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CHATHAM COUNTY - SAVANNAH METROPOLITAN PLANNING COMMISSION mpc GEORGIA 1955

Technical Memorandum #3
Park and Ride Lot Site Evaluation

June 2014

PARK AND RIDE LOT STUDY

Submitted by:

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PEOPLE + PLACE + PLANET

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1. Introduction

The purpose of Technical Memorandum #3 is to develop an evaluation methodology and recommend potential sites for an integrated park-and-ride program for the Savannah region. There are three elements to the park-and-ride lot site evaluation process. The first element consists of a site evaluation process. The second element consists of a travel market demand analysis. The third element consists of input from stakeholders that have been participating in this project.

Park and ride lots are valuable resources that support transit usage, carpooling and vanpooling, which lead to improved performance of the entire transportation system. They provide a location for individuals to park their vehicles to join carpools, vanpools and to access transit options, thereby taking vehicles off local arterials and interstate facilities. Planning and constructing a network of well-placed park and ride lots assist in the development of a productive transportation system.

The goals of a network of park and ride lots include, but are not limited to, increasing traveler mobility options, increasing person throughput on the system, decreasing the number of vehicle trips, decreasing the greenhouse gas emissions, and decreasing congestion on transportation facilities.

The information presented in this Technical Memorandum summarizes the results of field inventories conducted in October 2013 and January 2014 of the five (5) existing regional lots to better understand existing conditions. In addition, preliminary site evaluations were conducted for an additional twelve (12) other locations identified previously in Technical Memorandum #2 of priority corridors and potential candidate sites for park-and-ride activities.

2. Existing Park-and-Ride Lot Inventory

Two field surveys were conducted of the five existing park-and-ride lots in the Savannah region during October 2013 and January 2014 to observe lot characteristics and utilization. Characteristics noted included number of spaces and current utilization, lot and directional signage, lot lighting, accessibility, expansion possibility, and other general notes. Table 2-1 below summaries the October 2013 observations at each location.

Table 2-1: October 2013 Park-and-Ride Lot Observations

Park-and-Ride Lot	I-16 & US 280/SR 30	I-95 & SR 204	I-95 & SR 21	Effingham County Courthouse	Guyton Lot
County	Bryan	Chatham	Chatham	Effingham	Effingham
Capacity	33	34	35	Difficult to determine*	20-25
Utilization	13	21	40	Difficult to determine*	10
Lighting	Yes	No	Yes	Yes	Yes
Signage	Some	Some	Some	Some	Yes
Accessibility	Good	Difficult	Good	Good	Good
Expansion Possibility	Yes	Yes	Yes	No	Yes
Additional Notes	Striping needed	Striping needed	Striping needed	None	Striping needed

* *Capacity and utilization at the Effingham County Courthouse site is difficult to determine, for there are not designated spaces for park and ride users in the parking lot.*

Since completion of these field surveys, it has been observed that another park-and-ride lot exists in Bulloch County, at SR 67 and SR 46 (north of I-16). This park-and-ride lot appears to have been constructed as part of an intersection reconstruction project.

Generally, the Savannah region's park-and-ride lots are small and depending on the location somewhat underutilized. Three lots are located adjacent to interstate facilities with the Effingham County and Guyton lots considered to be in more remote locations. All lots are in need of major rehabilitation including paving and restriping of parking spaces. The majority of lots have good access, but lack directional signage, which could limit commuter knowledge of lot locations and impact lot utilization. In addition, most of the lots have lighting; observations indicate that additional lighting is necessary to increase the appearance of a safe location to park a vehicle.

While there is some directional signage to the lot at the Effingham County Courthouse complex, the lack of pavement markings or additional on-sign signage makes it difficult for motorists to determine where the park-and-ride facility is located and calculate facility utilization, especially on days when County Court is in-session.

An additional field trip was conducted in January 2014 to review/confirm previous collected data and observations. Similar park-and-ride lot usage was observed in this field review. Additional observations were as follows.

- At I-16 and US 280/SR 30, two drop-offs were observed at 3:30 p.m. Trash was strewn within the lot.
- At I-95 and SR 204, it was noted that the lot was configured with one-way angle parking, with numerous cars parked illegally.
- At I-95 and SR 21, trash was strewn within the lot.
- At the Effingham County Courthouse, directional signage was observed at Laurel Street and Rabun Street.

The two drop-offs observed at the I-16 and US 280/SR 30 lot are significant because the incidents indicate that motorists are using the lot as a staging area to complete their commutes. One set of motorists was observed in scrubs indicating they are in the medical field. Follow-up was not conducted to note whether they were commuting to the Hospital Area in Savannah or whether they were commuting to some other medical facility. Several lots were noted for trash throughout the lot area. Placement of containers would be helpful to alleviate the perception of a lack of maintenance at the lots.

3. Priority Corridor Recommendations from Tech Memo #2

Technical Memorandum #2, prepared in December 2013 and revised in January 2014, reviewed and updated the Coastal Region Metropolitan Planning Organization's (CORE MPO's) Transit Mobility Vision Plan (TMVP) list of priority corridors, while expanding the area's major employers with current existing and anticipated future employment data.

Critical observations related to demographic and commuter travel patterns were outlined, including:

- The highest population growth rates are projected for Effingham and Bryan Counties;
- Forecasts reflect significant population and employment growth along and west of the I-95 corridor;
- Over two-thirds of work trips from Effingham and Bryan Counties are leaving those counties for work in other counties;
- Over three-quarters of work trips from Liberty and Bulloch Counties are remaining within those counties; and
- A majority of work trips originating in Jasper and Beaufort Counties in South Carolina are remaining within that state.

Utilizing U.S. Census Longitudinal Employer-Household Dynamic (LEHD) information and major employer home location data, an activity center analysis was conducted generating the following results:

- The highest employment and employment density is in Downtown Savannah;
- Other areas with significant employment and densities include: Gulfstream/Airport, Hospitals Area, Hunter Army Airfield, and Oglethorpe Mall and Southside Areas; and
- Mitsubishi/Mega Site has high forecast for employment and could be a future transit service market should those employment forecasts materialize.

The primary long distance commuter corridors identified in Tech Memo #2 were:

- Northwest (SR 21)
- West (US 80 and I-16)
- South (US 17 and I-95)

These routes became the focus of identifying candidate park-and-ride locations discussed in the next report section.

Site Selection

Site selection considered characteristics conducive to high lot utilization. Potential sites with existing paved areas not generally used during weekday commuting hours are usually considered first. These lots include vacant properties, churches or civic centers. Developing lots by agreement with local governments and property owners, as well as on existing DOT right-of-way, makes effective use of transportation funding.

The first step in the candidate site selection process is to identify areas where park-and-ride lots may be feasible. This is largely an intuitive approach by analyzing and observing existing conditions in the field such as:

- Informal park-and-ride activity;
- Density of residential areas;
- Intensity and concentration of employment;
- Distance between major residential areas and employment centers; and
- Current and future levels of service on pertinent roadways.

