section with the pass-by trips to RaceTrac and Starbucks and accessing Camp Creek Marketplace.

Intersection Improvements for SR 6 at N Commerce Drive

The N. Commerce Drive intersection currently has high westbound left turns with U-turn movements accounting for a significant portion of the volume. The existing storage length for the dual left turn lanes at the intersection is approximately 360 feet. Based on these high U-turn volumes, the intersection could be reconfigured in order to accommodate the U-turn traffic for westbound SR 6. The final storage length of the dual left turn movement could be determined based on traffic volumes that would be served at this location after the construction of the DDI at the SR 6 and I-285 interchange. If this potential improvement is adopted, the final storage length for the dual left turn lanes would need to be verified at the time of implementation.

Operational Analysis of Proposed Improvements in Fulton Subarea 1

The operational analysis for this subarea evaluates potential improvements proposed in this study, in addition to projects that are currently programmed. This subarea includes two programmed projects: I-285 @ SR 6 DDI and SR 6 @ N. Commerce Drive intersection improvement for installing a 3rd southbound lane on N. Commerce Drive. Additionally, the following improvements are proposed for this subarea:

- Signage to redirect some traffic from SR 6 to Redwine Road through connecting streets with or without reopening Redwine Road west of Prince George Street
- Additional N. Commerce Drive intersection improvements for increasing storage length of two left turn lanes on westbound SR 6.

As shown in **Figure 4-3**, SYNCHRO was used to model the existing and potential future conditions and analyze the operational benefits of the improvements. In this process, traffic data was collected at five intersections along Redwine Road, which include Redwine Road at Princeton Lakes Parkway, N Commerce Drive, Desert Drive, and Ale Circle. Traffic data was also collected at Ale Circle and Washington Road to conduct alternative route operational analysis.

The analysis was conducted step-by-step in order to ascertain the effects of each improvement separately. Both arterial level of service for SR 6 and intersection delay at N. Commerce Drive were selected as performance indicators. **Table 4-2** summarizes the arterial level of service analysis for SR 6. In the existing conditions, the arterial level of services (LOSs) for eastbound and westbound SR 6 are LOS D (arterial speed of 20.7 miles per hour) and LOS E (arterial speed of 13.7 miles per hour), respectively.

Without implementing any future improvements, the arterial LOS for westbound SR 6 is expected to decrease from LOS E to LOS F, and the arterial speed for both eastbound and westbound SR 6 would decrease by 2 miles per hour by the year 2020. With I-285 DDI and intersection improvements at the N. Commerce Drive and SR 6 intersection; however, westbound SR 6 would operate at LOS D with approximately 6 miles per hour of increase in arterial speed compared to the existing conditions.

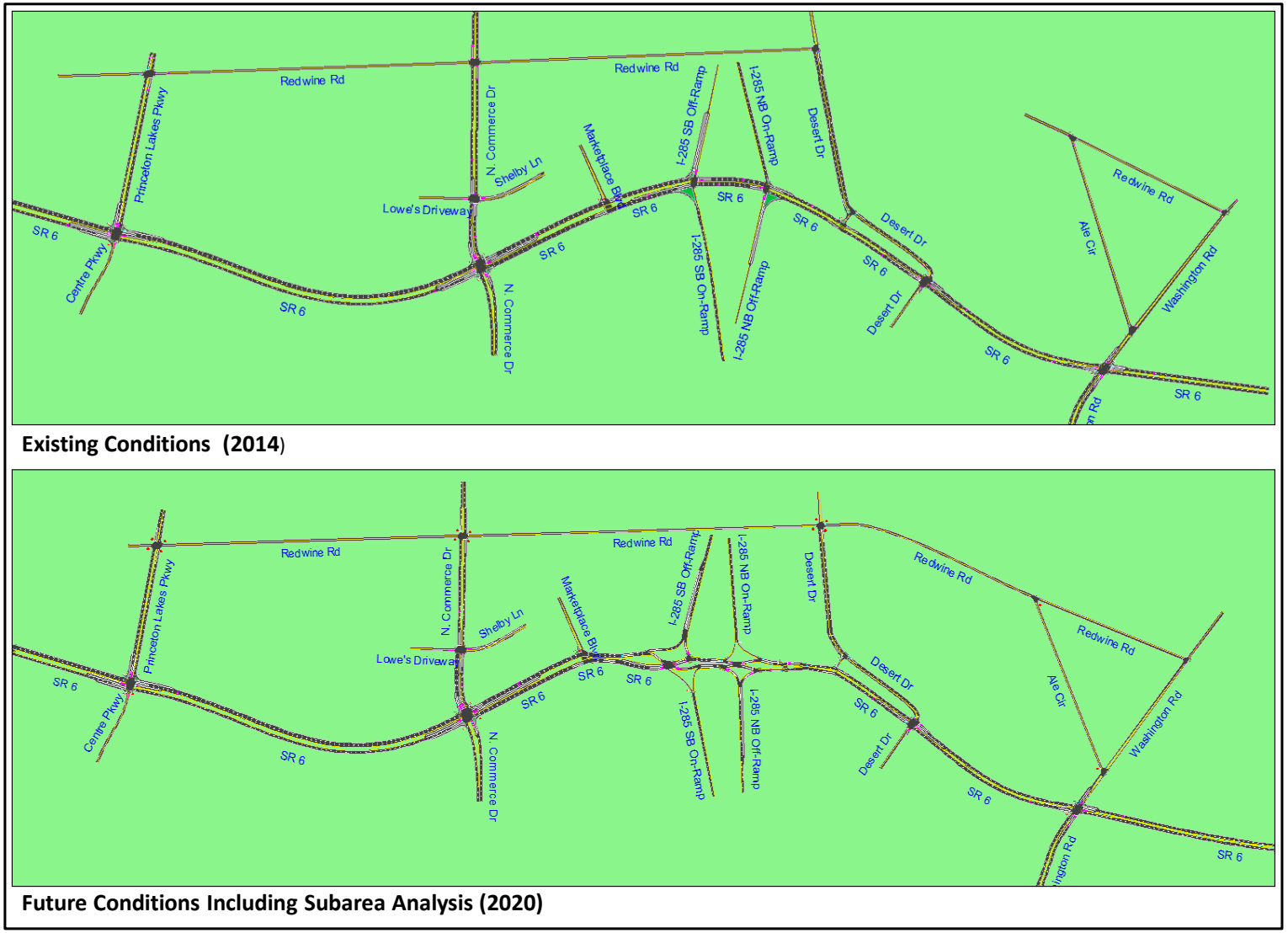


Figure 4-3: Fulton County Subarea 1: Washington Road to Princeton Lakes Parkway (Existing and Future Conditions, Including Subarea)

In order to evaluate the benefits of signage with and without reopening Redwine Road west of Prince George Street, it was assumed that a certain percentage of SR 6 through traffic would divert and use Redwine Road as a bypass. For the purposes of this study, it was assumed that 10 percent of eastbound and westbound SR 6 through traffic would divert to Redwine Road (as it exists today without reopening the section west of Prince George Street) when signage is implemented between Desert Drive and Princeton Lakes Parkway. With the reopening of Redwine Road west of Prince George Street and the provision of signage, 15 percent of eastbound and westbound SR 6 through traffic was assumed to use Redwine Road as an alternative route between Washington Road (via Ale Circle) and Princeton Lakes Parkway. These percentages were chosen based on current traffic patterns along the SR 6 corridor (i.e., travel by vehicles between defined origins and destinations within the subarea). Advances in technology, such as GPS and smart phones, can also help drivers find alternative routes and detours to avoid heavy congestion, and the use of such technology is rapidly increasing among drivers. With these assumptions in traffic diversion, added signage informing drivers of the availability Redwine Road as an alternative route would increase arterial speed for both eastbound and westbound SR 6. It is also expected that vehicles diverted to Redwine Road would experience some travel time savings. While eastbound SR 6 would operate at the same LOS (LOS D) with a slight decrease in arterial speed compared to the existing conditions, westbound SR 6 would operate at significantly improved level of service and arterial speed if signage were implemented to redirect traffic to Redwine Road. If signage is applied to encourage drivers to take Redwine Road as is without reopening it as an alternative route, SR 6 westbound would operate at LOS D with more than 7 miles per hour of increase in arterial speed compared to the existing conditions. If Redwine Road is reopened west of Prince George Street and signage is applied directing drivers to bypass the I-285 interchange via Redwine Road between Washington Road and Princeton Lakes Parkway, SR 6 westbound would operate at LOS C with approximately 9 miles per hour of increase in arterial speed compared to the existing conditions. The benefits of improvements are more likely to be reflected in the operations of westbound SR 6 because westbound SR 6 is the critical direction for the PM peak hour, and it is already operating at full capacity in the existing conditions.

The signalized intersection analysis was also performed for the N. Commerce Drive intersection at SR 6, and results are summarized in **Table 4-3**. The intersection is currently failing (LOS F) with control delay of 130.9 seconds per vehicle, and the operation would only worsen by 2020, with an additional 30 seconds of delay per vehicle, if no improvement is applied. The results show that proposed intersection improvements would decrease delay by 7.3 seconds per vehicle at the intersection compared to the existing conditions. If Redwine Road is only partially open as in existing conditions and motorist travel patterns change in response to proposed signage that identifies Redwine Road as alternative route, delay per vehicle would decrease by 23.7 seconds compared to the existing conditions. If Redwine Road is reopened west of Prince George Street and signage is implemented, delay per vehicle would decrease by 28.3 seconds (additional 4.6 seconds) compared to the existing conditions. While the LOS would remain at LOS F, the operation of the intersection would be enhanced resulting from this significant decrease in delay by approximately 30 and 60 seconds compared to the existing and future no-improvement conditions, respectively.

Table 4-2: SR 6 Arterial Level of Service Analysis

	Eastbound SR 6		Westbound SR 6	
	Arterial Speed (mph)	Arterial LOS	Arterial Speed (mph)	Arterial LOS
Existing conditions	20.7	D	13.7	E
2020 PM with forecasted volumes only (no improvements)	18.7	D	11.5	F
2020 PM with forecasted volumes, I-285 DDI, and N. Commerce Drive intersection improvements	18.6	D	19.6	D
2020 PM with forecasted volumes, I-285 DDI, N. Commerce Drive intersection improvements, and signage for Redwine Road as alternative route without reopening of Redwine Road west of Prince George St.	18.8	D	20.9	D
2020 PM with forecasted volumes, I-285 DDI, N. Commerce Drive intersection improvements, signage for Redwine Road as alternative route with reopening of Redwine Road west of Prince George St.	19.1	D	22.5	C

Table 4-3: N. Commerce Drive Signalized Intersection Analysis

	Control Delay* (Seconds per Vehicle)	LOS
Existing conditions	130.9	F
2020 PM with forecasted volumes only (No improvements)	160.9	F
2020 PM with forecasted volumes, I-285 DDI, and N. Commerce Drive intersection improvements	123.6	F
2020 PM with forecasted volumes, I-285 DDI, N. Commerce Drive intersection improvements, and signage for Redwine Road as alternative route without opening of Redwine Road west of Prince George St.	107.2	F
2020 PM with forecasted volumes, I-285 DDI, N. Commerce Drive intersection improvements, signage for Redwine Road as alternative route with reopening of Redwine Road west of Prince George St.	102.6	F

*Control delay and LOS calculated using HCM 2010

Crash Analysis of Proposed Improvements in Fulton Subarea 1

The 0.7-mile segment between Washington Road and Princeton Lakes Parkway was identified as a crash hotspot for the corridor where all five categories of crash rates (fatal crashes, fatalities, injury crashes, injuries, and all crashes) exceed statewide average rates (See Section 2B.4 Crash Analysis). SR 6 within this subarea also has the highest crash rates along the corridor, where the injury crash rate, injury rate, and overall crash rate were 10 to 12 times higher than the statewide averages for the years 2008 through 2012. Fifty-five (55) percent of all crashes in this segment were rear end collisions, and angle and same-direction sideswipe collisions accounted for 18 percent and 16 percent of all crashes, respectively. While an in-depth roadway audit study for this segment would help pinpoint specific issues, the potential improvements evaluated in this section would likely reduce rear-end and angle collisions by alleviating congestion on SR 6 and improving operation of the N. Commerce Drive intersection, the most congested intersection in the segment.

Additional ideas proposed for the Camp Creek Marketplace subarea include:

- The Camp Creek Marketplace area has a high volume of pedestrians with the retail stores and restaurants in the area. Therefore, additional and improved pedestrian facilities would benefit the area. The locations in need of additional sidewalks and crosswalks should be investigated to accommodate pedestrian activities. Encouraging more pedestrian activity by making the area pedestrian friendly can have a positive impact on the businesses located at Camp Creek Marketplace and on the economic vitality of the area as a whole.
- The proximity of the Publix entrance on Princeton Lakes Parkway to the SR 6 and Princeton Lakes Parkway intersection creates weaving issues in this area. The intersection of Princeton Lakes Parkway at SR 6 is expected to operate at full capacity in the future baseline conditions. Restricting direct access from Publix onto Princeton Lakes Parkway would improve operations along Princeton Lakes Parkway near SR 6 by removing weaving movements and potentially improving the operation of the SR 6 intersection with Princeton Lakes Parkway.

4A.2. Fulton Subarea 2: Fulton Industrial Boulevard to Bakers Ferry Road

This subarea is located close to the Fulton/Douglas County line along SR 6. It includes the intersections of Bakers Ferry Road at SR 6, SR 70/Fulton Industrial Blvd (FIB) at SR 6, and Bakers Ferry Road at SR 70/FIB. **Figure 4-4** shows the subarea, along with potential improvements proposed to the area. This area is characterized by high volumes of truck traffic from/to Fulton Industrial Blvd. and resulting congestion at the intersections of SR 6 at SR 70/FIB and SR 6 at Bakers Ferry Road. In fact, the 1-mile section of SR 70/FIB adjacent to its intersection with SR 6 was identified as having the second highest truck counts for non-interstate locations in Georgia (GDOT Classification Data, 2009). **Figure 4-4** shows the subarea along with potential improvements for the area and **Table 4-4** provides a summary of the improvements.

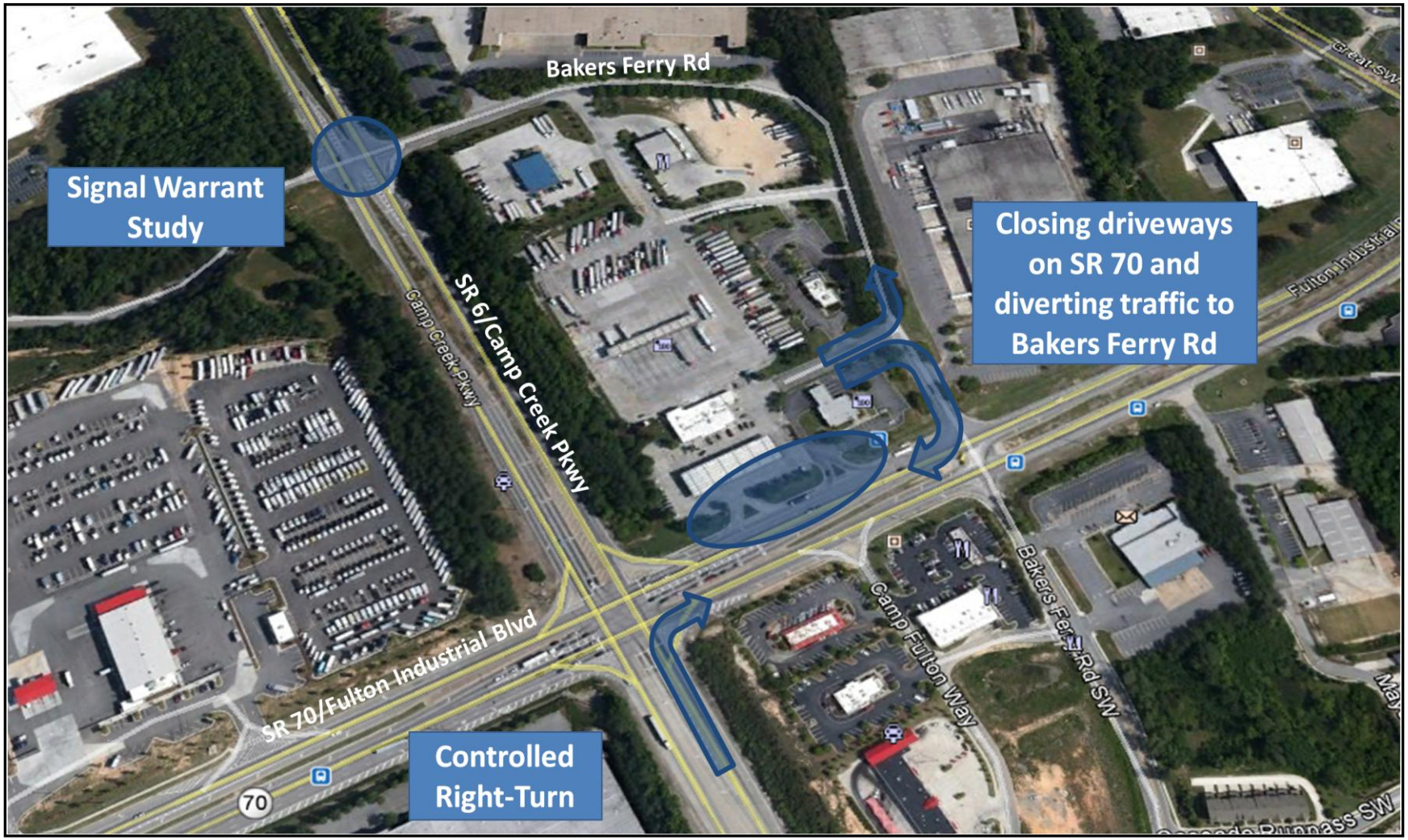


Figure 4-4: Improvements Evaluated in Fulton County Subarea 2: Fulton Industrial Blvd. to Bakers Ferry Road

Table 4-4: Potential Improvements in Fulton County Subarea 2

Potential Improvement	Issue/Concern	Description of Improvement
Conduct signal warrant study for the Bakers Ferry Road intersection with SR 6	Trucks turning to Bakers Ferry Road impeding mainline traffic	Preliminary results indicate that a traffic signal is warranted in the PM peak and would reduce delay at the intersection. Further analysis through a warrant study is recommended to justify installation of a signal.
Provide a controlled right turn for WB SR 6 at SR 70/FIB	Right turning movements on westbound SR 6 conflicting with high U-turn traffic on southbound SR 70/FIB	A controlled right turn signal phase for westbound SR 6 traffic and a possible prohibition of right-turn-on-red (RTOR) would eliminate conflict between right turning vehicles and U-turn traffic from SR 20/FIB.
Remove driveways on SR 70/FIB near its intersection with SR 6	Weaving issues due to multiple driveways nearby SR 6 and SR 70/FIB intersection	Removal of two right-in-right-out driveways would redirect vehicles from the driveways to Bakers Ferry Road for access to SR 6 and FIB and reduce weaving on SR 20/FIB.

Signalization of SR 6 at Bakers Ferry Road Intersection

At the Bakers Ferry Road intersection at SR 6, trucks entering to Bakers Ferry Road block the SR 6 mainstream traffic. Therefore, signalization of this intersection has been identified as a possible solution.

Providing a Controlled Right Turn

For the intersection of SR 6 and SR 70/FIB, a controlled right turn from westbound SR 6 toward SR 70/FIB is recommended because right turning movements from SR 6 result in significant conflicts with high U-turn traffic on southbound SR 70/FIB.

Closing Driveways on SR 70

During stakeholder meetings, the possibility of closing multiple right-in-right-out driveways near the intersection of SR 70/FIB and SR 6 was discussed, which would restrict vehicles coming out of the gas station driveways from accessing the intersection of SR 70/FIB and SR 6. Several sideswipe-type crashes have occurred due to the weaving movement between vehicles exiting the driveways and trying to access the intersection. Closure of these two right-in-right-out driveways would remove this movement redirecting the vehicles from the gas stations and other commercial development along Bakers Ferry Road to access SR 6 from the intersection of Bakers Ferry Road and SR 6. See **Figure 4-4** for the access control measures.

Operational Analysis of Potential Improvements in Fulton Subarea 2

Operational analysis was conducted at these intersections to explore the extent to which intersection delay could be reduced and arterial speed on SR 6 and SR 70/FIB could be increased. A preliminary signal warrant study was first conducted for the intersection of SR 6 and Bakers Ferry Road. The preliminary analysis suggested that this intersection meets the peak hour signal warrant intended for use at a

location where minor-street traffic suffers undue delay when entering or crossing the major street for a minimum of 1 hour of an average day. Further traffic engineering study, including a detailed warrant study, is recommended to confirm justification of installing a traffic signal at the intersection.

In order to conduct a detailed analysis of traffic operations with the closure of the driveways on SR 70/FIB, an existing conditions traffic model was developed using SYNCHRO software. To generate anticipated trips from the QuikTrip gas station and Bank of America driveway, Institute of Transportation Engineers (ITE) Trip Generation 7th Edition was used. The ITE trip generation manual uses number of pumps, square footage, and/or number of drive-through windows to estimate probable trips generated from and to a gas station during a normal weekday peak period. The trips generated were then distributed among the gas station driveways and to Bakers Ferry Road to access either SR 6 or SR 70/FIB in the proposed conditions. The SYNCHRO model was updated for the proposed conditions analysis with the proposed geometry and anticipated trips as shown in **Figure 4-5.** Arterial level of service for SR 6 and SR 70/FIB was selected as a performance indicator.

Table 4-5 summarizes arterial level service analysis for SR 6 and southbound SR 70/FIB. For existing conditions, arterial LOSs for eastbound/westbound SR 6 and southbound SR 70/FIB were all LOS E with arterial speed of 19.3 miles per hour, 16.5 miles per hour, and 16.2 miles per hour, respectively. Without implementing any future improvements, arterial LOSs for both eastbound and westbound SR 6 are expected to decrease from LOS E to LOS F. The analysis results show that intersection improvement and signal modification at SR 70/FIB and SR 6 would not have an impact on arterial speed and level of service. Signalization of the Bakers Ferry Road intersection, however, would increase the arterial speed of westbound SR 6 by 3 miles per hour but at the same time would lower arterial speed of eastbound SR 6 by 6.8 miles per hour compared to the existing conditions. The closure of two right-in-right-out driveways near the intersection of SR 70/FIB would only slightly improve arterial speed of southbound SR 70/FIB.

Table 4-5: SR 6 and SR 70/FIB Arterial Level of Service Analysis

	Eastbound SR 6		Westbound SR 6		Southbound SR 70/FIB	
	Arterial Speed (mph)	Arterial LOS	Arterial Speed (mph)	Arterial LOS	Arterial Speed (mph)	Arterial LOS
Existing conditions	19.3	E	16.5	E	16.2	E
2020 AM with forecasted volumes only (No improvements)	15.4	F	15.6	F	16.2	E
2020 AM with forecasted volumes and SR 70/FIB intersection improvements	15.4	F	15.6	F	16.2	E
2020 AM with forecasted volumes, SR 70/FIB intersection improvements, closing of driveways on SR 70/FIB, and signalization of Bakers Ferry Road at SR 6 intersection	12.5	F	19.5	E	16.3	E

Crash Analysis of Proposed Improvements in Fulton Subarea 2

It is expected that crash rates would decline at the intersection as a result of the removal of the weaving movements that result from vehicles exiting the SR 70/FIB driveways and trying to access the SR 6 at SR 70/FIB intersection within such a short section.

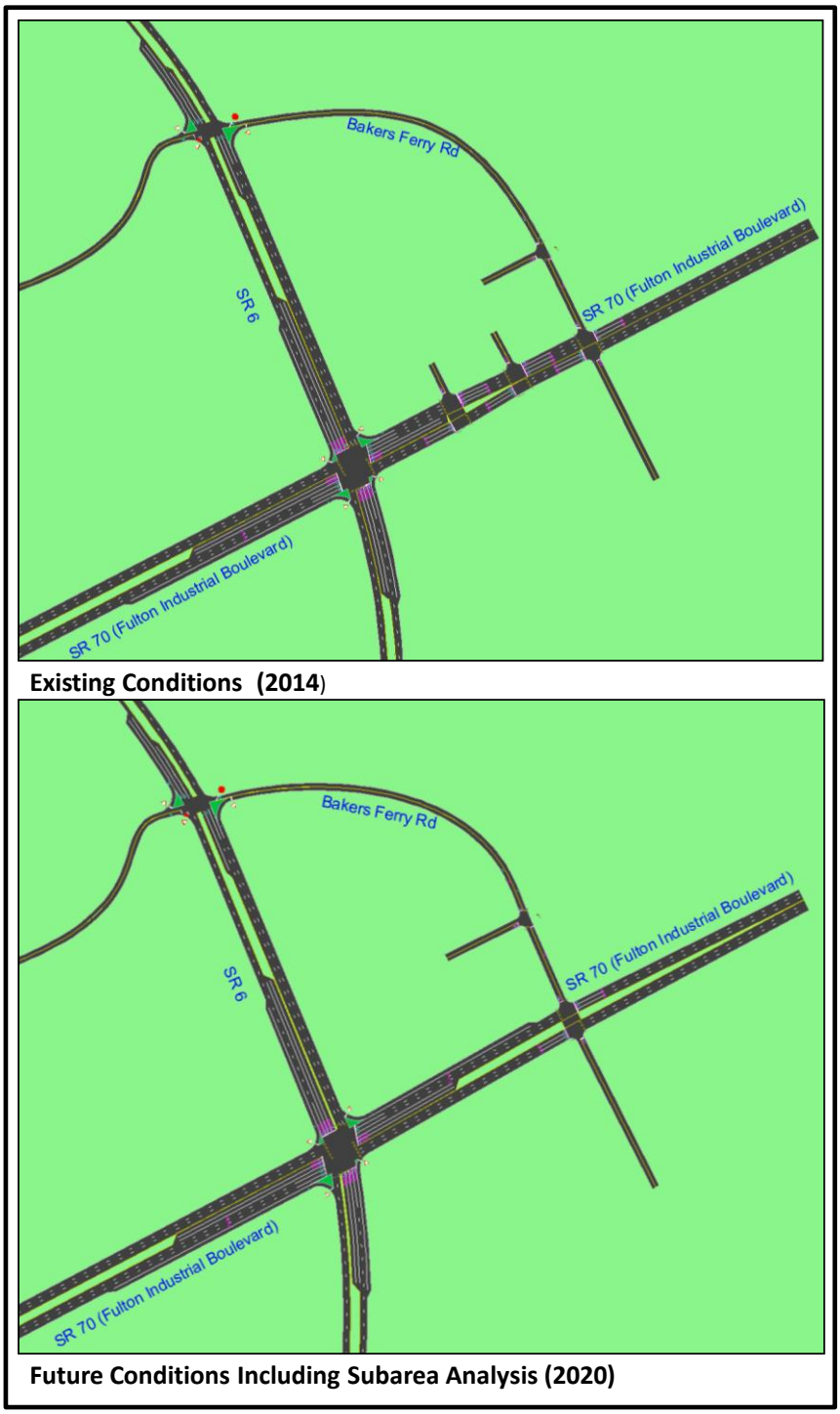


Figure 4-5: Fulton County Subarea 2: Fulton Industrial Blvd to Bakers Ferry Road (Existing and Future Conditions Including Subarea)

4B. Douglas County

Based on feedback from the Stakeholder Meeting #2, the section of SR 6 between I-20 and Maxham Road (highlighted in **Figure 4-6**) was identified as the subarea for detailed analysis within Douglas County.

4B.1. Douglas County Subarea: I-20 to Maxham Road Area

This section has the highest density of driveways on SR 6 northbound, with concentrations of 19 driveways per mile. This area is also contained within one of Douglas County's Urban Redevelopment Area PlansURP. URPs are plans developed in accordance with Georgia's Urban Redevelopment Act (O.C.G.A. 36-61-1), which gives cities and counties powers to redevelop areas defined as deteriorating or underutilized. The Thornton Road Redevelopment Area includes the section of Thornton Road/SR 6 just north of I-20 to just south of Veterans Memorial Highway.

Additionally, the subarea is within the limits for a congestion reduction and traffic flow improvement project (GDOT PI 0012620). This project extends along SR 6/US 278 from I-20 in Douglas County to Garrett Road in Cobb County and will improve the operations of SR 6 for all users through the implementation of median turn lane improvements, traffic signal modification, overhead signage, and ITS elements. Within Douglas County, improvements comprising extension of northbound and southbound left turns and dilemma zone protection for trucks are proposed at the intersections with Skyview Road, Maxham Road, and Veterans Memorial Highway (Bankhead Highway).

This section of the report describes multiple issues and ideas for the SR 6 corridor in Douglas County, as identified in stakeholder meetings and the analysis conducted as part of this study.

Table 4-6 provides a summary of the potential improvements, and **Figure 4-6** shows the subarea along with potential improvements for the area.

Table 4-6: Potential Improvements in Douglas County Subarea

Potential Improvement	Issue/Concern	Description of Improvement
Conduct a traffic engineering/ feasibility study between I-20 WB off ramp and N Blairs Bridge Road	Weaving issues as a result of dual right turn lanes from off-ramp getting in lane for the left turn at N. Blairs Bridge Road	Study would evaluate options to minimize weaving issues between I-20 WB off-ramp and N. Blairs Bridge Road. Possible improvements to reduce/eliminate weaving include prohibition of right-turn-on red, concrete separation of right turn vehicles from off-ramp, and driveway consolidation/reconfiguration.
Consolidate driveways on SR 6 between N Blairs Bridge Road to Crestmark Way	Multiple driveways within section	Improved driveway spacing would reduce traffic turbulence and would in turn maximize capacity.
Reconfigure driveways between Crestmark Way and Oak Ridge Road/Skyview Drive	Multiple driveways within section	Improved driveway spacing would reduce traffic turbulence and would in turn maximize capacity.
Conduct traffic engineering study to evaluate feasibility of alternative design (See **Section 4E**) for the intersection of SR 6 and Maxham Road	Congestion	Preliminary results indicate that a continuous flow intersection (CFI), parallel flow intersection (PFI), or modified quadrant roadway (QR) intersection are feasible alternative intersection configurations. A further in-depth study for operations and constructability for these options is recommended.
Improve pedestrian facilities (sidewalk, crossings) (see **Section 4E**)	Pedestrian needs	Sidewalks and crosswalks should be added or expanded. Regulatory pedestrian signs should be installed and effective pedestrian signal timing should be provided at intersections. Landscaping efforts along the median could also be considered to promote safe crossing.

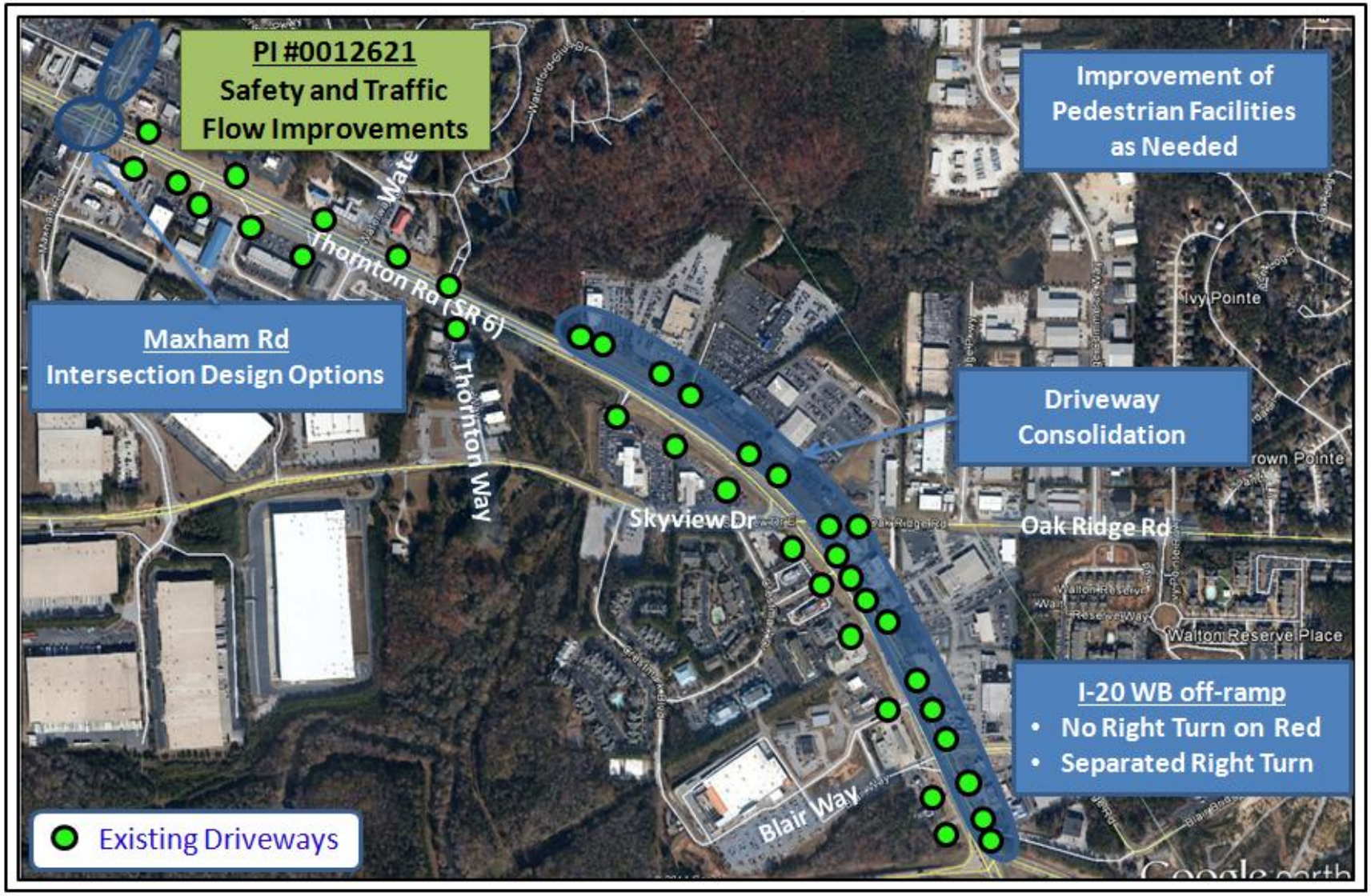


Figure 4-6: Improvements Evaluated in Douglas County Subarea: I-20 to Maxham Road

Weaving Issues, Signage, and Crashes in I-20 Interchange Area

Lack of signage, traffic weaving movements, and crashes near the I-20 interchange were highlighted as major concerns during stakeholder meetings. This could be attributed to the interchange loop design that creates a situation where drivers have to make a right turn to access I-20 WB instead of an "expected" left turn, as is the case with the common diamond interchange designs. Because the congestion reduction and traffic flow improvement project (GDOT PI 0012620) described earlier in the section is expected to alleviate these issues, no additional improvements for this issue are provided at this time.

Weaving Issues from I-20 WB Off-Ramp to N Blairs Bridge Road

Currently, there are weaving issues resulting from vehicles using the dual right-turn lanes from the I-20 westbound off-ramp and then trying to navigate across to turn left at N Blairs Bridge Road (see **Figure 4-7)**. Therefore, a concrete separation of the right turn lanes to prevent left turn movement at N Blairs Bridge Road from the off-ramp was considered. However, this option would restrict access to adjacent businesses, such as IHOP and Budget Car Rental on the eastern side and Home Depot and Burger King on the western side. Road signs would have to be provided for vehicles to be routed for U-turns at Skyview Road or left turns through Skyview Road and Crestmark Blvd. to access the western portion of N Blairs Bridge Road. Similarly, vehicles would need to turn right on N Blairs Bridge Road to access businesses on the eastern side of the roadway. Other options that could be considered include the elimination of the second driveway access to the Budget car rental in order to reduce the traffic turbulence in the outer lane. Additionally, right-turn-on-red (RTOR) could be prohibited from the I-20 westbound off-ramp onto SR 6.

Figure 4-7: Subarea Analysis – I-20 WB Off-Ramp to N Blairs Bridge Road

Driveway Consolidation

There are multiple driveways within this subarea, especially along the northbound section as shown in **Figure 4-6.** Based on the posted speed limit of 45 miles per hour, this section of SR 6 requires minimum driveway spacing of 230 feet with no right turn lane and 369 feet with a right turn lane. Existing spacing is significantly less than the required minimum for the two spacing options. Driveways that are spaced too closely can impact traffic operations as a result of right-turn conflict overlap (drivers must monitor more than one right turn merging movement). Additionally, closely spaced driveways can interfere with each other and restrict capacity.

The feasibility of driveway consolidation was examined based on the existing adjacent businesses, as well as traffic counts at specified driveways. The traffic counts showed daily totals of entering and exiting traffic volumes less than 350 vehicles at most driveways and less than 50 vehicles during either peak period with anticipated 2020 driveway volumes of less than 100 vehicles per driveway for the peak periods. Because this section of SR 6 falls within the Thornton Road redevelopment plan area and could see an increase in commercial activity, one-way driveways were also considered as feasible alternatives to closing driveways at various locations. One-way driveways require a 10-foot minimum tangent spacing, considerably less than the required spacing for two-way driveways. One-way driveways would also reduce traffic turbulence and right turn conflict overlap.

Potential improvements for driveway consolidation, reconfiguration, or removal are summarized i**n Figure 4-8**, **Figure 4-9**, and **Figure 4-10.**

Figure 4-8: Driveway Analysis – I-20 to N Blairs Bridge Road

Figure 4-9: Driveway Analysis – N Blairs Bridge Road to Crestmark Way

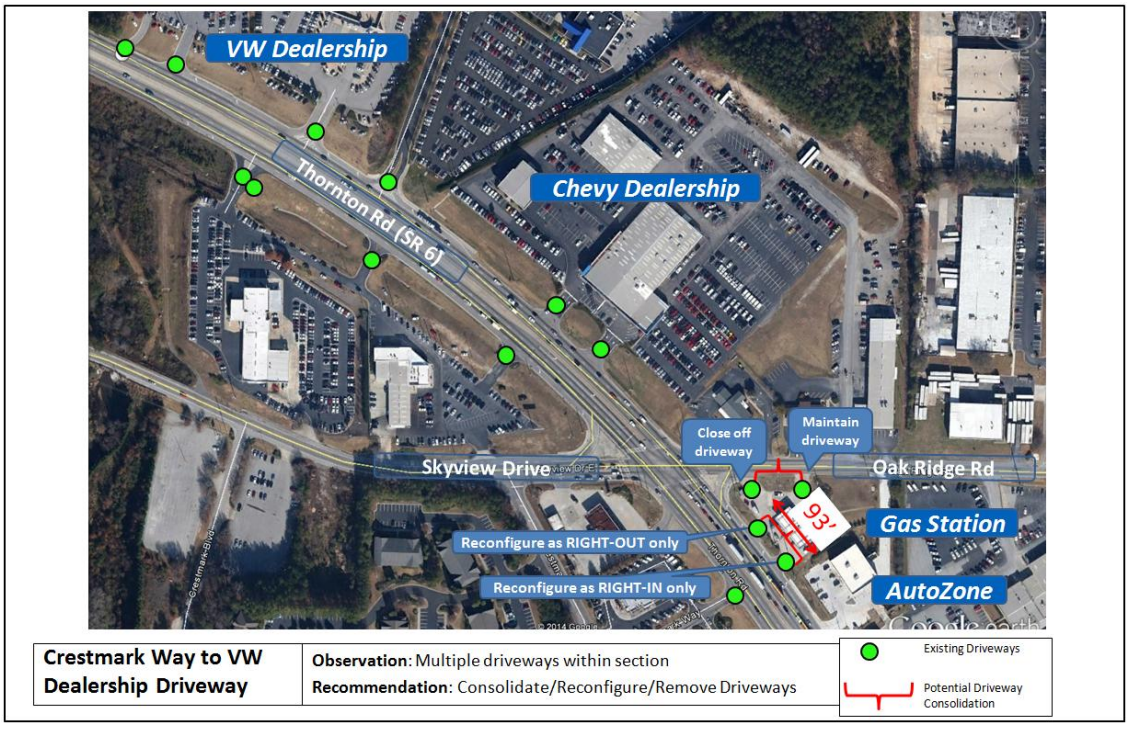


Figure 4-10: Driveway Analysis – Crestmark Way to VW Dealership Driveway

Operational Analysis of Proposed Improvements in Douglas Subarea

A preliminary qualitative assessment indicates that a physical separation of the right turning vehicles and a prohibition of RTOR for vehicles from the I-20 westbound ramp could alleviate the ongoing weaving issues. However, a detailed traffic engineering study would be required to evaluate the traffic patterns along the section between I-20 and Skyview Drive. A study involving the origin-destination patterns of vehicles within the section would facilitate the assessment of the effects of the potential vehicle route diversions that could occur and to determine the efficiency of the options.

Similarly, a qualitative assessment was completed for the driveway consolidation based on the existing and forecasted future volumes. Because this section of the corridor is part of the Thornton Road redevelopment area and could see increased driveway traffic in the future, one-way driveways are recommended to maintain accesses while reducing traffic turbulence in the right lanes.

The congestion at the intersection of SR 6 and Maxham Road is an additional area of concern within this subarea which was highlighted by stakeholders in both Douglas and Cobb Counties. Alternative designs for the intersection are discussed in **Section 4E.3**.

Crash Analysis of Proposed Improvements in Douglas Subarea

It is expected that the overall crash rates along this section of the corridor could be reduced through the reduction or elimination of weaving movements of the right-turning vehicles from the I-20 westbound off-ramp, as well as through the reduction of traffic turbulence in the right lanes as a result of fewer driveway entry points.

4C. Cobb County

Based on feedback from the Stakeholder Meeting #2, no specific subarea for detailed technical analysis was defined for Cobb County. Instead, potential corridor-wide improvements were identified to address the issues mentioned and are summarized **in Table 4-7** and **Figure 4-11.** Additional potential improvements are listed in the corridor-wide analysis section of this chapter (4E and 4F).

Table 4-7: Potential Improvements in Cobb County

Potential Improvement	Issue/Concern	Description of Improvement
Install a raised median for the Cobb County corridor section	Access management	The five-lane section with a two-way-left-turn lane (TWLTL) could be replaced with a raised median in order to maintain corridor continuity and provide separation of traffic flowing in opposite direction.
Providing rain gardens in the center median for the Cobb County section	Drainage and rainfall runoff	The center median could be designed with rain gardens to help with drainage and water runoff.

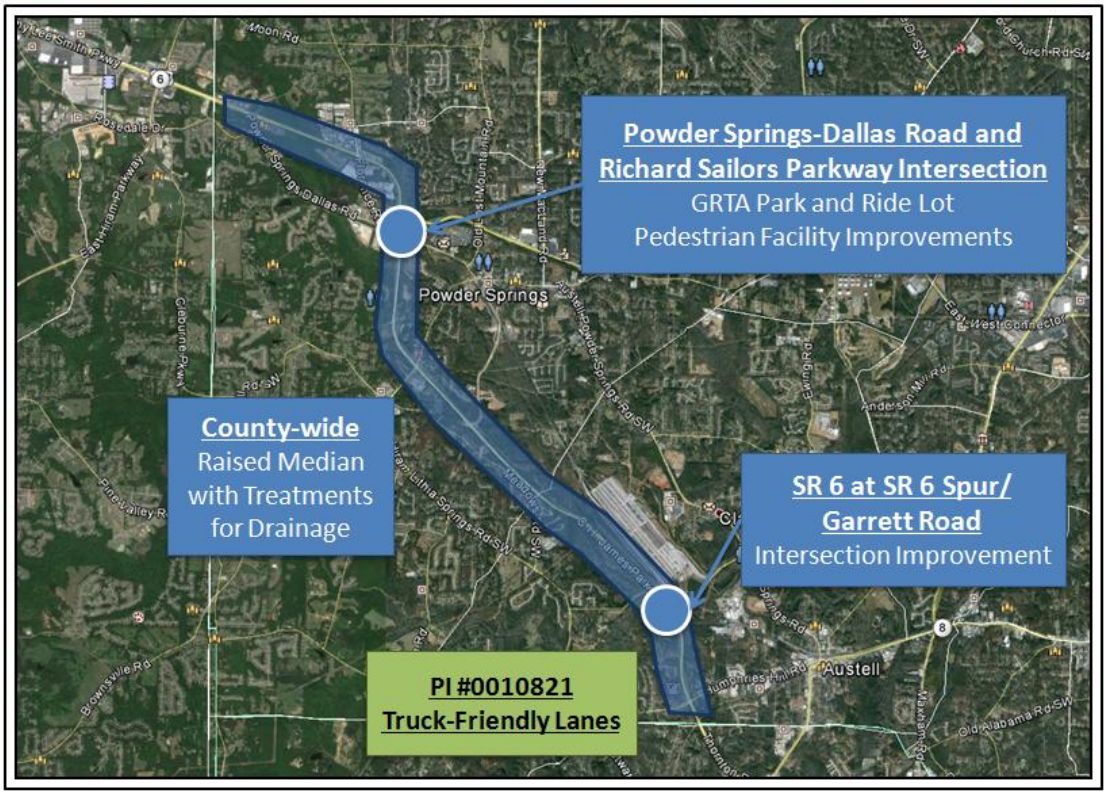


Figure 4-11: Potential Improvements in Cobb County

Within Cobb County, SR 6 is a five-lane section with a TWLTL. The corridor character in this section through Cobb County is less commercial and industrial than in Fulton and Douglas counties. There is a greater concentration of low- and medium-density residential areas, as well as forests, wetlands, and other undeveloped areas. Having a two-way left turn lane through the corridor has both advantages and

disadvantages. A TWLTL is a lane located between opposing lanes of traffic for the purpose of allowing traffic from either direction to make left turns off a roadway. This type of median treatment is best used in locations where a heavily trafficked urban or suburban roadway has traffic turning left onto side streets or into entrances of business and mid-block entrances are too close to place turn lanes and heavy volumes of left-turning traffic cause backups along the main roadway. However, there are some limitations to TWLTLs that should be considered when evaluating access management strategies. Two of the major concerns are: (1) with a TWLTL, a pedestrian refuge cannot be provided to foot traffic trying to cross the street and (2) the probability of side-swipe and angled crashes involving vehicles getting in and out of the TWLTL is higher than with medians.