4. Park-and-Ride Lot Evaluation Considerations

A field review was conducted on January 21st and 22nd of existing and potential park-and-ride lots in the Savannah region. Based upon that effort, seventeen (17) locations were identified for further evaluation. Those areas are shown in Figure 4-1 and include:

Northwest Corridor

- SR 21 South of Rincon (Effingham County)
- SR 21 at Old Augusta Road (Effingham County)
- I-95 at SR 21: Existing Lot (Chatham County)
- Effingham County Courthouse: Existing Lot (Effingham County)
- SR 17 in Guyton: Existing Lot (Effingham County)

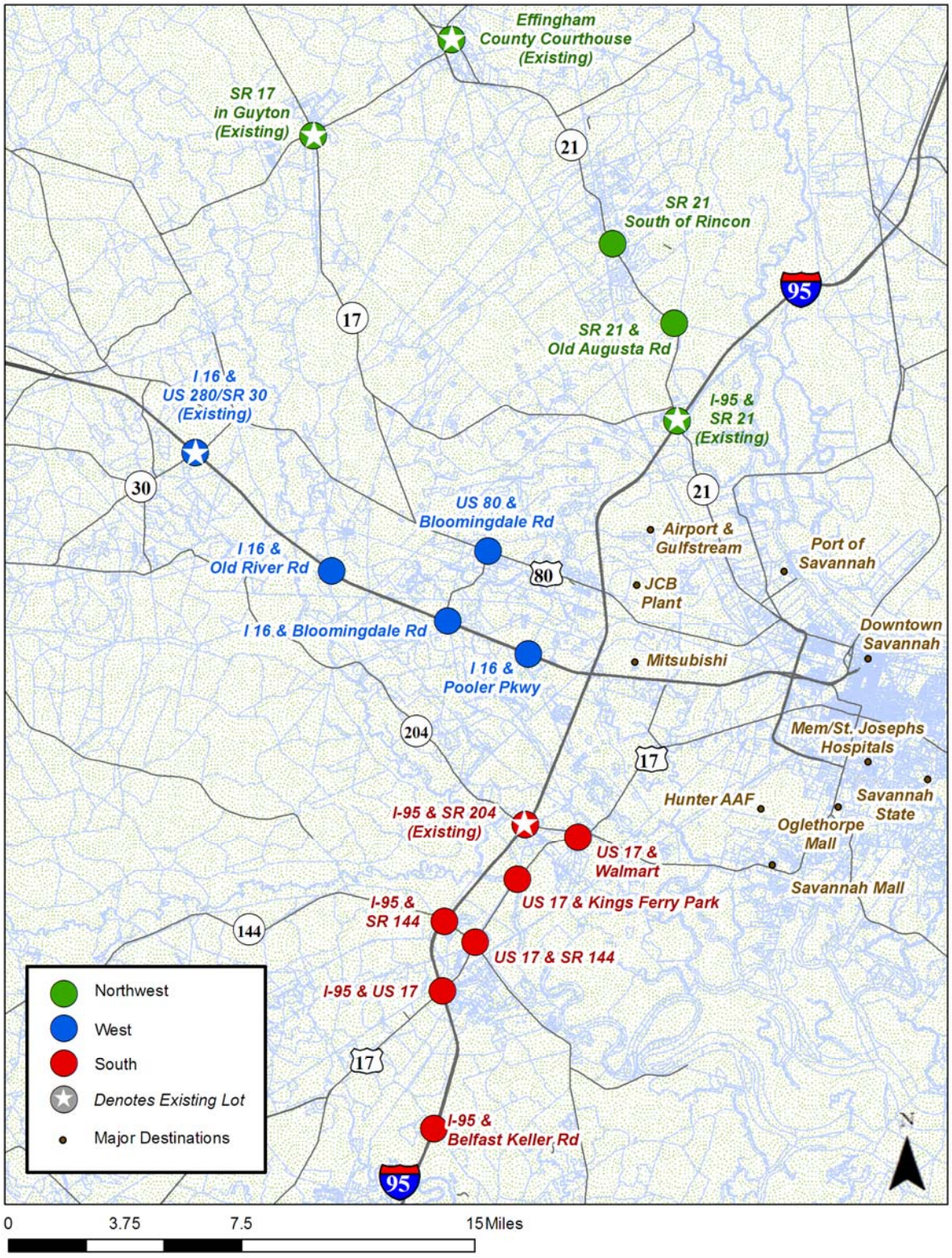
West Corridor

- I-16 & Pooler Parkway (Chatham County)
- I-16 & Bloomingdale Road (Chatham County)
- US 80 & Bloomingdale Road (Chatham County)
- I-16 & Old River Road (Effingham County)
- I-16 & US 280/SR 30: Existing Lot (Bryan County)

South Corridor

- I-95 & SR 204: Existing lot (Chatham County)
- US 17 & Vicinity of Wal-Mart (Chatham County)
- US 17 & Kings Ferry Park (Chatham County)
- I-95 & US 17 (Bryan County)
- US 17 & SR 144 (Bryan County)
- I-95 & SR 144 (Bryan County)
- I-95 & Belfast Keller Road: proposed future interchange (Bryan County)

Figure 4-1: Candidate Park-and-Ride Lot Locations



4.1 Suitability Measures

Once a potential site has been identified, it is useful to assess which site attributes should be evaluated to ascertain whether the location meets certain criteria that would make the site a viable park-and-ride location. A suitability assessment is a useful tool to assist in determining the advantages and disadvantages of the proposed park-and-ride site. A location can initially appear to be a viable park-and-ride location; however, considering other aspects (i.e., proximity to urban areas, area demographics, proximity to transit, and proximity to major regional commuter corridors) the potential site may be a preferred location or will not produce the necessary utilization to justify the costs.

The following are suitability measures which should be assessed when determining whether a proposed site should be considered for further development as a park-and-ride facility:

1. Relative distance to major employment/activity centers;
2. Number of employment centers served;
3. Proximity to major commuter ramps;
4. Proximity to local arterials;
5. Visibility from major travel routes;
6. Adjacent highway corridor peak period level of service;
7. Adjacent highway corridor Annual Average Daily Traffic (AADT) volume;
8. Residential dwelling units within two miles of lot;
9. Type(s) of transit services serving the facility;
10. Safety and security of the facility;
11. Availability and access to pedestrian trails and bike lanes;
12. Availability and access to sidewalks; and,
13. Right-of-way availability.

Once all of these key issues have been considered, a viability memo can be issued on whether or not the potential site would be a viable location for a park-and-ride facility.

4.2 Park-and-Ride Suitability Assessment Criteria

Examining geographic, demographic, and other relevant criteria can determine the success of park-and-ride lots. The following suitability assessment assembles these criteria into a quantifiable manner by outlining relevant criteria and developing analysis methods. These methods are being developed for the purpose of easily identifying the success of potential lots using objective and quantifiable assessment criteria. A set of criteria has been established for use in evaluating each site. Important factors for consideration include the following.

GEOGRAPHIC FACTORS

1. Relative Distance to Major Employment/Activity Centers (20 Percent)

Commutes to employment centers constitute the main use of park-and-ride lots. The distance from the employment center determines the time and money saved by using the park-and-ride lot. Locations within close proximity will result in less motivation to carpool or use public transit. Locations far from employment centers will result in fewer residents willing to commute to the employment center. The following defines the assumptions and sources for the criterion.

Prior research by the Center for Urban Transportation Research (CUTR) at the University of South Florida has found that the most successful lots in large metropolitan areas are roughly 27 miles from the employment center.

- Lots within 15 miles of employment centers in large metropolitan areas are assumed to be less utilized.
- Lots greater than 45 miles from employment centers are assumed to be less utilized.
- Mileage to destinations per Google Maps and to the closest employment center is assumed.

Scoring:

10 Points = 24 to 36 miles from employment center
9 Points = 23 or 37 miles from employment center
8 Points = 22 or 38 miles from employment center
7 Points = 21 or 39 miles from employment center
6 Points = 20 or 40 miles from employment center
5 Points = 19 or 41 miles from employment center
4 Points = 18 or 42 miles from employment center
3 Points = 17 or 43 miles from employment center
2 Points = 16 or 44 miles from employment center
1 Point = any other distance

2. Number of Employment Centers Served (10 Percent)

The number of employment centers within a commutable distance of 15 to 45 miles of the lot will result in higher park-and-ride lot utilization. The number of employment centers for lots will be derived from the employment centers identified in Technical Memorandum #2.

Scoring:

Two points are assigned for each employment center identified to a maximum of 10 points.

AREA ROADWAY FACTORS

3. Proximity to Major Commuter Corridor Ramps (10 Percent)

Easy access to/from the lot relative to the major commuter corridors will improve park-and-ride lot utilization.

Scoring:

10 Points = 0.0-1.0 miles from major commuter corridor
8 Points = 1.0-2.0 miles from major commuter corridor
5 Points = 2.0-3.0 miles from major commuter corridor
3 Points = 3.0-5.0 miles from major commuter corridor
1 Points = greater than 5 miles from major commuter corridor

4. Proximity to Local Arterials (5 Percent)

Easy access to/from the lot to local arterials will improve park-and-ride lot utilization.

Scoring:

10 Points = lot located on arterial
5 Points = lot located within 0.25 miles of arterial
1 Points = lot located 0.26-0.5 miles from arterial
0 Points = lot located more than 0.5 miles from arterial

5. Highway Corridor Level of Service (5 Percent)

Traffic peak period level of service (LOS) determinations on the adjacent highway corridor will be a factor as to whether commuters will use the park-and-ride facility or continue their commute on the roadway. Peak period LOS data is derived from the CORE MPO's Congestion Management Process (CMP).

Scoring:

10 Points = level of service E and F
5 Points = level of service D
2 Points = level of service C, B and A

6. Highway Corridor Average Annual Daily Traffic Volumes (5 Percent)

Average Annual Daily Traffic (AADT) volumes on the adjacent highway corridor will be a factor as to whether commuters will use the park-and-ride facility or continue their commute on the roadway. AADT volumes were obtained from GDOT.

Scoring:

10 Points = 50,000 and greater AADT
8 Points = 49,999 to 30,000 AADT
4 Points = 29,999 to 15,000 AADT
2 Points = less than 15,000 AADT

AREA FACTORS

7. Visibility (5 Percent)

Site should be visible from adjacent travel routes. Visibility contributes to the recognition of available park-and-ride facilities and acts as a deterrent to crime. Landscaping should not obscure visibility. Park-and-ride lots with high visibility have shown to have higher utilization rates than lots not as visible from surrounding arterials.

Scoring:

10 Points = lot is visible from adjacent arterials
5 Points = lot is visible, but some visibility may be blocked by vegetation or surrounding structures
0 Point = lot is difficult to see with poor visibility from surrounding arterials

8. Residential Dwellings (5 Percent)

Survey data from other park-and-ride studies indicate that approximately 80 percent of park-and-ride users come from within two miles of a facility. The larger the number of dwelling units within two miles of a lot, the greater the chances of higher park-and-ride lot utilization.

Scoring:

10 Points = 2,000 dwelling units within two miles of location
5 Points = less than 2,000 dwelling units within two miles of location

9. Safety and Security (5 Percent)

The park-and-ride lots should provide an atmosphere which includes safety and security, both perceived and actual. Lots should be constructed in areas safe for both the users and the vehicles. Lots should be located in areas free from environmental annoyances including air pollution and noises. Lots should also have adequate lighting to provide safety and protection from vandalism.

- For safety and security purposes, adequate lighting must be provided. An agreement should be reached between the State and the local jurisdiction regarding operation and maintenance responsibilities of the lighting system. Typically design and installation can be implemented by the local electric utility provider and would be done under an agreement between a local jurisdiction and the service provider.

- Security is a critical factor considered in the decision to use a park-and-ride lot. The best security measure is to site lots in areas considered to be safe from crime. Ideally, arrangements need to be in place at the time of the facility's opening. Security measure may include adequate illumination, fencing, visibility from major roadways, and police or security patrols. Coordination must occur with the local police, state patrol, or a third-party security company. Local police should not be presumed to provide security responsibilities for the park-and-ride lot.
- Occasionally a crime may occur at a park-and-ride facility which needs to be handled by law enforcement. In this situation, an increased law enforcement presence may be necessary at a lot experiencing unlawful activities. GDOT does not assume responsibility for the loss of property or assume costs due to unlawful activities on State-owned lots. In the case of a crime at a park-and-ride facility, all attempts should be made to contact the local law enforcement agency and notify them of any unlawful acts. In addition, the law enforcement agency should be requested to provide regular patrols of the lot, as their time permits.

For purposes of the criteria, the crime risk for the zip code of the potential park-and-ride lot location is assumed. The overall crime risk is derived from Homefair.com (http://www.homefair.com/real-estate/city-profile/results.asp) with the national crime risk of 100.

Scoring:

10 Points = 0 to 20 crime risk
9 Points = 21 to 40 crime risk
8 Points = 41 to 60 crime risk
7 Points = 61 or 80 crime risk
6 Points = 81 or 100 crime risk
5 Points = 101 to 120 crime risk
4 Points = 121 to 140 crime risk
3 Points = 141 to 160 crime risk
2 Points = 161 to 180 crime risk
1 Point = 181 or more crime risk

TRANSIT FACTORS

10. Transit Services (20 Percent)

Lot usage increases with available transit services. The design of transit transfer terminals within a park-and-ride facility is comprised of two components: the transit vehicle and the passenger. The park-and-ride lot should be designed to provide for safe and easy bus operations. Inadequate turning radii, aisle widths, and pavement design can eliminate a site from further consideration if transit needs cannot be met. Large turning radii should be provided for busses entering and exiting the site and acute angles should be avoided. Reinforced pavement is desirable in the terminal area to accommodate large wheel loads and higher temperatures.

- Express transit routes will result in higher park-and-ride utilization. Any round trip express route would receive 10 points since the number of routes speaks to the demand and not to availability.
- Fixed-route transit service will result in higher park-and-ride lot utilization since users will be able to get to and from the lot or their destination more easily.
- Circulator route service availability at the lot will result in higher park-and-ride lot utilization since users will be able to get to and from the lot more easily.
- Circulator route service at the destination will result in higher park-and-ride lot utilization since users will be able to get to and from their destination more easily by allowing people freedom of mobility at destination points.

Scoring:

10 Points = one or more round trip express routes
8 Points = one or more round trip fixed-route service
5 Points = circulator service available at the potential park-and-ride lot
3 Points = circulator service available at the destination
0 Points = no transit services

SITE FACTORS

11. Trail and/or Bike Access (4 Percent)

Access from nearby trails utilized by hikers and bicyclists provides commuters with an additional means of taking advantage of a park-and-ride lot.

Scoring:

10 Points = there is trail access
5 Points = there is bike lane access
0 Points = there is no trail or bike lane access

12. Sidewalk Access (1 Percent)

Pedestrian circulation to and around a potential park-and-ride lot is important because some potential lots may provide multimodal access with rideshare opportunities or transit services. In addition, potential lots with sidewalk access may provide access from adjacent neighborhoods. Sidewalk access is weighted less than trail and bike access, for trail and bike access provides greater accessibility to the park-and-ride lot facility than adjacent sidewalks.