Considering existing land use patterns in Cobb County, and also reviewing future land use plans for this section, it can be concluded that the character of the corridor will remain mostly residential with some undeveloped areas and wetlands. Therefore, having a physical median along this section will maintain corridor continuity and also provide much needed separation of traffic flowing in opposite direction. This would also discourage the installation of new traffic signals along the corridor, in turn maintaining through-traffic progression along the corridor. Stakeholders also recommended that the center median be designed with rain gardens, or bioswales, to help with drainage and rainfall runoff, as recommended in ARC's 2008 Connect 6 study. **Figure 4-12** shows an example of the median rain garden treatments.

Figure 4-12: Median Rain Garden/Bioswale Example
(Photo: Aaron Volkening, Website of the Soil Science Society of America)

4D. Paulding County

Based on feedback from Stakeholder Meeting #2, the Hiram commercial district was selected for subarea analysis in Paulding County. This area was further divided into two subareas: one in the Hiram Pavilion Commercial District (Poplar Springs Road to Lake Road/Depot Drive) and another near the Walmart between Pace Road and SR 92. Both quantitative and qualitative analyses are included for both subareas. A map depicting the potential improvements in the Paulding County subareas is shown in **Figure 4-13** below.

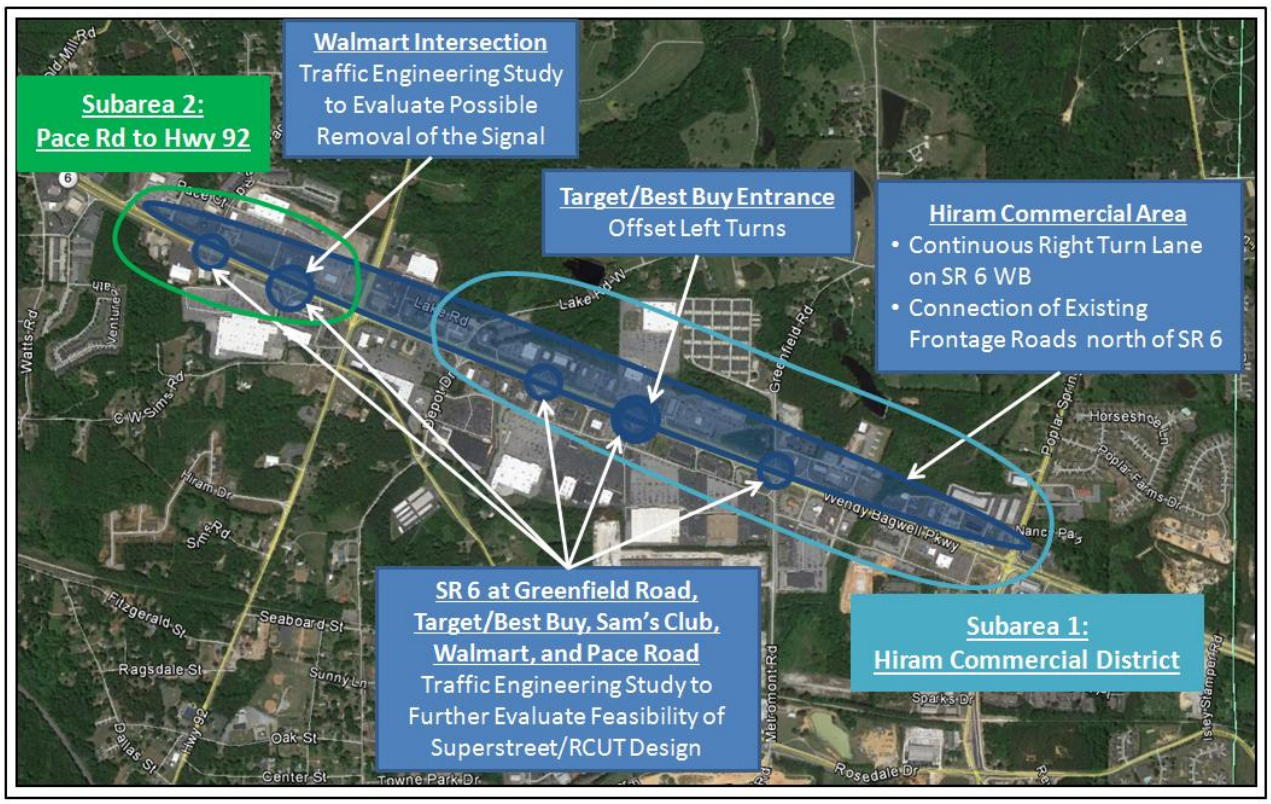


Figure 4-13: Paulding County Subareas

4D.1. Paulding Subarea 1: Hiram Commercial Area

As SR 6 crosses into Paulding County, the commercial development along SR 6 becomes increasingly dense. This area serves as the economic center of the City of Hiram. Shopping, restaurants, hotels, and entertainment venues are all concentrated in this location. In addition to the traffic generated by these developments, SR 6 is also serving as the primary commuter route between Atlanta and Paulding and Polk counties. This combination leads to heavy congestion in the area, particularly during peak hours.

This section describes issues and ideas for Paulding Subarea 1, as identified in stakeholder meetings and the analysis conducted as part of this study. **Table 4-8** provides a summary of the potential improvements for this subarea.

Table 4-8: Potential Improvements in Paulding County Subarea 1

Potential Improvement	Issue/Concern	Description of Improvement
Provide offset left turn lanes at Best Buy/Target intersection	Sight distance and driver expectancy	Widening the roadway into the existing grass median and providing offset left turn lanes would allow the driver to make a more informed decision while making a permissive left turn movement.
Conduct traffic engineering study to evaluate feasibility of alternative designs such as superstreet at multiple intersections (see **Section 4E**)	Mainline operations	A superstreet, also known as a restricted crossing U-turn (RCUT), is a type of road intersection where traffic on the minor road is not permitted to proceed straight across the major road. All traffic on the minor road must turn right instead, where it can access a U-turn ramp. Identified intersections have relatively higher potential to be considered for a superstreet location. Superstreets are one of the best ways to ensure that mobility on the mainline is prioritized while access from the minor streets is still provided. A feasibility study for super street concept for these locations is recommended.
Conduct study to assess need and feasibility of installing/extending auxiliary lanes at intersections (see **Section 4E**)	Intersection and mainline operations	Auxiliary turn lanes could be installed at intersections and driveways that do not meet the standard GDOT auxiliary lane requirement. The length of turn lanes should be investigated based on turning volume.
Connect existing frontage roads between Poplar Springs and SR 92 (see **Section 4E**)	Inter-parcel connectivity	Connecting few existing frontage roads would provide complete inter-parcel access between Poplar Springs Road to SR 92.

The Hiram Commercial Area, between Poplar Springs Road and Lake Road/Depot Drive, provides an opportunity for relatively simple geometric mitigation strategies. The extent of this subarea is highlighted in **Figure 4-13.** For instance, at the entrance to the Hiram Pavilion development, where the Target and Best Buy are located, significant operational improvements could be achieved by widening the roadway into the existing grass median to provide offset left turn movements. At this intersection, turn lanes are not offset, as is the case for all other intersections in the area. An offset left turn lane refers to a lane that is shifted laterally away from the adjacent through lanes, so that opposing left turners do not interfere with one another's sight distances. This allows the driver to make a more informed decision about when to begin the turning movement. The potential for accidents decreases with an offset, and the potential capacity of the intersection increases because more drivers can be served in this movement. The amount of offset provided has an effect on the amount of the sight distance. An example of how offset left turns improve sight distance is shown here in **Figure 4-14. Figure 4-15** shows an example of the before and after aerial view of what the changes would look like. Additional options applicable to the subarea such as frontage roads, auxiliary lanes, and alternative intersection designs are discussed in **Section 4E**.

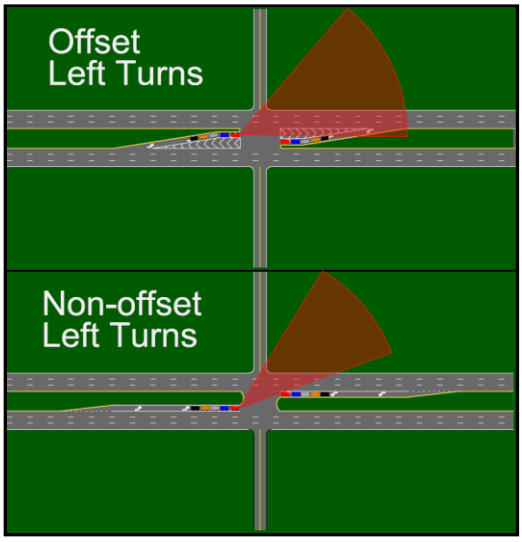


Figure 4-14: Cone of Vision for Left Turns

Figure 4-15: Examples of Intersections without (left) and with (right) Offset Left Turns

4D.2. Paulding Subarea 2: Pace Road to SR 92

Some of the potential improvements related to access management in this subarea would require geometric adjustments to the physical roadway based on existing conditions. The ultimate goal is to promote the safe, smooth, and efficient operation of SR 6. This section describes issues and ideas for Paulding Subarea 2, as identified in stakeholder meetings and the analysis conducted as part of this study. **Table 4-9** provides a summary of the potential improvements for this subarea.

Table 4-9: Potential Improvements in Paulding County Subarea 2

Potential Improvement	Issue/Concern	Description of Improvement
Perform traffic engineering study for removing traffic signal at the Walmart intersection in Hiram	Close spacing of signalized intersections	Preliminary results indicate that removal of the signal and bringing up to the GDOT standard on signal spacing requirement would provide travel time savings for the drivers on SR 6. In addition to the removal of the signal, a grass median could be added and the driveway operated as right-in-right-out only.
Conduct traffic engineering study to evaluate the feasibility of alternative designs, such as superstreet at multiple intersections (see **Section 4E**)	Mainline operations	Identified intersections have relatively higher potential to be considered for a superstreet location. A feasibility study for super street concept for these locations is recommended.
Conduct study to assess the need and feasibility of installing/extending auxiliary lanes at intersections (see **Section 4E**)	Intersection and mainline operations	Auxiliary turn lanes could be installed at intersections and driveways that do not meet the standard GDOT auxiliary lane requirement. The length of turn lanes should be investigated based on turning volume.
Connect existing frontage roads between Poplar Springs and SR 92 (see **Section 4E**)	Inter-parcel connectivity	Connecting a few existing frontage roads would provide complete inter-parcel access between Poplar Springs Road to SR 92.

Signal spacing is the one of the core concerns when implementing access management policies along corridors. Proper spacing of signals restricts unwarranted access points and improves the normal flow of the through traffic. Of the three segments along the entire SR 6 corridor study limits that do not meet GDOT's minimum 1,000-foot signal spacing requirement, two are located on either end of the entrance into the Walmart in Hiram. Due to less than minimum spacing between signalized intersections, several operational issues are observed in this section of SR 6. During congested periods, queues back up into adjacent intersections, limiting access from adjacent driveways and delaying queue clearance on the

mainline. Several improvements including removing the signal, adding grassed median, and making the driveway right-in-right-out only are analyzed in this report. An aerial view of the area with and without these improvements is shown in **Figure 4-16.**

Figure 4-16: Paulding Subarea 2 (SR 92 to Pace Road): Before and After of Signal Removal at Walmart

In this scenario, both westbound and northbound left turns would no longer be possible, eliminating conflicts associated with these movements and potentially allowing for more efficient operation. The right-in-right-out only concept means that drivers wishing to turn left out of the Walmart must instead take a right onto SR 6, and then make a U-turn at the intersection at SR 92 to continue westward. Similarly, a driver approaching from the east wishing to enter the Walmart must enter through the driveway on SR 92, or continue to the Pace Road intersection, make a U-turn, then turn right into Walmart. While it may seem that the number of maneuvers for the drivers accessing Walmart increases with the closure of this signalized intersection, traffic volumes for these movements add to only 6 percent of the total volume at the intersection during peak hours, making these movements operationally possible. However, it is important to consider the effects of weaving vehicles wishing to make a U-turn. Those turning right out of the Walmart entrance intending to perform a U-turn at SR 92 will only have 350 feet of weave distance for a three-lane weave. As per the Highway Capacity Manual, this short weaving distance can make the maneuver uncomfortable for the driver. Thus, this improvement may require addition of a new road behind the auto parts store, as SR 92 may not be able accommodate all the U-turns that would be added.

Operational Analysis of Proposed Improvement in Paulding Subarea 2

To provide a preliminary analysis of the effects of the signal removal, ARTPLAN 2012, an arterial LOS tool that is included in the HCS 2010 software suite by McTrans, was used. It offers planning-level analyses for

arterial facilities based on 2010 Highway Capacity Manual procedures. With basic geometric and volume inputs, it provides reliable estimates of travel speeds and delay through a direction of an arterial segment. Using ARTPLAN as the analysis tool, it is possible to estimate simple operation changes that can occur with the removal of this signal. Using 2012 volumes and signal timing data from directional peak periods, the change in average speed, travel time, and control delay through the segment were analyzed. The results of the ARTPLAN analysis are shown in **Table 4-10** below.

Table 4-10: ARTPLAN 2012 Results for Removal of Signal at Walmart in Subarea 2

Eastbound Travel (AM peak)	With Signal	Without Signal	Improvement (%)
Average Speed (mph)	8.2	8.9	7.3%
Travel Time (s)	131.0	122.0	6.8%
Control Delay (s)	119.6	105.5	11.8%

Westbound Travel (PM peak)	With Signal	Without Signal	Improvement (%)
Average Speed (mph)	17.3	45.3	162.6%
Travel Time (s)	62.6	23.8	61.9%
Control Delay (s)	41.8	3.6	91.5%

The HCM methodology estimates significant operational improvements to SR 6 with the removal of the signal. Travel time savings of up to 45 seconds would result for someone traveling eastward in the morning and westward in the evening. It should be noted that a traffic signal timing update would be needed in this section of subarea between SR 92 intersection to Pace Road intersection with the removal of traffic signal at the intersection of SR 6 and Walmart. Cycle lengths at the SR 92 and Pace Road intersections with SR 6 would have to be updated to accommodate additional U-turn movements. Also, signal coordination and offset timing would have to be revised to accommodate the removal of a signal. Retiming this section of the corridor and removal of the signal at Walmart would improve overall travel time and travel speed within the subarea. Although planning-level analysis shows potential improvement of operations, a more detailed traffic study is recommended to further evaluate the impacts of removing the signal.

Part B – Corridor-Wide Analysis

4E. Corridor-Wide Analysis & Considerations

4E.1. Operational Improvements

Apart from improvements evaluated in the selected subareas discussed in the previous section, several other locations along the corridor were identified as having recurring operational issues and concerns. Proposed improvements for these specific locations are discussed below. **Table 4-11** provides a summary of the potential operational improvements along the corridor.

Table 4-11: Operational Improvements along Corridor

Potential Improvement	Issue/Concern	Description of Improvement
Consider improvements such as extension of left turn lane at Welcome All Road and provision of left turn at Enon Road, signal timing optimization to improve operations at these intersections	High crash rates and high number of red-light-running offenders	In order to improve operations, the extension of the left turn lane at Welcome All Road intersection and the provision of turn lanes at Enon Road intersection are recommended. Signal retiming and additional operational analysis coupled with law enforcement would discourage red-light running.
Conduct study to assess the need and feasibility of installing/extending auxiliary lanes at all intersections	Operations	It is recommended that auxiliary turn lanes be installed at intersections and driveways that do not meet the standard GDOT auxiliary lane requirement. The length of turn lanes should be investigated based on turning volume.
Examine the feasibility of re-opening Merk Road north of SR 6	Intersection geometry	Reopening Merk Road just north of SR 6 would bring this intersection back to a four-leg intersection.
Conduct an operational study at SR 6 and Blairs Bridge Road/Interstate W Parkway intersection	High U-turn volumes	This traffic engineering study would evaluate possible options to minimize weaving issues on SR 6 between the I-20 WB off-ramp and N Blairs Bridge Road.
Perform a traffic engineering study to evaluate options to improve SR 6 at Garrett Road intersection	Truck SB to EB movements	Improved superelevation would allow the trucks to better turn.
Provide a median barrier on SR 6 between Welcome All Road and SR 70/FIB	Drivers crossing the median	A physical median barrier would be provided in order to encourage the drivers on SR 6 to use the intersections for making turns instead of crossing the median.
Provide intersection improvements at Butner Rd at SR 6	Pedestrian accommodations and congestion	Intersection improvements such as turn lane and signal upgrades would improve operations for vehicles and pedestrians.

Intersection Improvements at SR 6 Intersections with Welcome All Road and Enon Road

On SR 6 between Welcome All Road and Bakers Ferry Road, crash rates for the number of fatal crashes (defined as involving at least one fatality) and the total number of fatalities are higher than the statewide average rates for the years 2008 through 2012. A high number of crashes and red-light runners have been recorded at the SR 6 intersections with Welcome All Road, Enon Road, and SR 154/Campbellton Road. In order to improve operations, the extension of the left turn lane at the Welcome All Road intersection and

the provision of turn lanes at the Enon Road intersection are recommended. As stakeholders in this study, representatives from the Airport West CID indicated that the CID would soon begin a study of the Welcome All Rd at SR 6 intersection area. Therefore, further coordination among stakeholders is recommended to address findings from that study. The red-light running issue could be related to signal timing; thus, an evaluation for signal retiming and additional operational analysis is recommended in order to discourage red-light running and improve operation of the intersection. Additionally, Fulton County public works staff should consider contacting law enforcement regarding the issue of red-light running.

Intersection Auxiliary Lane Analysis

Auxiliary lanes are a common treatment used to improve bottlenecks at signalized intersections; they typically have low to moderate costs, compared to other roadway improvements. Auxiliary lanes are additional through and/or right turn lanes that can be added to the right side of the roadway's approaches before the intersection; they typically taper off after the intersection. An example showing auxiliary lanes is shown in **Figure 4-17.**

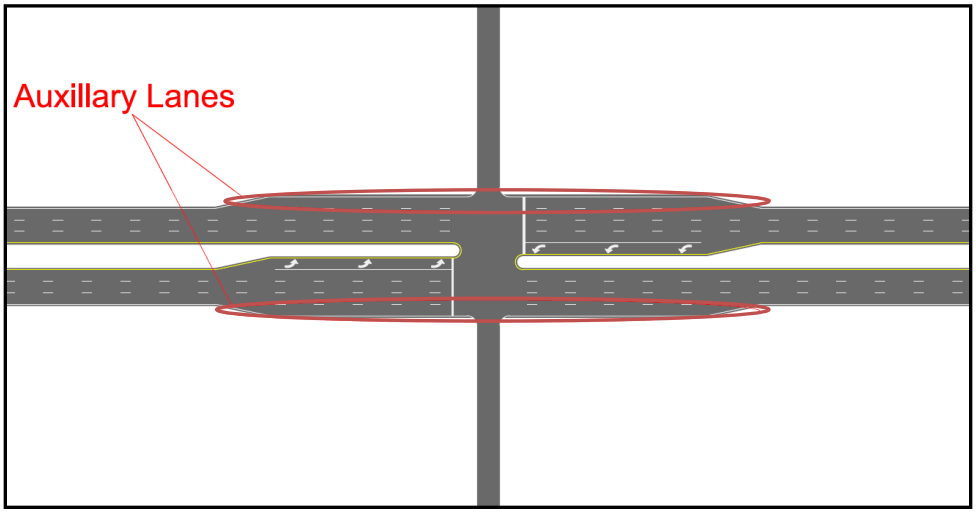


Figure 4-17: Auxiliary Lanes at an Intersection

The addition of auxiliary lanes serves two purposes. First, it allows more through vehicles to be processed through the intersection during a particular phase. This reduces delays for the through movements and allows extra time for serving other movements during the signal cycle. The second purpose is that it allows right-turning vehicles room to decelerate before making the turning movement. This lessens the impact to the through movement from right-turning vehicles and reduces the occurrence of rear-end crashes. Additionally, the extra lane after the intersection would give vehicles turning right on red from the minor street room to accelerate before merging with free-flowing mainline traffic. This treatment could be beneficial to areas along SR 6, particularly because of the high volumes and speeds experienced along the corridor. It is recommended that the need for installing auxiliary turn lanes be studied for all intersections throughout the study corridor. GDOT Regulations for Driveway and Encroachment Control (GDOT RDEC 2009) summarizes minimum requirements for right turn deceleration lanes and left turn lanes relative to

right turn volumes (RTV) and left turn volumes (LTV) based on ITE Trip Generation. The length of turn lanes can be also investigated for adequacy. Ideally, turn lanes should provide a full-width lane that is long enough to allow for vehicles to decelerate from the operating speed to a full stop in addition to the length of full-width lane that is needed to store vehicles waiting to turn. **Tables A-1** through **A-4** summarize design criteria for auxiliary turn lanes, including minimum volume requirements for right and left turn lanes and minimum storage length. The provision of auxiliary turn lanes at intersections would improve the operation of intersections and in turn help alleviate congestion of the SR 6 mainline traffic.

An example of how this could be applied was modeled for the intersection of SR 6 and SR 61/Nathan Dean Blvd. Here, about 400 feet of auxiliary lane was added before and after the intersection along SR 6, and modeled in Synchro with forecasted 2020 volumes and no signal timing changes. The resulting delay values are recorded in **Table 4-12** below.

Table 4-12: Synchro Results of Adding an Auxiliary Lane to SR 6 at SR 61/Nathan Dean Blvd

	Without Aux. Lanes	With Aux. Lanes	Improvement
Intersection Delay (s)	77.7	73.2	5.8%
EB Through Delay (s)	50	36	28.0%
WB Through Delay (s)	37	34	8.1%

These results suggest that the addition of auxiliary lanes could result in significant reduction in delay at the intersection. If the signal timing were to be adjusted to reflect these changes, even greater intersection-wide improvements may be achieved. This would be an ideal treatment at an intersection where 12 feet or more of right-of-way is available on either side of the roadway. However, while auxiliary lanes may improve the conditions at the intersection, the lane reduction after the intersection may create issues in some situations. It is possible that implementing auxiliary lanes could merely shift the bottleneck downstream of the intersection and the backups from the downstream bottleneck could block the intersection. Additionally, by increasing the width of the roadway, it would increase both the distance needed for a pedestrian to cross and the pedestrian interval. For the auxiliary lane to be effective, it is also very important that the drivers of the through vehicles perceive the benefit of the extra lane. If they do not, they will not use the lane, diminishing its capacity improvement. A detailed traffic study is recommended before consideration of this type of treatment.

One of the key benefits to the auxiliary lane is that it allows a space for the deceleration and acceleration of vehicles without overly impacting through traffic. There is another way to achieve this that does not require any new pavement. There are sections in Hiram, particularly along westbound SR 6, that feature a continuously paved right lane that is marked for individual right turn movements into and out of driveways. An aerial image of this configuration is shown in the top portion of **Figure 4-18** below.

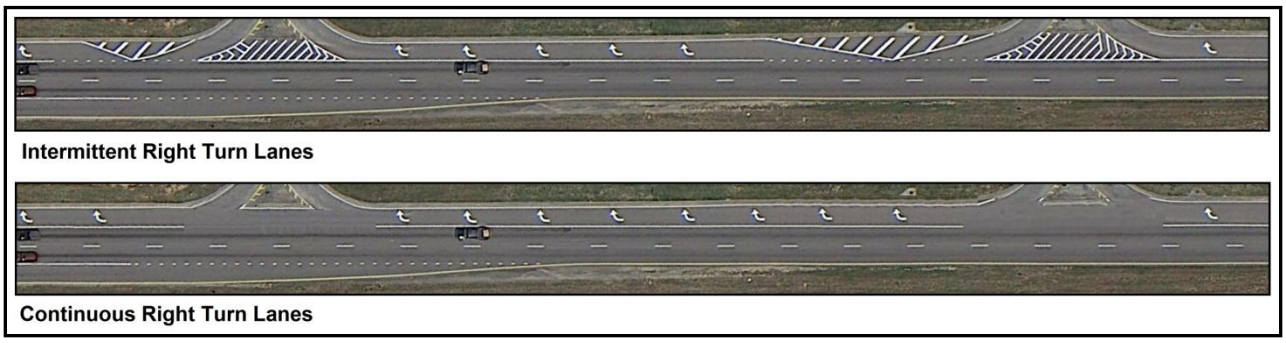


Figure 4-18: Intermittent & Continuous Right Turn Lanes

A potential concern with the configuration shown in the top image of **Figure 4-18** is that it may not always provide the most comfortable spacing for deceleration, thereby requiring drivers to either decelerate heavily once they are in the lanes, or begin to decelerate before they move into the lane. Also, the shorter acceleration lanes can cause forced merges with high-speed vehicles, because the merging vehicles do not have enough space to comfortably merge with through traffic. One way to mitigate this would be to improve this area to have a continuous right turn lane, rather than the many segmented deceleration and acceleration lanes. This type of configuration is shown in the bottom image of **Figure 4-18**. With this configuration, there is more room and flexibility for motorists to accelerate and decelerate, resulting in increased driver comfort and therefore improved accelerations and decelerations. It would be important to consider the traffic volumes entering and exiting the driveways before applying this type of treatment. This solution would be ideal in locations where the driveway volumes are relatively low compared to the through movements on SR 6. This application may only be appropriate in certain situations, however, like where low driveway spacing creates a greater concentration of conflict points between the accelerating and decelerating vehicles or where heavy volumes in and out of the driveways provide more opportunities for vehicle conflicts. It is important to consider the unique characteristics of any location before applying a treatment such as this.

Re-Open Merk Road Just North of SR 6

There was also discussion of reopening Merk Road just north of SR 6, bringing this intersection back to a four-leg intersection at the stakeholder meetings. If reopened, Merk Road would provide a direct connection to Butner Road and easier access to SR 154/Campbellton Road and I-285 interchange to the north via Butner Road. However, the roadway may have been closed due to safety, sight distance, and/or low turning volumes, so consideration of these and other possible factors would need to be fully explored.

Blairs Bridge Road/Interstate W Parkway Intersection Study

Stakeholder feedback indicated that the intersection of SR 6 and Blairs Bridge Road/Interstate W Parkway currently experiences high left and U-turn movements from the eastbound approach possibly for access to the Walmart Supercenter. However, the current data available during this study did not show significant

congestion at this location. Therefore, further investigation of an intersection operational study is recommended at this location.

Perform a traffic engineering study to evaluate options to improve SR 6 at Garrett Road intersection

Although this intersection is included within the limits of existing programmed projects, additional in-depth traffic engineering study could be beneficial to evaluate the best possible intersection design for this unique location due to its heavy truck turning volumes associated with the intermodal terminal. For example, improved superelevation would allow the trucks to better turn onto and off of SR 6.

Provide a median barrier on SR 6 between Welcome All Road and SR 70/FIB

Stakeholders indicated that drivers often cross the median in this section of SR 6. A physical median barrier would encourage drivers use the intersections for making turns instead of crossing the median.

Provide intersection improvements at Butner Rd at SR 6

Intersection improvements including turn lanes and signal upgrades are recommended based on existing and future conditions analysis and stakeholder comments regarding need for pedestrian accommodations at this location. This intersection was identified as having existing PM peak hour LOS E and is forecasted to have failing LOS in the future baseline condition (2020). Heavy southbound traffic on Butner Road backs up causing significant delays in passing through the SR 6 intersection. Additionally, the Wolf Creek Nature Trail located on the east side of Butner Road ends prior to this intersection and does not currently provide connectivity from the north to the south side of SR 6.

4E.2. Operational Improvements based on Crash Analysis

As analyzed in Chapter 2 (Existing Conditions), four segments in the study corridor were identified as crash hotspots that exceed statewide average rates for all five categories: fatal crashes (defined as crashes that involve at least one fatality), total fatalities, injury crashes (defined as crashes involving at least one injury), total injuries, and all crashes. These segments include Airport Drive to Washington Road (1.5 miles), Washington Road to Princeton Lakes Parkway (1.5 miles), I-20 to Skyview Drive (0.5 miles), and Old Harris Road to South Main Street (1.1 miles).

Among these segments, the segment between Washington Road and Princeton Lakes Parkway in Fulton County and the segment between Old Harris Road and S Main St in Paulding County showed the highest crash rates. The injury crash rate, injury rate, and overall crash rate were 10 to 12 times higher than the statewide averages in the segment between Washington Road and Princeton Lakes Parkway. The fatality crash rate and fatality rate in the segment between Old Harris Road and S Main St were 10 to 11 times higher than the statewide averages.

Based on these preliminary analysis results, it is recommended that in-depth roadway audit studies be conducted for the identified crash hotspots in order to pinpoint specific issues. **Table 4-13** provides a summary of the potential improvements or considerations along the corridor.

Table 4-13: Operational Improvements along Corridor based on Crash Analysis

Potential Improvement	Issue/Concern	Description of Improvement
Conduct an in-depth roadway audit study between Airport Drive and Princeton Lakes Parkway	Among the highest crash rates recorded within the whole study area	An in-depth roadway audit study would pinpoint specific issues.
Examine the feasibility of restricting access from Publix onto Princeton Lakes Parkway in Camp Creek Marketplace area	Weaving issues due to the proximity of Publix intersection to SR 6	Restricting direct access from Publix onto Princeton Lakes Parkway would improve operations along Princeton Lakes Parkway near SR 6 by removing weaving movements and potentially improving the operation of the SR 6 intersection with Princeton Lakes Parkway.
Investigate operational improvements and law enforcement strategies along corridor between Welcome All Road to Bakers Ferry Road	High crash rates and presence of red-light runners	In order to improve operations, the extension of the left turn lane at the Welcome All Road intersection and the provision of turn lanes at the Enon Road intersection are recommended. Signal retiming and additional operational analysis, coupled with law enforcement, would discourage red-light running.
Conduct an in-depth roadway audit study between I-20 and Skyview Drive	High crash rates	An in-depth roadway audit study would pinpoint specific issues.
Conduct an in-depth roadway audit study between Old Harris Road and S Main Street	High crash rates	An in-depth roadway audit study would identify specific issues.

4E.3. Alternative Intersection Designs

By reviewing existing and future baseline conditions, approximately one-third of the SR 6 intersections will operate at a failing LOS by 2020 for either the AM or PM peak hour. The following intersections in each county are expected to operate at failing level of service:

- N. Commerce Drive, Butner Road, Westlake Parkway, SR 70/FIB, and Bakers Ferry Road (Fulton)
- Riverside Parkway, Bob Arnold Drive, I-20 EB ramps, Skyview Drive, Maxham Road, and US 78/Veterans Memorial Highway (Douglas)
- Garrett Road and Richard D Sailor Parkway (Cobb)
- Isley Stamper Road, Cleburn Parkway/Poplar Springs Road, Target/Best Buy, SR 92, Old Mill Road, Bill Carruth Parkway, Paris Road, Nathan Dean Blvd, and S Main Street (Paulding)

Table 4-14 provides a summary of the potential locations for alternative intersection design considerations along the corridor.

Table 4-14: Alternative Intersection Design Considerations along Corridor

Potential Improvement	Issue/Concern	Description of Improvement
Complete a traffic engineering study to evaluate the feasibility of installing an alternative intersection design SR 6 and Maxham Road intersection	Congestion	Preliminary results indicate that a CFI, PFI, or modified QR intersection are feasible alternative intersection configurations. A further in-depth study for operations and constructability for these options is recommended.
Complete a traffic engineering study to evaluate the feasibility of installing an alternative intersection design at the SR 6 and Veterans Memorial Highway intersection	Congestion	Preliminary results indicate that a CFI, PFI, or a grade separation are feasible alternative intersection configurations. An intersection/interchange design study and lighting review is recommended for this location.

Possible alternative intersection designs considered for these intersections and diagrammatic representations and their related access management considerations are included in **Table E-5** and **Table E-6 (Appendix E)**. All of the alternative intersection designs remove at least one of the conventional left turn movements at a major intersection, which has the advantage of fewer signal phases and associated shorter cycle lengths, shorter delays, and higher capacities compared to conventional intersections **Table 4-15** provides a summary of the planning feasibility assessment of alternative intersection designs at these failing intersections. Four different alternative intersection design options were considered: CFIs, including displaced left turn (DLT) and crossover displaced left turn (XLT); median U-turn (MUT) intersections or Michigan lefts (MLs); RCUT intersections or superstreets; and QR intersections.

The intersections of SR 6 with Maxham Road and Veterans Memorial Highway are discussed in detail in the section below due to their failing LOS and highlighted concern from stakeholders.

Congestion at Intersection of SR 6 and Maxham Road

The intersection of Maxham Road and SR 6 (Thornton Road) is located approximately 1.3 miles north of the I-20 interchange in Douglas County. It is currently signalized with protected left turn phases and crosswalks on all approaches and operates at failing LOS during the PM peak period. The 2013 annual average daily traffic (AADT) volume was 59,740 on SR 6 west of the intersection and 26,790 for Maxham Road south of the intersection. The AADT on SR 6 west of Veterans Memorial Highway was recorded as 32,550 in 2013, indicating that SR 6 AADT nearly doubles as it approaches the Maxham Road intersection. All four quadrants of the intersection are well developed with retail/commercial establishments in each quadrant. GDOT currently has a project (PI 0012621) programmed for Maxham Road from SR 6 to Tree Terrace Parkway, which is aimed at congestion reduction and traffic flow improvements at the SR 6 at Maxham Road intersection through minor widening, lane change assignments, and the elimination of weaving to help reduce traffic congestion in this area. The project also includes proposed sidewalks along the road serving two major apartment complexes that provide direct pedestrian access to the retail commercial area. The possibility of a mixed-use development in the area was also mentioned at the initial stakeholder meeting. Stakeholders also mentioned a previous long-range project to extend Maxham Road to N Blairs Bridge Road, which had been considered but has not progressed to planning or design stages.

A preliminary analysis of existing and future year (2020) traffic conditions was completed for the SR 6/Maxham Road intersection. As indicated, the operational results for the intersection indicate that both

the CFI and QR intersections are applicable options. The construction of either a CFI or QR at this intersection would have high right-of-way and overall costs due to the developed nature of all existing quadrants. As such, the relatively new parallel-flow intersection (PFI) and the option of a modified quadrant design, which utilizes the existing road network, could also be considered.

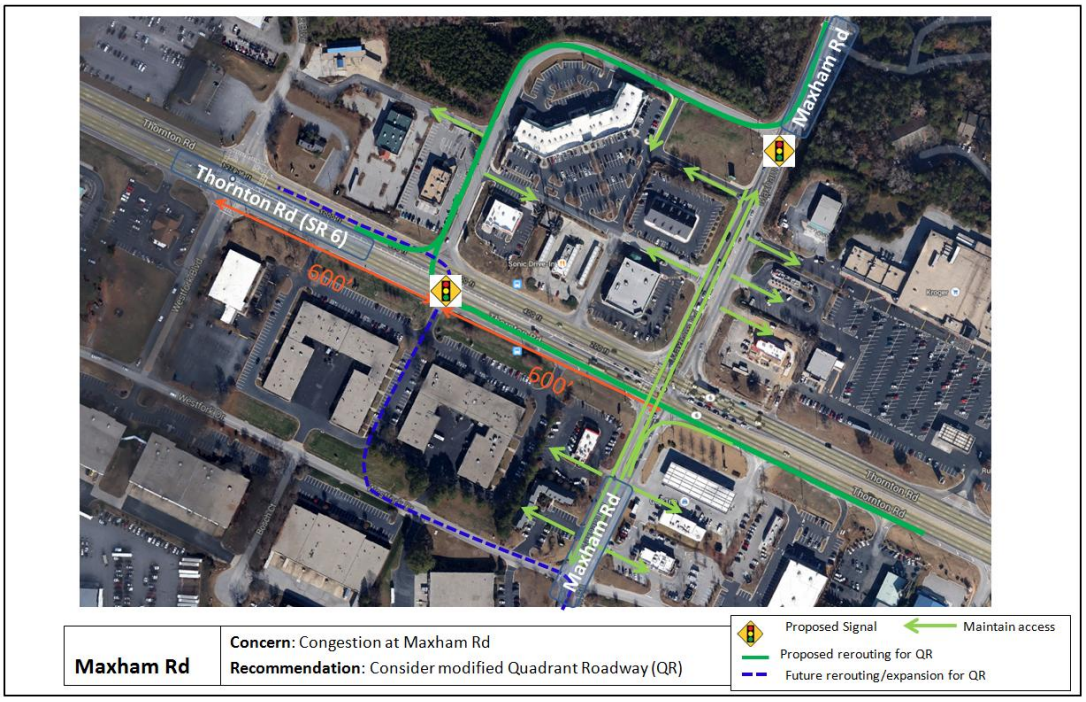


Figure 4-19: Maxham Road – Modified Quadrant Roadway

As shown in **Figure 4-19**, the heavy southbound left turn movement, as well as the southbound right turn from Maxham Road to SR 6 could be routed through the existing roadway in the northwestern quadrant of the intersection with a conversion of the existing right-in-right-out driveway to SR 6 into a signalized median crossover. This design would result in a new signalized intersection, which would be approximately equidistant at 600 feet from the adjacent signalized intersections at Maxham Road and Westfork Blvd. Although this intersection would not meet the GDOT RDEC minimum requirement of 1,000-foot spacing for urban settings, the benefits in operational improvements at the Maxham Road intersection could support the cause for an exception, pending a more detailed traffic study. The existing northbound left turn volume at the main Maxham Road intersection indicates that the protected phase could be reconfigured to a protected/permissive phase or eliminated and reconfigured as a permissive phase with the removal of the dual southbound left movement, thus freeing green time in the cycle, which could be allocated to the through movements. If future northbound left turn volumes warrant a protected phase, there is the option to route them on the QR route shown in dotted blue, which utilizes a portion of Westfork Drive and new construction. It is important to note that this extension option would also allow a transition to a superstreet-based concept where all Maxham Road traffic could be diverted through the

quadrant roadway in the event that the quadrant development characteristics change in the future with more dense retail development. Under the current intersection design and existing conditions where retail/commercial developments exist in all quadrants, the through movements on Maxham Road need to be maintained to provide continued access to the adjacent businesses.

Congestion at Intersection of SR 6 and Veterans Memorial Highway (Bankhead Highway)

The intersection of Veterans Memorial Road (US 78) and SR 6 (Thornton Road) is located approximately 2.6 miles north of the I-20 interchange in Douglas County. The intersection has developed quadrants (see **Figure 4-20**). The County currently has a redevelopment plan for Veterans Memorial highway between S Sweetwater Road and the Cobb County line. The 2013 annual average daily traffic (AADT) volume on SR 6 just west of the intersection is 32,550 with 10 percent trucks. Veterans Memorial Highway has an AADT of 14,700 with 7 percent trucks for the southbound approach and 14,170 with 7 percent trucks for the northbound approach.

This intersection currently experiences high congestion (LOS D and E for the AM and PM peak periods, respectively) and is located in a segment with crashes above the statewide average. It is a signalized intersection with protected left turn phases, channelized right turns, crosswalks, and pedestrian signals on all approaches. The intersection currently operates at a failing LOS during both peak periods. The crash analysis also reveals that rear-end crashes are common at this intersection.

As such, the alternative intersections described in Appendix E were also considered for this intersection. Additionally, three grade-separation treatments (the split intersection, echelon interchange, and center left-turn) were considered. These options are arterial interchanges that can result in free flow to the mainline movement but can be designed to fit into narrow rights-of-way and non-freeway settings. Generally, grade-separation treatment is a costly option. It affects adjacent land use, pedestrians, and cyclists; has substantial traffic impacts during construction; and is usually considered when at-grade intersections are no longer feasible.

Arterial interchanges at this location could improve operations while reducing congestion. A CFI design is also feasible for this intersection, as indicated by the preliminary analysis It is therefore recommended that a traffic engineering study to assess the feasibility of a CFI, PFI, and an arterial interchange design be completed for the intersection of SR 6 and Veterans Memorial Highway. A lighting review of the intersection is also recommended.