Scoring:

10 Points = there is sidewalk access
0 Points = there is no sidewalk access

13. Right-of-Way (5 Percent)

The level of funding for park-and-ride lot development requires creative arrangements for land use or donation. Right-of-way costs can often be more expensive than construction costs. As a result, the availability of right-of-way may be one of the more important factors for determining feasibility.

Scoring:

10 Points = there is right-of-way available
0 Points = there is no right-of-way available

Each of the 17 lots (existing and potential) was subjected to the above suitability criteria. Below is a summary narrative of the suitability criteria for each location along with a picture captured via Google Earth. The park-and-ride locations are presented by corridor.

At the conclusion of each corridor listing are Tables 4-1, 4-2 and 4-3 which detail the scoring for each criterion. The criteria have been weighed based upon stakeholder input and best practices to produce score for each location.

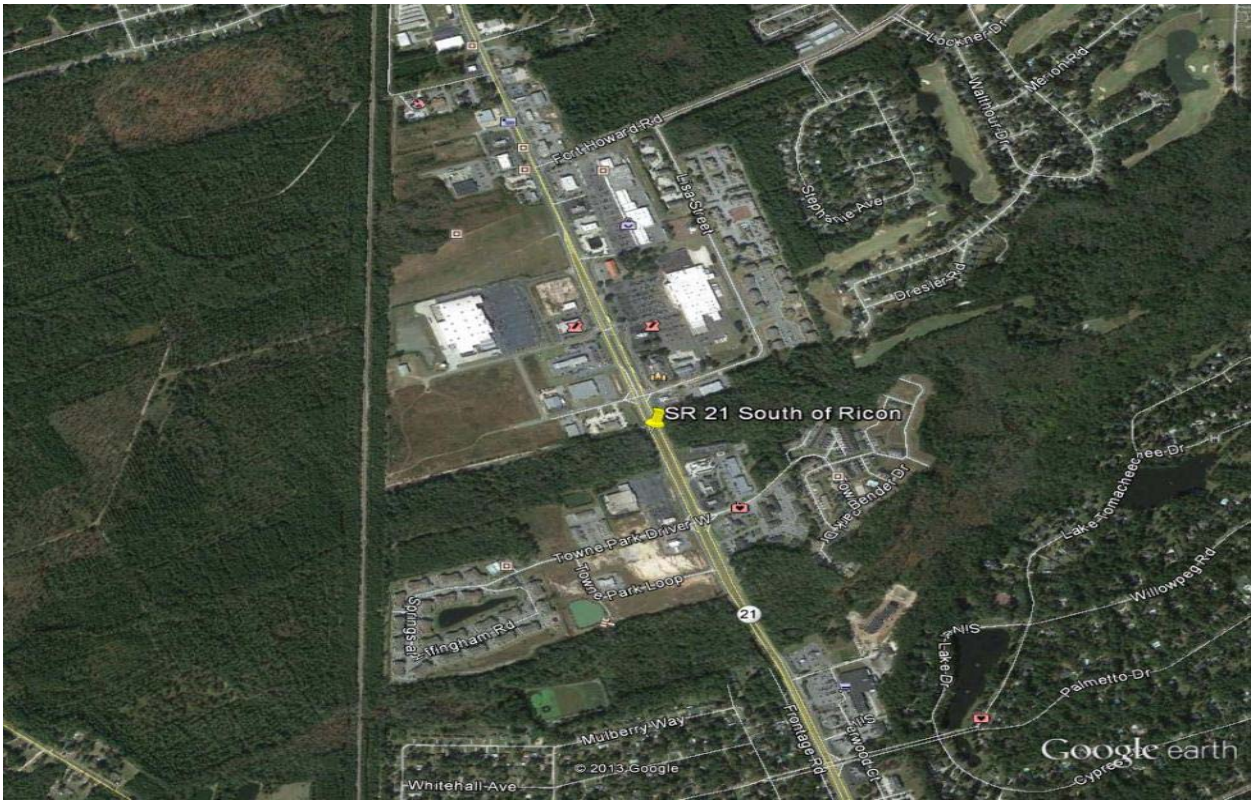
4.3 Northwest Corridor

There were five candidate site locations identified in the Northwest Corridor:

- SR 21 South of Rincon (Effingham County)
- SR 21 at Old Augusta Road (Effingham County)
- I-95 at SR 21: Existing Lot (Chatham County)
- Effingham County Courthouse: Existing Lot (Effingham County)
- SR 17 in Guyton: Existing Lot (Effingham County)

Three of the five sites are existing lots (I-95/SR 21, Effingham County Courthouse and SR 17 in Guyton). The suitability scores range from 6.75 for the existing I-95 and SR 21 lot to 4.65 for the existing Effingham County Courthouse site. In all, two locations have scores of 6.00 or better.

Figure 4-2: SR 21 South of Rincon, Effingham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot is approximately 6.5 miles north of I-95 along SR 21, south of the City of Rincon. The AADT along SR 21 is approximately 31,200. The peak period LOS along this segment of SR 21 is LOS D.

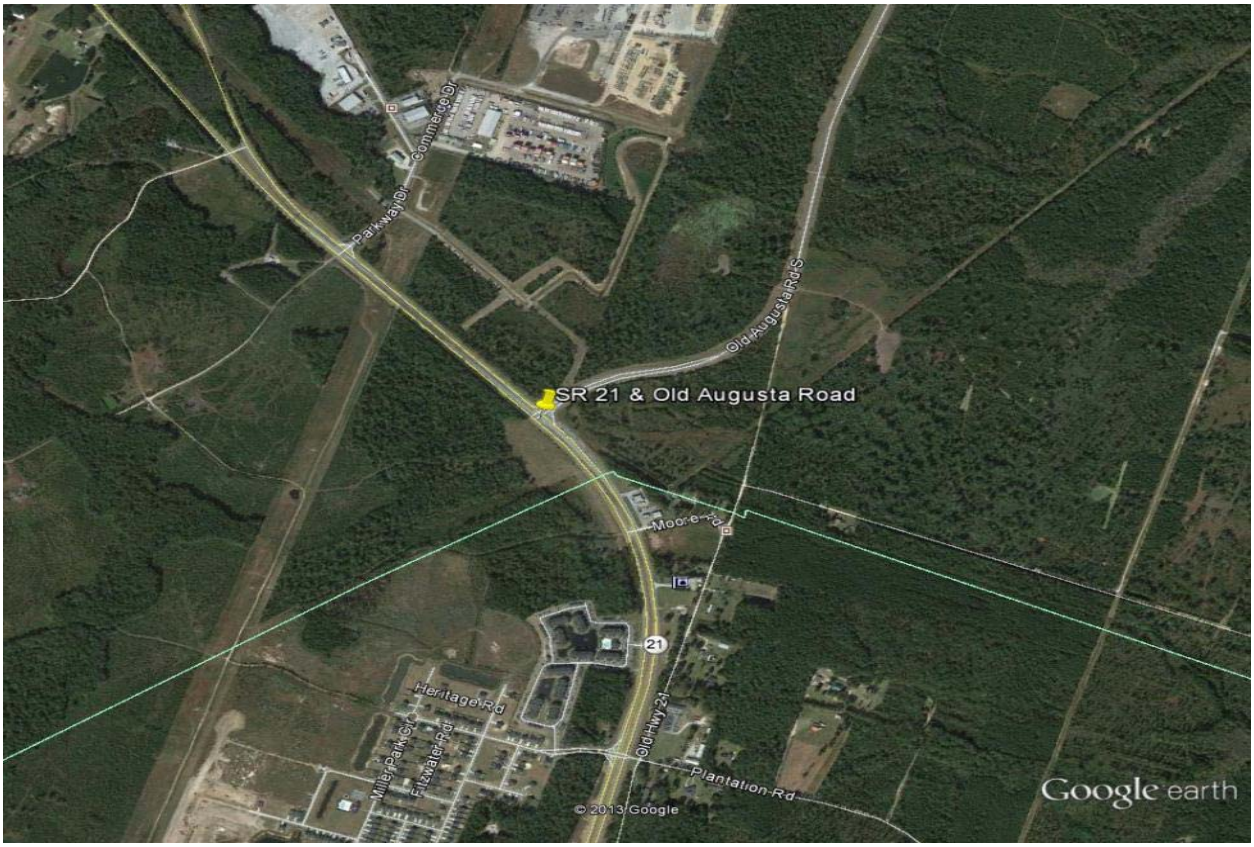
Area Factors: Potential area locations would be on or adjacent to SR 21 and thus, be highly visible from the roadway. There would appear to be sufficient residences in the area either from the City of Rincon or adjacent subdivisions to support a park-and-ride lot. The total crime risk is 59 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the existing lot. There appear to be opportunities to site a park-and-ride lot on vacant land or create a joint-use lot with current commercial developments (e.g., Lowes, Kroger) in the vicinity.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 6.65

Figure 4-3: SR 21 at Old Augusta Road, Effingham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot is approximately 3.6 miles north of I-95 along SR 21 in the vicinity of Old Augusta Road. The AADT along SR 21 is approximately 30,200. The peak period LOS along this segment of SR 21 is LOS D.

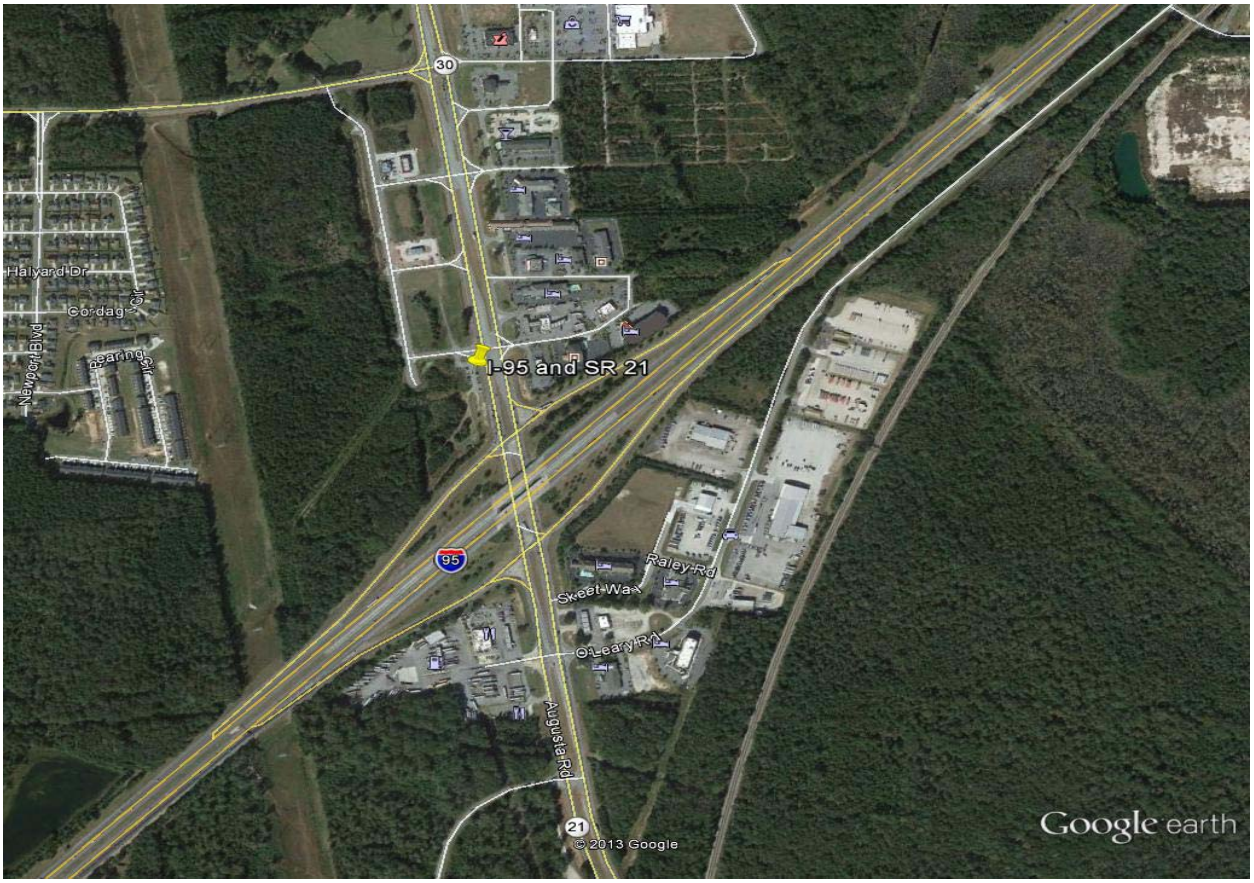
Area Factors: Potential area locations would be on or adjacent to SR 21 and thus, be highly visible from the roadway. There would appear not to be sufficient residences in the area. The potential site is south of the City of Rincon. The total crime risk is 55 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails or bike paths in the vicinity of the lot. In addition, there are no sidewalks in the vicinity of a potential park-and-ride lot. Right-of-way appears to be available on vacant land adjacent to SR 21.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 5.55

Figure 4-4: I-95 at SR 21 (Existing Park-and-Ride Lot), Chatham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The existing lot is located along SR 21 approximately 0.2 miles to I-95. The AADT along SR 21 is approximately 30,200. The peak period LOS on SR 21 is LOS D. The AADT along I-95 is approximately 63,000.