Figure 4-20: Veterans Memorial Highway Intersection

Table 4-15: Alternative Intersections Matrix for Failing Intersections

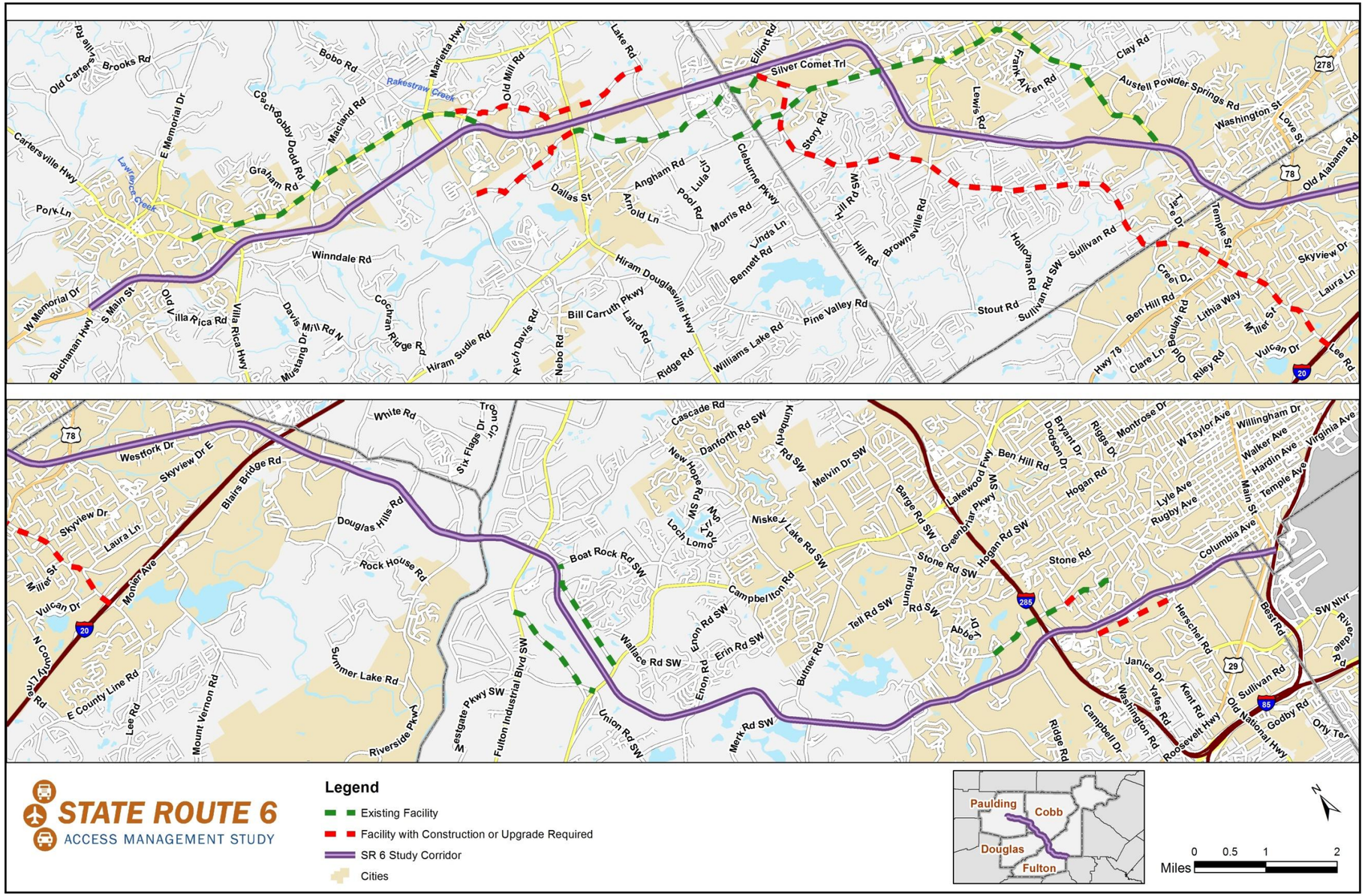
Intersection	Applicable Conditions	Fulton					Douglas						Cobb		Paulding								
		N Commerce Dr	Butner Rd	Westlake Pkwy (Unsig)	SR 70/FIB	Bakers Ferry Rd (Unsig)	Riverside Pkwy	Bob Arnold Dr (Unsig)	I-20 EB Ramps	Skyview Dr	Maxham Rd	US 78/ Veterans Memorial Hwy	Garrett Rd	Richard D Sailor Pkwy	Isley Stamper (Unsig)	Cleburn Pkwy/ Poplar Springs	Hiram Pavillion/ Target/Best Buy	SR 92	Old Mill Rd (Unsig)	Bill Carruth Pkwy	Paris Rd (Unsig)	SR 61/ Nathan Dean Blvd	S Main St (Unsig)
CFI/DLT/XLT	V/C ratio > 0.8 on two opposing approaches	Y	Y				Y			Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	
	Cross product of LT and opposing through veh > 150,000 on two opposing approaches	Y	Y		Y		Y	Y		Y	Y	Y		Y		Y	Y	Y		Y		Y	
	LT volume > 250 veh/hr/ln and opposing through volume > 500 veh/hr/ln on two opposing approaches		Y		Y													Y		Y			
	Intersection heavily congested with many signal failures	Y	Y		Y		Y			Y	Y	Y	Y	Y		Y		Y		Y			
	LT queues at an intersection spill beyond LT storage bays	Y					Y		Y	Y	Y	Y		Y		Y	Y	Y		Y			
MUT/ML	LT volume/total approach volume is less than 0.2 on all intersection approaches		Y									Y			Y								
	LT volume < 400 veh/lane, and opposing through volume > 700 veh/lane on two opposing intersection approaches																						
	V/C ratio > 0.8 on two opposing approaches	Y	Y				Y			Y	Y	Y				Y	Y	Y	Y	Y	Y	Y	
	Cross product of LT and opposing through veh > 150,000 on two opposing approaches	Y	Y		Y		Y	Y		Y	Y	Y		Y		Y	Y	Y		Y		Y	
	Intersection heavily congested with many signal failures	Y					Y		Y	Y	Y	Y		Y		Y	Y	Y		Y			
RCUT/ Superstreet	Heavy through volumes and LT volumes on major road approaches													Y									
	The ratio of the minor road approach volume to the total intersection approach volume < 0.20	Y	Y	Y		Y		Y	Y	Y			Y	Y	Y		Y		Y		Y		Y
	The mainline left-turning volume/lane > 80% of the minor road traffic/lane that would move concurrently during the same signal phase	Y			Y	Y		Y				Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Intersection heavily congested with many signal phase failures for through and left-turn traffic on major road	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
QR	Heavy through volumes	Y	Y	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		Y		Y
	One high left-turn volume	Y	Y		Y			Y	Y		Y	Y		Y						Y		Y	
	Moderate or low-left-turn volume as there is increase in distance for left turning vehicles. May be applicable to low u-turn volumes		Y	Y		Y		Y					Y		Y		Y		Y		Y		Y
	Empty or redeveloping quadrant - available right of way	Y	Y	Y	Y	Y	Y					Y	Y	Y	Y	Y			Y		Y	Y	Y
	Nearby signals; reduces cycle length at main intersection	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	Future plans for grade separation																						
	Skewed intersection						Y			Y									Y				Y

*Source for applicable conditions: Alternative Intersections/Interchanges Informational Report (AIIR, FHWA)
*"Y" denotes meeting condition

4E.4. Frontage Roads

Providing frontage roads (service roads) parallel to SR 6 can be an effective access management strategy. These frontage roads can facilitate access to private properties while separating them from the principal roadway. This strategy would encourage short, local trips to reach their destinations without accessing SR 6 and in turn could improve the operations of SR 6. This strategy would also provide alternative routes to SR 6 and an opportunity for the drivers to detour when necessary.

In addition to the stakeholder input, the study corridor was evaluated to identify potential frontage roads and alternative routes to SR 6. **Figure 4-21** shows locations of the possible frontage roads and parallel facilities to SR 6 for future consideration. Green dotted lines indicate existing facilities, and red dotted lines indicate areas where either construction or upgrade of the facilities may be required for use as alternate routes. Some of these roads seem to primarily serve residential areas, thus an in-depth feasibility study should precede any further consideration of these roads as parallel facilities to SR 6. Signage could be also provided to promote the use of these alternative routes. Based on stakeholder input, the possible connectivity of Six Flags Road between Interstate Parkway (Bob Arnold Blvd) and Blairs Bridge Road (Interstate W Parkway) with an extension to provide access to I-20 was evaluated. Preliminary feasibility analysis, however, indicates that a direct connection between Six Flags Road and I-20 is not possible without impacting the existing Walmart and Mitsubishi Motors.



STATE ROUTE 6
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Figure 4-21: Potential Frontage Roads and Parallel Facilities – Corridor-Wide

Frontage Roads in the Hiram Commercial Area

One of the most effective means of improving mobility and congestion on SR 6 is to reduce demand on the mainline. Multiple trips are common in areas with mixed-use developments, as seen along most of the SR 6 corridor. Providing inter-parcel access through the mixed-use development may reduce additional trips on the mainline and may reduce the overall operational impacts of development.

Most of the existing mixed-use developments in the Hiram commercial area have reasonable internal connectivity. For example, there is an existing frontage road running parallel to SR 6 on the south side of the highway between Poplar Springs Road and Depot Drive. This road allows shoppers to travel within these developments without having to access SR 6. However, on the north side of SR 6, there is no such connecting road. There are a few possibilities for establishing such connectivity that will be discussed in the following section. There is potential to provide a connection all the way from Poplar Springs Road to SR 92 by connecting a few existing roads. One such example would be to connect Lake Road from Greenfield Road to Poplar Springs Road. Existing and potential frontage roads are shown in **Figure 4-22**.

Frontage/Backage Road Connectivity in Hiram

In the Hiram Commercial district, the developments on the south side of State Route 6 include a fully connected frontage/backage road form SR 92 to Poplar Springs Rd. This connectivity allows for access between parcels, without forcing drivers back on to SR 6. In addition to being more convenient for the driver, it reduces traffic volumes on the main road, improving operations. In addition, businesses may benefit because of increased visibility from potential customers passing closer to store fronts at low speeds.

On the north side of SR 6, there is no such continuous frontage/backage road. It can be seen below that there are several segments of roadway throughout the developments on this side of the road that meet this function. If they were connected by new roads (shown in red below), the entire area from SR 92 to Poplar Springs Rd. would be served. The new segments of roadway would need to be from Lake Rd to Best Buy, and from Brusters Ice Cream to Meineke Car Care.

Figure 4-22: Frontage Road Connectivity in Hiram

4E.5. Quadrant Connectivity

Quadrant connectivity refers to the use of a connector roadway located in one of the quadrants at an intersection to relocate mainline left-turn movements. Quadrant roadways are most effective at intersections with empty or redeveloping quadrants with minimal right-of-way costs. Most of the signalized intersections within the study limits currently have existing development in their respective quadrants. In addition to the modified quadrant roadway for Maxham Road intersection earlier described, intersections identified as having a future potential for quadrant connectivity are highlighted in this section and listed below. It is recommended that quadrant roadways be considered during future development near these intersections:

- Riverside Parkway
- Factory Shoals Road
- Butner Road
- Douglas Hill Road

Quadrant Connectivity at Riverside Parkway

The intersection of Riverside Parkway is signalized with crosswalks and pedestrian signals on all approaches and currently operates at acceptable LOSs during both peak periods. An aerial view of the intersection is shown in **Figure 4-23.**

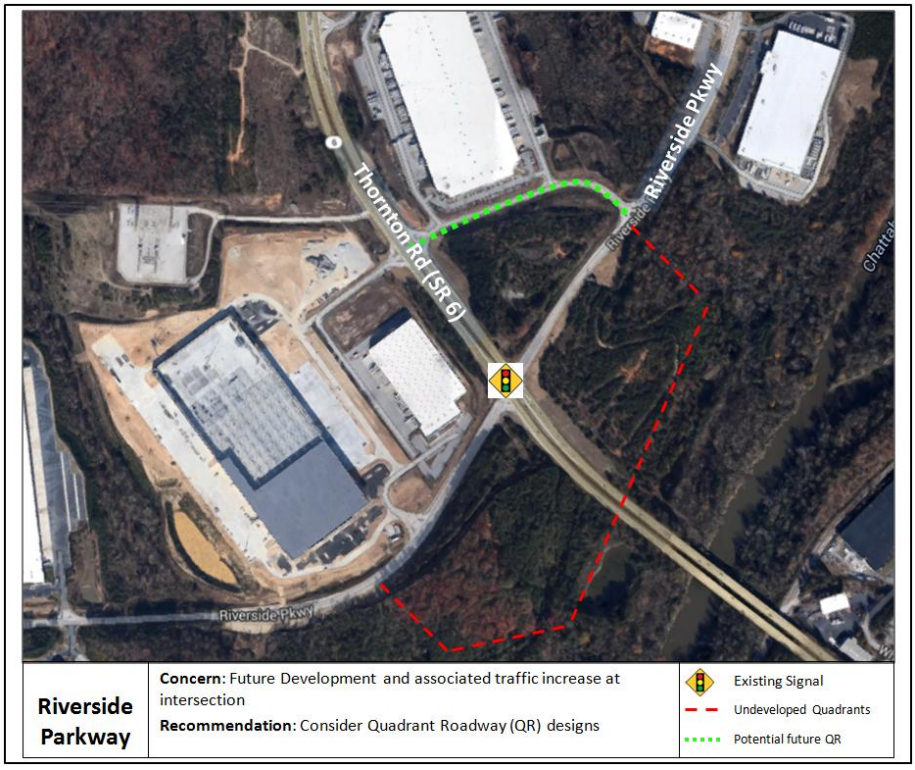

Figure 4-23: Riverside Parkway – Potential for Future Quadrant Roadways

Industrial and other development, and associated increased traffic, is expected in the area. Industrial opportunities are strengthened by close proximity to the Fulton Industrial area, although roadway connections across the Chattahoochee River are limited. The northeastern and southeastern quadrants of this intersection are currently undeveloped. There is an existing road that connects Riverside Parkway to an unsignalized median crossover north of the intersection that has potential for use as a quadrant roadway in the future. A quadrant roadway at this location could alleviate congestion at the intersection and improve the flow of through traffic on SR 6. Therefore, it is recommended that quadrant roadways be considered in future zoning and development approvals at this intersection.

Quadrant Connectivity at Factory Shoals Road

At the time of this report, a zoning hearing and a site plan stipulation and amendment are underway for a FedEx distribution center along Factory Shoals Road at its intersection with Bob White Road, located about 3,700 feet north of the Factory Shoals Road intersection with SR 6. If the zoning permit is issued by Cobb County, there is a possibility that additional truck traffic would use the SR 6 corridor to access I-20. Road widening or improvements at Factory Shoals Road/Six Flags may be needed to accommodate trucks from the distribution center. However, no additional improvements are provided because the zoning permit has not yet been approved (as of the time of this study). It is noted that there is very limited development around this intersection today, so it has the potential for future quadrant connectivity. **Figure 4-24** shows an aerial view of this intersection.

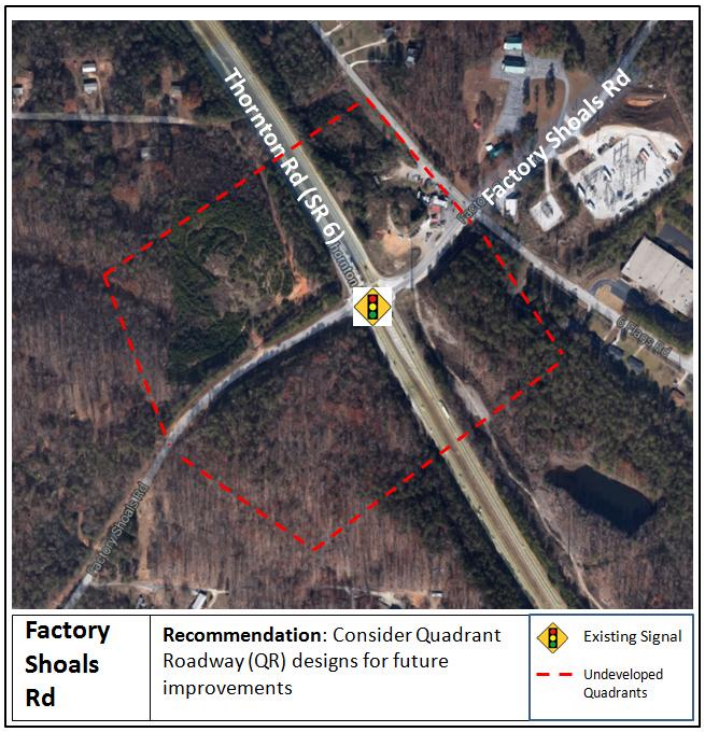

Figure 4-24: Factory Shoals Road – Potential for Future Quadrant Roadways

Quadrant Connectivity at SR 92

It was suggested during Stakeholder Meeting #2 that SR 92 would be a good candidate for quadrant roadways. However, the addition of new roadways could be a challenge since all quadrants of the SR 92 intersection feature existing developments as shown in **Figure 4-25**. The right-of-way constraints at this location would make the installation of quadrant roadways highly difficult and likely infeasible.

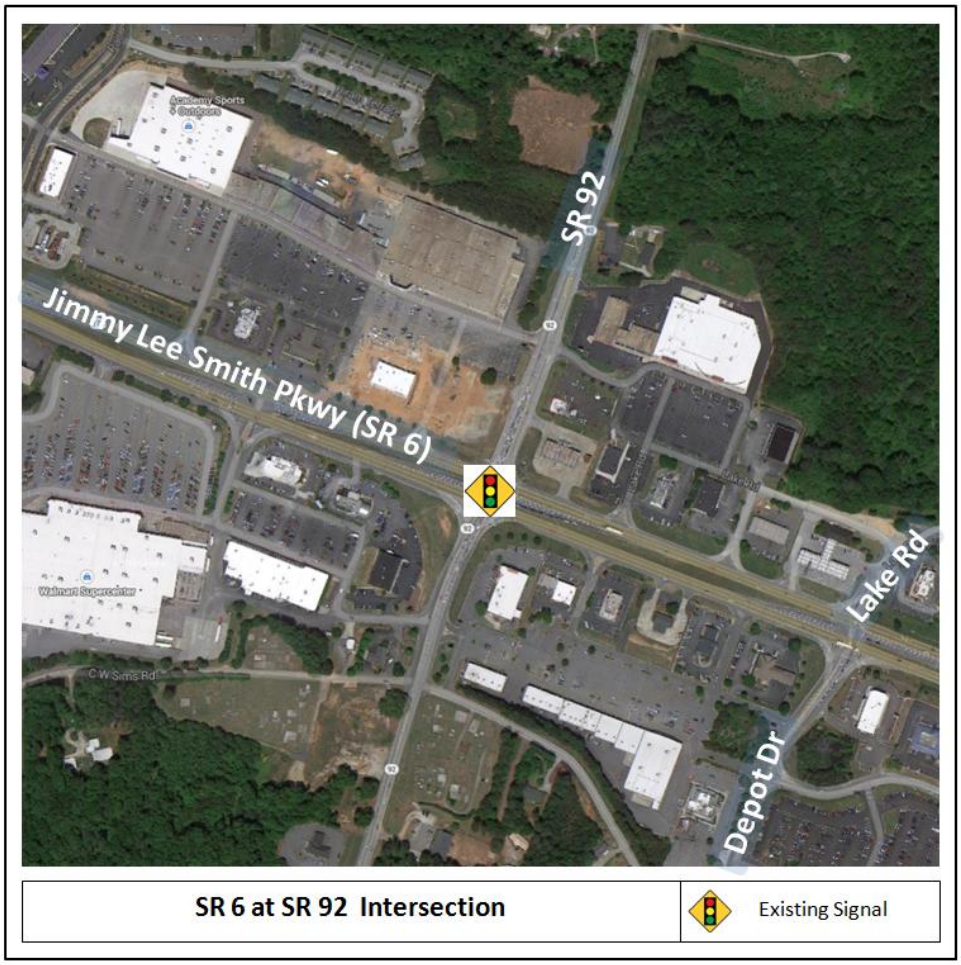

Figure 4-25: SR 92 Intersection

Quadrant Connectivity at Butner Road and Douglas Hill Road

Additional SR 6 intersections with undeveloped quadrants that could benefit from future quadrant roadway designs include Butner Road and Douglas Hill Road, which are highlighted in **Figure 4-26**.

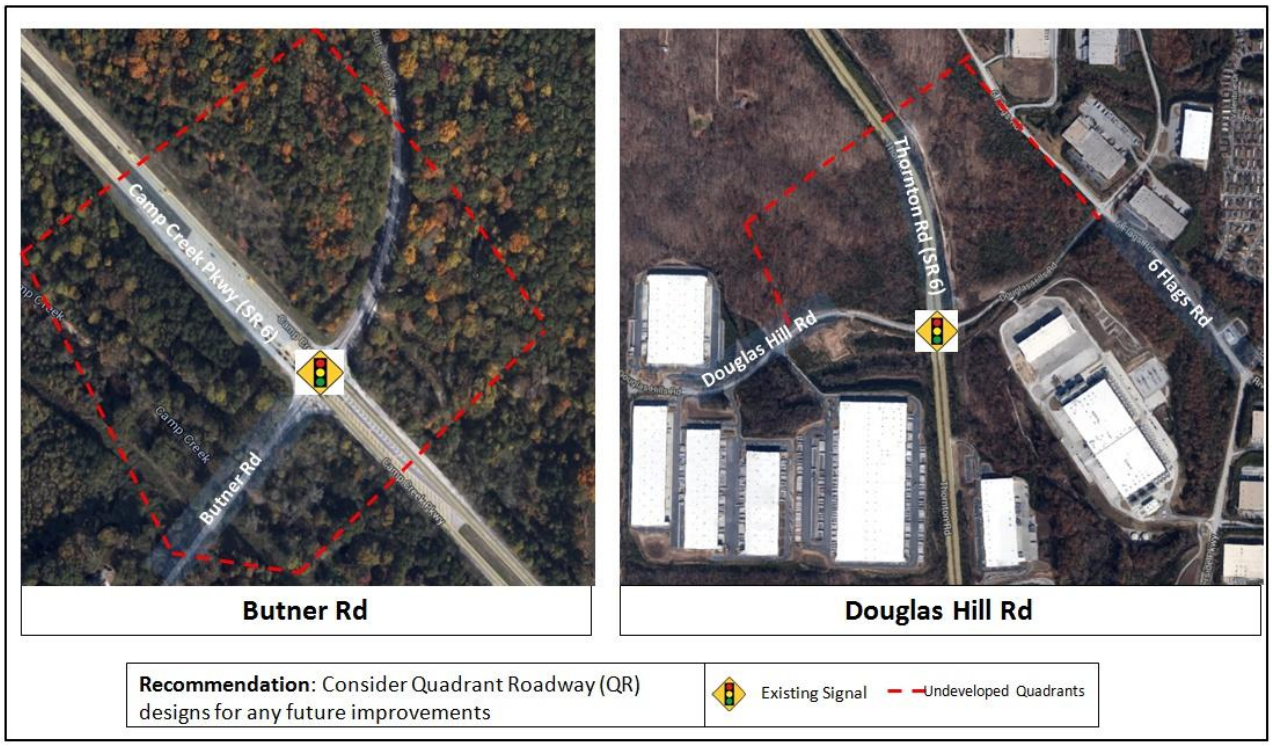

Figure 4-26: Butner Rd and Douglas Hill Rd Intersections – Potential for Future Quadrant Roadways

4F. Corridor-Wide Considerations for Pedestrians, Bicycles, and Transit Users

Although the SR 6 study area primarily serves motor vehicles, pedestrian and bicycle accommodations are needed in some areas, especially dense commercial areas and areas near transit facilities. **Table 4-16** provides a summary of the potential locations for pedestrian, bicycle, and transit improvements along the corridor.

Table 4-16: Potential Pedestrian, Bicycle, and Transit Improvements

Potential Improvement	Issue/Concern	Description of Improvement
Improve pedestrian facilities through provision of sidewalks in Camp Creek Marketplace area	Pedestrian access	Pedestrian facilities should be improved in order to accommodate high pedestrian activities in the area. The locations in need of additional sidewalks and crosswalks should be investigated.
Improve facilities for pedestrians, bicyclists, and transit users between Old Fairburn Road and Butner Road	Pedestrian concerns and need for a multi-use path	Pedestrian accommodations should be added or expanded in order to provide improved pedestrian environments near the SR 6 intersections with Old Fairburn Road and Butner Road. In addition, a multi-use path parallel to SR 6 would be provided between these two intersections separated from the roadway.
Improve pedestrians facilities between I-20 and Maxham Road through provision of sidewalks	Pedestrian access	Sidewalks and crosswalks could be added or expanded. Regulatory pedestrian signs should be installed and effective pedestrian signal timing should be provided at intersections. Landscaping efforts along the median should also be considered to help promote safe crossing.
Improve pedestrian facilities on Powder Springs-Dallas Road and at Richard D Sailors Parkway and Florence Rd (near GRTA Park and Ride Lot)	Pedestrian access	Addition of sidewalks and pedestrian friendly intersections along Powder Springs-Dallas Road would provide improved pedestrian environments for transit users.

Due to the high speeds of vehicles on SR 6, crossing outside of crosswalks is especially dangerous for pedestrians in this corridor. The GDOT Pedestrian and Streetscape Guide (PSG) states that pedestrians struck by a vehicle traveling at 20 miles per hour have a 5 percent chance of being killed. If that speed is increased to 40 miles per hour, then the chance of a pedestrian being killed increases to 85 percent. As indicated in Chapter 2 (Existing Conditions), approximately 55 percent of the intersections in the study corridor have crosswalks provided on at least three legs, and 36 percent of the intersections have crosswalks provided on all legs. Safe pedestrian crossing can be encouraged in two primary ways: (1) through the provision of well-designed sidewalks and crosswalks that are properly signed to direct pedestrians and (2) by deterring pedestrian crossings at midblock through signage and physical barriers to crossing in the median (using raised medians or landscaping, for example). Sample signs are shown in **Figure 4-27.**

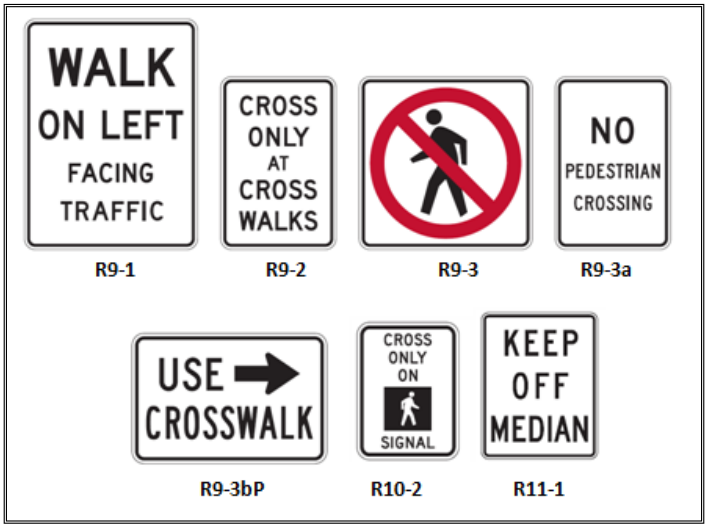

Figure 4-27: Sample Regulatory Pedestrian Signs from MUTCD

Ideally, crosswalks should be provided at all signalized intersections with sidewalks also provided to guide pedestrians to the crosswalks nearby. Sidewalks and crosswalks should also be provided near all transit stops to accommodate pedestrian activities and promote safe crossings. For any new developments and highway projects, sidewalks and crosswalks should be considered as standard elements. Regulatory pedestrian signs to deter pedestrian crossings at midblock and effective pedestrian signal timing at crosswalks should be provided.

Figure 4-28: Median Landscaping Example

Median landscaping can promote safe crossing activities by encouraging pedestrians to use crosswalks rather than crossing mid-block. GDOT policy requires any shrubs in the median to be no taller than 30 inches if they are within horizontal clearance zone. Trees can be placed in medians provided they are not in the horizontal clearance zone. If a tree is placed in the median, it must be limbed up to at least 7 feet from the ground. See GDOT Policy 6755-9 – Policy for Landscaping Enhancements on GDOT Right of Way for more information. For most urban settings, as in the case of SR 6, medians are often just concrete curbs. However, to promote pedestrian safety in areas where pedestrians cross or walk in medians, landscaping with shrubs or trees, and possibly guardrail, should be considered. An example showing how landscaping can make a median non-traversable is depicted in **Figure 4-28.**

The following sections summarize the specific locations that could benefit from pedestrian facility improvements along SR 6 within each county.

In addition to the recommended pedestrian improvements for the Camp Creek Marketplace subarea in Fulton County, pedestrian facility improvements at the SR 6 intersections with Old Fairburn Road and

Butner Road are recommended. A multi-use path parallel to SR 6 could be also provided between these two intersections separated from the roadway and could connect with existing trails in the area. Since both Old Fairburn Road and Butner Road have MARTA bus routes to the north of SR 6, providing pedestrian facilities between these roads would improve access to these transit routes. The stakeholders expressed concerns about pedestrians crossing Butner Road at the SR 6 intersection and support for the possibility of providing a multi-use trail crossing near the SR 6 intersection with Butner Road. The City of College Park is planning to build a multi-purpose bridge for pedestrians, bicycles, and golf carts crossing Camp Creek Parkway to the Metropolitan Atlanta Rapid Transit Authority (MARTA) train station. These pedestrian facilities are not only geared towards improving pedestrian safety, they also encourage more pedestrian activities and in turn have a positive impact on local businesses.

Stakeholders also indicated concerns in the section between I-20 and Maxham Road in Douglas County. This corridor section has a concrete median, 18 feet wide between intersections and 6 feet wide at intersections. There are no sidewalks in the area and an observed issue of pedestrians walking along the median. Within this 1.5-mile section, there are four signalized intersections in addition to the interchange ramps, each with crosswalks and pedestrian signals on all approaches. There are also four MARTA bus stops within the section, and existing transit stops indicate pedestrian activity along certain sections of the corridor. GDOT has guidelines to identify crosswalk locations in central business districts or in urban settings with low speeds. At this time, there are no guidelines for placement of crosswalks along suburban and rural settings with high speeds.

This study recommends that crosswalks with pedestrian signals be provided at all signalized intersections along the corridor. Additionally, effective pedestrian signal timing, signs for crosswalks, and the implementation of measures prohibiting pedestrian activity on medians should be provided. Pedestrians will be more likely to use the crosswalks once they know they will have a well-timed phase, thus reducing their tendency to walk along and across medians. Additional landscaping efforts, as seen in **Figure 4-28**, could be considered to deter unsafe and illegal mid-block crossing and median walking.

Currently, the GRTA park-and-ride lot located along Power Springs–Dallas Road near Florence Rd and Richard D Sailors Parkway in Cobb County does not have pedestrian facilities associated with it. There are several residential communities in the vicinity that would benefit from the addition of sidewalks and pedestrian-friendly intersections along Powder Springs Dallas Roads. Although this roadway is not directly included in the study area, due to its vicinity to the SR 6 corridor, it is recommended that it be considered for pedestrian upgrades.

An immediate need for SR 6 in Paulding County is the installation of sidewalks. Currently, there are no sidewalks, and pedestrians have been observed to walk along the side of the road. Although there are no sidewalks, there are crosswalks at most signalized intersections along the corridor. As discussed earlier, it is recommended that sidewalks be provided to guide pedestrians to the nearby crosswalks.

As discussed in Chapter 2 (Existing Conditions), the ARC Bicycle Transportation and Pedestrian Walkways Plan rated the SR 6 corridor extremely low in terms of bicycle road conditions. In order to improve

accommodations for bicycle users in the study corridor, it is recommended that dedicated bicycle lanes be considered along with pedestrian facilities in the areas with higher pedestrian and biking activities. Some of these potential locations include the Camp Creek Marketplace area, the Silver Comet Trail area, transit stations, and park-and-ride lots. It is also important to note that the GDOT Design Policy Manual (Chapter 9 – Complete Streets Design Policy) states that accommodations for bicycles and pedestrians should be integrated into roadway new construction and reconstruction projects through design features appropriate to the context and function of the transportation facility, the design and construction of new facilities should anticipate likely demand for bicycling and pedestrian facilities within the design life of the facility, and the design of intersections and interchanges should accommodate bicyclists and pedestrians in a manner that addresses the need for bicyclists and pedestrians to safely cross roadways, as well as travel along them

4G. Corridor-Wide Freight Considerations

The SR 6 corridor generally has moderate to high truck volumes. Norfolk Southern's John Whitaker Intermodal Terminal, near Clarkdale between Austell and Powder Springs, located along the eastern edge of SR 6 in Cobb County, is one of the biggest truck trip generators along the corridor. Stakeholders indicated that trucks headed to and from the Intermodal Terminal can experience difficulty turning at SR 6 Spur/Garrett Road and SR 6 intersection.

To accommodate the high volume of truck traffic in this area, GDOT has two projects currently underway: SR 6 Congestion Reduction and Traffic Flow Improvements and Truck Friendly Lanes. Both projects extend from I-20 in Douglas County to Garrett Road in Cobb County. These projects are intended to address several important issues. Trucks experience unreliable travel times along SR 6 from I-20 to the Intermodal terminal. Also, the corridor presents operational concerns due to the combination of truck and automobile traffic. Weaving/lane changes northbound in advance of the US 78 intersection create operational concerns, as well as congestion. In addition, trucks enter SR 6 (turning left) from the Intermodal terminal at a banked section of SR 6 resulting in a potential for rollovers. In the portion of the corridor that has coordinated traffic signal, vehicles are not sensed along SR 6 for purposes of holding the green time, resulting in a "dilemma zone" for all users. This is the zone where drivers must decide whether to continue forward or stop when receiving a yellow indication. Conflicts can arise when an automobile makes the judgment to stop for a signal, but a following truck does not deem in possible to stop in that distance. Finally, visibility of traffic control and guidance is difficult for automobile drivers traveling on the mixed-use corridor. The congestion reduction and traffic flow improvements project currently underway will address these concerns with an extensive intelligent transportation system (ITS) network, traffic signal modifications, and median turn lane improvements. Subsequently, the truck friendly lanes project will provide wider lanes for trucks in the 2020-2030 timeframe.

Chapter 5. Recommendations

This chapter presents the summary of recommendations and suggestions along the State Route 6 (SR 6) project corridor based on the analyses of the projected future conditions. Recommendations were developed through the analyses of county subareas previously identified during Stakeholder Meeting #2 and the corridor-wide analyses.

The following sections summarize conclusions and subsequent recommendations of the analysis performed for the SR 6 corridor. All recommendations were clustered by project categories, and planning-level project cost estimates were then developed. The following five project categories were used to classify each project recommendation suggested through this study.

- Access points, driveways, and medians
- Operations
- Intersections
- Frontage roads, alternate routes, and inter-parcel access
- Bicycles, pedestrian, and transit

Figure 5-1 depicts all recommended projects along the study corridor, and **Figures 5-2** through **5-6** show recommended projects under each project category predefined above. **Figure 5-7** shows recommendations for policy guidelines on future access points. This chapter concludes with project fact sheets developed for each recommended project that provide basic project information and a high-level project map.

The purpose of these recommendations is to foster further dialogue regarding possible solutions. Each recommendation in this section is intended for consideration by local government departments of public works and/or Georgia Department of Transportation (GDOT) traffic engineering staff to consider implementing and pursuing funding for.

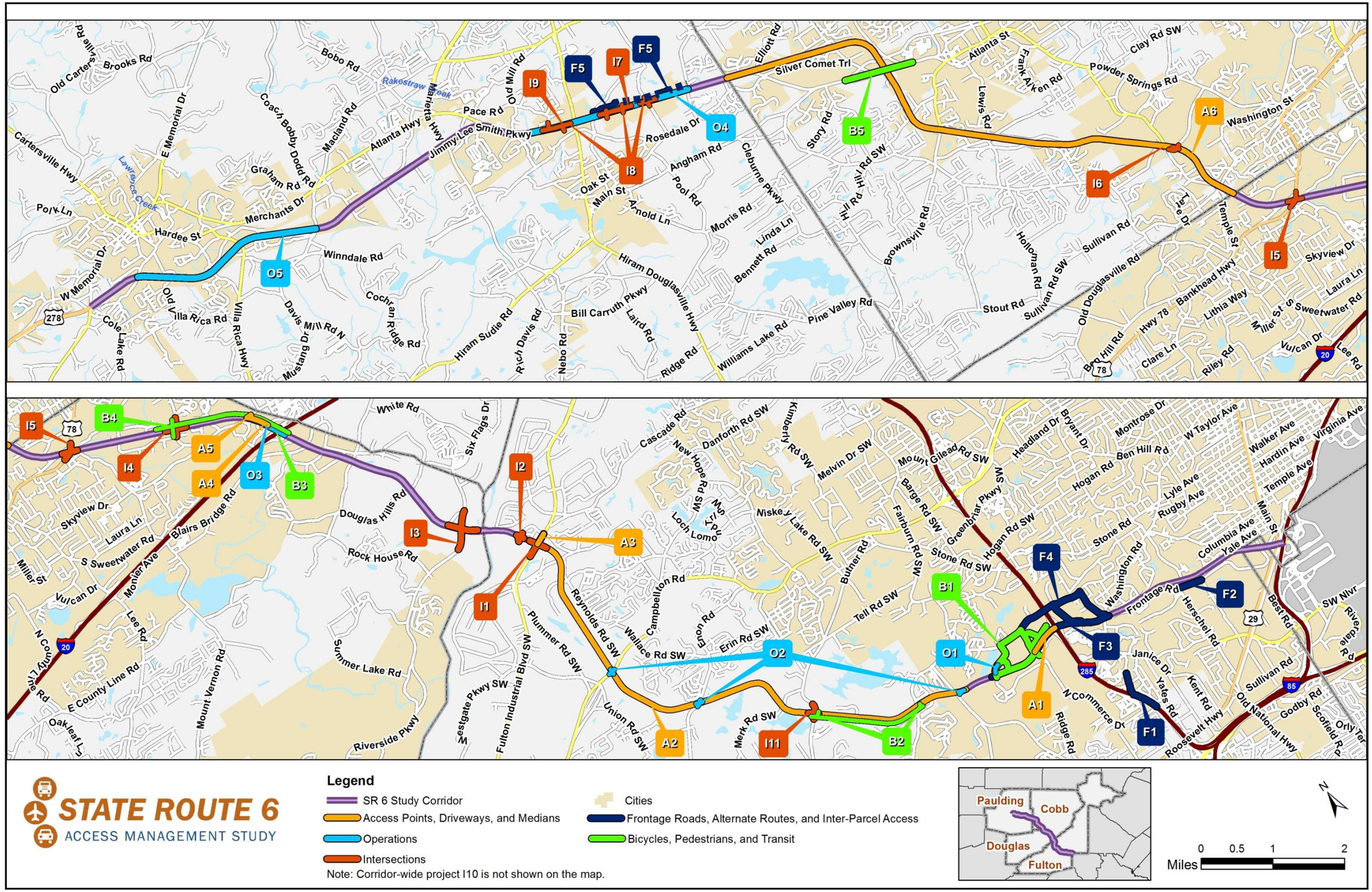

Figure 5-1: Recommended Projects Map – All Project Categories

5A. Summary of Recommendations

This section summarizes recommendations for each project category based on the subarea analyses and the corridor-wide analyses. Each recommendation is classified into the five different project categories: (1) access points, driveways, and medians; (2) operations; (3) intersections; (4) frontage roads, alternate routes, and inter-parcel access; and (5) bicycles, pedestrians, and transit. More detail on each project is included in the project fact sheets provided at the end of this chapter.

5A.1. Access Points, Driveways, and Medians

The recommendations in this category include improvements to address the study goals of maintaining mobility while controlling access and improving safety for all users. Specific objectives addressed include minimizing congestion and travel delay, balancing the needs of local and through traffic, and enhancing vehicular safety. These improvements include median treatments and providing driveway consolidation, reconfiguration, and/or removal. **Table 5-1** describes each recommendation in this project category along with issues or concerns to be addressed, intended outcomes, and performance measures to evaluate the effectiveness of the improvements. **Figure 5-2** shows the locations of the projects in this category.

Table 5-1: Summary of Recommendations – Access Points, Driveways, and Medians

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
A1 – Fulton	Provide a median barrier on SR 6 between I-285 and N. Commerce Drive	Drivers crossing the median	A physical median barrier would be provided in order to encourage the drivers on SR 6 to use the N. Commerce Drive intersection for making turns instead of crossing the median.	Crash rates/delay/ LOS
A2 – Fulton	Provide a median barrier on SR 6 between Welcome All Road to SR 70/FIB	Drivers crossing the median	A physical median barrier would be provided in order to encourage the drivers on SR 6 to use the intersections for making turns instead of crossing the median.	Crash rates/delay/ LOS
A3 – Fulton	Remove driveways on SR 70/FIB near its intersection with SR 6	Weaving issues due to multiple driveways near SR 6 and SR 70/FIB intersection	Two right-in-right-out driveways on SR 70/FIB should be removed in order to redirect the vehicles from the driveways to Bakers Ferry Road to access SR 6 and SR 70/FIB.	LOS, travel time/travel speeds/delay
A4 – Douglas	Consolidate driveways on SR 6 between N. Blairs Bridge Road and Crestmark Way	Multiple driveways within section	Improved driveway spacing would reduce traffic turbulence and, in turn, maximize capacity.	LOS, travel time/travel speeds/delay
A5 – Douglas	Reconfigure driveways between Crestmark Way and Skyview Drive/Oak Ridge Road	Multiple driveways within section	Improved driveway spacing would reduce traffic turbulence and, in turn, maximize capacity.	LOS, travel time/travel speeds/delay

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
A6 – Cobb	Install a raised median with treatments for drainage for the Cobb County section	Access management	The five-lane section with a two-way left turn lane (TWLTL) should be replaced with a raised median in order to maintain corridor continuity and provide separation of traffic flowing in opposite direction. The center median should be designed to help with drainage and water runoff.	LOS, travel time/travel speeds/delay

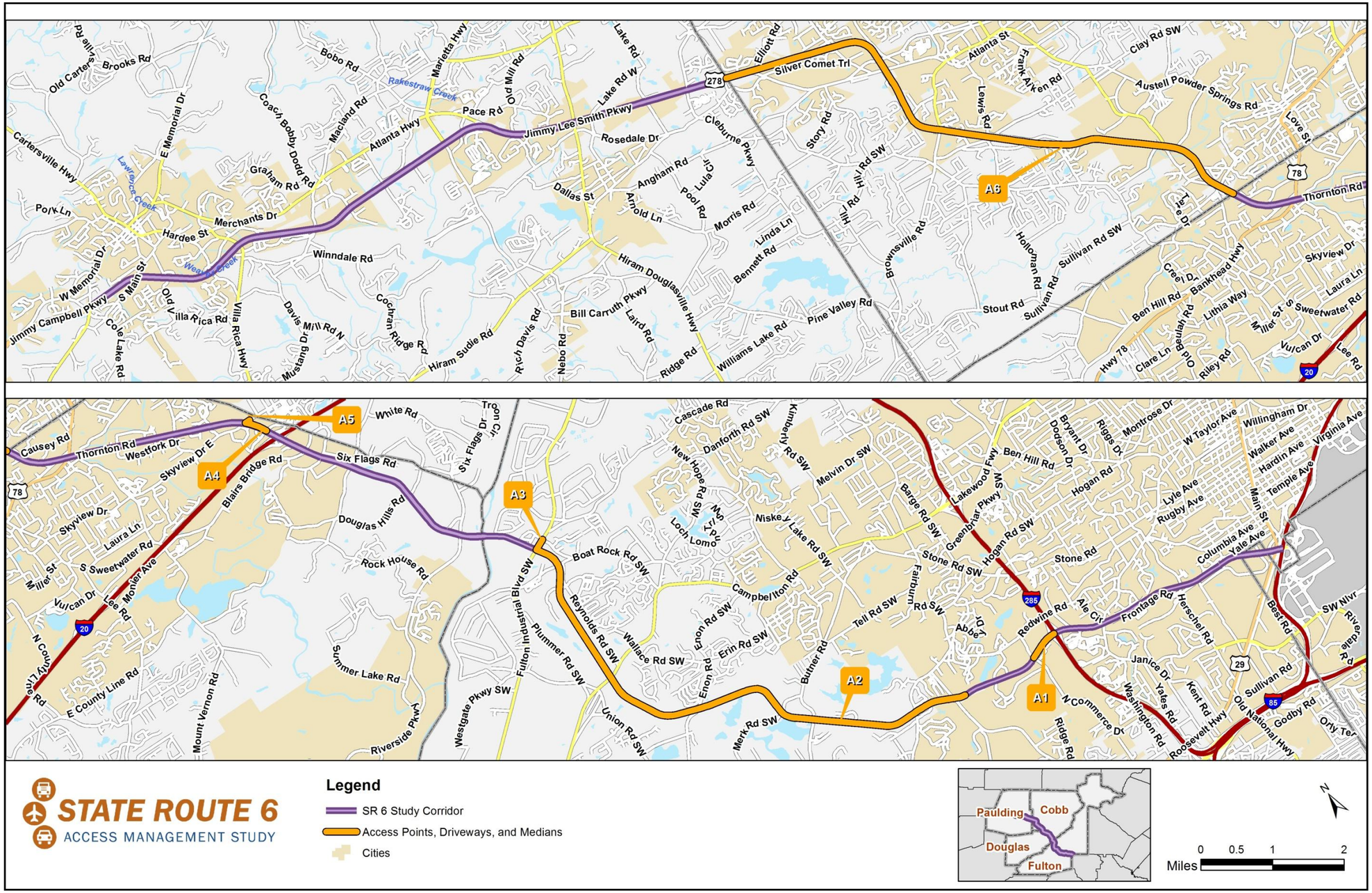

Figure 5-2: Recommended Projects Map – Access Points, Driveways, and Medians

5A.2. Operations

This section summarizes operational recommendations to address the goals of maintaining mobility while controlling access, contributing to the economic vitality of the region, improving safety for all users, and preserving the character of areas along the corridor. These recommendations include providing auxiliary turn lanes and minimizing weaving movements. Locations where in-depth roadway audits or other future studies may be needed are also identified. **Table 5-2** describes each recommendation in this project category, along with issues or concerns to be addressed, intended outcomes, and performance measures. **Figure 5-3** shows the locations of the projects in this category.