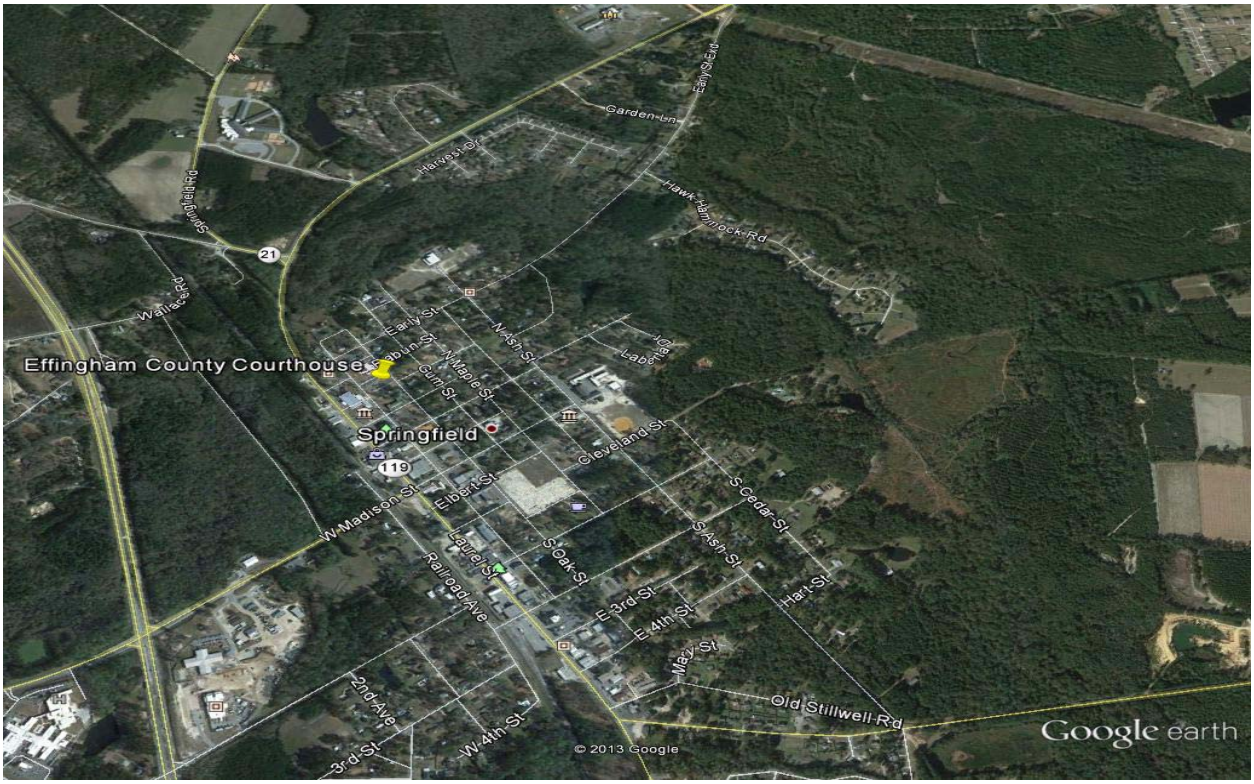
Area Factors: The lot is located adjacent to the interchange area and is highly visible. There are some residential developments in the area that would support the lot usage. The total crime risk is 55 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails or bike paths in the vicinity of the lot. In addition, there are no sidewalks in the vicinity of this existing park-and-ride lot.

Transit Factors: There are no transit services operating to/from the vicinity of this existing lot. CAT Route 3 (West Chatham) service operates within 2.3 miles of the lot in the vicinity of Augusta Road and Jimmy DeLoach Parkway.

Suitability Score: 6.75

Figure 4-5: Effingham County Courthouse (Existing Park-and-Ride Lot), Effingham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The existing lot is approximately 16.1 miles northwest of I-95. The AADT along this segment of Laurel Street is approximately 5,400 and the peak period LOS is LOS A/C.

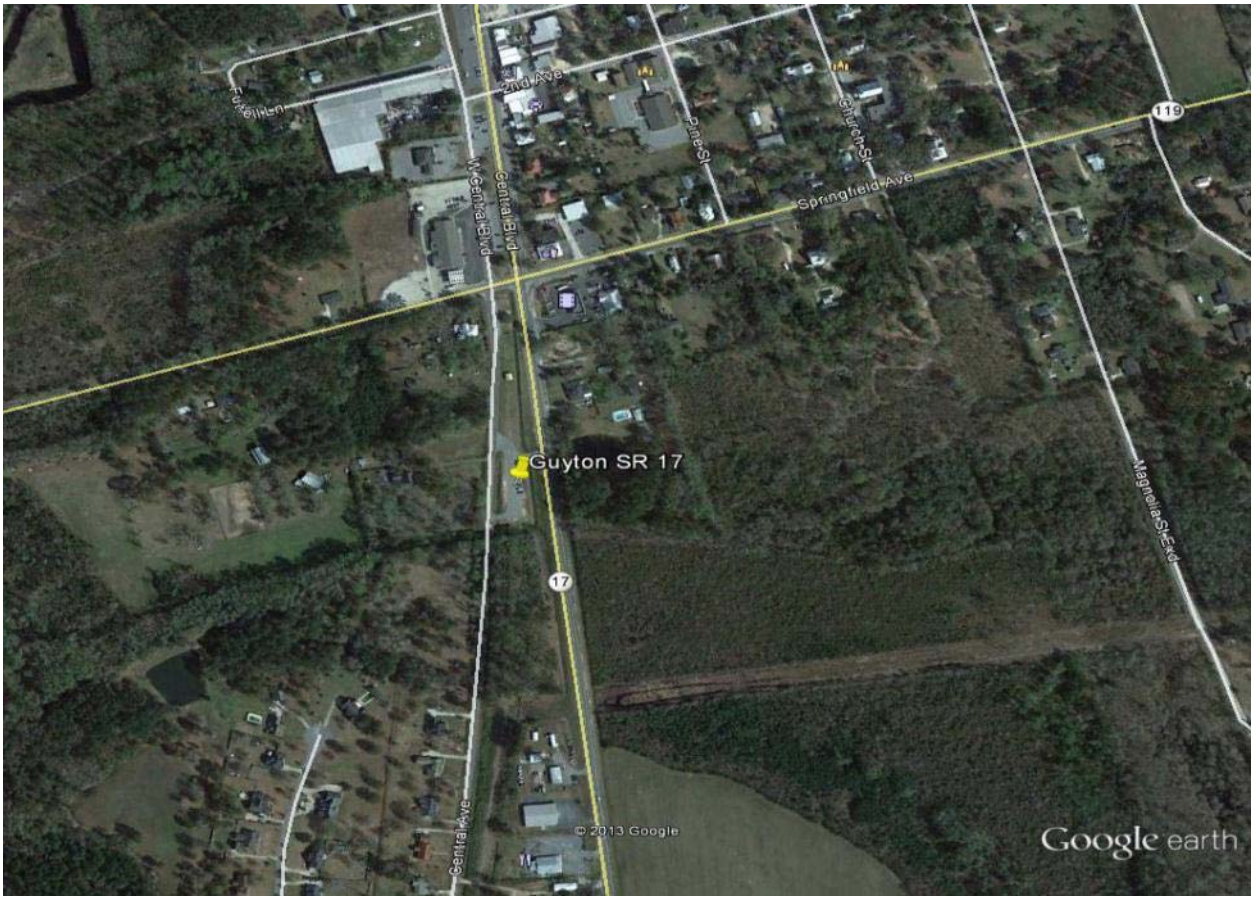
Area Factors: The site is not visible either from the local street network or within the Effingham County Courthouse complex. There are directional signs along Laurel Street, but once you are on the courthouse grounds there is no signage directing motorists to the actual park-and-ride parking spaces. The lot is located within the City of Springfield and the community density is conducive for supporting a park-and-ride lot. The total crime risk is 8 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails or bike paths in the vicinity of the existing lot which is located within the Effingham County Courthouse Complex. There are some sidewalks in the vicinity, especially along streets in the City of Springfield.

Transit Factors: There are no transit services operating to/from the vicinity of the existing lot.

Suitability Score: 4.65

Figure 4-6: SR 17 in Guyton (Existing Park-and-Ride Lot), Effingham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The existing lot is located along SR 17. The AADT along SR 17 is approximately 4,900. The peak period LOS along this SR 17 segment is LOS A/C.

Area Factors: The park-and-ride lot is located within Guyton and would appear to have good visibility. The Town of Guyton has residential density to continue to support the park-and-ride lot. The total crime risk is 21 compared to the national average of 100.

Site Factors: There is a bike lane along SR 17, but no trail access. In addition, there are no sidewalks in the vicinity of this existing park-and-ride lot. As an existing park-and-ride lot there is sufficient right-of-way for possible expansion.