Table 5-2: Summary of Recommendations – Operations

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
O1 – Fulton	Redirect Publix traffic in Camp Creek Marketplace area from Princeton Lakes Parkway to Carmia Drive	Weaving issues due to the proximity of Publix intersection to SR 6	Restricting direct access from Publix onto Princeton Lakes Parkway would improve operations along Princeton Lakes Parkway near SR 6 by reducing weaving movements and potentially improving the operation of the SR 6 intersection with Princeton Lakes Parkway.	Crash rates/delay/LOS
O2 – Fulton	Implement operational improvements between Welcome All Road to Bakers Ferry Road	High crash rates and presence of red-light runners	In order to improve operations, the extension of a left turn lane at the Welcome All Road intersection and the provision of turn lanes at the Enon Road intersection are recommended. Signal retiming and additional operational analysis coupled with law enforcement would discourage red-light running. It is recommended that Fulton County public works staff consider contacting law enforcement regarding this issue.	Crash rates
O3 – Douglas	Perform Roadway Audit/Traffic Engineering Study between I-20 and Skyview Drive/Oak Ridge Road	High crash rates, weaving issues, and multiple driveways within section	An in-depth roadway audit study would pinpoint specific issues and evaluate possible options to minimize weaving issues on SR 6 between the I-20 westbound off-ramp and N. Blairs Bridge Road.	Crash rates, LOS, travel time/travel speeds/delay
O4 – Paulding	Provide a continuous right turn lane between traffic signals and median openings in Hiram commercial area (westbound SR 6)	Operations	Providing one continuous right turn lane rather than a series of segmented deceleration and acceleration lanes would make turning movements more comfortable. This solution is ideal in locations where through volume on SR 6 is much greater than the driveways or cross-street volumes.	Travel time/travel speeds/delay

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
O5 – Paulding	Perform in-depth roadway audit study between Old Harris Road and S. Main Street	Among the highest crash rates recorded within the whole study area	An in-depth roadway audit study would identify specific concerns.	Crash rates

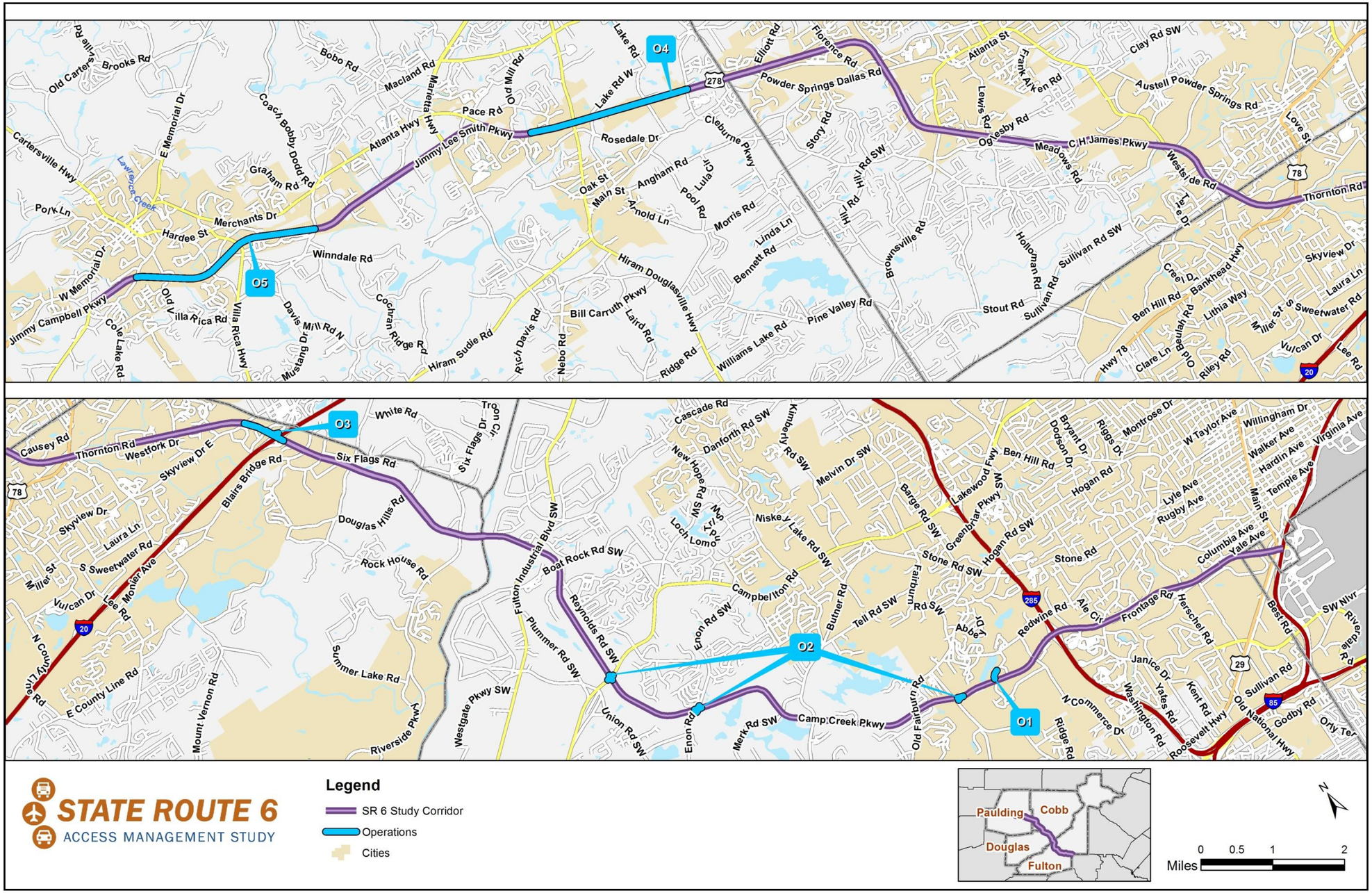

Figure 5-3: Recommended Projects Map – Operations

5A.3. Intersections

This section summarizes the recommendations to address the study goals of contributing to the economic vitality of the region and improving safety for all users. Specific study objectives addressed here include minimizing congestion and travel delay, maintaining travel reliability, balancing the needs of local and through traffic, accommodating freight movement, employing technological solutions where applicable, supporting new and existing development through transportation infrastructure, supporting connections between activity centers, and enhancing vehicular safety. In addition to project recommendations, this section also identifies locations for further in-depth studies where alternative intersection configuration options may be feasible based on the preliminary analyses. Alternative intersection options considered include a continuous-flow intersection (CFI), a parallel flow intersection (PFI), a modified quadrant roadway (QR) intersection, and a superstreet or restricted crossing U-turn intersection (RCUT). These alternative intersections are intended to overcome conventional intersection deficiencies by minimizing delays. **Table 5-3** describes each recommendation in this project category, along with issues or concerns to be addressed, intended outcomes, and performance measures. **Figure 5-4** shows the locations of the projects in this category.

Additionally, since traffic signals can interrupt the orderly flow of traffic, they should be placed sparingly and with consideration of the area's context. Where possible, access should be provided or otherwise accommodated via existing traffic signals. New signals should be considered only after an extensive evaluation has been completed as part of a traffic signal warrant study.

Table 5-3: Summary of Recommendations – Intersections

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
I1 – Fulton	Provide a controlled right turn for westbound SR 6 at SR 70/FIB intersection	Right turning movements on westbound SR 6 conflicting with high U-turn traffic on southbound SR 70/FIB	Providing a controlled right turn for westbound SR 6 traffic would eliminate conflict between permitted right turn traffic from SR 6 and U-turn traffic on SR 70/FIB.	LOS, travel time/travel speeds/delay
I2 – Fulton	Perform signal warrant study for the Bakers Ferry Road intersection with SR 6	Trucks turning to Bakers Ferry Road impeding mainline traffic	Preliminary results indicate that a traffic signal is warranted at this intersection at least for the PM peak hour. A further traffic engineering study is recommended to confirm the justification of installing a traffic signal at the intersection.	LOS, travel time/travel speeds/delay
I3 – Douglas	Implement quadrant connectivity at Riverside Parkway intersection	Anticipated future development and increasing traffic	The northeastern and southeastern quadrants of the intersection are undeveloped at present; QRs should be considered during future development to minimize the impact of increased turning volumes onto SR 6.	LOS, travel time/travel speeds/delay

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
I4 – Douglas	Perform traffic engineering study to evaluate feasibility of installing alternative design at Maxham Road intersection	Congestion	Preliminary results indicate that a CFI, PFI, or modified QR intersection are feasible alternative intersection configurations. A further in-depth study for operations and constructability for these options is recommended.	LOS, travel time/travel speeds/delay
I5 – Douglas	Perform traffic engineering study to evaluate feasibility of installing alternative design at Veterans Memorial Highway intersection (Bankhead Highway)	Congestion	Preliminary results indicate that a CFI, PFI, or a grade separation are feasible alternative intersection configurations. An intersection/interchange design study and lighting review are recommended for this location.	LOS, travel time/travel speeds/delay
I6 – Cobb	Perform traffic engineering study to evaluate options to improve SR 6 at Garrett Road intersection	Truck southbound-to-eastbound movements	Explore options to improve the SR 6 at Garrett Road intersection.	Crash rates
I7 – Paulding*	Provide offset left turn lanes at Best Buy/Target entrance	Sight distance and driver expectation	Widen the roadway into the existing grass median and provide offset left turn lanes.	Crash rates
I8 – Paulding*	Perform traffic engineering study to evaluate feasibility of a superstreet at multiple intersections in Hiram (SR 6 intersections with Greenfield Road, Target/ Best Buy, Sam's Club, Walmart, and Pace Road)	Mainline operations	These intersections have a relatively higher potential to be considered for a superstreet intersection location. Superstreets or an RCUT is one of the best ways to ensure that mobility on the mainline is prioritized while access from the minor streets is still provided. A feasibility study for a superstreet concept for this location is recommended.	LOS, travel time/travel speeds/delay
I9 – Paulding	Perform traffic engineering study to evaluate removing traffic signal at the Walmart intersection in Hiram	Close spacing of signalized intersections	Preliminary results indicate that the removal of the signal and bringing up to the GDOT standard on the signal spacing requirement would provide travel-time savings for the drivers on SR 6. In addition, a grassed median could be added and the driveway be reconfigured as right-in-right-out only. A more detailed traffic study is recommended to further evaluate the possible removal of the signal.	LOS, Travel time/travel speeds/delay

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
I10 – Corridor-wide	Perform study to investigate the need for installing/extending auxiliary turn lanes for all intersections	Intersection and mainline operations	It is recommended that auxiliary turn lanes are installed at intersections and driveways that do not meet the standard GDOT auxiliary lane requirement. The length of turn lanes should be investigated based on turning volume.	LOS, crash rates
I11	Provide intersection improvements for Butner Rd at SR 6	Pedestrian accommodations and congestion	Intersection improvements such as turn lanes and signal upgrades would improve operations for vehicles and pedestrians.	LOS, travel time/travel speeds/delay

*Although I7 and I8 would not both be implemented together, I8 could be a short-term, interim solution.

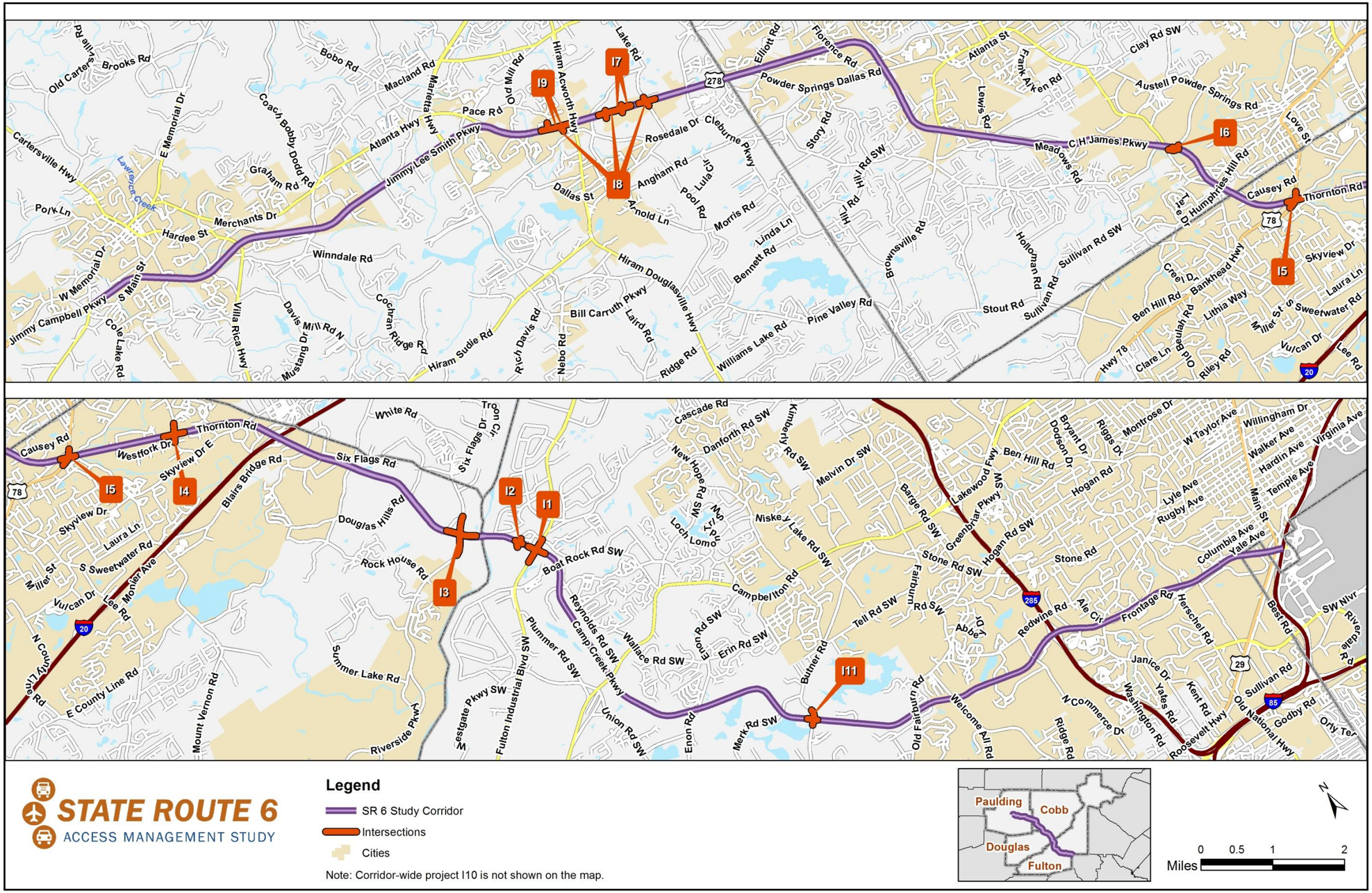

Figure 5-4: Recommended Projects Map – Intersections

5A.4. Frontage Roads, Alternate Routes, and Inter-Parcel Access

This section summarizes the recommendations to address the study goals of maintaining mobility while controlling access, contributing to the economic vitality of the region, improving safety for all users, and preserving the character of areas along the corridor. These projects seek to maintain travel reliability on SR 6 and balance the needs of local and through traffic by providing frontage roads, alternate routes, and inter-parcel access. **Table 5-4** describes each recommendation in this project category, along with issues or concerns to be addressed, intended outcomes, and performance measures. **Figure 5-5** shows the locations of the projects in this category.

Table 5-4: Summary of Recommendations – Frontage Roads, Alternate Routes, and Inter-Parcel Access

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
F1 – Fulton	Install signage on I-285 northbound directing traffic to SR 6	Lack of driver information on possible bypass route to SR 6	Signage would be provided on I-285 northbound south of the Washington Road exit to direct traffic to SR 6 via Washington Road and N. Commerce Drive.	Travel time/travel speeds/delay
F2 – Fulton	Provide connection between Global Gateway Connector and Hershel Road	Need for a frontage road system	The connection between Global Gateway Connector and Hershel Road would provide a reliable alternate to SR 6 from Airport Drive to Herschel Road.	Travel time/travel speeds/delay
F3 – Fulton	Install signage between Washington Road and Princeton Lakes Parkway	Lack of driver information on possible bypass route to SR 6	Implementing signage would provide alternate route information to drivers from SR 6 to existing/reopened Redwine Road.	Travel time/travel speeds/delay
F4 – Fulton	Reopen Redwine Road west of Prince George Street	Disconnected road section	Reopening the small section of Redwine Road would provide a reliable alternate to SR 6 for the entire Camp Creek Marketplace area from Washington Road to Princeton Lakes Parkway.	Travel time/travel speeds/delay
F5 – Paulding	Connect existing frontage roads between Poplar Springs Road and SR 92	Inter-parcel connectivity	Connecting few existing frontage roads would provide complete inter-parcel access between Poplar Springs Road to SR 92.	Travel time/travel speeds/delay

In addition to these specific recommendations for connections between existing parcels, the provision of frontage and backage roads should be encouraged or required with future development, especially near shopping centers and other commercial areas.

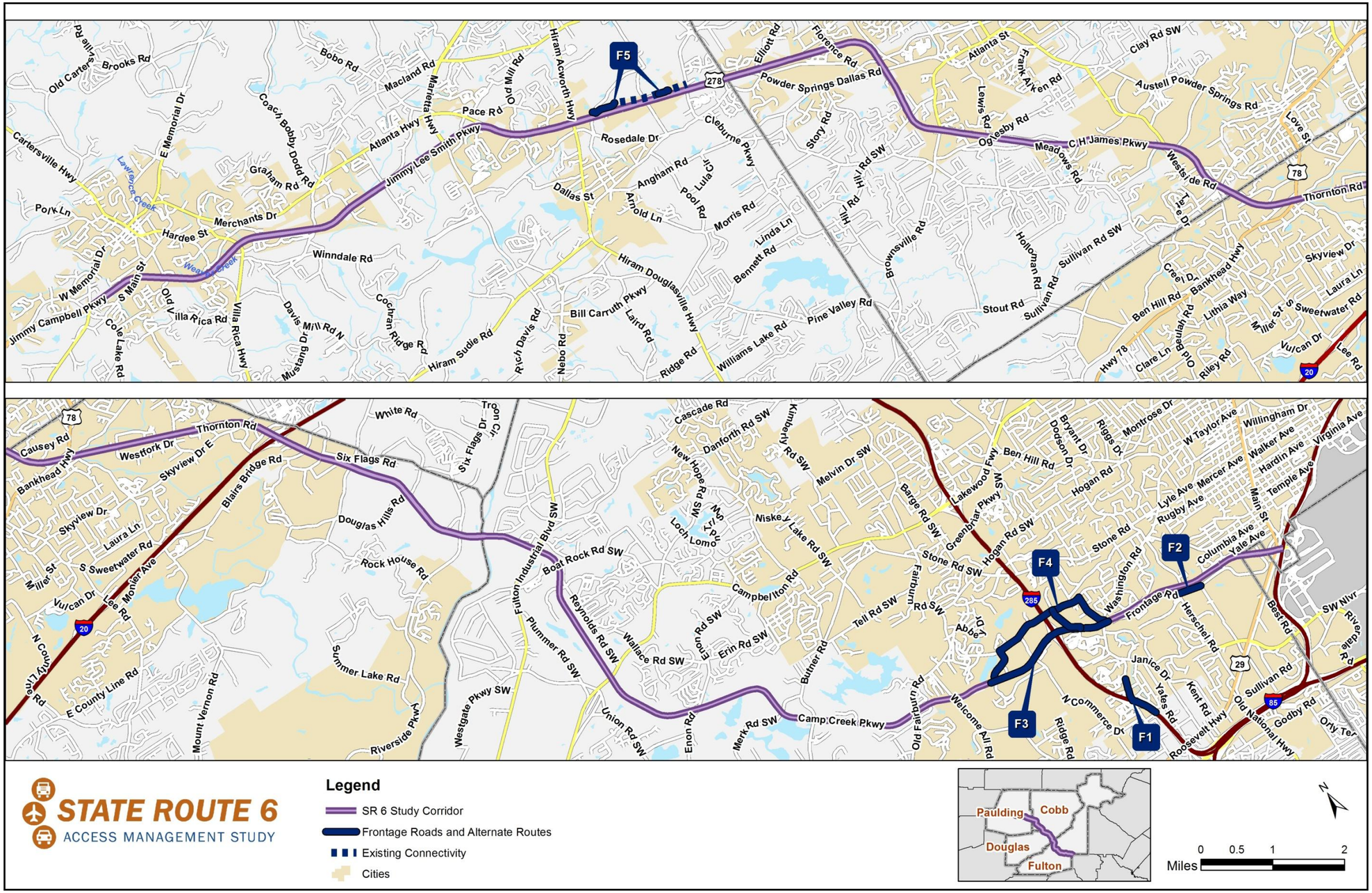

Figure 5-5: Recommended Projects Map – Frontage Roads, Alternate Routes, and Inter-Parcel Access

5A.5. Bicycles, Pedestrians, and Transit

Pedestrian concerns along the study corridor have been repeatedly expressed at the stakeholder meetings. Recommendations in this category address all four of the study goals: maintain mobility while controlling access, contribute to the economic vitality of the region, improve safety for all users, and preserve character areas along the corridor. This study recommends that crosswalks with pedestrian signals be provided at all signalized intersections along the corridor and sidewalks be provided, especially with any new developments and roadway projects. Sidewalks and crosswalks should also be provided near all transit stops to accommodate pedestrian activities and ensure safe crossings. The project recommendations in this category include improvements of pedestrian and bicycle facilities in specific areas along the corridor, especially dense commercial areas and areas near transit facilities. **Table 5-5** describes each recommendation in this project category, along with issues or concerns to be addressed, intended outcomes, and performance measures. **Figure 5-6** shows the locations of the projects in this category.

It is also important to note that the GDOT Design Policy Manual (Chapter 9 – Complete Streets Design Policy) states that accommodations for bicycles and pedestrians should be integrated into roadway new construction and reconstruction projects through design features appropriate to the context and function of the transportation facility, the design and construction of new facilities should anticipate likely demand for bicycling and pedestrian facilities within the design life of the facility, and the design of intersections and interchanges should accommodate bicyclists and pedestrians in a manner that addresses the need for bicyclists and pedestrians to safely cross roadways, as well as travel along them.

Table 5-5: Summary of Recommendations – Bicycles, Pedestrians, and Transit

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
B1 – Fulton	Improve pedestrian facilities in Camp Creek Marketplace area	Pedestrian access	Pedestrian facilities should be improved in order to accommodate high pedestrian activities in the area. The locations in need of additional sidewalks and crosswalks should be investigated.	Miles of sidewalks provided
B2 – Fulton	Improve facilities for pedestrians, bicyclists, and transit users between Old Fairburn Road and Butner Road	Pedestrian and transit access	Pedestrian accommodations should be added or expanded in order to provide improved pedestrian environments near the SR 6 intersections with Old Fairburn Road and Butner Road. In addition, a multi-use path parallel to SR 6 would be provided between these two intersections separated from the roadway.	Miles of sidewalks provided
B3 – Douglas	Improve pedestrian facilities between I-20 and Maxham Road	Pedestrians walking along the median	Sidewalks and crosswalks could be added or expanded. Regulatory pedestrian signs should be installed, and effective pedestrian signal timing should be provided at intersections. Landscaping efforts along the median should also be considered to help promote safe crossing.	Miles of sidewalks provided

ID – County	Recommendation	Issue/Concern	Description/Intended Outcome	Performance Measure
B4 - Douglas	Improve pedestrian facilities at the Maxham Road intersection with SR 6	Pedestrian access	SR 6 at Maxham Road was identified for pedestrian needs. Pedestrian accommodations should be added or expanded in order to provide improved pedestrian environments near the SR 6 intersection with Maxham Road.	Miles of sidewalks provided
B5 – Cobb	Improve pedestrian facilities on Powder Springs-Dallas Road and at Richard D Sailors Parkway and Florence Rd (near Georgia Regional Transportation Authority [GRTA] park-and-ride lot)	Pedestrian access	The addition of sidewalks and pedestrian-friendly intersections along Powder Springs-Dallas Road would provide improved pedestrian environments for transit users.	Miles of sidewalks provided

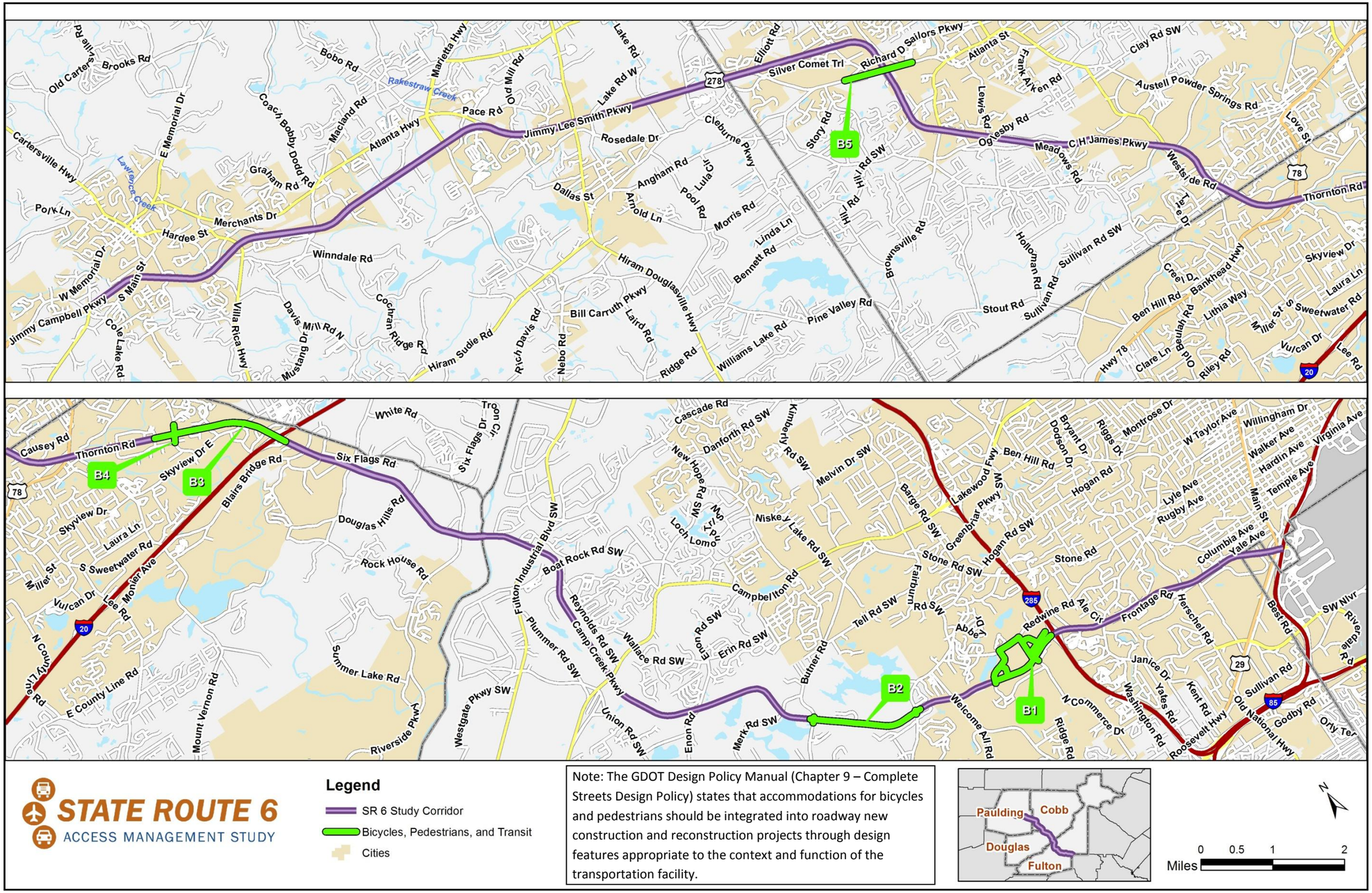

Figure 5-6: Recommended Projects Map – Bicycles, Pedestrians, and Transit

5B. Guidelines on Future Access Points

Access management is a balancing act between access and mobility. It is the careful planning of the location, type, and design of access. Based on the corridor analyses, stakeholder input, and the proposed recommendations, this study provides a general corridor-wide guide on the possible locations for restricting any new access points and locations where future new public access points may be allowed. The following two categories define different policies on new access points:

1) Use existing access only
2) New public access points considered on a conditional basis

The factors considered in determining these access categories include existing driveway spacing, posted speed limit, existing land use, future growth and land use plans, existing and future travel conditions, and potential safety concerns. The following sections describe the characteristics and conditions of each access category. **Figure 5-7** illustrates the areas that fall under each access category.

5B.1. Use Existing Access Points Only

In this category, access would be available via existing roads and access points only. The main characteristics of these areas include driveway spacing that does not meet current GDOT standards, significant traffic delay and congestion, dense commercial areas, and areas with potential vehicle and pedestrian concerns. As shown in **Figure 5-7**, the following SR 6 segments along the study corridor are in this category:

- From the eastern end of the study area at I-85 to Princeton Lakes Parkway in Fulton County
- From Bob Arnold Boulevard in Douglas County to the western end of the study area at Buchanan Street in Paulding County

5B.2. New Public Access Points Considered on a Conditional Basis

In this category, new public access points may be considered on a case-by-case basis. Where it is not possible to tie into existing facilities, new public access onto SR 6 could be considered in these areas. Any new roads would be public and multiple developments could tie in to these new public roads or stubs. Additionally, developers should provide inter-parcel access and/or frontage or backage roads as appropriate for the site, based on direction from GDOT/local government. These are less developed areas that tend to have more free-flowing traffic conditions relative to the rest of the corridor. . Additional traffic analysis may also be necessary as a part of the permitting process in such conditions.

As shown in **Figure 5-7**, the following SR 6 segment along the study corridor is in this category:

- From Princeton Lakes Parkway in Fulton County to Bob Arnold Boulevard in Douglas County

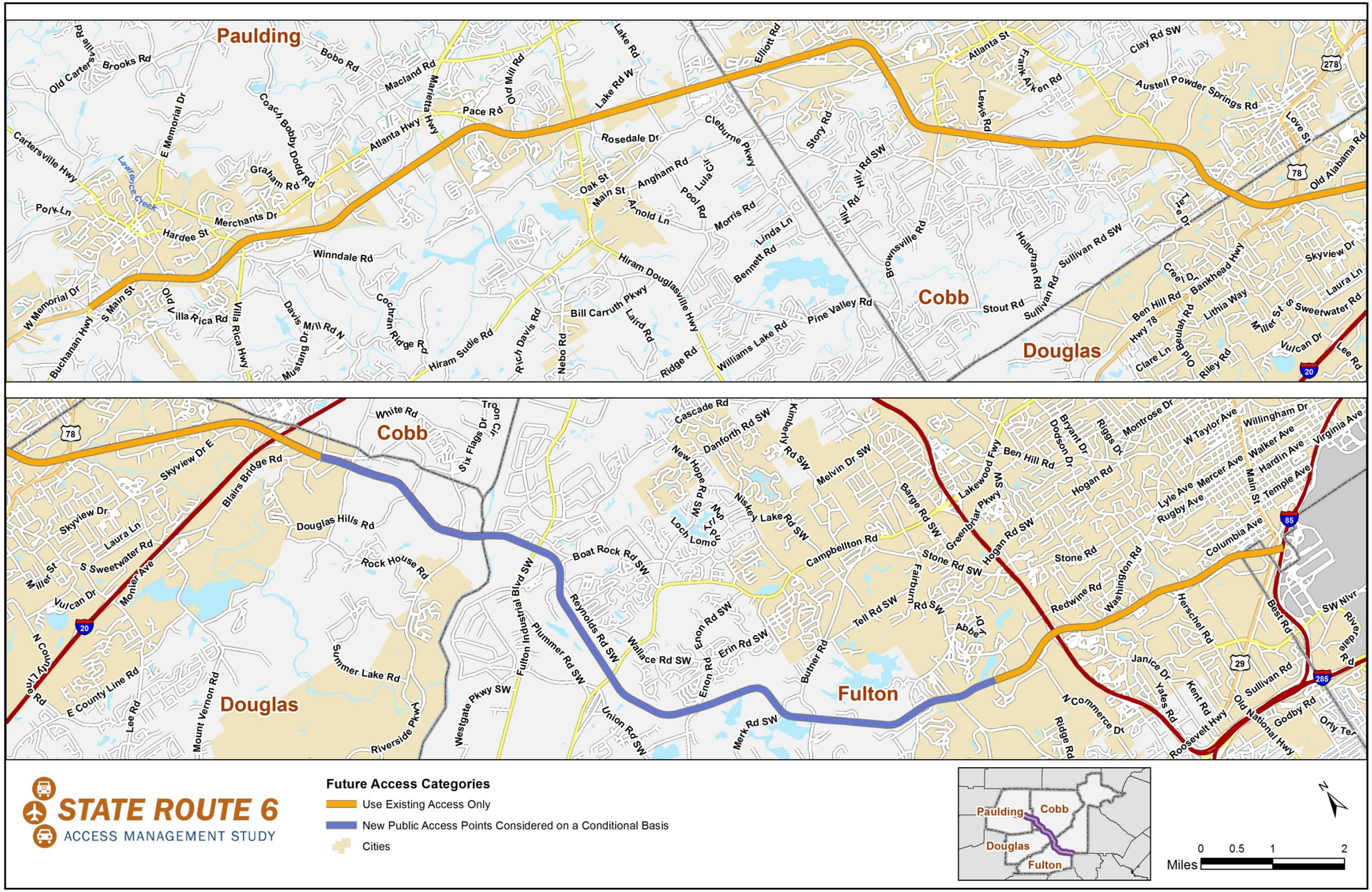

Figure 5-7: Policy Guidelines on Future Access Points

5C. Cost Estimation

Planning-level cost estimates were generated for each project recommendation, with the exception of recommended studies. Planning level cost estimates consist of project development costs, right-of-way costs, utility costs, and construction costs.

All cost estimates were created using GDOT's planning-level cost estimation software tools. These software tools include GDOT's Cost Estimation System (CES) and Right-of-Way and Utility Relocation Cost Estimate Tool (RUCEST). GDOT's CES, an AASHTO software system that was tailored specifically to projects in Georgia, calculates construction and preliminary engineering cost for projects by utilizing three years of recent construction data from recently let GDOT projects. RUCEST generates planning-level cost estimates for right-of-way and utility relocation using a database of cost items organized by counties and GDOT districts.

All planning-level costs are in current-year (2015) dollars, and they are included in each project fact sheet provided in the next section.

5D. Project Fact Sheets

This section presents fact sheets for all project recommendations identified in Section 5A. Project fact sheets, organized by project category, include basic project information, such as an overview describing the project purpose, spatial information, existing/proposed roadway typical sections, analysis results, planning-level cost estimates, and other important notes. A high-level project map is also included with each project fact sheet.

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5D.1. Access Points, Driveways, and Medians

A1: Median Barrier on SR 6 between I-285 and N. Commerce Drive

OVERVIEW

This project would provide a physical median barrier on SR 6 between the I-285 interchange and the N. Commerce Drive intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4-5**	**No Change**
Median Barrier	**Grass**	**Raised Median**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.33 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	**Fulton - Subarea 1**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,599**	**B**
2020 (No Build)	**5,658**	**B**

*Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$6,700**
Right-of-Way	**-**
Utilities	**-**
Construction	**$83,000**
Total (Rounded)	**$90,000**

NOTES

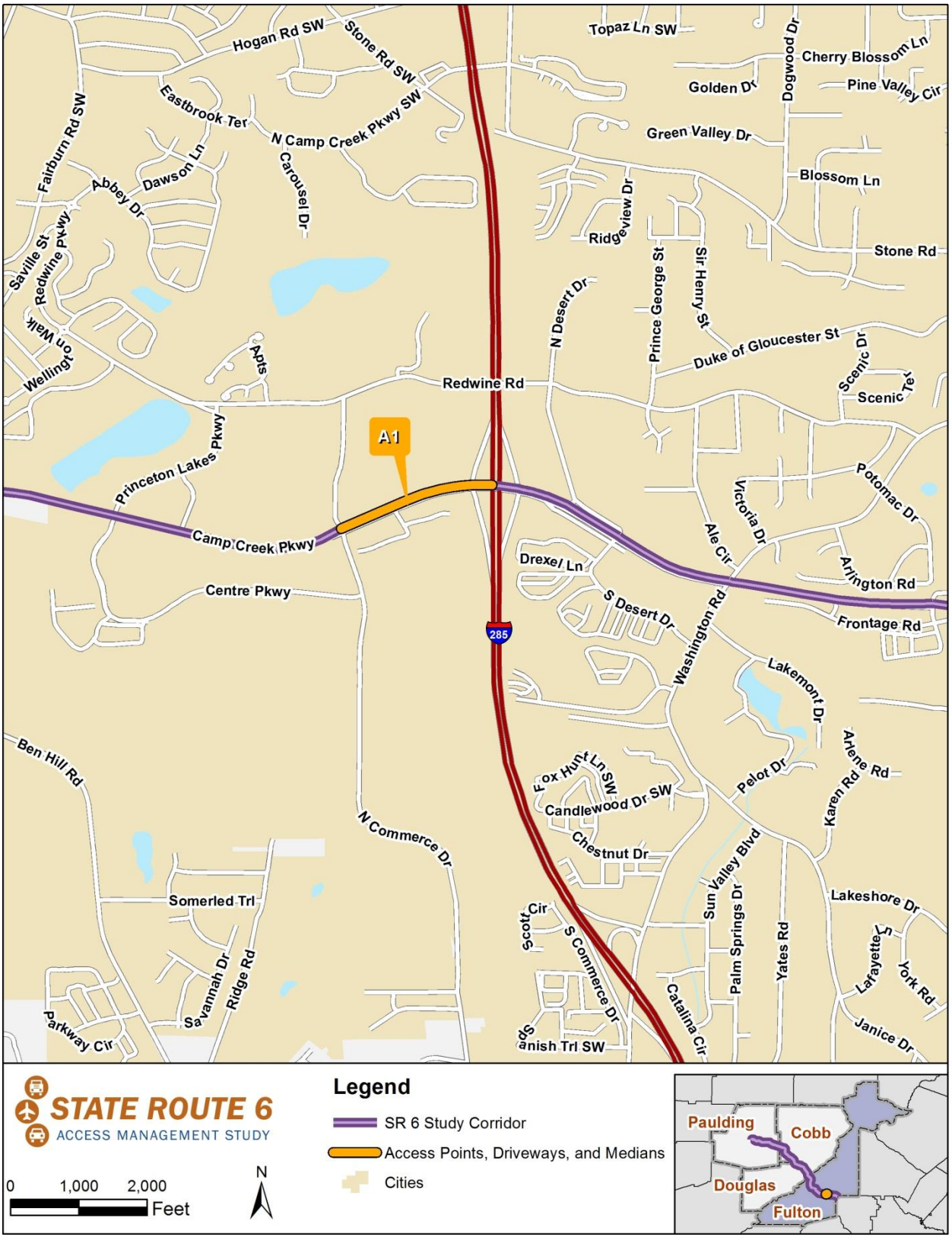
DEFICIENCIES ADDRESSED

A physical median barrier would encourage the drivers on SR 6 to use the N. Commerce Drive intersection for making turns instead of crossing the median.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Hogan Rd SW
Stone Rd SW
Topaz Ln SW
Dogwood Dr
Cherry Blossom Ln
Pine Valley Cir
Golden Dr
Eastbrook Ter
N Camp Creek Pkwy SW
Green Valley Dr
Fairburn Rd SW
Abbey Dr
Dawson Ln
Carousel Dr
Blossom Ln
Ridgeview Dr
Stone Rd
Saville St
Redwine Pkwy
Wellington Walk
Apts
N Desert Dr
Prince George St
Sir Henry St
Duke of Gloucester St
Scenic Dr
Scenic Ter
Redwine Rd
A1
Princeton Lakes Pkwy
Camp Creek Pkwy
Victoria Dr
Potomac Dr
Ale Cir
Drexel Ln
Arlington Rd
Centre Pkwy
S Desert Dr
Washington Rd
Frontage Rd
285
Lakemont Dr
Ben Hill Rd
Fox Hunt Ln SW
Candlewood Dr SW
Pelot Dr
Arlene Rd
Karen Rd
N Commerce Dr
Chestnut Dr
Sun Valley Blvd
Somerled Trl
Scott Cir
S Commerce Dr
Palm Springs Dr
Yates Rd
Lakeshore Dr
Lafayette Ln
York Rd
Savannah Dr
Ridge Rd
Parkway Cir
Catalina Cir
Janice Dr
Spanish Trl SW
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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SR 6 Study Corridor
Access Points, Driveways, and Medians
Cities
Paulding
Cobb
Douglas
Fulton

A2: Median Barrier on SR 6 between Welcome All Road and SR 70/FIB

OVERVIEW

This project would provide a physical median barrier on SR 6 between the Welcome All Road intersection and the SR 70/FIB intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**Raised Median**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**4.9 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,407**	**A**
2020 (No Build)	**3,714**	**A**

*Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$58,000**
Right-of-Way	**-**
Utilities	**-**
Construction	**$724,000**
Total (Rounded)	**$782,000**

NOTES

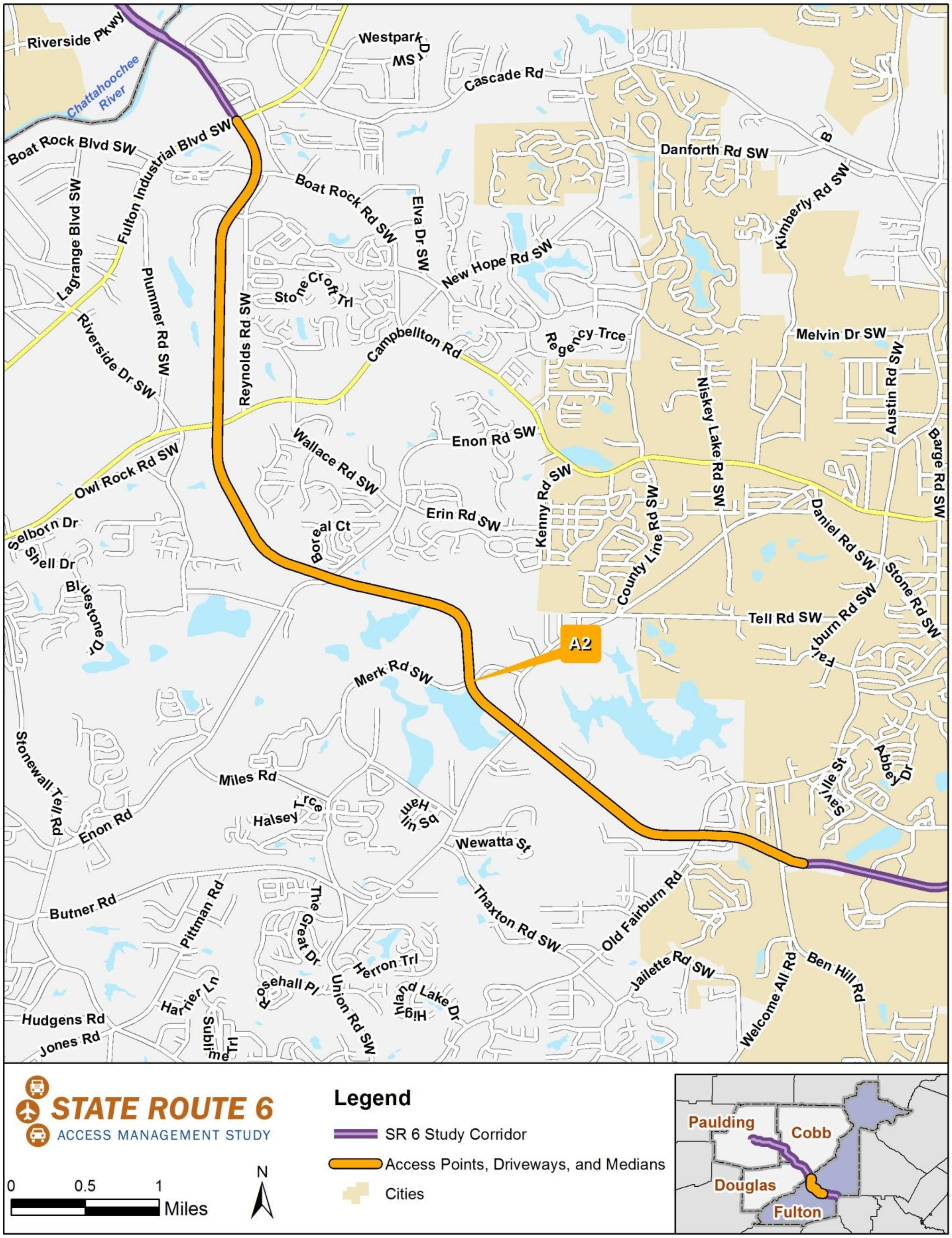
DEFICIENCIES ADDRESSED

A physical median barrier would encourage the drivers on SR 6 to use the intersections for making turns instead of crossing the median.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Riverside Pkwy
Chattahoochee River
Westpark Dr SW
Cascade Rd
Boat Rock Blvd SW
Fulton Industrial Blvd SW
Danforth Rd SW
Boat Rock Rd SW
Elva Dr SW
Kimberly Rd SW
Lagrange Blvd SW
Plummer Rd SW
Reynolds Rd SW
Stone Croft Trl
New Hope Rd SW
Riverside Dr SW
Campbellton Rd
Regency Trce
Melvin Dr SW
Austin Rd SW
Niskey Lake Rd SW
Enon Rd SW
Wallace Rd SW
Owl Rock Rd SW
Kenny Rd SW
Barge Rd SW
County Line Rd SW
Erin Rd SW
Selborn Dr
Boreal Ct
Shell Dr
Daniel Rd SW
Bluestone Dr
Stone Rd SW
Tell Rd SW
Fairburn Rd SW
A2
Merk Rd SW
Stonewall Tell Rd
Miles Rd
Abbey Dr
Saville St
Halsey Trce
Hamlin Sq
Enon Rd
Wewatta St
Butner Rd
Pittman Rd
The Great Dr
Thaxton Rd SW
Old Fairburn Rd
Herron Trl
Jailette Rd SW
Ben Hill Rd
Rosehall Pl
Highland Lake Dr
Harrier Ln
Union Rd SW
Welcome All Rd
Hudgens Rd
Jones Rd
Sublime Trl
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SR 6 Study Corridor
Access Points, Driveways, and Medians
Cities
Paulding
Cobb
Douglas
Fulton

A3: Removal of Driveways on SR 70/FIB near its Intersection with SR 6

OVERVIEW

This project would remove two right-in-right-out driveways on SR 70/FIB in order to redirect the vehicles from the driveways to Bakers Ferry Road first to access SR 6 and SR 70/FIB.

SR 70/FIB TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.15 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 70/FIB**
Subarea ID, if any	**Fulton - Subarea 2**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates.*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,730**	**F**
2020 (No Build)	**5,160**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$6,700**
Total (Rounded)	**$7,000**

NOTES

DEFICIENCIES ADDRESSED

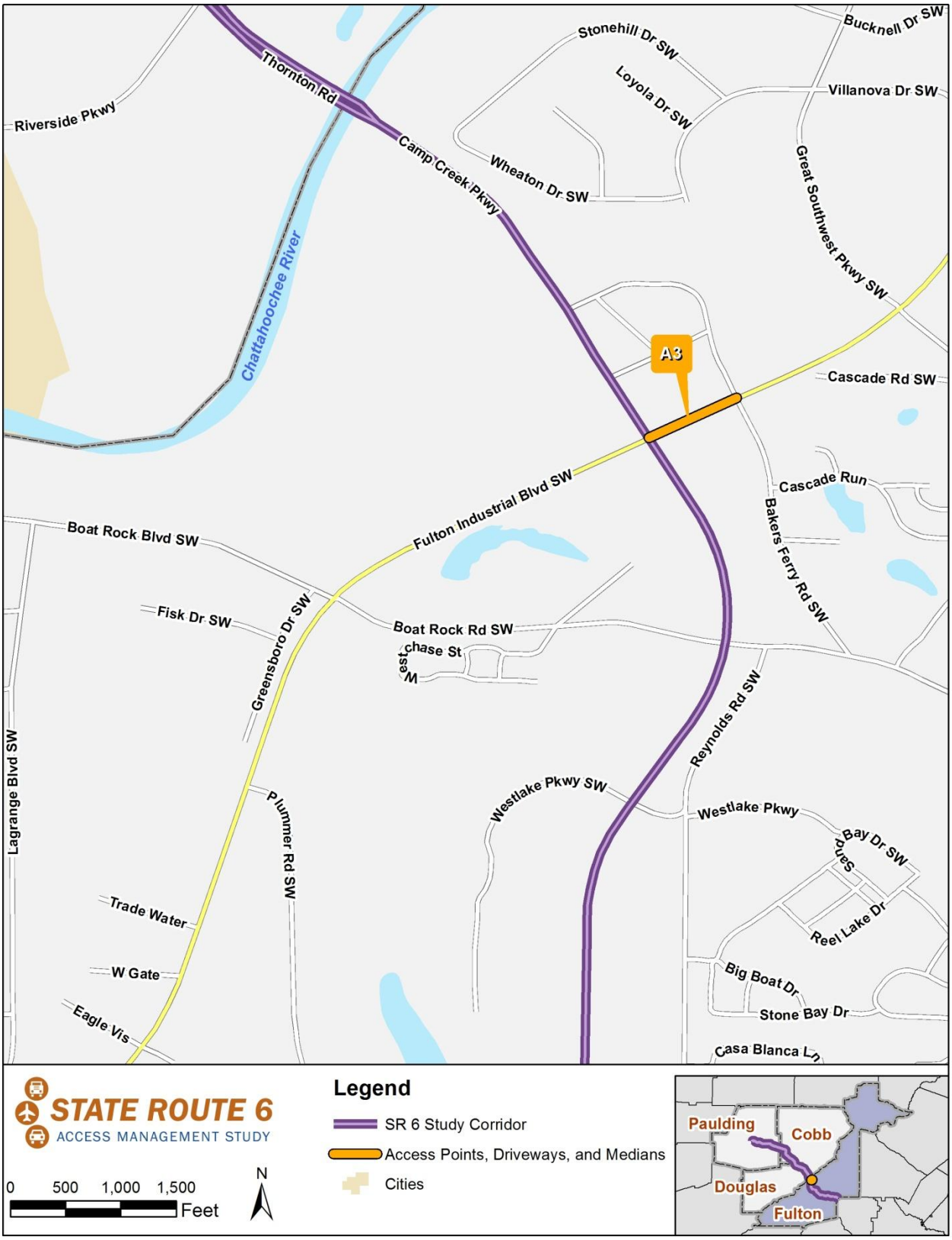
Several sideswipe-type crashes have occurred due to weaving movement between vehicles exiting the driveways and trying to access the SR 70/FIB intersection at SR 6. Closure of these two right-in-right-out driveways would remove this movement, redirecting the vehicles from the gas stations and other commercial development to Bakers Ferry Road first in order to access SR 6 and/or SR 70/FIB. The arterial speed of SR 70/FIB would be improved, and overall operation of the intersection would improve by removing the weaving movements.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Would require coordination with the adjacent businesses..


Riverside Pkwy
Thornton Rd
Camp Creek Pkwy
Chattahoochee River
Stonehill Dr SW
Loyola Dr SW
Wheaton Dr SW
Bucknell Dr SW
Villanova Dr SW
Great Southwest Pkwy SW
A3
Cascade Rd SW
Cascade Run
Bakers Ferry Rd SW
Fulton Industrial Blvd SW
Boat Rock Blvd SW
Fisk Dr SW
Greensboro Dr SW
Boat Rock Rd SW
West Chase St
Reynolds Rd SW
Lagrange Blvd SW
Plummer Rd SW
Westlake Pkwy SW
Westlake Pkwy
Bay Dr SW
Sandpiper
Reel Lake Dr
Trade Water
W Gate
Eagle Vis
Big Boat Dr
Stone Bay Dr
Casa Blanca Ln
STATE ROUTE 6
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SR 6 Study Corridor
Access Points, Driveways, and Medians
Cities
Paulding
Cobb
Douglas
Fulton

A4: Consolidate Driveways on SR 6 between N Blairs Bridge Road and Crestmark Road

OVERVIEW

This project would consolidate and reconfigure existing right-in-right-out driveways on northbound SR 6. Out of the three consecutive driveways to the mall where Last Chance Thrift Store and Verizon are located, the third driveway would be closed off. Improved driveway spacing would reduce traffic turbulence and, in turn, maximize capacity.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.23 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,400**	**B**
2020 (No Build)	**4,708**	**B**

*Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$1,500**
Total (Rounded)	**$1,500**

NOTES

DEFICIENCIES ADDRESSED

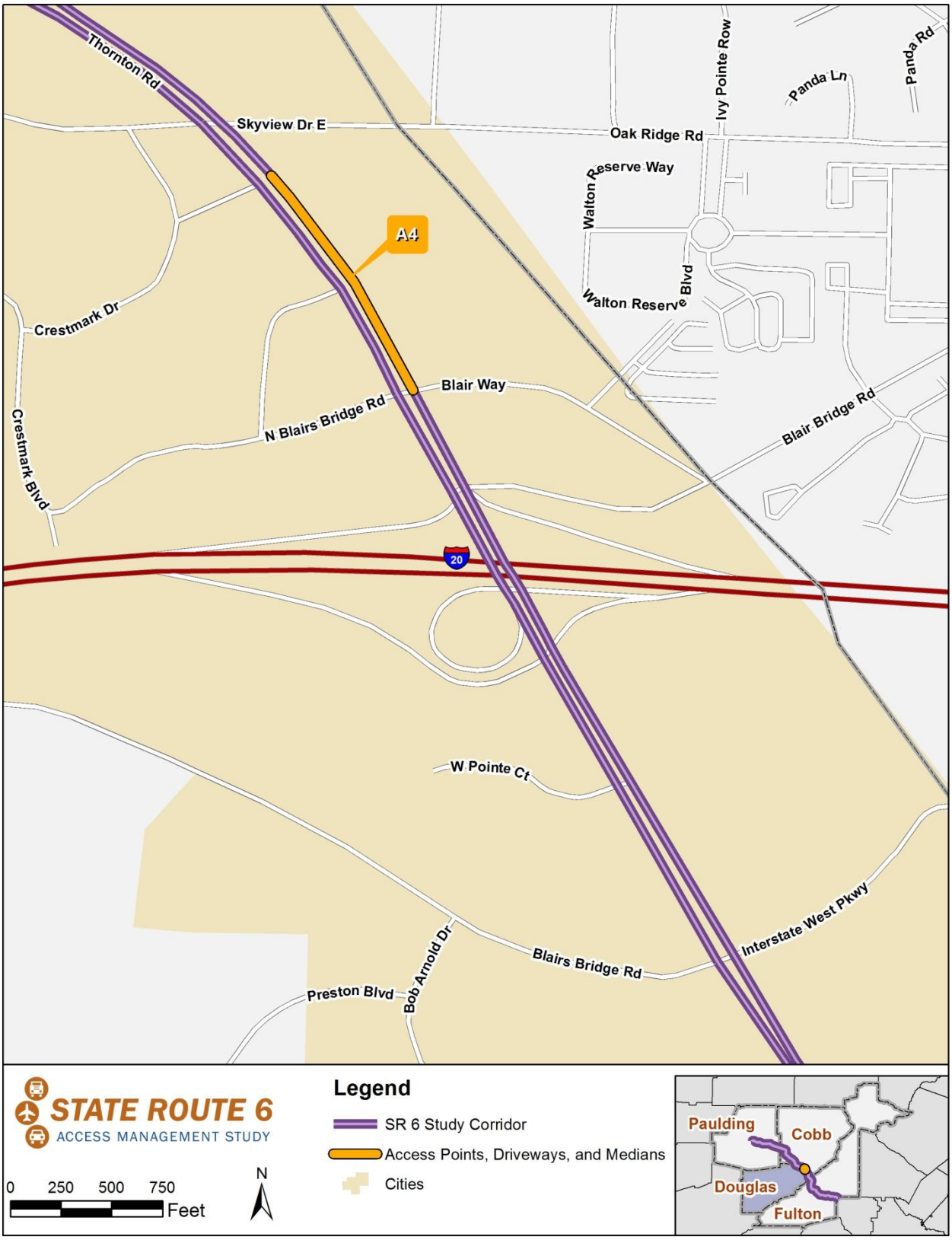
Existing driveway spacing in the segment is significantly less than the required minimum standard based on GDOT Regulations for Driveway and Encroachment Control (GDOT RDEC 2009).

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Restricting direct access to the adjacent business (Verizon) from SR 6 may not be supported by the business owners.


Thornton Rd
Skyview Dr E
Oak Ridge Rd
Ivy Pointe Row
Panda Ln
Panda Rd
Walton Reserve Way
Walton Reserve Blvd
A4
Crestmark Dr
Blair Way
N Blairs Bridge Rd
Blair Bridge Rd
Crestmark Blvd
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W Pointe Ct
Interstate West Pkwy
Blairs Bridge Rd
Bob Arnold Dr
Preston Blvd
STATE ROUTE 6
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SR 6 Study Corridor
Access Points, Driveways, and Medians
Cities
Paulding
Cobb
Douglas
Fulton

A5: Reconfigure Driveways between Crestmark Way and Skyview Drive/Oak Ridge Road

OVERVIEW

This project would reconfigure three existing driveways to the gas station at the corner of SR 6 and Oak Ridge Road. The two driveways on northbound SR 6 would be reconfigured as one-way driveways: a right-in-only driveway and a right-out-only driveway. Additionally, the driveway closest to the SR 6 intersection on Oak Ridge Road would be closed off. Improved driveway spacing would reduce traffic turbulence and, in turn, maximize capacity.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,400**	**B**
2020 (No Build)	**4,708**	**B**

**Highest volume in the project limit*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$7,000**
Total (Rounded)	**$7,000**

NOTES

DEFICIENCIES ADDRESSED

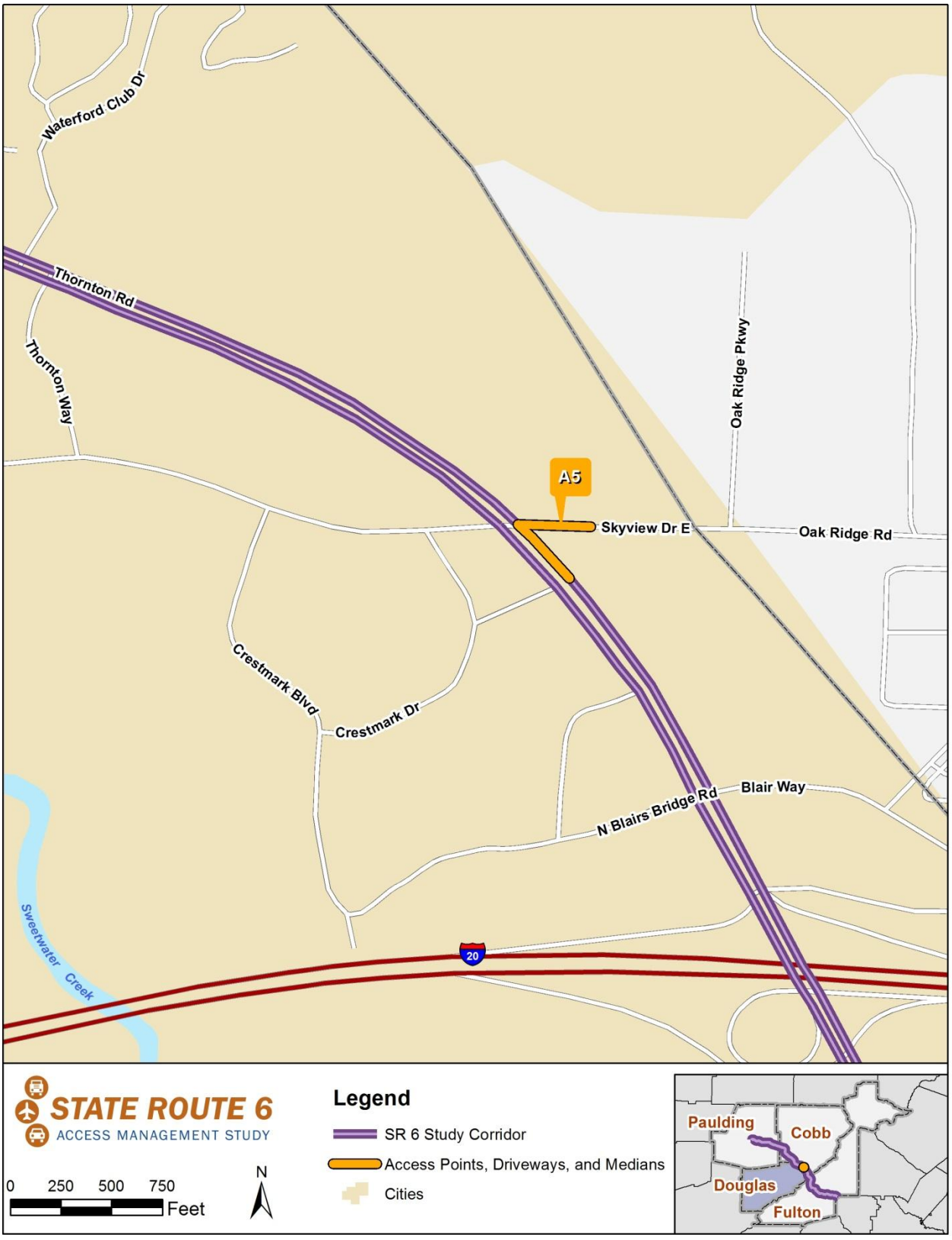
Existing driveway spacing in the segment is significantly less than the required minimum standard based on GDOT RDEC 2009.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Would require coordination with the adjacent businesses.


Waterford Club Dr
Thornton Rd
Thornton Way
Oak Ridge Pkwy
A5
Skyview Dr E
Oak Ridge Rd
Crestmark Blvd
Crestmark Dr
Blair Way
N Blairs Bridge Rd
Sweetwater Creek
20
STATE ROUTE 6
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SR 6 Study Corridor
Access Points, Driveways, and Medians
Cities
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Cobb
Douglas
Fulton

A6: Raised Median with Treatments for Drainage for the Cobb County Section

OVERVIEW

This project would replace an existing TWLTL with a raised median in order to maintain corridor continuity and provide separation of traffic flowing in the opposite direction.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**TWLTL**	**Raised Median**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**7.4 miles**

STUDY AREA LOCATION

County/Counties	**Cobb**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

Exceeds Statewide Crash Rate*	**No**
Exceeds Statewide Injury Crash Rate*	**No**
Exceeds Statewide Fatal Crash Rate*	**No**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	Volume*	LOS
Existing**	**3,065**	**A**
2020 (No Build)	**3,402**	**A**

* Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$86,100**
Right-of-Way	**-**
Utilities	**-**
Construction	**$1,075,300**
Total (Rounded)	**$1,162,000**

NOTES

DEFICIENCIES ADDRESSED

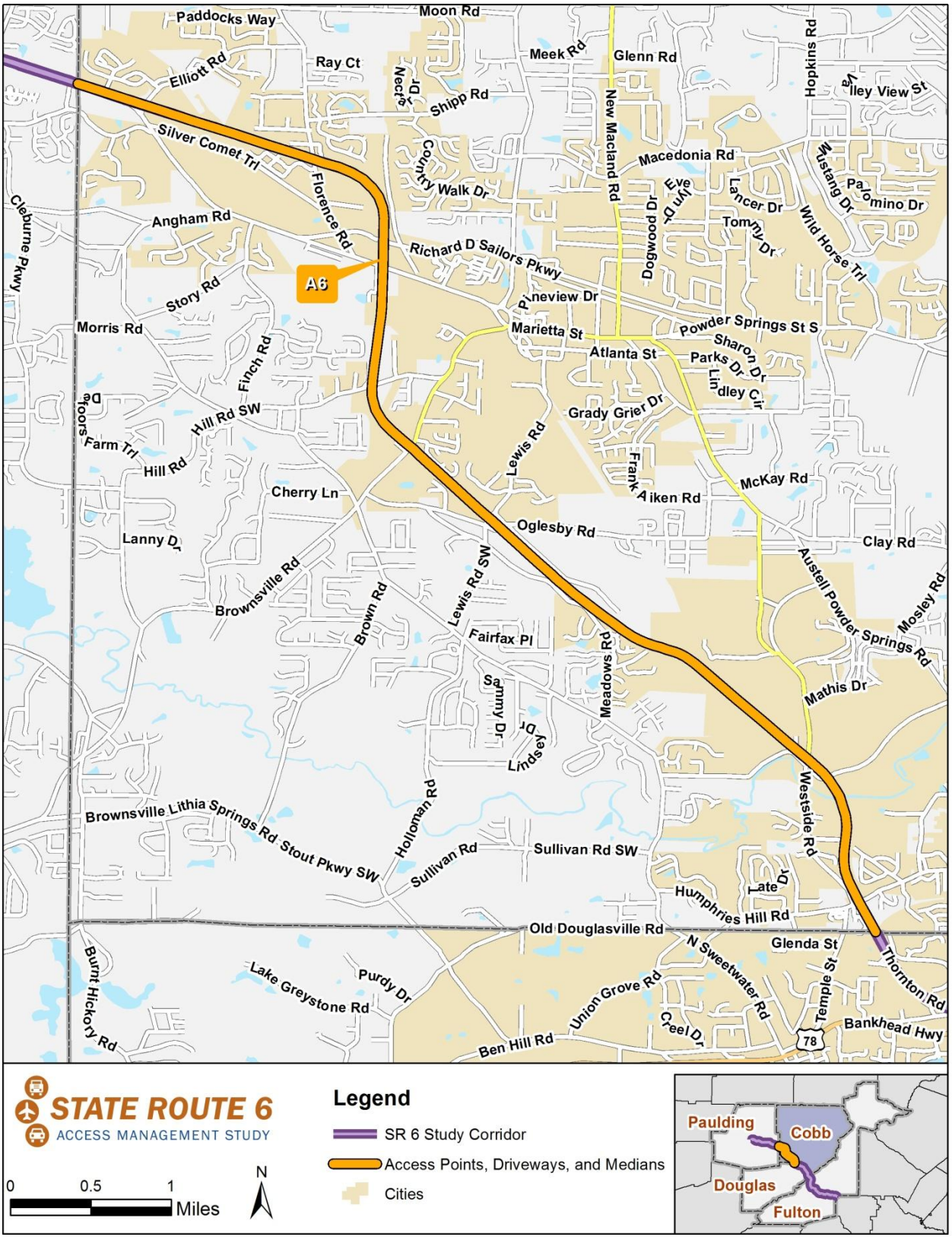
In general, a TWLTL has two potential concerns: (1) a pedestrian refuge cannot be provided to foot traffic trying to cross the street and (2) the probability of sideswipe and angled crashes involving vehicles getting in and out of the TWLTL is higher than with medians. Having a physical median along this section would maintain corridor continuity and provide much-needed separation of traffic flowing in the opposite direction. This would also discourage the installation of new traffic signals along the corridor, in turn maintaining through-traffic progression along the corridor.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Study stakeholders suggested that the center median could be designed with rain gardens to help with drainage and water runoff.


Paddocks Way
Moon Rd
Elliott Rd
Ray Ct
Nectar Dr
Shipp Rd
Meek Rd
Glenn Rd
Hopkins Rd
Valley View St
Silver Comet Trl
New Macland Rd
Macedonia Rd
Country Walk Dr
Mustang Dr
Palomino Dr
Cleburne Pkwy
Angham Rd
Florence Rd
Dogwood Dr
Lancer Dr
Tommy Dr
Wild Horse Trl
Richard D Sailors Pkwy
A6
Story Rd
Pineview Dr
Morris Rd
Marietta St
Powder Springs St S
Atlanta St
Sharon Dr
Parks Dr
Lindley Cir
Finch Rd
Grady Grier Dr
Hill Rd SW
Lewis Rd
Frank Aiken Rd
McKay Rd
Hill Rd
Cherry Ln
Oglesby Rd
Clay Rd
Lanny Dr
Austell Powder Springs Rd
Mosley Rd
Brownsville Rd
Brown Rd
Lewis Rd SW
Fairfax Pl
Meadows Rd
Mathis Dr
Lindsey
Holloman Rd
Westside Rd
Brownsville Lithia Springs Rd
Stout Pkwy SW
Sullivan Rd
Sullivan Rd SW
Humphries Hill Rd
Old Douglasville Rd
Glenda St
N Sweetwater Rd
Thornton Rd
Burnt Hickory Rd
Lake Greystone Rd
Purdy Dr
Union Grove Rd
Temple St
Ben Hill Rd
Creel Dr
Bankhead Hwy
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STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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SR 6 Study Corridor
Access Points, Driveways, and Medians
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Cobb
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Fulton

5D.2. Operations

O1: Redirect Access from Publix onto Princeton Lakes Parkway

OVERVIEW

This project would close a driveway and redirect access from the Publix onto Princeton Lakes Parkway. The drivers exiting from the Publix would be redirected to use Carmia Drive SW first to access SR 6 or Princeton Lakes Parkway.

PRINCETON Lakes PARKWAY TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.12 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**Princeton Lakes Parkway**
Subarea ID, if any	**Fulton - Subarea 1**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume*	*LOS*
Existing	**N/A**	**N/A**
2020 (No Build)	**N/A**	**N/A**

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$2,100**
Total (Rounded)	**$2,100**

NOTES

DEFICIENCIES ADDRESSED

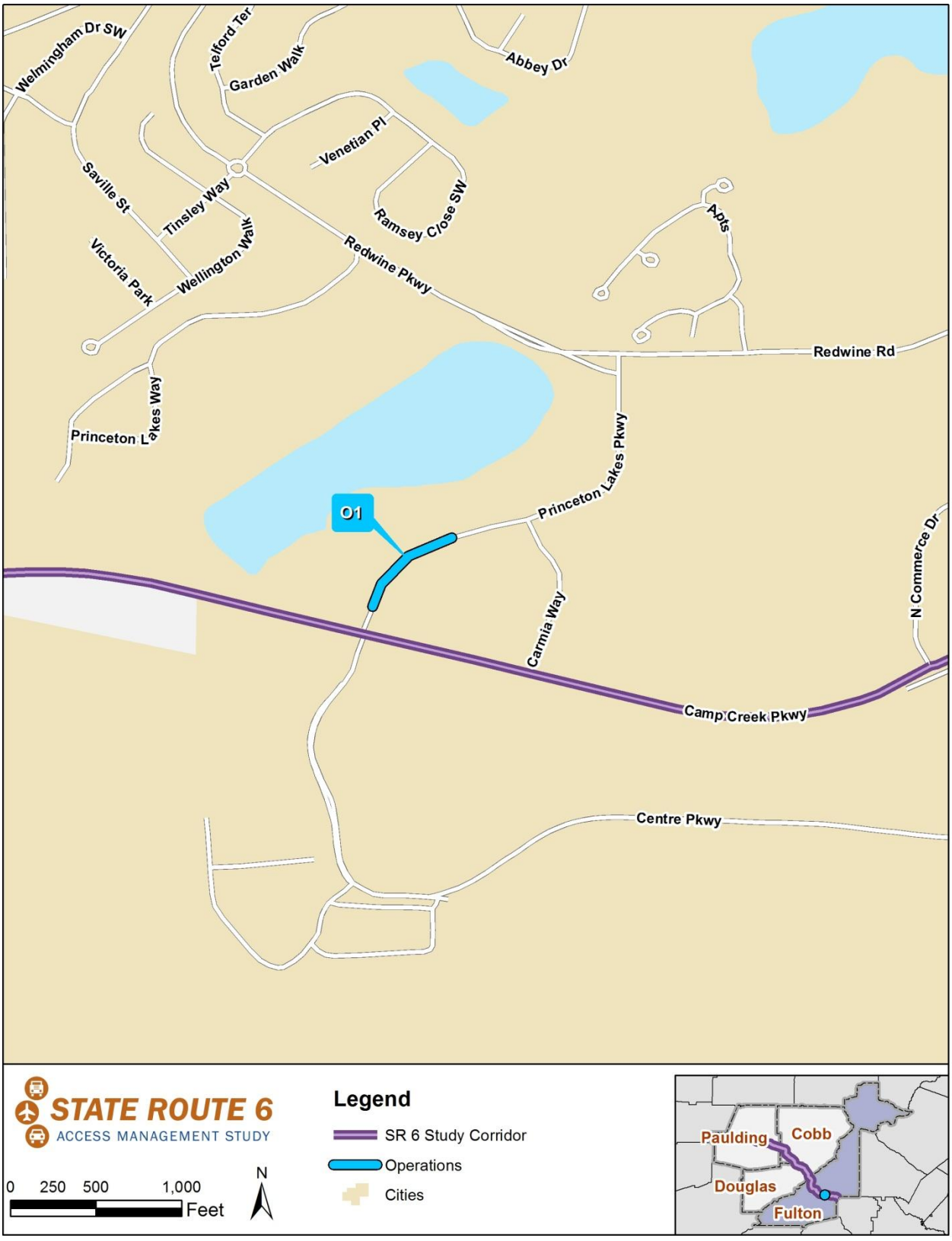
The proximity of the Publix entrance to the intersection of Princeton Lakes Parkway and SR 6 creates weaving concerns. Redirecting access from Publix onto Princeton Lakes Parkway would improve operations along Princeton Lakes Parkway near SR 6 by reducing weaving movements and potentially improving the operation of the SR 6 intersection with Princeton Lakes Parkway.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Would require coordination with Publix.


Welmingham Dr SW
Telford Ter
Garden Walk
Abbey Dr
Venetian Pl
Saville St
Tinsley Way
Ramsey Close SW
Apts
Victoria Park
Wellington Walk
Redwine Pkwy
Redwine Rd
Princeton Lakes Way
Princeton Lakes Pkwy
O1
N Commerce Dr
Carmia Way
Camp Creek Pkwy
Centre Pkwy
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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SR 6 Study Corridor
Operations
Cities
Paulding
Cobb
Douglas
Fulton

O2 (Part 1): Extension of Left Turn Lane at Welcome All Road Intersection

OVERVIEW

This project would extend the existing left turn lane on SR 6 at the Welcome All Road intersection. The project would also include signal retiming and necessary operational analysis to discourage red-light running.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

*Source: GDOT crash data (2008-2012) Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,950**	**B**
2020 (No Build)	**4,310**	**C**

*Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES*

Preliminary Engineering	**$27,400**
Right-of-Way	**$192,000**
Utilities	**$754,500**
Construction	**$342,200**
Total (Rounded)	**$1,317,000**

*Combined cost of O2 Part 1, 2, & 3

NOTES

DEFICIENCIES ADDRESSED

Stakeholder feedback indicated a high number of crashes, and red-light runners have been reported at the SR 6 intersection with Welcome All Road. The extension of the left turn lane and signal retiming could improve operation of the intersection by lessening the frequency and severity of crashes. This project could also minimize intersection delay and, in turn, improve traffic operations.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted. Anticipated environmental document type: categorical exclusion (CE).

OTHER

It is recommended that Fulton County public works staff consider contacting law enforcement regarding the issue of red-light running.

As stakeholders in this study, representatives from the Airport West CID indicated that the CID would soon begin a study of the Welcome All Rd at SR 6 intersection area. Further coordination among stakeholders is recommended to address findings from that study.

O2 (Part 2): Provision of Turn Lanes at Enon Road Intersection

OVERVIEW

This project would provide left turn lanes on Enon Road at its intersection with SR 6. The project would also include signal retiming and necessary operational analysis to discourage red-light running.

ENON ROAD TYPICAL SECTION*

	Existing	Proposed
Lanes	**2**	**No Change**
Median Barrier	**No**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**2,840**	**D**
2020 (No Build)	**3,100**	**D**

*Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES*

Preliminary Engineering	**See O2 Part 1**
Right-of-Way	**See O2 Part 1**
Utilities	**See O2 Part 1**
Construction	**See O2 Part 1**
Total (Rounded)	**See O2 Part 1**

NOTES

DEFICIENCIES ADDRESSED

Stakeholder feedback indicated a high number of crashes, and red-light runners have been reported at the SR 6 intersection with Enon Road. The provision of left turn lanes and signal retiming could improve operation of the intersection by lessening the frequency and severity of crashes. This project could also minimize intersection delay and, in turn, improve traffic operations.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted. Anticipated environmental document type: CE.

OTHER

It is recommended that Fulton County public works staff consider contacting law enforcement regarding the issue of red-light running.

O2 (Part 3): Signal Retiming at SR 154/Campbellton Road Intersection

OVERVIEW

The project would include signal retiming and necessary operational analysis to discourage red-light running.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,290**	**D**
2020 (No Build)	**3,580**	**D**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES*

Preliminary Engineering	**See O2 Part 1**
Right-of-Way	**See O2 Part 1**
Utilities	**See O2 Part 1**
Construction	**See O2 Part 1**
Total (Rounded)	**See O2 Part 1**

NOTES

DEFICIENCIES ADDRESSED

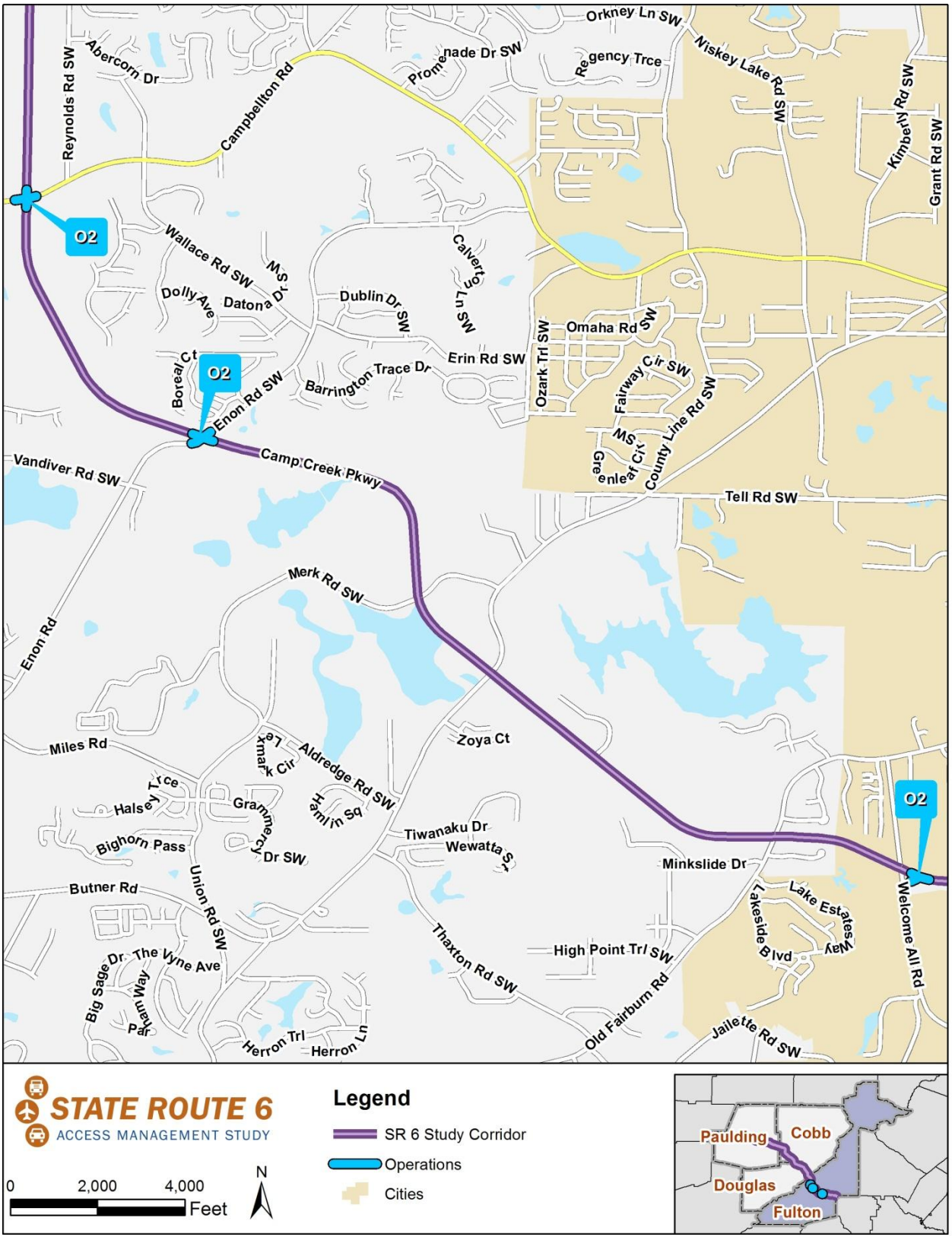
Stakeholder feedback indicated a high number of crashes, and red-light runners have been reported at the SR 6 intersection with SR 154/Campbellton Road. Signal retiming could improve operation of the intersection by lessening the frequency and severity of crashes. This project could also minimize intersection delay and, in turn, improve traffic operations.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

It is recommended that Fulton County public works staff consider contacting law enforcement regarding the issue of red-light running.


Orkney Ln SW
Niskey Lake Rd SW
Kimberly Rd SW
Grant Rd SW
Abercorn Dr
Reynolds Rd SW
Campbellton Rd
Promenade Dr SW
Regency Trce
O2
Wallace Rd SW
Dolly Ave
Dalton Dr
Dublin Dr SW
Calvert Ln SW
Omaha Rd SW
Ozark Trl SW
Fairway Cir SW
County Line Rd SW
Greenleaf Cir
Boreal Ct
Enon Rd SW
Barrington Trace Dr
Erin Rd SW
Camp Creek Pkwy
Vandiver Rd SW
Tell Rd SW
Merk Rd SW
Enon Rd
Miles Rd
Aldredge Rd SW
Zoya Ct
Halsey Trce
Grammercy Dr SW
Hamlin Sq
Tiwanaku Dr
Wewatta St
Bighorn Pass
Minkslide Dr
Butner Rd
Union Rd SW
Lake Estates Way
Lakeside Blvd
Welcome All Rd
Thaxton Rd SW
High Point Trl SW
Big Sage Dr
The Vyne Ave
Old Fairburn Rd
Herron Trl
Herron Ln
Jailette Rd SW
STATE ROUTE 6
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Fulton

O3: In-depth Roadway Audit/Traffic Engineering Study between I-20 and Skyview Drive/Oak Ridge Road

OVERVIEW

This study recommends that a detailed roadway study be performed for the SR 6 segment between I-20 and Skyview Drive/ Oak Ridge Road. The preliminary crash analysis revealed (see ANALYSIS RESULTS, below) that crash rates in this area exceed statewide average rates in all categories. A more detailed study is needed to determine likely causes and develop specific solutions.

One option to address weaving issues in this area would be to provide a concrete separation of the right turn lanes to restrict northbound left turn lane access to N. Blairs Bridge Road from the I-20 westbound off-ramp. Another option is eliminating the second driveway access to the Budget car rental in order to reduce the traffic turbulence in the outer lane. Additionally, right-turn-on-red (RTOR) could be prohibited from the I-20 westbound off-ramp onto SR 6. Other options could include reconfiguring the first two driveways to one-way driveways.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.6 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**5,070**	**B**
2020 (No Build)	**5,425**	**B**

** Highest volume in the project limit*

***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**N/A**

NOTES

DEFICIENCIES ADDRESSED

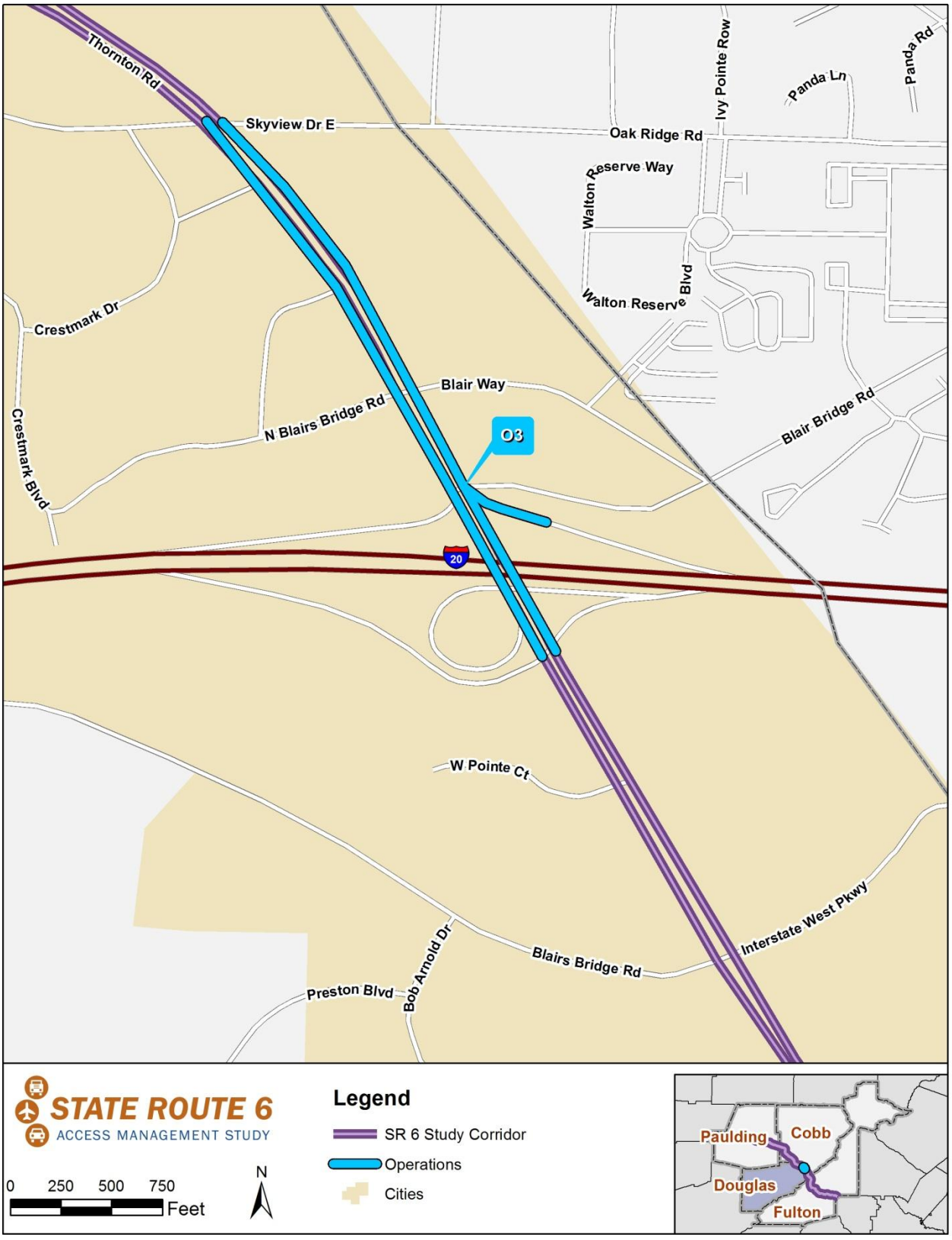
This study may identify improvements to reduce the frequency and severity of crashes by tailoring specific solutions to the causes of crashes. Currently, there are weaving issues resulting from vehicles using the dual right-turn lanes from the I-20 westbound off-ramp and then trying to navigate across to turn left at N. Blairs Bridge Road. Also, existing driveway spacing in the segment is significantly less than the required minimum standard based on GDOT RDEC 2009.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

An additional option would be to restrict access to adjacent business, such as IHOP and Budget car rental, on the eastern side, and Home Depot and Burger King, on the western side. Road signs would have to be provided for vehicles to be routed for U-turns at Skyview Drive/Oak Ridge Road or left turns through Skyview Drive/Oak Ridge Road and Crestmark Boulevard to access the western portion of N. Blairs Bridge Road.