Transit Factors: There are no transit services operating to/from the vicinity of the existing lot.

Suitability Score: 5.85

Table 4-1: Park-and-Ride Suitability, Northwest Corridor

Proposed Park-and-Ride Lot	Weight	SR 21 South of Rincon		SR 21 at Old Augusta Road		I-95 at SR 21		Effingham County Courthouse		SR 17 in Guyton	
Suitability Criteria											
		Result	Score	Result	Score	Result	Score	Result	Score	Result	Score
GEOGRAPHIC FACTORS											
Distance to Major Employment/Activity Centers	20	2	10	2	10	2	10	1	5	1.2	6
Employment Centers Served	10	.6	6	.6	6	.6	6	.6	6	.8	8
Proximity to Major Commuter Ramps	10	1	1	.3	3	1	10	1	1	1	10
Proximity to Local Arterials	5	.5	10	.5	10	.5	10	.25	5	.5	10
Highway Peak Period LOS	5	.25	5	.1	2	.25	5	.1	2	.1	2
Highway Corridor AADT	5	.4	8	.4	8	.4	8	.1	2	.1	2
AREA FACTORS											
Visibility	5	.5	10	.5	10	.5	10	0	0	.5	10
Residential Dwellings	5	.5	10	.25	5	.5	10	.5	10	.5	10
Safety and Security	5	.4	8	.4	8	.4	8	.5	10	.45	9
TRANSIT FACTORS											
Transit Service	20	0	0	0	0	0	0	0	0	0	0
SITE FACTORS											
Trail and/or Bike Access	4	0	0	0	0	0	0	0	0	.2	5
Sidewalk Access	1	0	0	0	0	0	0	.1	10	0	0
Right-of-Way	5	.5	10	.5	10	.5	10	.5	10	.5	10
Weighted Lot Score	**100**	**6.65**		**5.55**		**6.75**		**4.65**		**5.85**	

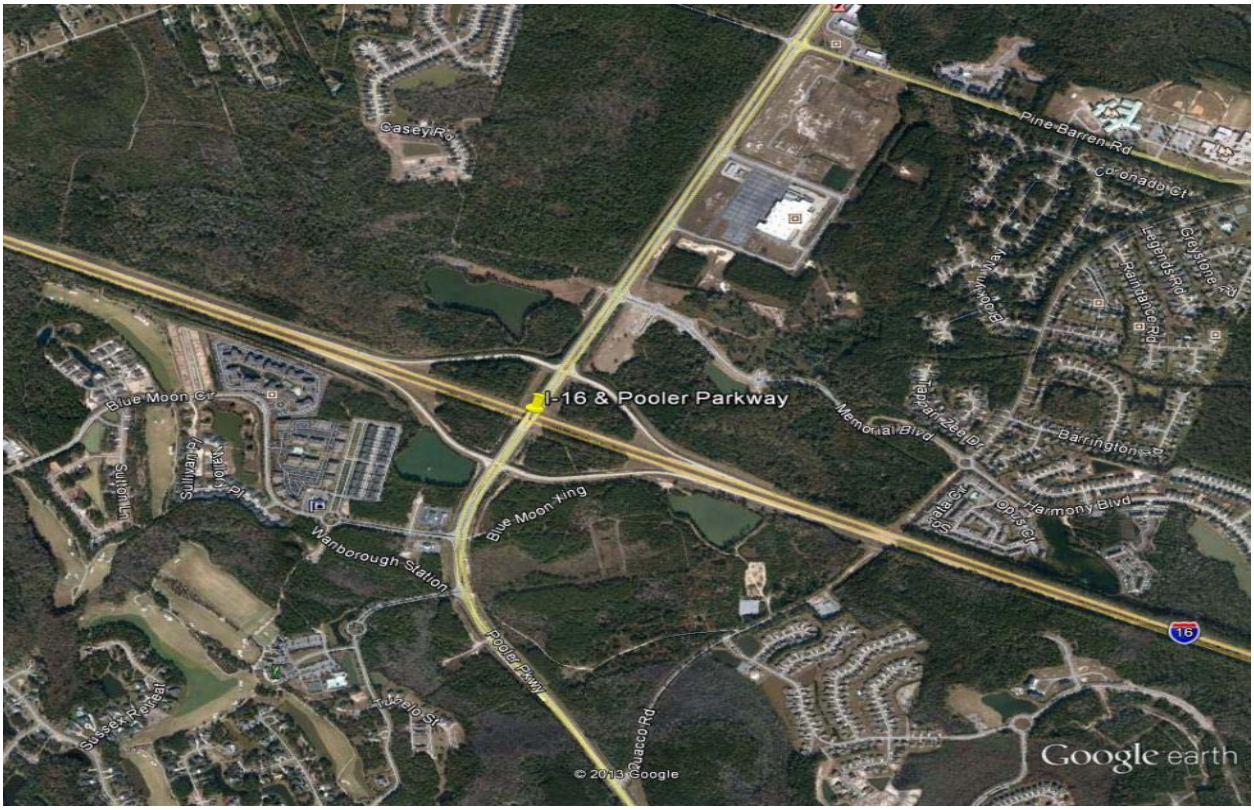
4.4 West Corridor

There were five park-and-ride lot locations considered in the West Corridor:

- I-16 & Pooler Parkway (Chatham County)
- I-16 & Bloomingdale Road (Chatham County)
- US 80 & Bloomingdale Road (Chatham County)
- I-16 & Old River Road (Effingham County)
- I-16 & US 280/SR 30: Existing Lot (Bryan County)

The suitability scores range from 6.35 for the US 80 and Bloomingdale Road site to 4.80 for the I-16 and Pooler Parkway site (out of a potential maximum score of 10.0). Two of the five sites have scores of 6.0 or higher.

Figure 4-7: I-16 & Pooler Parkway, Chatham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot would be located along Pooler Parkway and within 0.5 miles of I-16. The AADT is approximately 10,400 on Pooler Parkway and 38,000 on I-16. The peak period LOS along I-16 is LOS A.