Thornton Rd
Skyview Dr E
Oak Ridge Rd
Ivy Pointe Row
Panda Ln
Panda Rd
Walton Reserve Way
Walton Reserve Blvd
Crestmark Dr
Crestmark Blvd
Blair Way
N Blairs Bridge Rd
Blair Bridge Rd
O3
20
W Pointe Ct
Interstate West Pkwy
Blairs Bridge Rd
Bob Arnold Dr
Preston Blvd
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O4: Continuous Right Turn Lane between Traffic Signals and Median Openings in Hiram Commercial Area

OVERVIEW

This project would improve westbound SR 6 in the Hiram commercial area to have a continuous right turn lane between traffic signals and median openings rather than the existing segmented deceleration and acceleration lanes. The project would include restriping, repaving, and some new pavement.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**1.92 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	**Paulding - Subareas 1 & 2**
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,232**	**A**
2020 (No Build)	**3,587**	**A**

** Highest volume in the project limit*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$28,800**
Right-of-Way	**-**
Utilities	**-**
Construction	**$358,800**
Total (Rounded)	**$389,000**

NOTES

DEFICIENCIES ADDRESSED

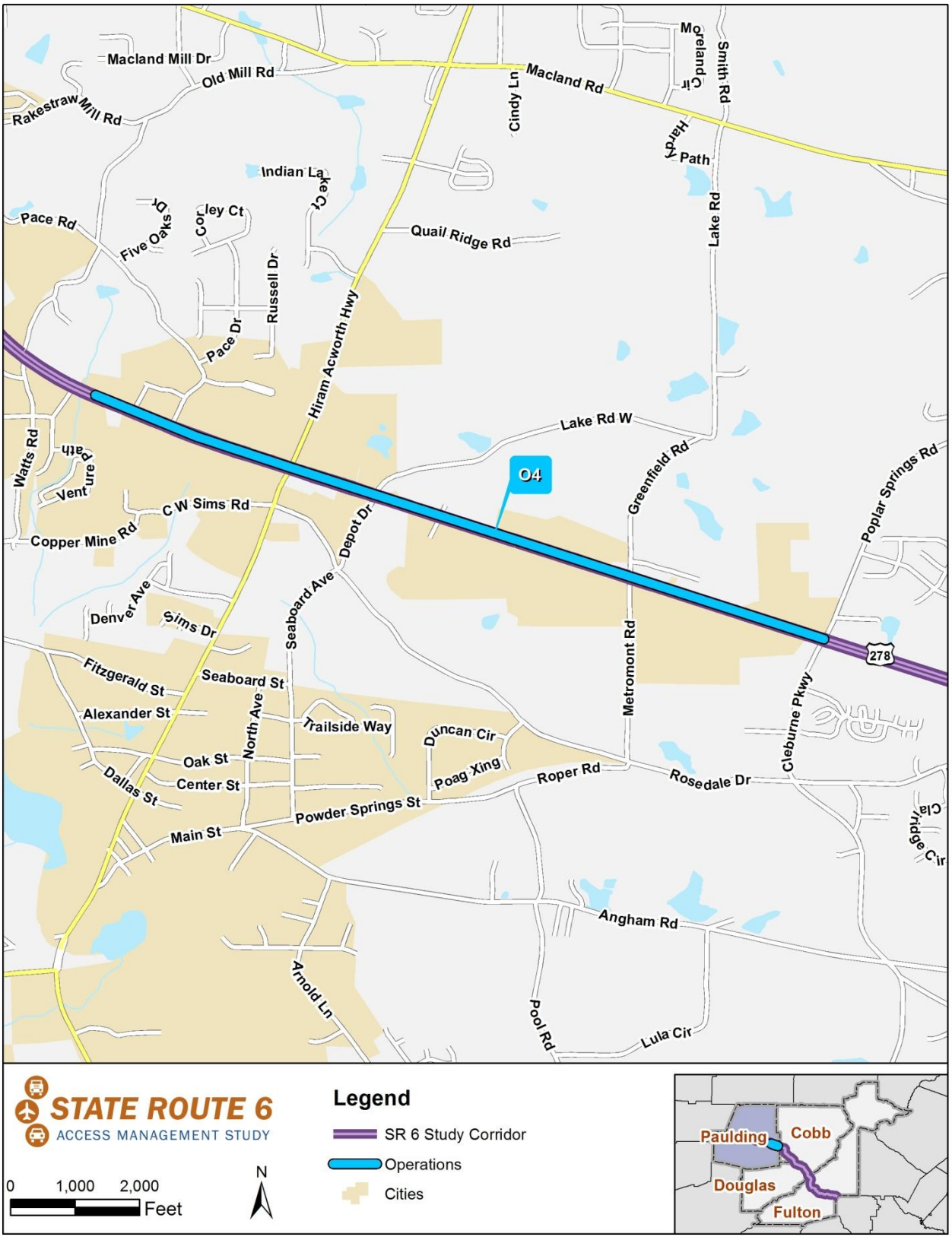
Segmented deceleration and acceleration lanes do not always provide the most comfortable spacing for deceleration, requiring drivers to either decelerate heavily once they are in the lanes or begin to decelerate before they move into the lane. Also, the shorter acceleration lanes could cause forced merges with high-speed vehicles, because the merging vehicles do not have enough space to comfortably merge with through traffic. Providing a continuous right turn lane would enable the drivers to accelerate and decelerate more comfortably and, in turn, make easier right turns.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

This solution would be ideal where low driveway spacing creates a greater concentration of conflict points between the accelerating and decelerating vehicles, or where heavy volumes in and out of the driveways provide more opportunities for vehicle conflicts.


Macland Mill Dr
Old Mill Rd
Rakestraw Mill Rd
Macland Rd
Cindy Ln
Smith Rd
Indian La
Lake Ct
Pace Rd
Five Oaks Dr
Quail Ridge Rd
Lake Rd
Pace Dr
Russell Dr
Hiram Acworth Hwy
Lake Rd W
Watts Rd
Greenfield Rd
Poplar Springs Rd
O4
Copper Mine Rd
C W Sims Rd
Depot Dr
Denver Ave
Sims Dr
Seaboard Ave
Metromont Rd
278
Fitzgerald St
Seaboard St
Alexander St
North Ave
Trailside Way
Duncan Cir
Cleburne Pkwy
Oak St
Dallas St
Center St
Poag Xing
Roper Rd
Rosedale Dr
Powder Springs St
Main St
Angham Rd
Arnold Ln
Pool Rd
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O5: In-depth Roadway Audit Study between Old Harris Road and S Main Street

OVERVIEW

This study recommends that a detailed roadway study be performed for the SR 6 segment between Old Harris Road and S. Main Street. The preliminary analysis revealed (see ANALYSIS RESULTS, below) that crash rates exceed statewide average rates in all categories. A more detailed study is needed to determine likely causes and develop specific solutions.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**2.3 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**2,618**	**A**
2020 (No Build)	**2,906**	**A**

* Highest volume in the project limit

**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**N/A**

NOTES

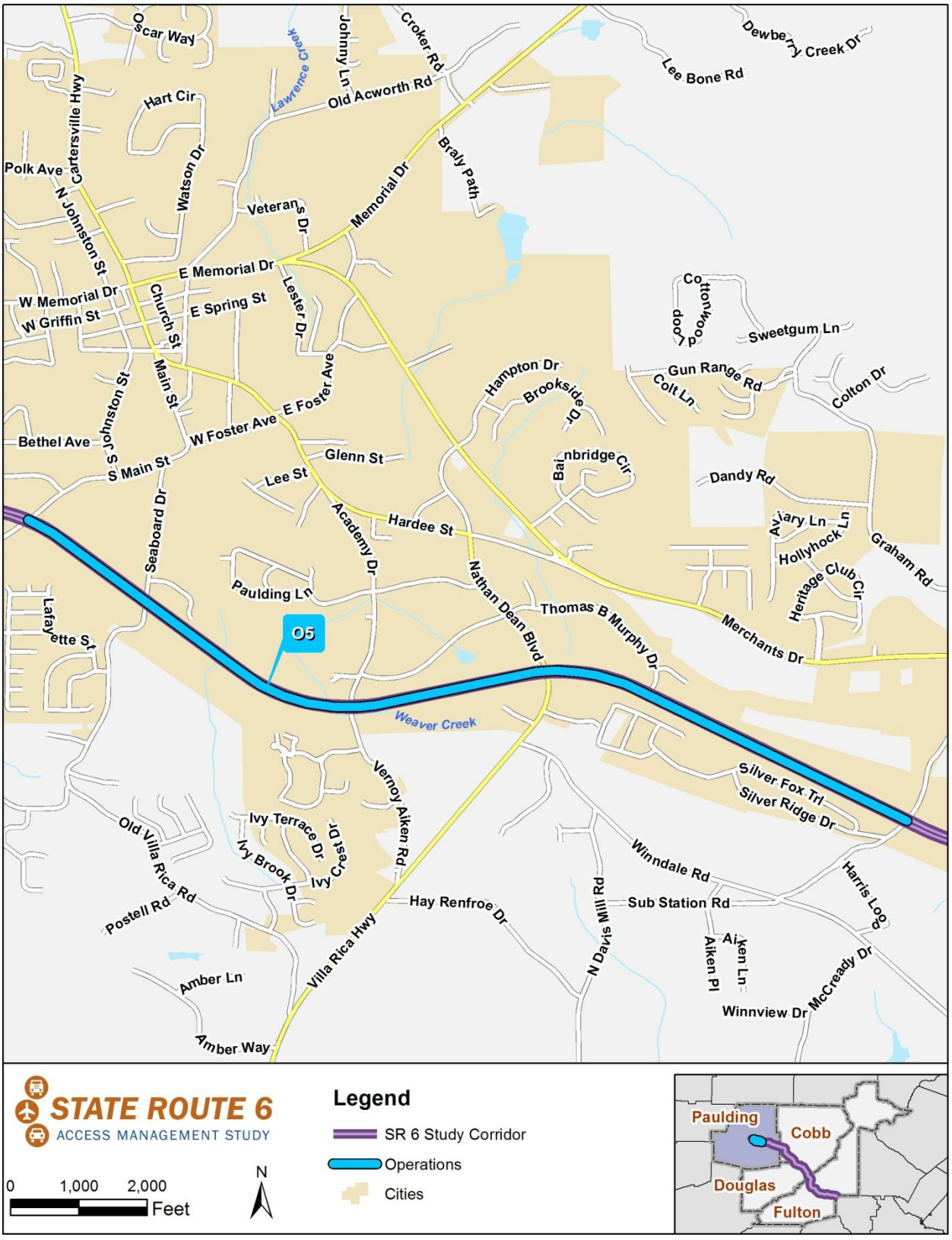
DEFICIENCIES ADDRESSED

This study may identify improvements to reduce the frequency and severity of crashes by tailoring specific solutions to the causes of crashes.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Oscar Way
Johnny Ln
Croker Rd
Dewberry Creek Dr
Lee Bone Rd
Hart Cir
Lawrence Creek
Old Acworth Rd
Cartersville Hwy
Polk Ave
N Johnston St
Watson Dr
Veterans Dr
Memorial Dr
Braly Path
E Memorial Dr
W Memorial Dr
W Griffin St
Church St
E Spring St
Lester Dr
Cottonwood Loop
Sweetgum Ln
Gun Range Rd
Colt Ln
Colton Dr
Hampton Dr
Brookside Dr
Main St
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W Foster Ave
Bethel Ave
S Johnston St
S Main St
Glenn St
Lee St
Bainbridge Cir
Dandy Rd
Aviary Ln
Hollyhock Ln
Graham Rd
Heritage Club Cir
Seaboard Dr
Academy Dr
Hardee St
Nathan Dean Blvd
Paulding Ln
Thomas B Murphy Dr
Merchants Dr
Lafayette St
O5
Weaver Creek
Silver Fox Trl
Silver Ridge Dr
Vernoy Aiken Rd
Ivy Terrace Dr
Ivy Crest Dr
Ivy Brook Dr
Old Villa Rica Rd
Postell Rd
Hay Renfroe Dr
Villa Rica Hwy
N Davis Mill Rd
Winndale Rd
Sub Station Rd
Harris Loop
Aiken Pl
Aiken Ln
McCready Dr
Winnview Dr
Amber Ln
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5D.3. Intersections

I1: Controlled Right Turn for WB SR 6 at SR 70/FIB Intersection

OVERVIEW

This project would provide a controlled right turn from westbound SR 6 toward SR 70/ FIB. The project would add a protected right turn phase to the existing signal phases and perform signal retiming. Additionally, a No Right-Turn On Red sign would be added to prohibit right turns outside the assigned signal phase.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	4	No Change
Median Barrier	Grass/Striping	No Change
Shoulder(s)	Yes	No Change
Sidewalk(s)	No	No Change

*Primary roadway only; not for intersections

DETAILS

PI Number	Not currently in GDOT program
Total Project Length	0.3 miles

STUDY AREA LOCATION

County/Counties	Fulton
Route(s)	SR 6
Subarea ID, if any	Fulton - Subarea 2
GDOT District(s)	7
GA Congressional District(s)	5

ANALYSIS RESULTS

CRASH RATES

Exceeds Statewide Crash Rate*	Yes
Exceeds Statewide Injury Crash Rate*	Yes
Exceeds Statewide Fatal Crash Rate*	Yes

*Source: GDOT crash data (2008-2012)
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	Volume*	LOS
Existing**	4,730	F
2020 (No Build)	5,160	F

*Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	-
Right-of-Way	-
Utilities	-
Construction	$15,000
Total (Rounded)	$15,000

NOTES

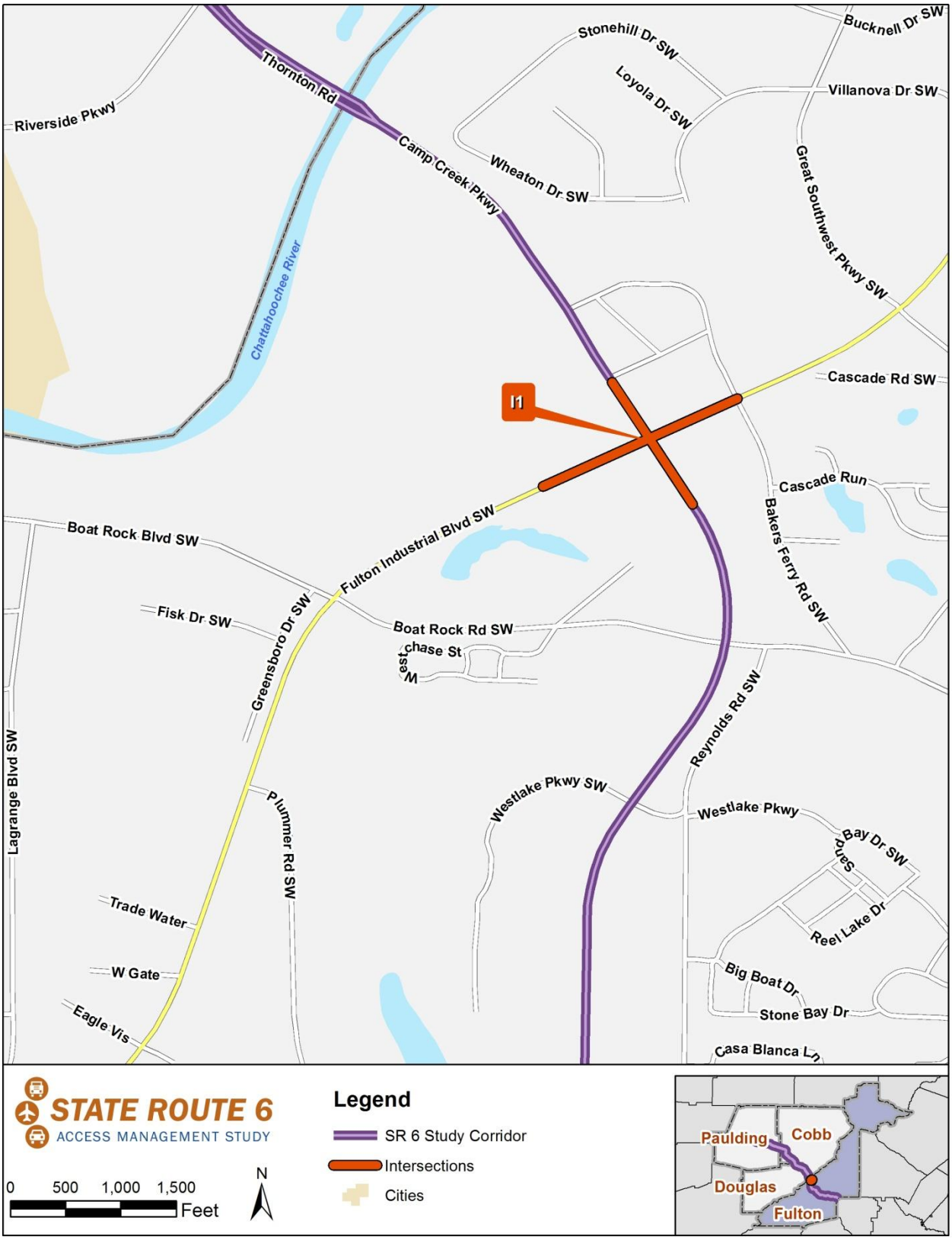
DEFICIENCIES ADDRESSED

The stakeholders indicated that there are significant conflicts between right turning movements from SR 6 and high U-turn traffic on southbound SR 70/FIB. By replacing the existing permitted right turn with a protected right turn phase, this project would eliminate these conflicts and, in turn, improve the overall operation of this intersection.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Riverside Pkwy
Thornton Rd
Camp Creek Pkwy
Chattahoochee River
Stonehill Dr SW
Loyola Dr SW
Wheaton Dr SW
Bucknell Dr SW
Villanova Dr SW
Great Southwest Pkwy SW
Cascade Rd SW
I1
Cascade Run
Bakers Ferry Rd SW
Fulton Industrial Blvd SW
Boat Rock Blvd SW
Fisk Dr SW
Greensboro Dr SW
Boat Rock Rd SW
Westchase St
Lagrange Blvd SW
Reynolds Rd SW
Plummer Rd SW
Westlake Pkwy SW
Westlake Pkwy
Bay Dr SW
Sandpiper
Reel Lake Dr
Trade Water
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Eagle Vis
Big Boat Dr
Stone Bay Dr
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SR 6 Study Corridor
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Fulton

I2: Signal Warrant Study for the Bakers Ferry Road Intersection with SR 6

OVERVIEW

Preliminary results indicate that a traffic signal is warranted at this intersection. A further traffic engineering study is recommended to confirm the justification of installing a traffic signal at the intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	**Fulton - Subarea 2**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,112**	**F**
2020 (No Build)	**3,392**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

The stakeholders indicated a concern about a high volume of truck traffic entering to Bakers Ferry Road, which often blocks SR 6 mainstream traffic. A new signal would manage these trucks' turning movements more effectively and, in turn, control mainline traffic more efficiently.

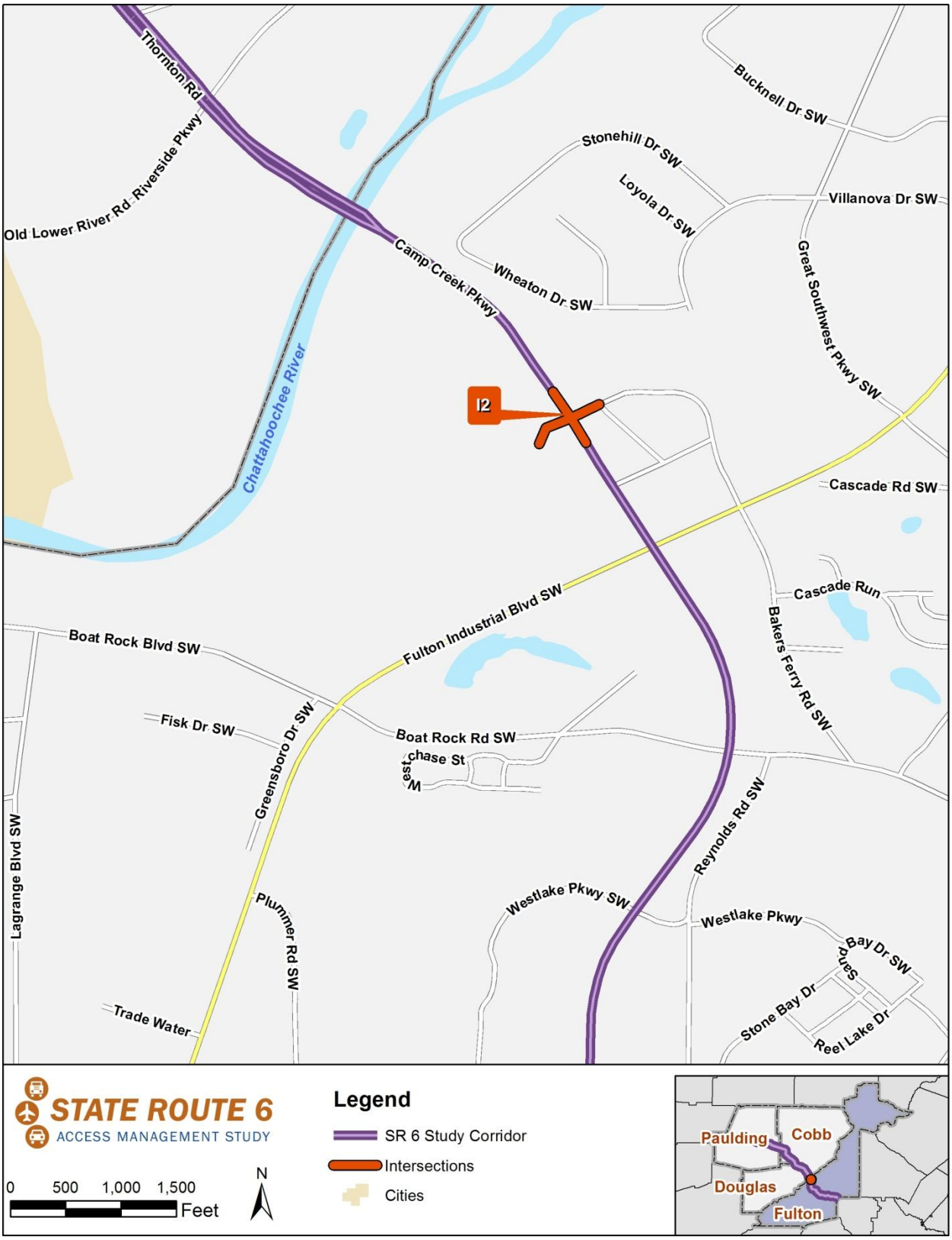
POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

An additional signal may lower the arterial speed of SR 6 due to delay at the intersection. Approximate cost of adding a new signal is $125,000 per GDOT's Cost Estimation System (CES).

This signal would be additionally beneficial if the project removing driveways on SR 70/Fulton Industrial Blvd (A3) were implemented as the driveway consolidation could cause higher voluems on Bakers Ferry Road.


Thornton Rd
Riverside Pkwy
Old Lower River Rd
Camp Creek Pkwy
Chattahoochee River
Bucknell Dr SW
Stonehill Dr SW
Loyola Dr SW
Villanova Dr SW
Wheaton Dr SW
Great Southwest Pkwy SW
I2
Cascade Rd SW
Cascade Run
Fulton Industrial Blvd SW
Boat Rock Blvd SW
Bakers Ferry Rd SW
Fisk Dr SW
Greensboro Dr SW
Boat Rock Rd SW
Westchase St
Lagrange Blvd SW
Reynolds Rd SW
Plummer Rd SW
Westlake Pkwy SW
Westlake Pkwy
Bay Dr SW
Sandpiper
Stone Bay Dr
Reel Lake Dr
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Douglas
Fulton

I3: Quadrant Roadway at Riverside Parkway Intersection

OVERVIEW

This project would reconfigure the existing SR 6 intersection at Riverside Parkway to a QR intersection. Industrial and other development, and associated increased traffic, is expected in the area. The eastern and southern quadrants of this intersection are currently undeveloped. There is an existing road that connects Riverside Parkway to an unsignalized median crossover north of the intersection that has potential for use as a QR in the future.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.9 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**No**

*Source: GDOT crash data (2008-2012) Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,668**	**E**
2020 (No Build)	**3,923**	**E**

*Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$346,100**
Right-of-Way	**$820,400**
Utilities	**-**
Construction	**$4,325,800**
Total (Rounded)	**$5,493,000**

NOTES

DEFICIENCIES ADDRESSED

A QR at this location could alleviate congestion at the intersection and improve the flow of through traffic on SR 6.

POTENTIAL ENVIRONMENTAL CONCERNS

The two undeveloped quadrants are heavily wooded, and the southern quadrant also has a pond. Proximity to the Chattahoochee River is another variable to be considered. Environmental screening was performed using Google Earth. Anticipated environmental document type: environmental assessment (EA).

OTHER

This recommendation could be implemented as a standalone project or in conjunction with development.


E Paddock Way
Lower River Rd
I3
Thornton Rd
Riverside Pkwy
Old Lower River Rd
Chattahoochee River
STATE ROUTE 6
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Intersections
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I4: Traffic Engineering Study to Evaluate Feasibility of Installing Alternative Design at Maxham Road Intersection

OVERVIEW

Preliminary results indicate that a CFI, PFI, or modified QR intersection are feasible alternative intersection configurations. This study would evaluate the feasibility of each option from both an operations and constructability perspective at the Maxham Road intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.5 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume* *	*LOS*
*Existing***	**5,270**	**F**
2020 (No Build)	**5,639**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

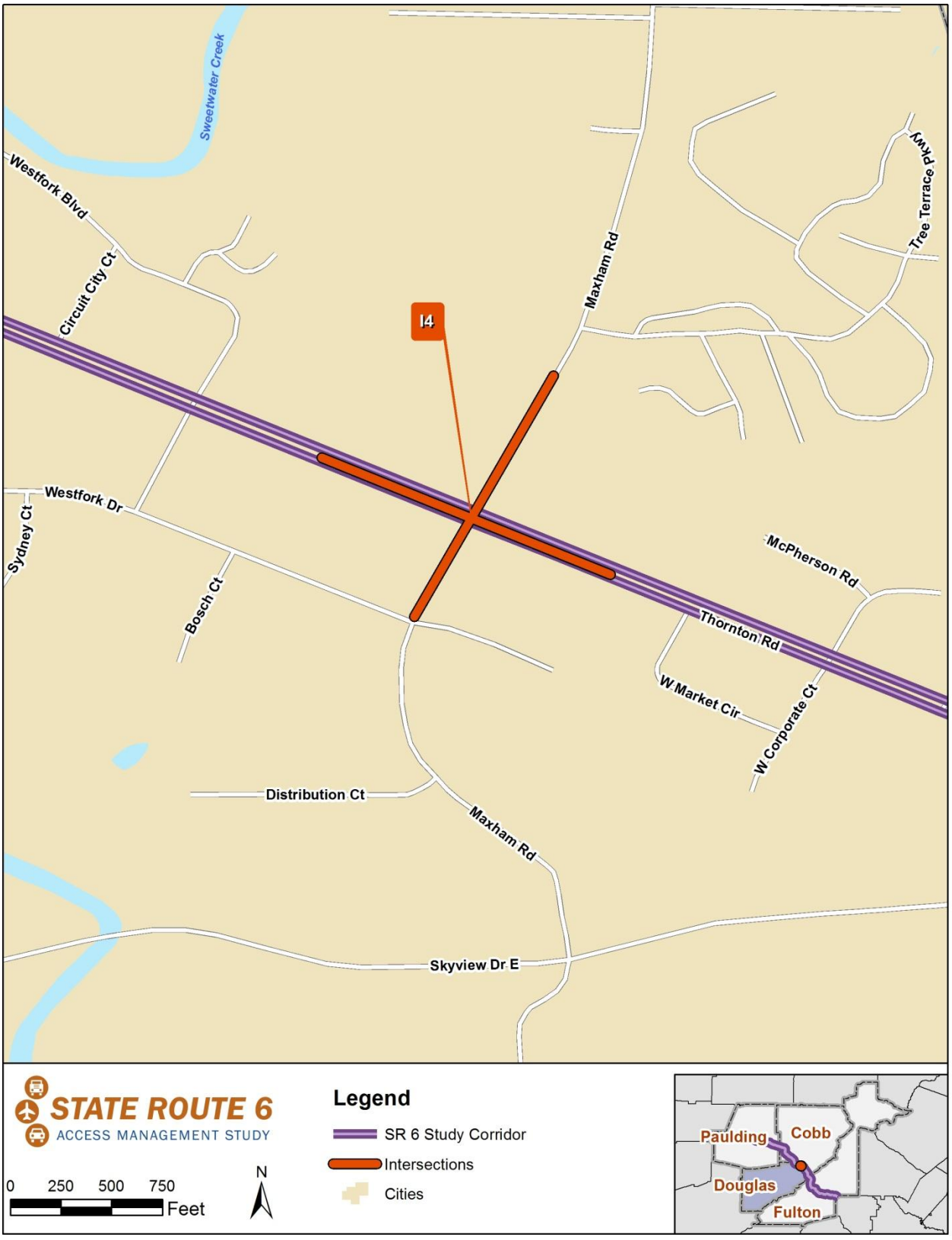
The intersection is currently signalized with protected left turn phases and operates at failing level of service (LOS) during the PM peak period. The alternative intersection designs considered would remove at least one of the conventional left turn movements at a major intersection, which has the advantage of fewer signal phases and associated shorter cycle lengths, shorter delays, and higher capacities as compared to conventional intersections.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

The construction of either a CFI or QR at this intersection would have high right-of-way and overall costs due to the developed nature of all existing quadrants. As such, the relatively new PFI and the option of a modified quadrant design, which utilizes the existing road network, could also be considered. Although a further study is recommended, approximate construction cost for a CFI or PFI intersection is 6 million dollars. Approximate construction cost for a QR intersection is 2.5 million dollars per link. Additional costs may include right-of-way costs that vary substantially from $20 to $200 per square foot along the study corridor.


Sweetwater Creek
Westfork Blvd
Circuit City Ct
I4
Maxham Rd
Tree Terrace Pl
Hwy
Westfork Dr
Sydney Ct
Bosch Ct
McPherson Rd
Thornton Rd
W Market Cir
W Corporate Ct
Distribution Ct
Maxham Rd
Skyview Dr E
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 750
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I5: Traffic Engineering Study to Evaluate Feasibility of Installing Alternative Design at Veterans Memorial Highway Intersection (Bankhead Highway)

OVERVIEW

Preliminary results indicate that a CFI, PFI, or different grade-separation options are feasible alternative intersection configurations. This study would evaluate the feasibility of each option from an operations and constructability perspective at the Veterans Memorial Highway intersection. The study would also include lighting review for this location.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4-5**	**No Change**
Median Barrier	**Raised/No**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.4 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012)*
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,546**	**E**
2020 (No Build)	**4,863**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

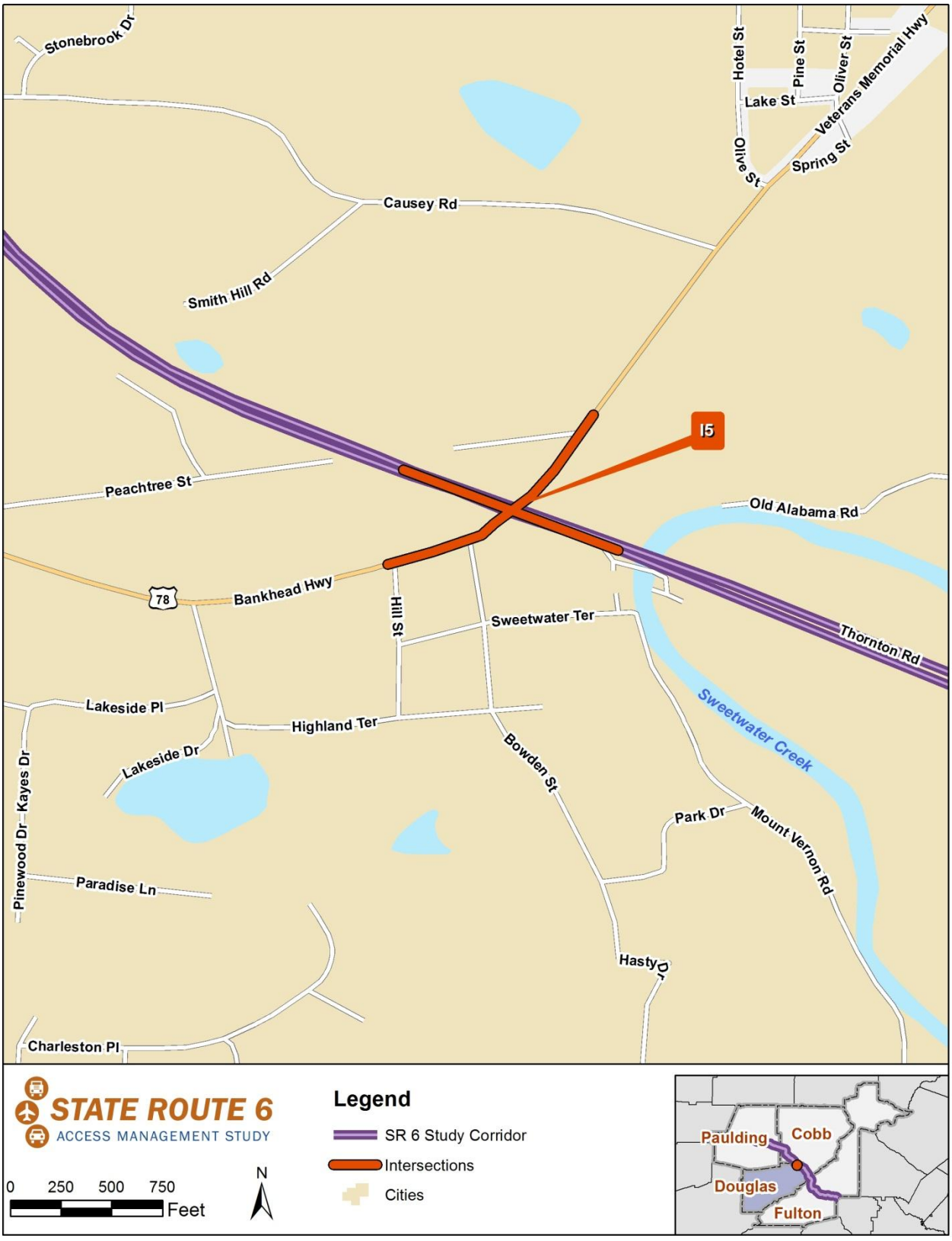
This intersection currently operates at failing LOS during both peak periods and is located in a segment with crashes above the statewide average. The alternative intersection designs considered would remove at least one of the conventional left turn movements at a major intersection, which has the advantage of fewer signal phases and associated shorter cycle lengths, shorter delays, and higher capacities as compared to conventional intersections. Grade-separation options at this location could improve operations while reducing congestion.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Generally, grade-separation treatment is a costly option. It affects adjacent land use, pedestrians, and cyclists; has substantial traffic impacts during construction; and is usually considered when at-grade intersections are no longer feasible. Although a further study is recommended, approximate construction cost for a CFI or PFI intersection is 6 million dollars. Approximate cost for grade separation is 20 million dollars. Additional costs may include right-of-way costs that vary substantially from $20 to $200 per square foot along the study corridor.


Stonebrook Dr
Hotel St
Pine St
Oliver St
Veterans Memorial Hwy
Lake St
Olive St
Spring St
Causey Rd
Smith Hill Rd
I5
Peachtree St
Old Alabama Rd
78
Bankhead Hwy
Hill St
Sweetwater Ter
Thornton Rd
Lakeside Pl
Highland Ter
Sweetwater Creek
Lakeside Dr
Bowden St
Pinewood Dr
Kayes Dr
Park Dr
Mount Vernon Rd
Paradise Ln
Hasty Dr
Charleston Pl
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 750
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I6: Traffic Study to Evaluate Options to Improve the SR 6 at Garrett Road Intersection

OVERVIEW

This recommended study would explore options to improve the SR 6 at Garrett Road intersection to address the high volume of trucks from Norfolk Southern's John Whitaker Intermodal Terminal turning onto SR 6.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**No**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

*Primary roadway only; not for intersections

DETAILS

PI Number	**This intersection is included in PI #0010821.**
Total Project Length	**0.3 miles**

STUDY AREA LOCATION

County/Counties	**Cobb**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

*Source: GDOT crash data (2008-2012) Compared with segment crash rates.

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,189**	**F**
2020 (No Build)	**3,541**	**F**

* Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**N/A**

NOTES

DEFICIENCIES ADDRESSED

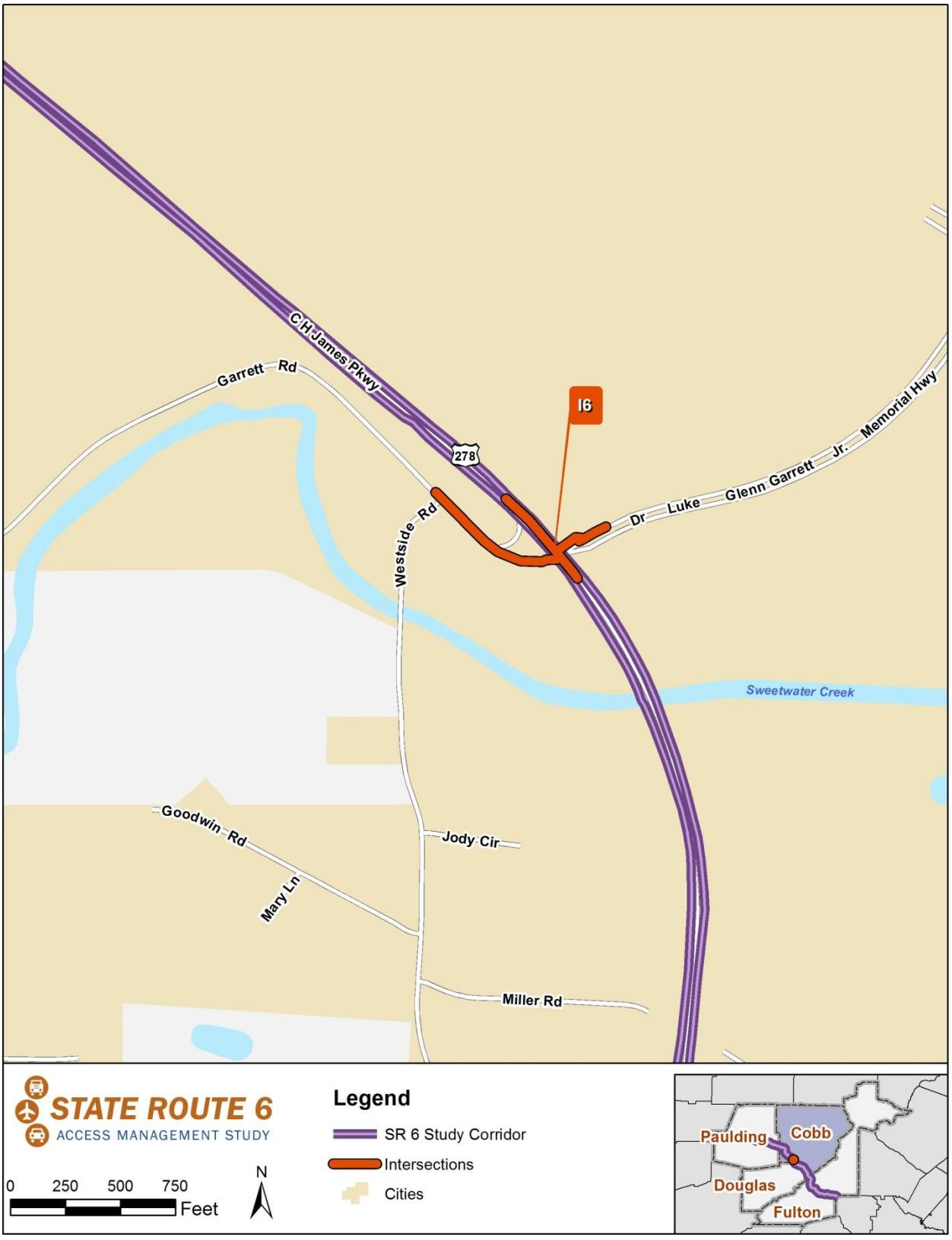
There is a high volume of trucks turning at this intersection, resulting in a potential for rollovers. This project would evaluate different improvement options for the intersection, including improved superelevation to enable trucks to better turn.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

This intersection is also included in GDOT's Truck-Friendly Lanes project currently underway. The total cost estimate for this existing project is $38.65 million according to the GDOT Transportation Information (PI) website; however, this includes the entire project, not just the SR 6 at Garrett Rd intersection.


C H James Pkwy
Garrett Rd
278
I6
Westside Rd
Dr Luke Glenn Garrett Jr. Memorial Hwy
Sweetwater Creek
Goodwin Rd
Mary Ln
Jody Cir
Miller Rd
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 750
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I7: Offset Left Turn Lanes at Best Buy/Target Entrance

OVERVIEW

This project would widen the roadway into the existing grass median to provide offset left turn lanes at the Best Buy/Target entrance in the Hiram commercial area. An offset left turn lane refers to a lane that is shifted laterally away from the adjacent through lanes, so that opposing left turners do not interfere with one another's sight distances.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	**Paulding - Subarea 1**
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,155**	**F**
2020 (No Build)	**3,502**	**F**

** Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$30,600**
Right-of-Way	**-**
Utilities	**-**
Construction	**$381,300**
Total (Rounded)	**$412,000**

NOTES

DEFICIENCIES ADDRESSED

Offset turn lanes allow the driver to make a more informed decision about when to begin the turning movement. By serving more drivers during the left turn phases, this improvement would potentially increase the capacity of the intersection. Also, this intersection is the only intersection without offset left turn lanes in the area. Providing offset left turn lanes at this intersection would have a positive impact on driver expectancy.

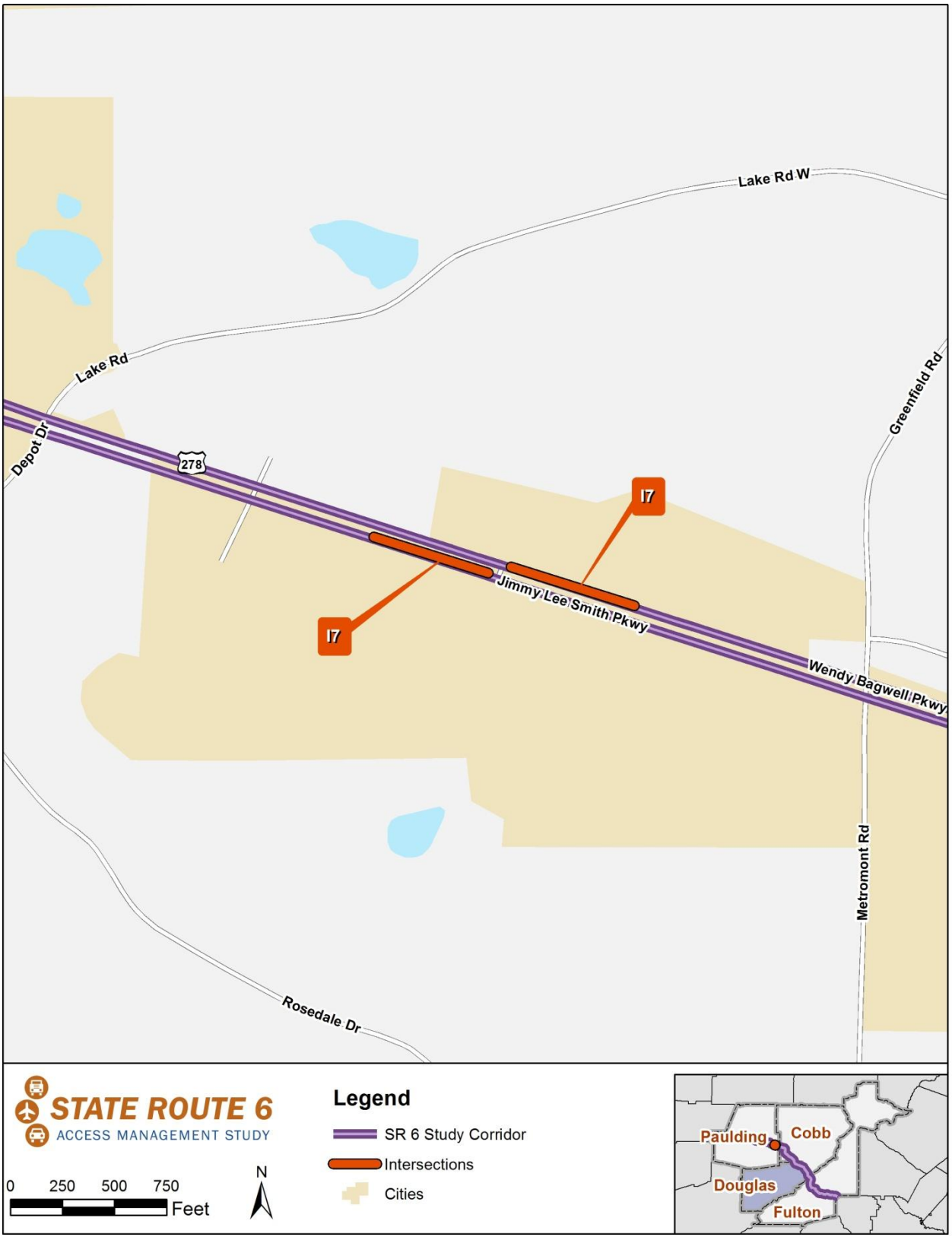
*Although project recommendations I7 and I8 could not both be implemented together, I7 could be a short-term, interim solution.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Providing offset left turns would require traffic-signal upgrade at the intersection, since the existing mast arms are currently at maximum length. Although additional right-of-way would not be needed, some additional pavement would be required.


Lake Rd W
Lake Rd
Depot Dr
278
Greenfield Rd
I7
I7
Jimmy Lee Smith Pkwy
Wendy Bagwell Pkwy
Metromont Rd
Rosedale Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 750
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I8: Traffic Engineering Study to Evaluate Feasibility of a Superstreet at Multiple Intersections in Hiram

OVERVIEW

Preliminary results indicate that the SR 6 intersections with Greenfield Road, Target/Best Buy, Sam's Club, Walmart, and Pace Road have relatively higher potential to be considered for a superstreet intersection location. This study would evaluate a feasibility of superstreets or RCUT from both an operations and constructability perspective at these intersections.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**1.5 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012)*
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,155**	**F**
2020 (No Build)	**3,502**	**F**

** Highest intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

Superstreets are one of the best ways to ensure that mobility on the mainline is prioritized while access from the minor streets is still provided. In a superstreet, all traffic approaching from the minor roads first turns right at the intersection, and they can either continue or perform a U-turn to travel in the opposite direction on the major road. The operation of the mainline would be improved, resulting from minimized traffic disruption from minor streets.

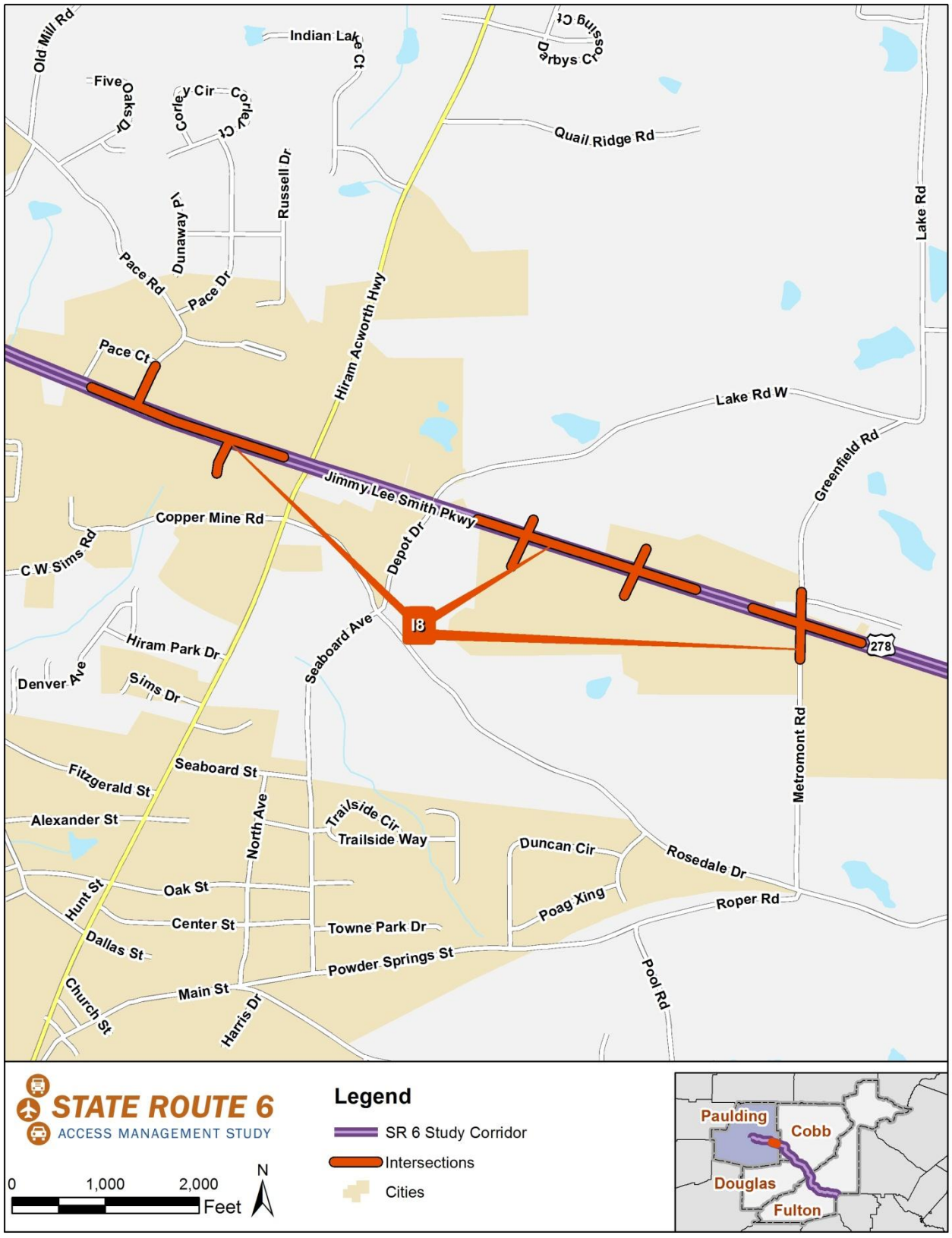
*Although project recommendations I7 and I8 could not both be implemented together, I7 could be a short-term, interim solution.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Superstreets are ideal when mainline through volumes are much greater than driveway or cross-street volumes. However, this option could generate concerns for minor road traffic weaving across multiple lanes of traffic to access the U-turn lane. Like all intersection improvements, the unique characteristics of each location should be evaluated before considering adaptation. Although a further study is recommended, approximate construction cost for installing a superstreet intersection is 5 million dollars. Additional costs may include right-of-way costs that vary substantially from $20 to $200 per square foot along the study corridor.


Old Mill Rd
Indian Lake Ct
Derbys Crossing Ct
Five Oaks Dr
Corley Cir
Corley Ct
Quail Ridge Rd
Russell Dr
Dunaway Pl
Pace Rd
Pace Dr
Pace Ct
Hiram Acworth Hwy
Lake Rd
Lake Rd W
Greenfield Rd
Jimmy Lee Smith Pkwy
Copper Mine Rd
C W Sims Rd
Depot Dr
I8
278
Hiram Park Dr
Denver Ave
Sims Dr
Seaboard Ave
Metromont Rd
Fitzgerald St
Seaboard St
Alexander St
North Ave
Trailside Cir
Trailside Way
Duncan Cir
Rosedale Dr
Hunt St
Oak St
Poag Xing
Roper Rd
Center St
Towne Park Dr
Dallas St
Powder Springs St
Pool Rd
Church St
Main St
Harris Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0
1,000
2,000
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I9: Study to Evaluate Removing Traffic Signal at the Walmart Intersection in Hiram

OVERVIEW

This project would evaluate the possible removal of the signal at the Walmart intersection in order to meet GDOT's minimum signal spacing requirements. Existing traffic signals between SR 92 and Pace Road would have to be retimed and coordinated to accommodate the removal of this signal. A grass median could also be added, and the driveway could be reconfigured as right-in-right-out only. This may require the addition of a new road behind the auto parts store, as SR 92 may not be able accommodate all the U-turns that would be added.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.3 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	**Paulding - Subarea 2**
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,121**	**D**
2020 (No Build)	**3,464**	**D**

** Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

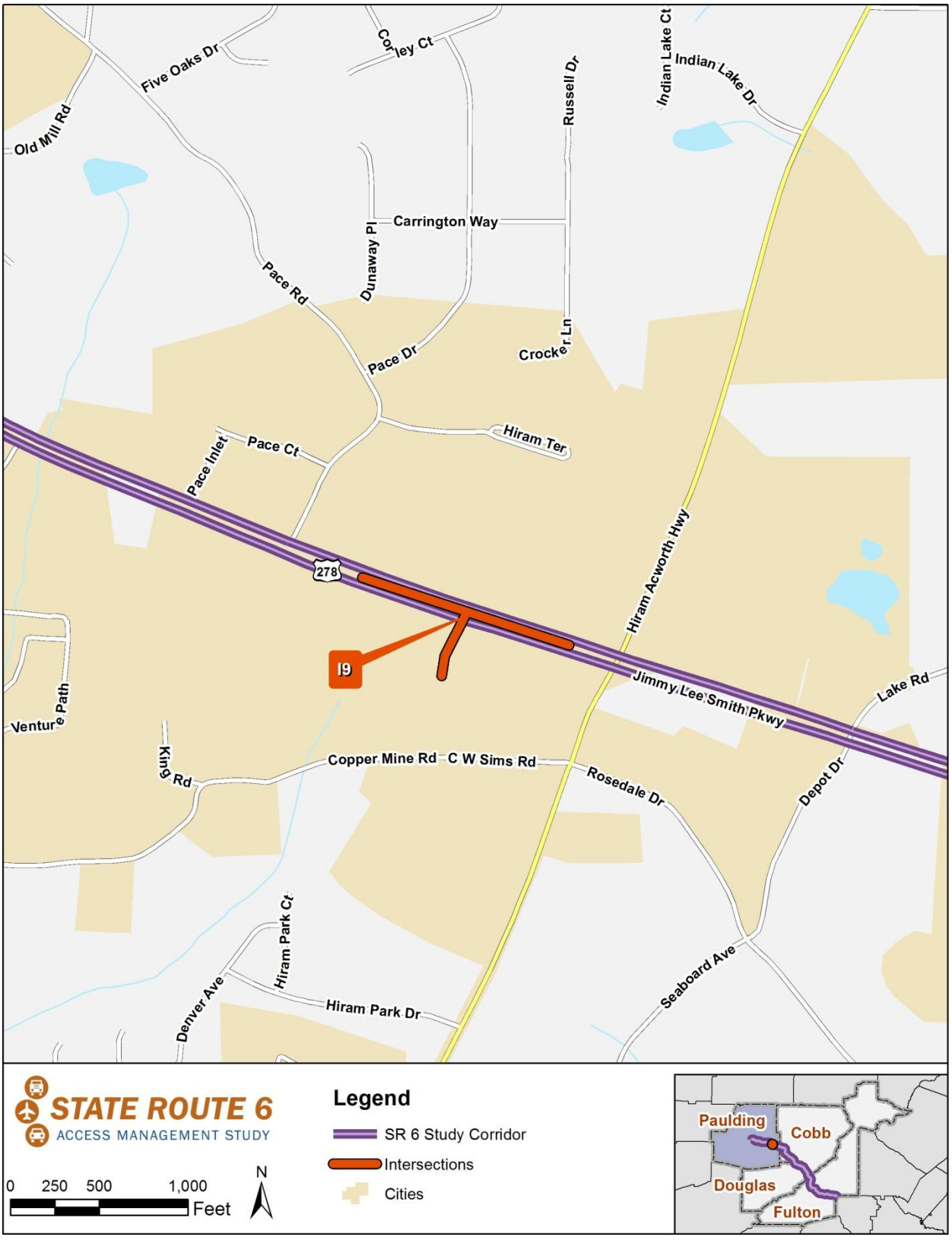
The proper spacing of signals optimizes the number of access points that are disruptive to the normal flow of the through traffic. Due to less-than-minimum signal spacing, queues back up into adjacent intersections, limiting access from adjacent driveways and delaying queue clearance on the mainline at this intersection of SR 6 during the AM and PM peak periods. Preliminary results indicate that the removal of the signal, coupled with driveway reconfiguration, would improve travel speed and, in turn, provide travel-time savings for the drivers on SR 6.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Since this project could add some burden to the signalized intersections upstream and downstream with the resulting U-turns due to the restriction of left turns at the Walmart intersection, the turns would likely have to be accommodated at a new location. Although a further study is recommended, approximate cost for removing the signal and reconfiguring as right-in-right-out is $150,000 and approximate cost for adding a new roadway to access Walmart to better accommodate the U-turns that would result from removing the signal is 4.7 million dollars.


Five Oaks Dr
Old Mill Rd
Corley Ct
Russell Dr
Indian Lake Ct
Indian Lake Dr
Carrington Way
Dunaway Pl
Pace Rd
Pace Dr
Crocker Ln
Hiram Ter
Pace Inlet
Pace Ct
278
I9
Hiram Acworth Hwy
Jimmy Lee Smith Pkwy
Lake Rd
Venture Path
King Rd
Copper Mine Rd
C W Sims Rd
Rosedale Dr
Depot Dr
Hiram Park Ct
Denver Ave
Hiram Park Dr
Seaboard Ave
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 1,000
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I10: Study to Investigate the Need for Installing/Extending Auxiliary Turn Lanes for All Intersections in the Study Corridor

OVERVIEW

This recommended study would identify the need for installing/extending auxiliary turn lanes for all intersections throughout the study corridor.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4-6**	**No Change**
Median Barrier	**Varies**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**32 miles**

STUDY AREA LOCATION

County/Counties	**All**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**6, 7**
GA Congressional District(s)	**5, 13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**N/A**
*Exceeds Statewide Injury Crash Rate**	**N/A**
*Exceeds Statewide Fatal Crash Rate**	**N/A**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**N/A**	**N/A**
2020 (No Build)	**N/A**	**N/A**

2015 COST ESTIMATES

Preliminary Engineering	**N/A**
Right-of-Way	**N/A**
Utilities	**N/A**
Construction	**N/A**
Total (Rounded)	**See *OTHER***

NOTES

DEFICIENCIES ADDRESSED

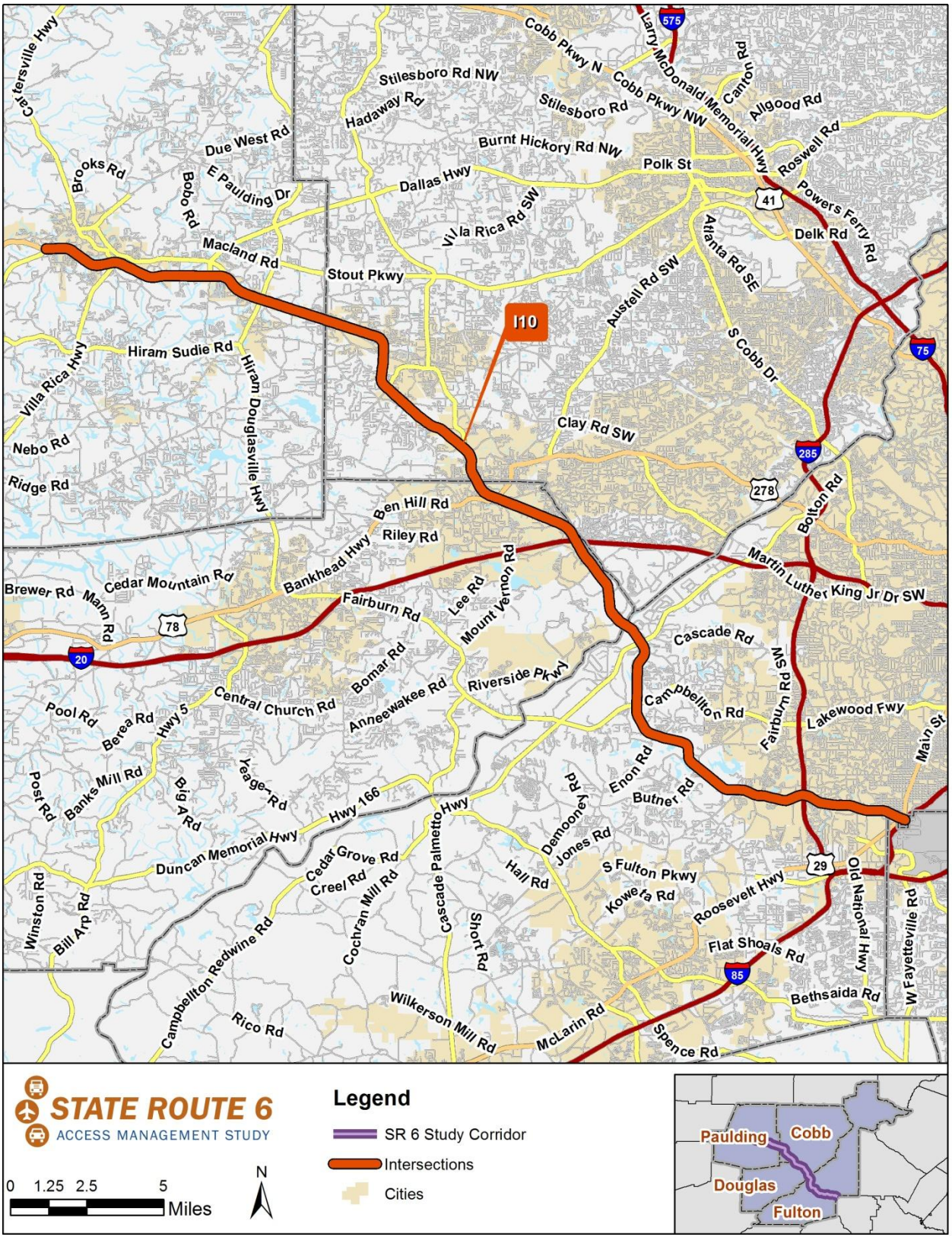
Ideally, auxiliary turn lanes should provide a full-width lane that is long enough to allow for vehicles to decelerate from the operating speed to a full stop in addition to the length of a full-length lane that is needed to store vehicles waiting to turn. The provision or extension of auxiliary turn lanes at intersections would improve the operation of intersections and, in turn, help alleviate congestion of the SR 6 mainline traffic.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

GDOT RDEC 2009 specifies minimum requirements for right turn deceleration lanes and left turn lanes relative to right turn volumes and left turn volumes based on Institute of Transportation Engineers Trip Generation. GDOT's Cost Estimation System (CES) suggests a planning level cost of $89,000/lane and $60,000/lane should be used for adding a left turn lane and a right turn lane, respectively.


Cobb Pkwy N
Stilesboro Rd NW
Hadaway Rd
Stilesboro Rd
Cobb Pkwy NW
Larry McDonald Memorial Hwy
Canton Rd
Allgood Rd
Roswell Rd
Powers Ferry Rd
Delk Rd
Atlanta Rd SE
Austell Rd SW
S Cobb Dr
Burnt Hickory Rd NW
Polk St
Dallas Hwy
Villa Rica Rd SW
Due West Rd
E Paulding Dr
Bobo Rd
Brooks Rd
Macland Rd
Stout Pkwy
I10
Hiram Sudie Rd
Villa Rica Hwy
Hiram Douglasville Hwy
Nebo Rd
Ridge Rd
Clay Rd SW
Ben Hill Rd
Riley Rd
Bankhead Hwy
Cedar Mountain Rd
Brewer Rd
Mann Rd
Fairburn Rd
Lee Rd
Mount Vernon Rd
Martin Luther King Jr Dr SW
Bolton Rd
Cascade Rd
Bomar Rd
Annewakee Rd
Riverside Pkwy
Campbellton Rd
Fairburn Rd SW
Lakewood Fwy
Main St
Pool Rd
Berea Rd
Hwy 5
Central Church Rd
Banks Mill Rd
Post Rd
Big A Rd
Yeager Rd
Hwy 166
Duncan Memorial Hwy
Enon Rd
Butner Rd
Demooney Rd
Jones Rd
Cedar Grove Rd
Creel Rd
Cascade Palmetto Hwy
Hall Rd
S Fulton Pkwy
Kowera Rd
Roosevelt Hwy
Old National Hwy
W Fayetteville Rd
Winston Rd
Bill Arp Rd
Cochran Mill Rd
Short Rd
Flat Shoals Rd
Campbellton Redwine Rd
Rico Rd
Wilkerson Mill Rd
McLarin Rd
Spence Rd
Bethsaida Rd
575
75
285
278
41
20
78
29
85
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 1.25 2.5 5
Miles
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

I11: Intersection Improvements at Butner Road

OVERVIEW

This intersection improvement recommendation includes left and right turn lanes on Butner Road at its intersection with SR 6 as well as signal upgrades to improve operations for vehicles and pedestrians.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Varies**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.2 miles**

STUDY AREA LOCATION

County/Counties	**All**
Route(s)	**SR 6 & Butner Rd**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	***NO***
*Exceeds Statewide Injury Crash Rate**	***NO***
*Exceeds Statewide Fatal Crash Rate**	***YES***

**Source: GDOT crash data (2008-2012)*
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,550**	**E**
2020 (No Build)	**3,870**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$330,000**
Right-of-Way	**$210,000**
Utilities	**$250,000**
Construction	**$2,718,000**
Total (Rounded)	**$3,508,000**

NOTES

DEFICIENCIES ADDRESSED

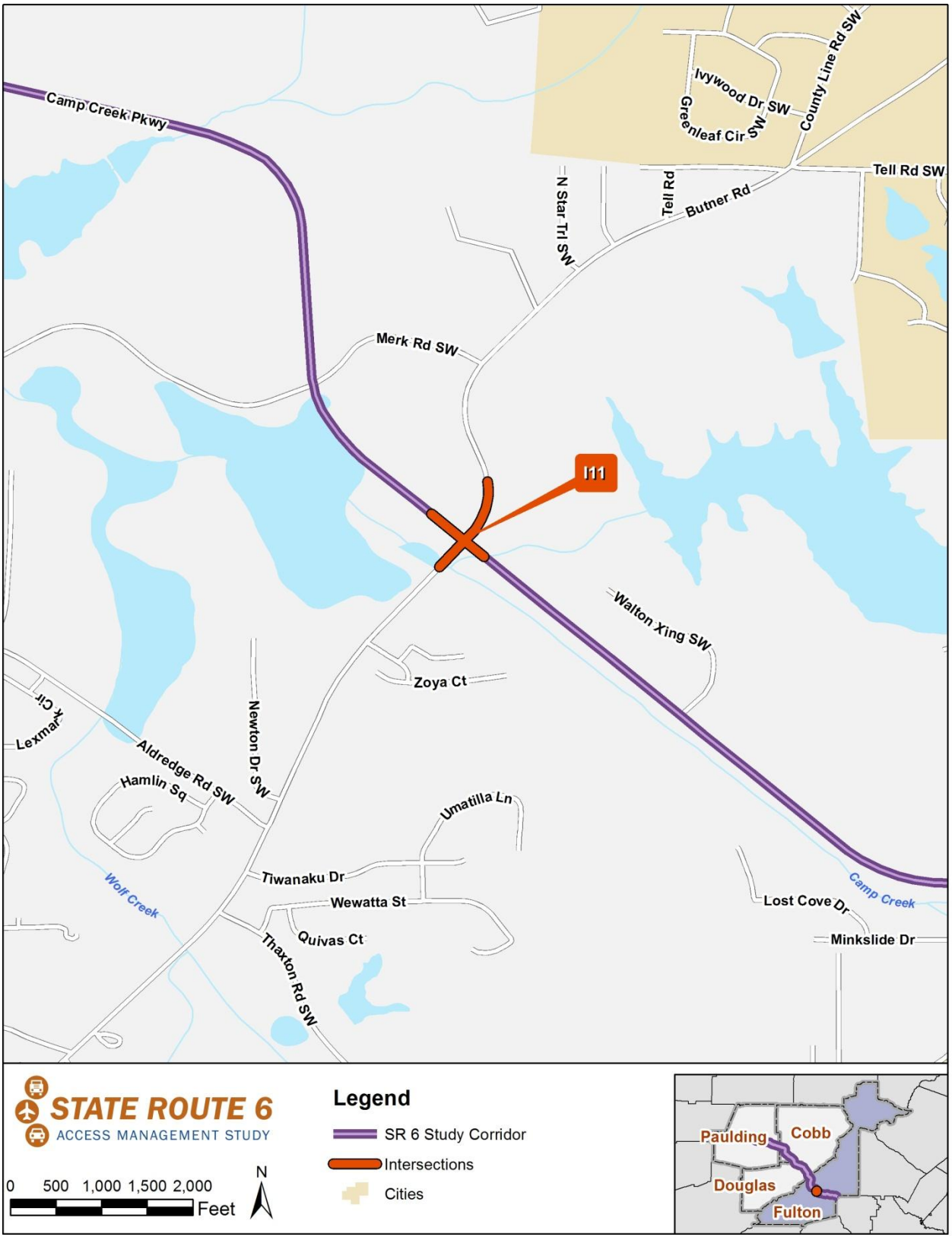
This project would address congestion and delay at the Butner Road intersection and improve pedestrian access. This intersection was identified as having existing PM peak hour LOS E and is forecasted to have failing LOS in the future baseline condition (2020). Heavy southbound traffic on Butner Road backs up causing significant delays in passing through the SR 6 intersection. Additionally, the Wolf Creek Nature Trail located on the east side of Butner Road ends prior to this intersection and does not currently provide connectivity from the north to the south side of SR 6.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Fulton County has indicated this project as a high priority and has assigned it an identification number of T267 and begun seeking funding. Costs listed above were identified by Fulton County for project T267, which also includes the replacement of the bridge on Butner Road over Camp Creek (south of SR 6).


Camp Creek Pkwy
Ivywood Dr SW
Greenleaf Cir SW
County Line Rd SW
Tell Rd SW
Tell Rd
Butner Rd
N Star Trl SW
Merk Rd SW
I11
Walton Xing SW
Zoya Ct
Lexmar Cir
Aldredge Rd SW
Newton Dr SW
Hamlin Sq
Umatilla Ln
Tiwanaku Dr
Wewatta St
Quivas Ct
Thaxton Rd SW
Wolf Creek
Camp Creek
Lost Cove Dr
Minkslide Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 500 1,000 1,500 2,000
Feet
N
Legend
SR 6 Study Corridor
Intersections
Cities
Paulding
Cobb
Douglas
Fulton

5D.4. Frontage Roads, Alternate Routes, and Inter-Parcel Access

F1: Alternate Route Signage on I-285 Northbound Directing Traffic to SR 6 via Washington Road

OVERVIEW

This project would implement signage on I-285 northbound in order to inform the drivers of an alternate way of access to SR 6 (Camp Creek Parkway) via Washington Road and N. Commerce Drive. Signage could be installed on I-285 northbound just south of the Washington Road interchange and at its ramp intersection with Washington Road.

I-285 TYPICAL SECTION*

	Existing	Proposed
Lanes	**8**	**No Change**
Median Barrier	**Concrete**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.5 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**I-285**
Subarea ID, if any	**Fulton - Subarea 1 (Vicinity)**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**N/A**
*Exceeds Statewide Injury Crash Rate**	**N/A**
*Exceeds Statewide Fatal Crash Rate**	**N/A**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume*	*LOS*
Existing	**N/A**	**N/A**
2020 (No Build)	**N/A**	**N/A**

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$14,900**
Total (Rounded)	**$14,900**

NOTES

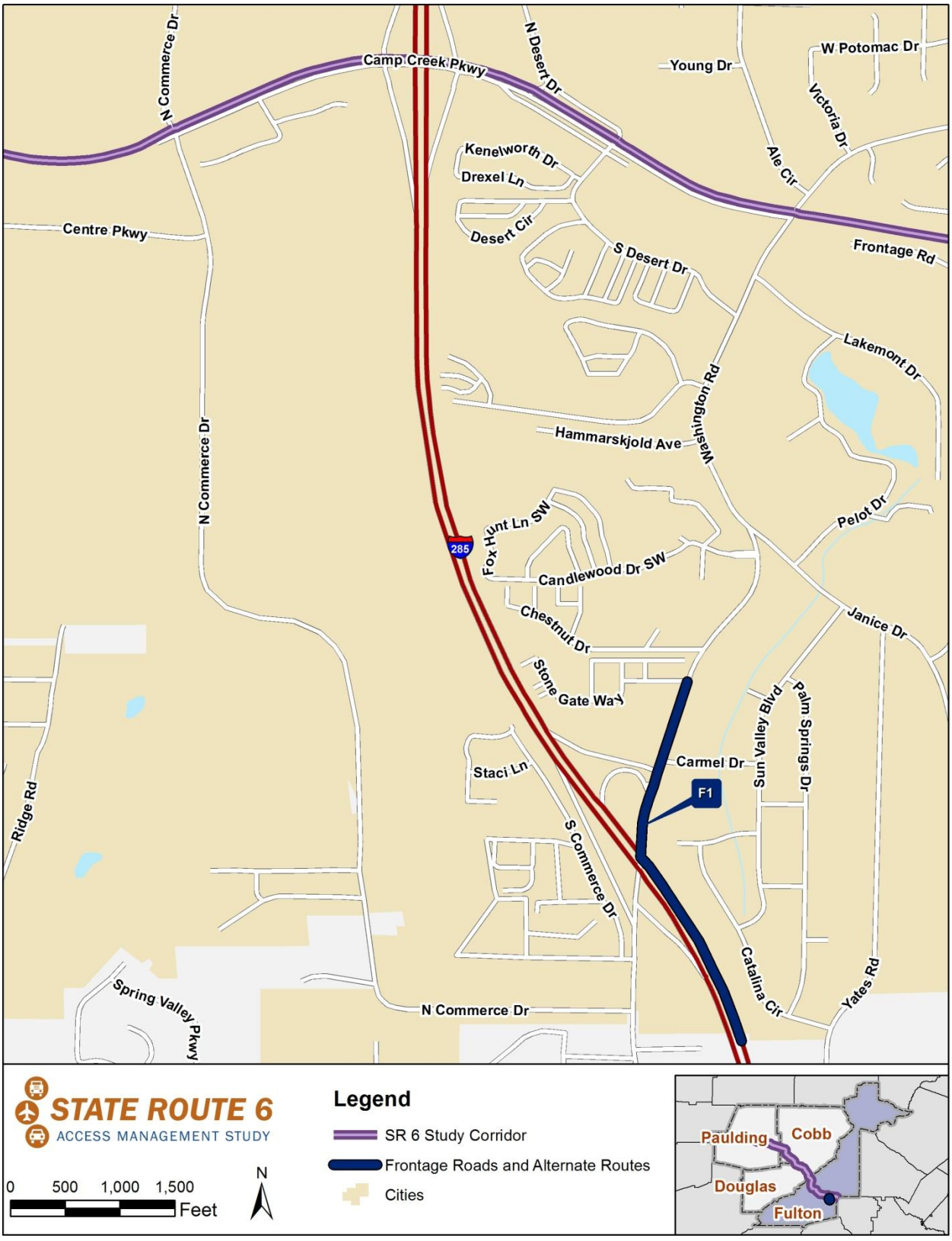
DEFICIENCIES ADDRESSED

This project would inform drivers of an alternate way to access SR 6 from I-285 northbound. The traffic would be directed to Washington Road and N. Commerce Drive for access to SR 6 eastbound and westbound, respectively, which enables the drivers to bypass the I-285 interchange at SR 6.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


N Commerce Dr
Camp Creek Pkwy
N Desert Dr
Young Dr
W Potomac Dr
Victoria Dr
Ale Cir
Kenelworth Dr
Drexel Ln
Desert Cir
Centre Pkwy
S Desert Dr
Frontage Rd
Lakemont Dr
Washington Rd
Hammarskjold Ave
N Commerce Dr
Fox Hunt Ln SW
285
Candlewood Dr SW
Pelot Dr
Chestnut Dr
Janice Dr
Stone Gate Way
Sun Valley Blvd
Palm Springs Dr
Carmel Dr
F1
Staci Ln
Ridge Rd
S Commerce Dr
Catalina Cir
Yates Rd
Spring Valley Pkwy
N Commerce Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 500 1,000 1,500
Feet
N
Legend
SR 6 Study Corridor
Frontage Roads and Alternate Routes
Cities
Paulding
Cobb
Douglas
Fulton

F2: Connection between Global Gateway Connector and Herschel Road

OVERVIEW

This project would provide connection between Global Gateway Connector and Herschel Road. This location is right next to the Wally Park commercial mixed-use development site. The exact location and type of the connection would be determined later, in conjunction with development.

NEW ROAD TYPICAL SECTION*

	Existing	Proposed
Lanes	-	**2**
Median Barrier	-	**No**
Shoulder(s)	-	**No**
Sidewalk(s)	-	**No**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.4 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	**Fulton - Subarea 1**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume*	*LOS*
*Existing**	**2,120**	**A**
2020 (No Build)	**2,311**	**A**

*Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$171,800**
Right-of-Way	**$480,000**
Utilities	**-**
Construction	**$2,146,800**
Total (Rounded)	**$2,799,000**

NOTES

DEFICIENCIES ADDRESSED

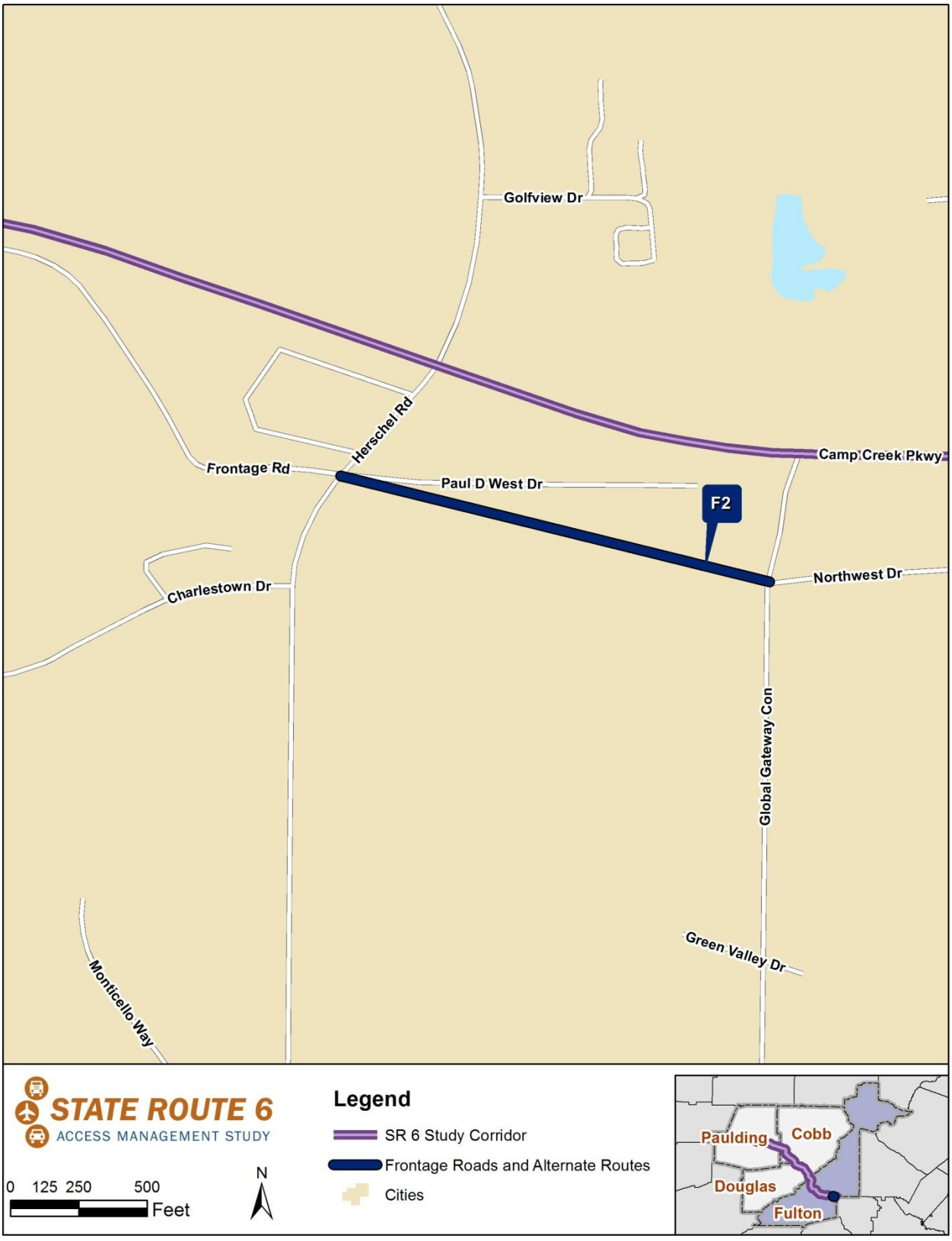
The connection between Global Gateway Connector and Herschel Road would provide a reliable alternate to SR 6 starting from Airport Drive to Herschel Road.

POTENTIAL ENVIRONMENTAL CONCERNS

The area is mostly undeveloped, filled with trees and vacant land. Environmental screening was performed using Google Earth. Anticipated environmental document type: EA.

OTHER

Additional connection between Herschel Road and Washington Road may be possible based on the future need; however, there is the potential environmental concern with the Camp Creek and residential development in this area.


Golfview Dr
Herschel Rd
Frontage Rd
Paul D West Dr
Camp Creek Pkwy
F2
Northwest Dr
Charlestown Dr
Global Gateway Con
Green Valley Dr
Monticello Way
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Feet
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Legend
SR 6 Study Corridor
Frontage Roads and Alternate Routes
Cities
Paulding
Cobb
Douglas
Fulton

F3: Alternate Route Signage between Washington Road and Princeton Lakes Parkway

OVERVIEW

This project would implement signage to provide alternate route information to drivers from SR 6 to Redwine Road. If the section of Redwine Road is reopened, signage would be installed along SR 6 between Washington Road and Princeton Lakes Parkway via Desert Drive and at the intersections of Redwine Road with Ale Circle, Desert Drive, N. Commerce Drive, and Princeton Lakes Parkway. Signage could be also installed at the intersection of Ale Circle and Washington Road.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4-5**	**No Change**
Median Barrier	**Grass**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**4.2 miles (1.6 miles on SR 6 & 2.6 miles on crossroads/Redwine Road)**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	**Fulton - Subarea 1**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**4,599**	**B**
2020 (No Build)	**5,658**	**B**

**Highest volume in the project limit*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**-**
Right-of-Way	**-**
Utilities	**-**
Construction	**$16,000**
Total (Rounded)	**$16,000**

NOTES

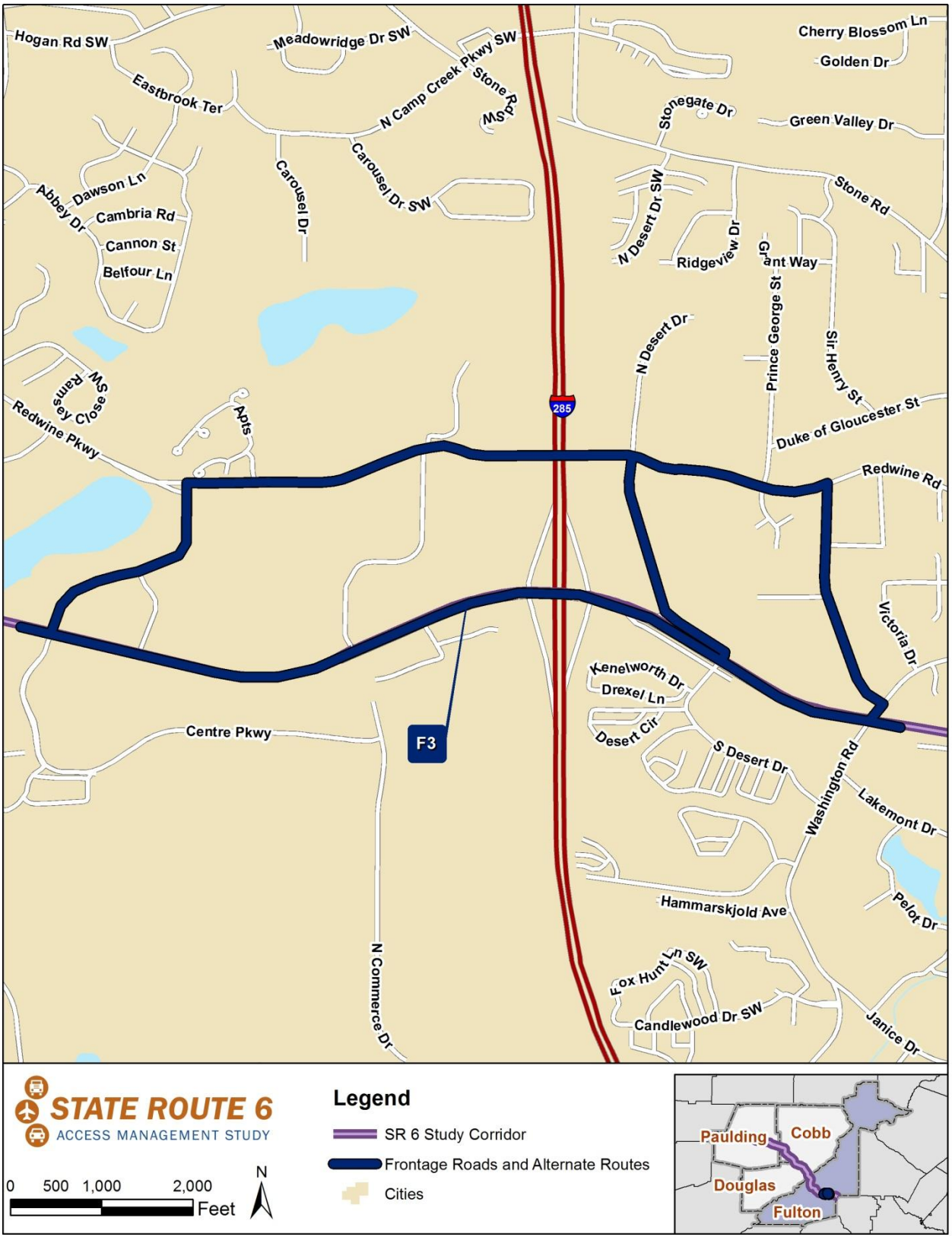
DEFICIENCIES ADDRESSED

This project would inform drivers of a possible bypass route to SR 6. This cost-effective option would enable travelers' trips to/from the Camp Creek Marketplace area to be diverted away from multiple signals and congestion on SR 6. Taking the Redwine Road bypass would help the local traffic to avoid four traffic signals on SR 6 (Desert Drive, I-285 southbound ramp intersection, I-285 northbound ramp intersection, and N. Commerce Drive), thus reducing congestion at these locations. Alternatively, if the section of Redwine Road was not reopened, signage could be implemented to inform drivers of access to Redwine Road via Desert Drive.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Hogan Rd SW
Meadowridge Dr SW
Eastbrook Ter
N Camp Creek Pkwy SW
Stone Rd SW
Cherry Blossom Ln
Golden Dr
Stonegate Dr
Green Valley Dr
Carousel Dr
Carousel Dr SW
Abbey Dr
Dawson Ln
Cambria Rd
Cannon St
Belfour Ln
N Desert Dr SW
Ridgeview Dr
Grant Way
Stone Rd
Prince George St
Sir Henry St
N Desert Dr
285
Ramsey Close SW
Redwine Pkwy
Apts
Duke of Gloucester St
Redwine Rd
Victoria Dr
Kenelworth Dr
Drexel Ln
Desert Cir
S Desert Dr
Washington Rd
Lakemont Dr
Centre Pkwy
F3
Hammarskjold Ave
Pelor Dr
N Commerce Dr
Fox Hunt Ln SW
Candlewood Dr SW
Janice Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Feet
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Legend
SR 6 Study Corridor
Frontage Roads and Alternate Routes
Cities
Paulding
Cobb
Douglas
Fulton

F4: Reopen Redwine Road West of Prince George Street

OVERVIEW

This project would reopen the small section of Redwine Road that is currently closed west of Prince George Street. The project would require repaving and/or resurfacing the closed section and necessary maintenance to the rest of Redwine Road between Desert Drive and Prince George Street. This project could provide a reliable alternate to SR 6 for the entire section between Washington Road and Princeton Lakes Parkway.

REDWINE ROAD TYPICAL SECTION*

	Existing	Proposed
Lanes	**0-2**	**2**
Median Barrier	**No**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**No**	**No Change**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.24 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**Redwine Road**
Subarea ID, if any	**Fulton - Subarea 1**
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**N/A**
*Exceeds Statewide Injury Crash Rate**	**N/A**
*Exceeds Statewide Fatal Crash Rate**	**N/A**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume*	*LOS*
Existing	**N/A**	**N/A**
2020 (No Build)	**N/A**	**N/A**

2015 COST ESTIMATES

Preliminary Engineering	**$103,100**
Right-of-Way	**$249,600**
Utilities	**-**
Construction	**$1,288,000**
Total (Rounded)	**$1,641,000**

NOTES

DEFICIENCIES ADDRESSED

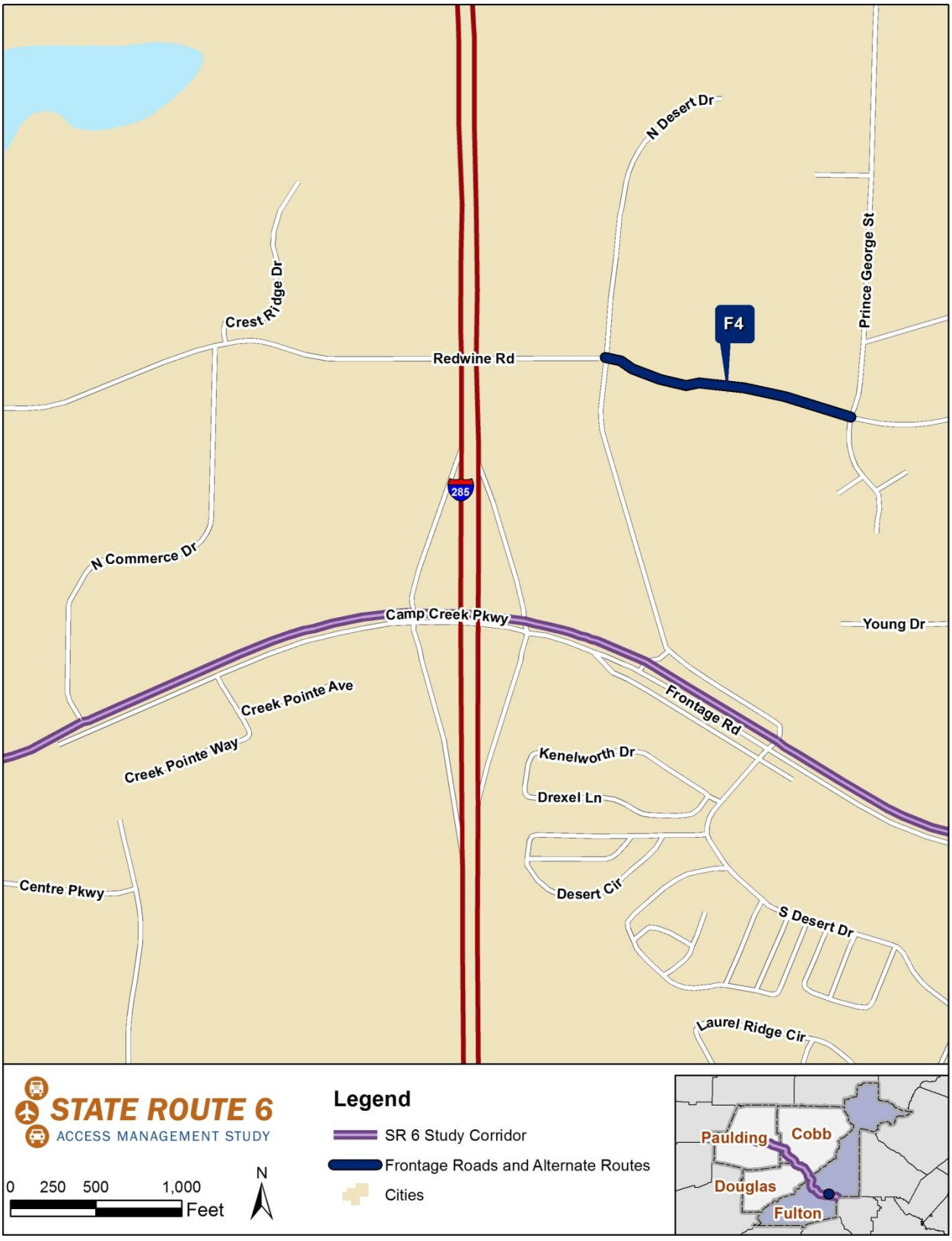
Using this alternate route would alleviate traffic on SR 6 between Washington Road and Princeton Lakes Parkway, identified as the most congested section in the area. It is also expected that diverted vehicles to Redwine Road would experience travel-time savings by helping the local traffic avoid four traffic signals on SR 6 (Desert Drive, I-285 southbound ramp intersection, I-285 northbound ramp intersection, and N. Commerce Drive).

POTENTIAL ENVIRONMENTAL CONCERNS

The area remains undeveloped and heavily wooded. Environmental screening was performed using Google Earth. Anticipated environmental document type: EA.

OTHER

This section of the roadway has been closed and used only as a personal driveway since 1980. It seems the City of East Point can reacquire this section of roadway.


N Desert Dr
Prince George St
Crest Ridge Dr
F4
Redwine Rd
285
N Commerce Dr
Camp Creek Pkwy
Young Dr
Creek Pointe Ave
Frontage Rd
Creek Pointe Way
Kenelworth Dr
Drexel Ln
Centre Pkwy
Desert Cir
S Desert Dr
Laurel Ridge Cir
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Legend
SR 6 Study Corridor
Frontage Roads and Alternate Routes
Cities
Paulding
Cobb
Douglas
Fulton

F5: Connect Existing Frontage Roads between Poplar Springs Road and SR 92

OVERVIEW

This project would connect a couple of existing frontage roads on the north side of SR 6 between Poplar Springs Road to SR 92 in order to provide complete inter-parcel access in the Hiram commercial area.

NEW ROAD TYPICAL SECTION*

	Existing	Proposed
Lanes	-	**2**
Median Barrier	-	**No**
Shoulder(s)	-	**No**
Sidewalk(s)	-	**No**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.5 miles**

STUDY AREA LOCATION

County/Counties	**Paulding**
Route(s)	**SR 6**
Subarea ID, if any	**Paulding - Subarea 1**
GDOT District(s)	**6**
GA Congressional District(s)	**14**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,232**	**A**
2020 (No Build)	**3,587**	**A**

* Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**$214,700**
Right-of-Way	**$4,259,000**
Utilities	**-**
Construction	**$2,683,300**
Total (Rounded)	**$7,157,000**

NOTES

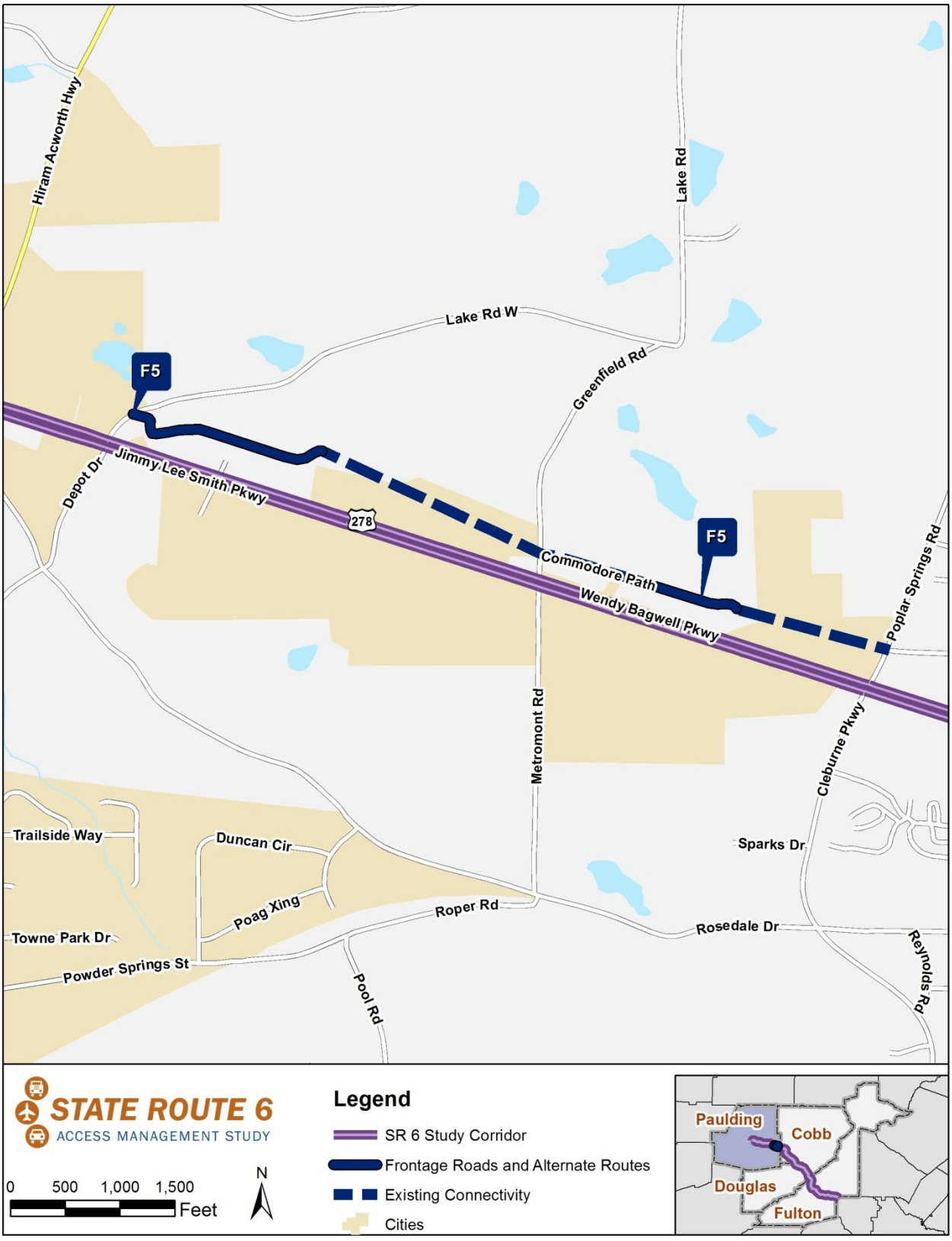
DEFICIENCIES ADDRESSED

Currently, there are existing frontage roads running parallel to SR 6 on the south side of the highway between Poplar Springs Road and SR 92. By connecting a few frontage roads on the north side of SR 6, the area would benefit from having complete inter-parcel access. These roads allow shoppers to travel within these developments without having to access SR 6, which, in turn, may reduce additional trips on the mainline and improve traffic operations.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Hiram Acworth Hwy
Lake Rd
Lake Rd W
Greenfield Rd
F5
Depot Dr
Jimmy Lee Smith Pkwy
278
F5
Commodore Path
Wendy Bagwell Pkwy
Poplar Springs Rd
Metromont Rd
Cleburne Pkwy
Trailside Way
Duncan Cir
Sparks Dr
Poag Xing
Roper Rd
Towne Park Dr
Rosedale Dr
Powder Springs St
Pool Rd
Reynolds Rd
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Feet
N
Legend
SR 6 Study Corridor
Frontage Roads and Alternate Routes
Existing Connectivity
Cities
Paulding
Cobb
Douglas
Fulton

5D.5. Bicycles, Pedestrians, and Transit

B1: Pedestrian Facilities in Camp Creek Marketplace Area

OVERVIEW

This project would improve pedestrian facilities in the Camp Creek Marketplace area in order to accommodate high pedestrian activities. The specific locations in need of additional sidewalks and crosswalks would need to be identified prior to implementation.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	4-6	No Change
Median Barrier	Grass	No Change
Shoulder(s)	No	No Change
Sidewalk(s)	Yes/No	Yes

*Primary roadway only; not for intersections

DETAILS

PI Number	Not currently in GDOT program
Total Project Length	2.9 miles

STUDY AREA LOCATION

County/Counties	Fulton
Route(s)	SR 6 & Crossroads in Camp Creek Marketplace Area
Subarea ID, if any	Fulton - Subarea 1
GDOT District(s)	7
GA Congressional District(s)	5

ANALYSIS RESULTS

CRASH RATES

Exceeds Statewide Crash Rate*	Yes
Exceeds Statewide Injury Crash Rate*	Yes
Exceeds Statewide Fatal Crash Rate*	Yes

*Source: GDOT crash data (2008-2012)

PEAK-HOUR CONGESTION

Year	Volume*	LOS
Existing**	4,599	B
2020 (No Build)	5,658	B

*Highest volume in the project limit
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	$51,000
Right-of-Way	$9,459,300
Utilities	$187,800
Construction	$636,300
Total (Rounded)	$10,371,000

NOTES

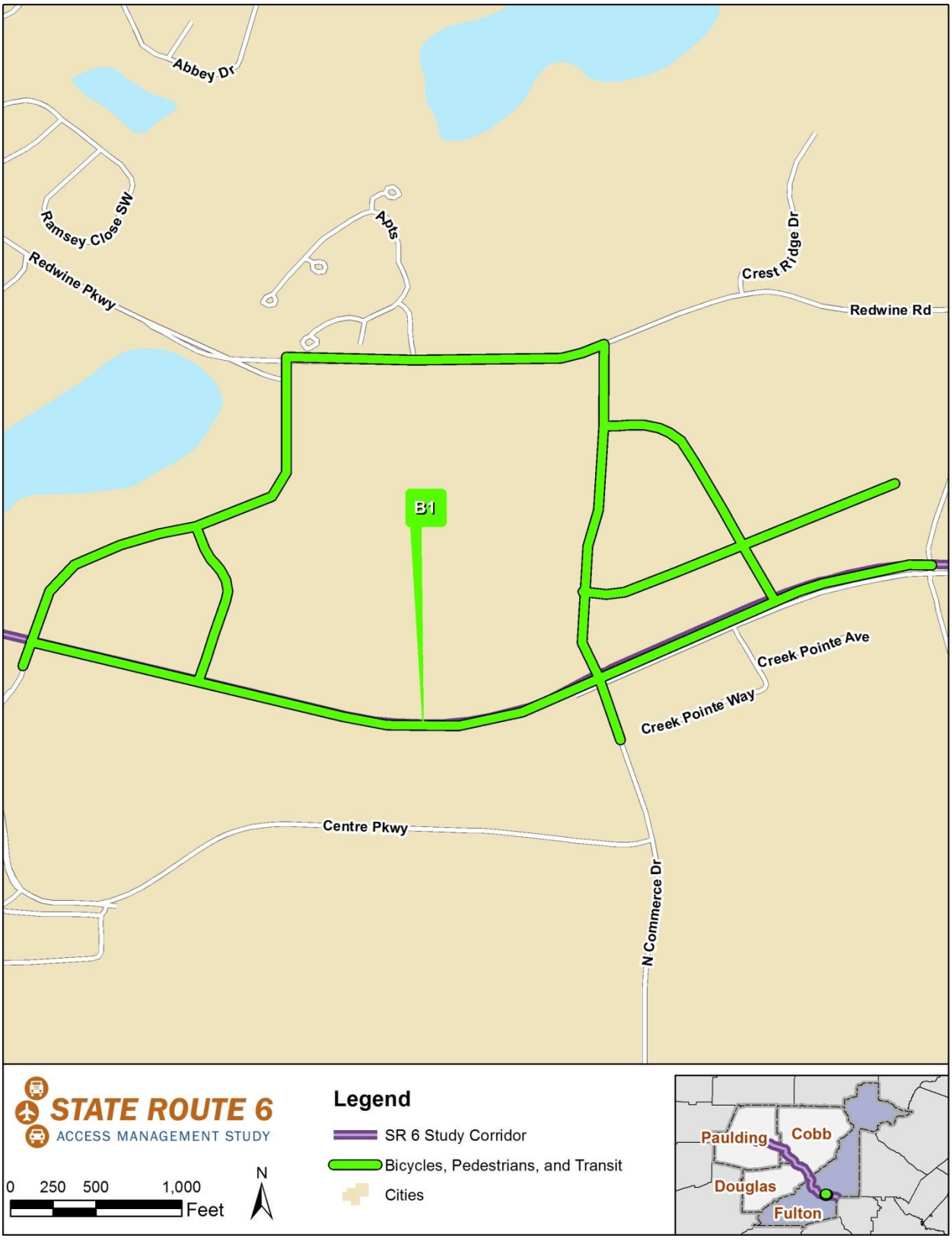
DEFICIENCIES ADDRESSED

The Camp Creek Marketplace area, with the retail stores and restaurants in the area, has a high volume of pedestrians. This project intends to better accommodate pedestrian activities in the area by providing crosswalks and sidewalks. Encouraging more pedestrian activity by making the area pedestrian-friendly could also have a positive impact on the businesses located at Camp Creek Marketplace and on the economic vitality of the area as a whole.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Abbey Dr
Ramsey Close SW
Redwine Pkwy
Apts
Crest Ridge Dr
Redwine Rd
B1
Creek Pointe Ave
Creek Pointe Way
Centre Pkwy
N Commerce Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
0 250 500 1,000
Feet
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Legend
SR 6 Study Corridor
Bicycles, Pedestrians, and Transit
Cities
Paulding
Cobb
Douglas
Fulton

B2 (Part 1A): Pedestrian Improvements at the SR 6 Intersection with Old Fairburn Road

OVERVIEW

Pedestrian facility improvements near the SR 6 intersection with Old Fairburn Road are recommended. This project would add sidewalks adjacent to the Old Fairburn Road intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**Yes/No**	**Yes**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.4 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,720**	**C**
2020 (No Build)	**4,050**	**D**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES*

Preliminary Engineering	**$42,000**
Right-of-Way	**-**
Utilities	**-**
Construction	**$524,000**
Total (Rounded)	**$566,000**

**Combined cost of B2 Part 1A & 1B*

NOTES

DEFICIENCIES ADDRESSED

The stakeholders expressed concerns about pedestrian activity at the SR 6 intersection with Old Fairburn Road. Currently, crosswalks are provided for all directions, while sidewalks are only provided south of SR 6 along Old Fairburn Road. Providing pedestrian facilities in this area, including sidewalks at all quadrants of this intersection, would better accommodate pedestrian activities.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Expanded pedestrian facilities in this area would improve access to the MARTA bus route on Old Fairburn Road. Additional pedestrian accommodations may be needed between Butner Road and Old Fairburn Road.

B2 (Part 1B): Pedestrian Improvements at the SR 6 Intersection with Butner Road

OVERVIEW

Pedestrian facility improvements at the SR 6 intersection with Butner Road are recommended. This project would install pedestrian signals for all directions at the intersection. This project would also install sidewalks adjacent to the Butner Road intersection.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes**	**No Change**
Sidewalk(s)	**No**	**Yes**

*Primary roadway only; not for intersections

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.4 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

*Source: GDOT crash data (2008-2012)
Compared with segment crash rates

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,550**	**E**
2020 (No Build)	**3,870**	**F**

*Intersection approach volume
**Source: RTOP

2015 COST ESTIMATES

Preliminary Engineering	**See Part 1A**
Right-of-Way	**See Part 1A**
Utilities	**See Part 1A**
Construction	**See Part 1A**
Total (Rounded)	**See Part 1A**

NOTES

DEFICIENCIES ADDRESSED

The stakeholders expressed concerns about pedestrian activity at the SR 6 intersection with Butner Road. Specifically, pedestrians crossing Butner Road at the SR 6 intersection have been reported. Crosswalks are currently provided for all directions at the intersection; however, a pedestrian signal is provided only for the crosswalk located on SR 6 east of Butner Road. No sidewalk is provided adjacent to this intersection. Providing a pedestrian signal and sidewalks to the intersection would better accommodate pedestrian activities.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

Expanded pedestrian facilities in this area would improve access to the MARTA bus route on Butner Road. Additional pedestrian accommodations may be beneficial between Butner Road and Old Fairburn Road.

B2 (Part 2): Off-Road Multi-Use Trail Parallel to SR 6 between Old Fairburn Road and Butner Road

OVERVIEW

This project would install an off-road multi-use trail parallel to SR 6 between Old Fairburn Road and Butner Road.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**4**	**No Change**
Median Barrier	**Grass/Striping**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**No**	**Yes (Off-road)**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**1.4 miles**

STUDY AREA LOCATION

County/Counties	**Fulton**
Route(s)	**SR 6**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**5**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**3,147**	**A**
2020 (No Build)	**3,429**	**A**

**Highest volume in the project limit*

***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$76,000**
Right of Way	**$3,642,200**
Utilities	**-**
Construction	**$949,500**
Total (Rounded)	**$4,668,000**

NOTES

DEFICIENCIES ADDRESSED

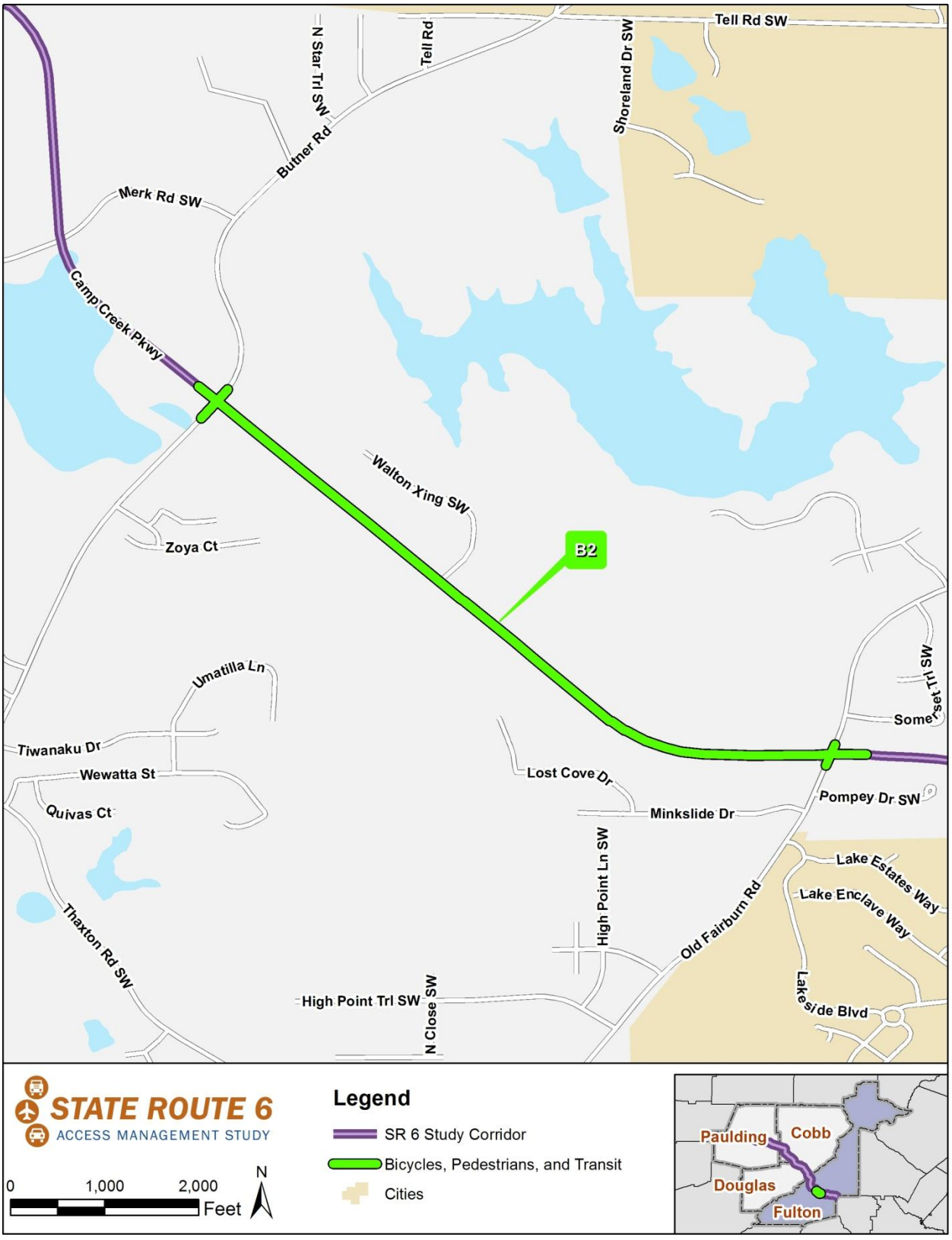
The multi-use trail would serve identified needs of pedestrians, bicyclists, and transit users. Both Old Fairburn Road and Butner Road currently have MARTA bus service.

POTENTIAL ENVIRONMENTAL CONCERNS

Both sides of SR 6 remain largely undeveloped and wooded. Environmental screening was performed using Google Earth. Anticipated environmental document type: EA.

OTHER

Expanded pedestrian facilities in this area would improve access to the MARTA bus routes on Butner Road and Old Fairburn Road.


Tell Rd SW
N Star Trl SW
Tell Rd
Shoreland Dr SW
Butner Rd
Merk Rd SW
Camp Creek Pkwy
Walton Xing SW
B2
Zoya Ct
Umatilla Ln
Somerset Trl SW
Tiwanaku Dr
Wewatta St
Quivas Ct
Lost Cove Dr
Minkslide Dr
Pompey Dr SW
Lake Estates Way
Lake Enclave Way
High Point Ln SW
Old Fairburn Rd
Thaxton Rd SW
High Point Trl SW
N Close SW
Lakeside Blvd
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Legend
SR 6 Study Corridor
Bicycles, Pedestrians, and Transit
Cities
Paulding
Cobb
Douglas
Fulton

B3: Pedestrian Facilities between I-20 and Maxham Road

OVERVIEW

This project would aim to improve pedestrian accommodations between I-20 and Maxham Road. Since all four signalized intersections in the section provide crosswalks and pedestrian signals on all approaches without sidewalk connection, specific locations in need of sidewalks would be identified. Effective pedestrian signal timing, signs for crosswalks, and implementation of measures prohibiting pedestrian activity on medians would be provided. Additional landscaping efforts could be considered to promote safe crossing activities.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6-7**	**No Change**
Median Barrier	**Raised/No**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**Yes/No**	**Yes**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**1.5 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**Yes**
*Exceeds Statewide Injury Crash Rate**	**Yes**
*Exceeds Statewide Fatal Crash Rate**	**Yes**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**5,070**	**B**
2020 (No Build)	**5,425**	**B**

** Highest volume in the project limit*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$36,000**
Right-of-Way	**-**
Utilities	**-**
Construction	**$449,100**
Total (Rounded)	**$486,000**

NOTES

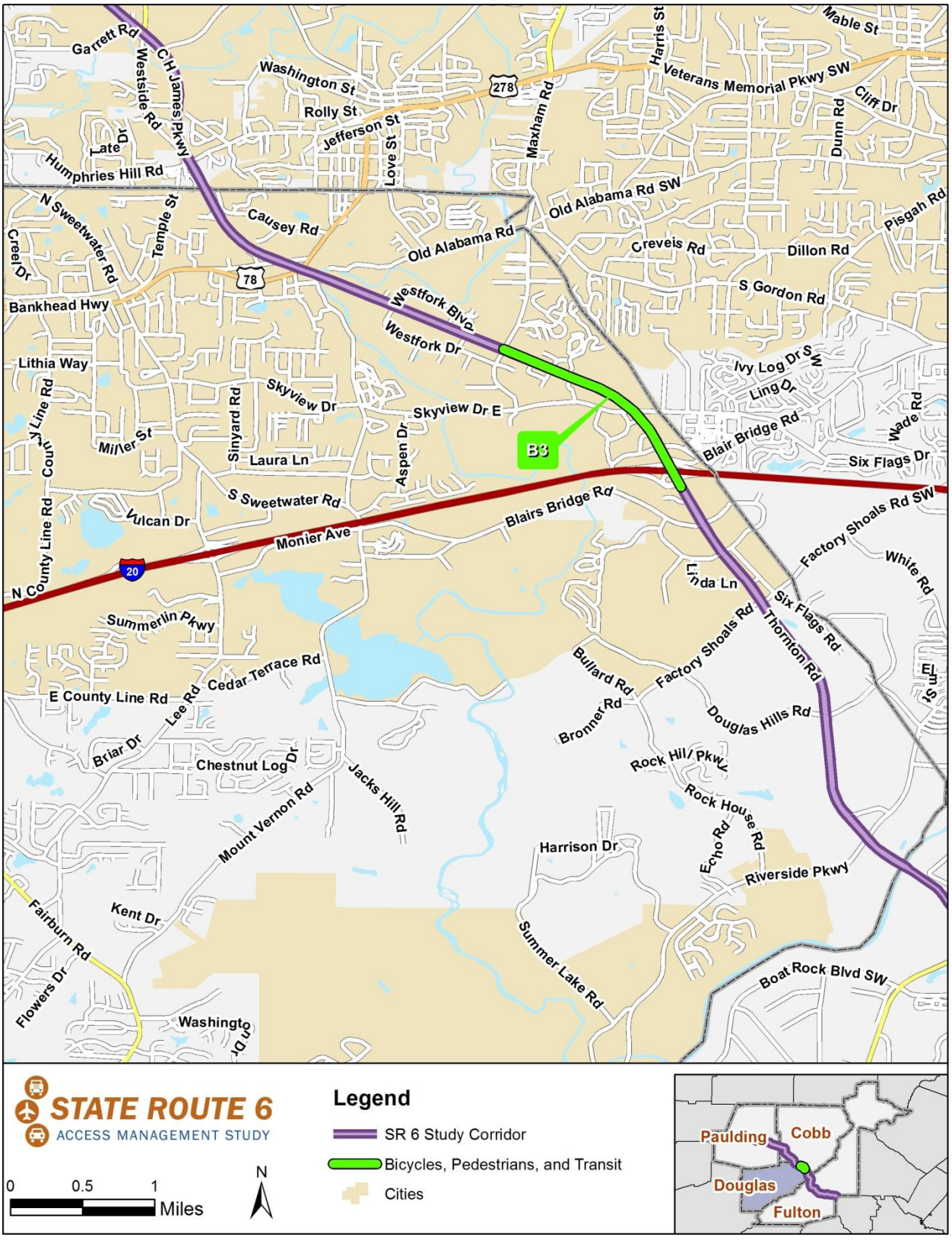
DEFICIENCIES ADDRESSED

This 1.5-mile corridor section has a concrete median, 18 feet wide between intersections and 6 feet wide at intersections. There are no sidewalks in the area, with an observed issue of pedestrians walking along the median. There are also four MARTA bus stops within the section, and existing transit stops indicate pedestrian activity along certain sections of the corridor. This project would better accommodate pedestrian activities.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Garrett Rd
C H James Pkwy
Westside Rd
Washington St
Rolly St
Jefferson St
Love St
278
Maxham Rd
Harris St
Mable St
Veterans Memorial Pkwy SW
Cliff Dr
Dunn Rd
Late Dr
Humphries Hill Rd
N Sweetwater Rd
Temple St
Causey Rd
Old Alabama Rd SW
Old Alabama Rd
Creveis Rd
Dillon Rd
Pisgah Rd
Creel Dr
78
Bankhead Hwy
Westfork Blvd
Westfork Dr
S Gordon Rd
Lithia Way
Ivy Log Dr SW
Ling Dr
Wade Rd
Skyview Dr
Skyview Dr E
Sinyard Rd
Miller St
Laura Ln
Aspen Dr
B3
Blair Bridge Rd
Six Flags Dr
County Line Rd
S Sweetwater Rd
Vulcan Dr
Blairs Bridge Rd
Monier Ave
Factory Shoals Rd SW
White Rd
20
N County Line Rd
Linda Ln
Summerlin Pkwy
Six Flags Rd
Thornton Rd
Factory Shoals Rd
Bullard Rd
Cedar Terrace Rd
E County Line Rd
Lee Rd
Bronnert Rd
Douglas Hills Rd
Briar Dr
Chestnut Log Dr
Rock Hill Pkwy
Jacks Hill Rd
Mount Vernon Rd
Rock House Rd
Echo Rd
Harrison Dr
Riverside Pkwy
Fairburn Rd
Kent Dr
Summer Lake Rd
Flowers Dr
Boat Rock Blvd SW
Washington Dr
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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Miles
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Legend
SR 6 Study Corridor
Bicycles, Pedestrians, and Transit
Cities
Paulding
Cobb
Douglas
Fulton

B4: Pedestrian Facilities at the Maxham Road Intersection with SR 6

OVERVIEW

GDOT currently has a project (PI 0012621) programmed for Maxham Road from SR 6 to Tree Terrace Parkway, which is aimed at safety and traffic-flow improvements at the SR 6 at Maxham Road intersection through minor widening, lane-change assignments, and the elimination of weaving to help reduce traffic congestion in this area. The existing project also includes proposed sidewalks on both sides of Maxham Road. In order to provide improved pedestrian environments near the SR 6 intersection with Maxham Road, this project would add or expand pedestrian accommodations for the portions not covered by the existing GDOT project.

SR 6 TYPICAL SECTION*

	Existing	Proposed
Lanes	**6**	**No Change**
Median Barrier	**Raised**	**No Change**
Shoulder(s)	**No**	**No Change**
Sidewalk(s)	**Yes/No**	**Yes**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**This intersection is included in PI #0012621.**
Total Project Length	**0.4 miles**

STUDY AREA LOCATION

County/Counties	**Douglas**
Route(s)	**SR 6**
Subarea ID, if any	**Douglas Subarea**
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**No**
*Exceeds Statewide Injury Crash Rate**	**No**
*Exceeds Statewide Fatal Crash Rate**	**No**

**Source: GDOT crash data (2008-2012) Compared with segment crash rates*

PEAK-HOUR CONGESTION

Year	*Volume**	*LOS*
*Existing***	**5,270**	**F**
2020 (No Build)	**5,639**	**F**

**Intersection approach volume*
***Source: RTOP*

2015 COST ESTIMATES

Preliminary Engineering	**$18,000**
Right-of-Way	**$907,700**
Utilities	**$233,800**
Construction	**$224,600**
Total (Rounded)	**$1,385,000**

NOTES

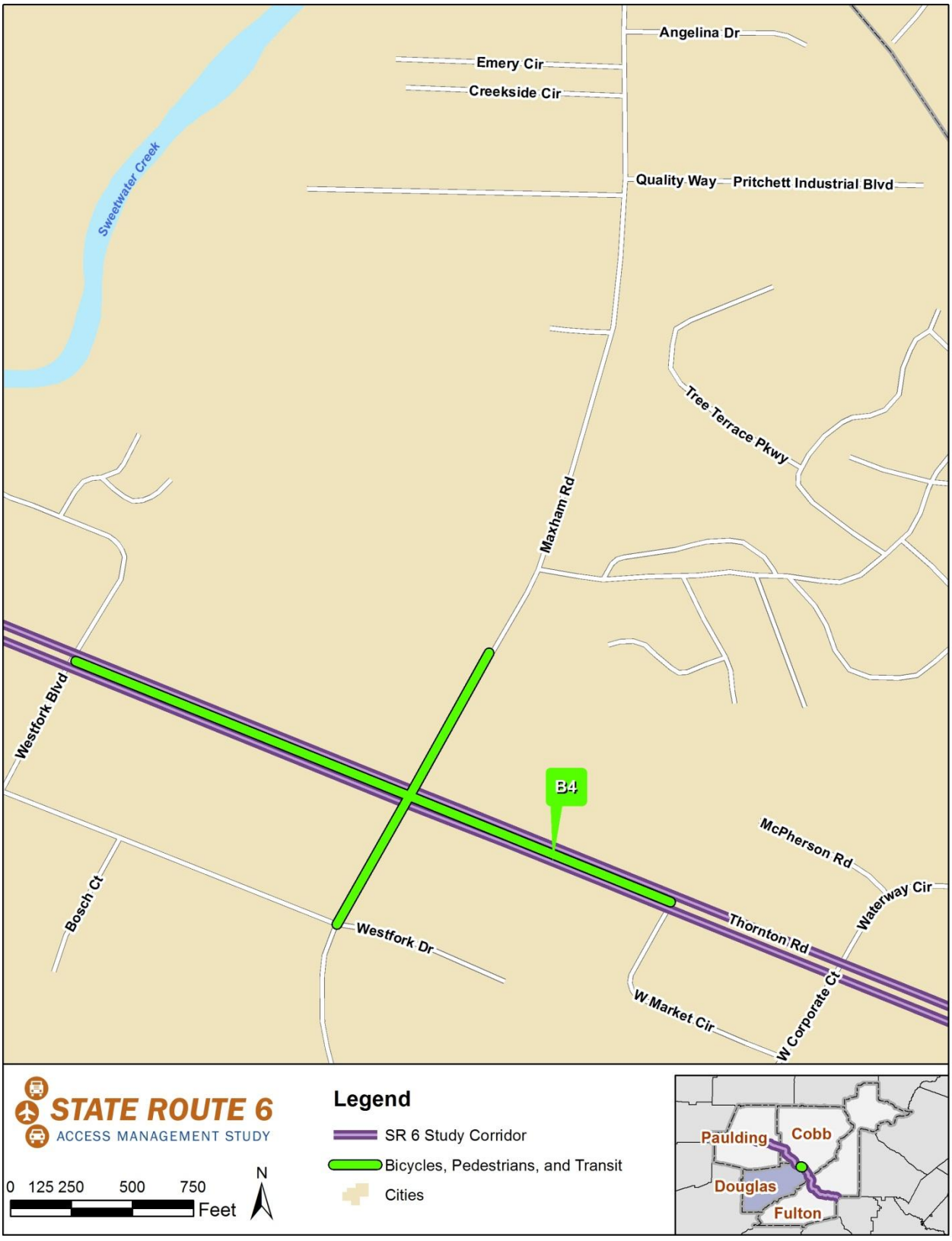
DEFICIENCIES ADDRESSED

SR 6 at Maxham Road was identified for pedestrian needs. This project would better accommodate pedestrian activities near the SR 6 intersection with Maxham Road. In addition, the existing GDOT project includes proposed sidewalks on both sides of Maxham Road from SR 6 to Tree Terrace Parkway serving two major apartment complexes that provide direct pedestrian access to the retail commercial area.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER


Angelina Dr
Emery Cir
Creekside Cir
Sweetwater Creek
Quality Way
Pritchett Industrial Blvd
Tree Terrace Pkwy
Maxham Rd
Westfork Blvd
B4
McPherson Rd
Waterway Cir
Bosch Ct
Westfork Dr
Thornton Rd
W Market Cir
W Corporate Ct
STATE ROUTE 6
ACCESS MANAGEMENT STUDY
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SR 6 Study Corridor
Bicycles, Pedestrians, and Transit
Cities
Paulding
Cobb
Douglas
Fulton

B5: Pedestrian Facilities on Powder Springs-Dallas Road and at Richard D Sailors Parkway and Florence Rd (near GRTA Park and Ride Lot)

OVERVIEW

This project would add sidewalks and pedestrian-friendly intersections along Powder Springs-Dallas Road and at the intersections of Florence Rd at Powder Springs Dallas Rd and Richard D Sailors Parkway near the GRTA park-and-ride lot.

POWDER SPRINGS RD TYPICAL SECTION*

	Existing	Proposed
Lanes	**2**	**No Change**
Median Barrier	**None**	**No Change**
Shoulder(s)	**Yes/No**	**No Change**
Sidewalk(s)	**Yes/No**	**Yes**

**Primary roadway only; not for intersections*

DETAILS

PI Number	**Not currently in GDOT program**
Total Project Length	**0.8 miles**

STUDY AREA LOCATION

County/Counties	**Cobb**
Route(s)	**Powder Springs-Dallas Road**
Subarea ID, if any	
GDOT District(s)	**7**
GA Congressional District(s)	**13**

ANALYSIS RESULTS

CRASH RATES

*Exceeds Statewide Crash Rate**	**N/A**
*Exceeds Statewide Injury Crash Rate**	**N/A**
*Exceeds Statewide Fatal Crash Rate**	**N/A**

**Source: GDOT crash data (2008-2012)*

PEAK-HOUR CONGESTION

Year	*Volume*	*LOS*
Existing	**N/A**	**N/A**
2020 (No Build)	**N/A**	**N/A**

2015 COST ESTIMATES

Preliminary Engineering	**$36,000**
Right-of-Way	**-**
Utilities	**-**
Construction	**$449,100**
Total (Rounded)	**$486,000**

NOTES

DEFICIENCIES ADDRESSED

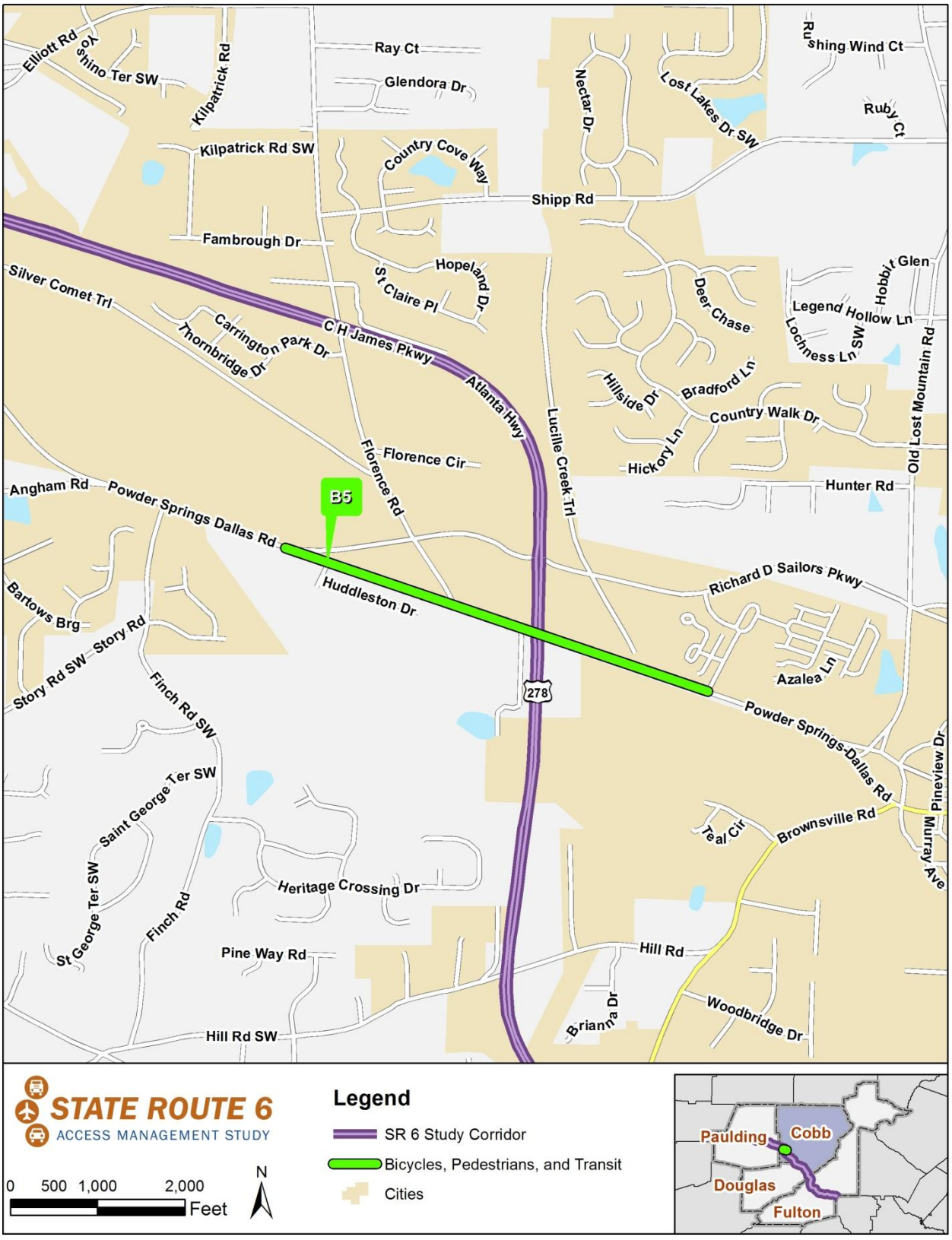
The addition of sidewalks and pedestrian-friendly intersections along Powder Springs-Dallas Road would provide better pedestrian environments for transit users. There are several residential communities in the vicinity that would benefit from these pedestrian facility improvements. This project would connect to existing sidewalks on each end.

POTENTIAL ENVIRONMENTAL CONCERNS

No concerns noted.

OTHER

While this roadway is not directly included in the study area and provides a grade-separated crossing under SR 6, this project is recommended in this study due to its vicinity to the SR 6 corridor.


Elliott Rd
Yoshino Ter SW
Kilpatrick Rd
Ray Ct
Glendora Dr
Nectar Dr
Lost Lakes Dr SW
Rushing Wind Ct
Ruby Ct
Kilpatrick Rd SW
Country Cove Way
Shipp Rd
Fambrough Dr
Hopeland Dr
St Claire Pl
Silver Comet Trl
Carrington Park Dr
Thornbridge Dr
C H James Pkwy
Atlanta Hwy
Deer Chase
Hobbit Glen
Legend Hollow Ln
Lochness Ln SW
Old Lost Mountain Rd
Hillside Dr
Bradford Ln
Country Walk Dr
Hickory Ln
Florence Cir
Florence Rd
Lucille Creek Trl
Hunter Rd
Angham Rd
Powder Springs Dallas Rd
B5
Huddleston Dr
Richard D Sailors Pkwy
Bartows Brg
Story Rd
Story Rd SW
Finch Rd SW
278
Azalea Ln
Powder Springs Dallas Rd
Pineview Dr
Saint George Ter SW
Teal Cir
Brownsville Rd
Murray Ave
St George Ter SW
Finch Rd
Heritage Crossing Dr
Pine Way Rd
Hill Rd
Briana Dr
Woodbridge Dr
Hill Rd SW
STATE ROUTE 6
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