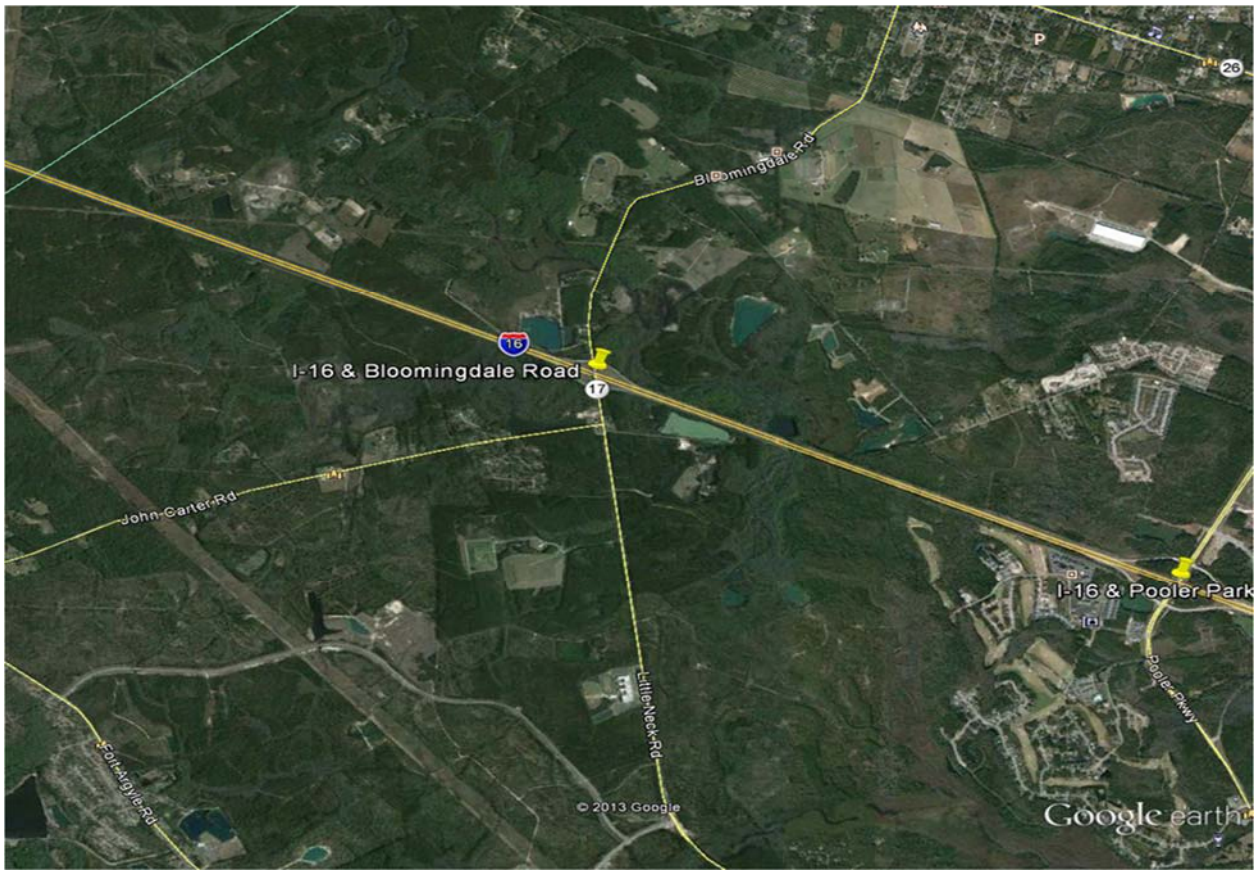
Area Factors: The proposed lot would be located along Pooler Parkway where visibility to the proposed lot would be good. Sufficient residential density in the vicinity of the proposed lot appears to support a park-and-ride lot. The total crime risk is 54 compared to the national average of 100.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, there would appear to be available right-of-way either as a shared use lot with the Lowes north of the interchange or in the vicinity of the residential development south of the interchange.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 4.80

Figure 4-8: I-16 & Bloomingdale Road, Chatham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot would be located along SR 17/Bloomingdale Road and within 0.2 miles of I-16. The AADT is approximately 4,130 on Bloomingdale Road and 31,000 on I-16. The peak period LOS along Bloomingdale Road is LOS C.

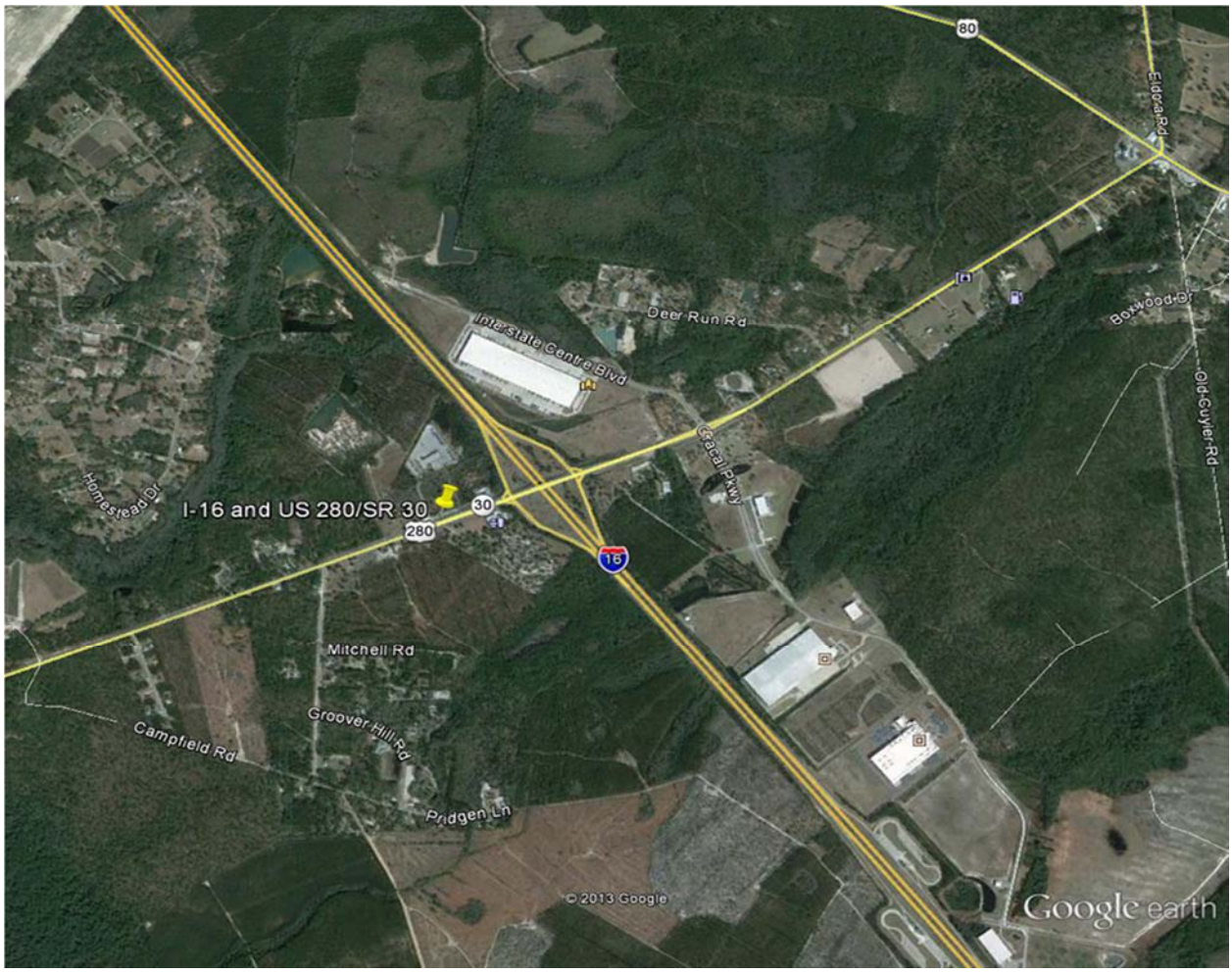
Area Factors: The proposed lot would be located along Bloomingdale Road where visibility to the proposed lot would be good. Currently, there is insufficient residential density in the vicinity of the proposed lot to support a park-and-ride lot. The total crime risk is 69 compared to the national average of 100.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, there would appear to be available right-of-way on vacant land along Bloomingdale Road on either side of the I-16 interchange.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 5.85

Figure 4-9: I-16 & US 280 /SR 30 (Existing Park-and-Ride Lot), Bryan County



Geographic Factors: All of the employment centers would benefit because of the distance from this site to the employment areas.

Area Roadway Factors: The existing lot is located along US 280/SR 30 and within 0.3 miles of I-16. The AADT is approximately 6,700 along this segment of US 280/SR 30 and 26,000 on I-16. The US 280/SR 30 LOS is LOS A/C.

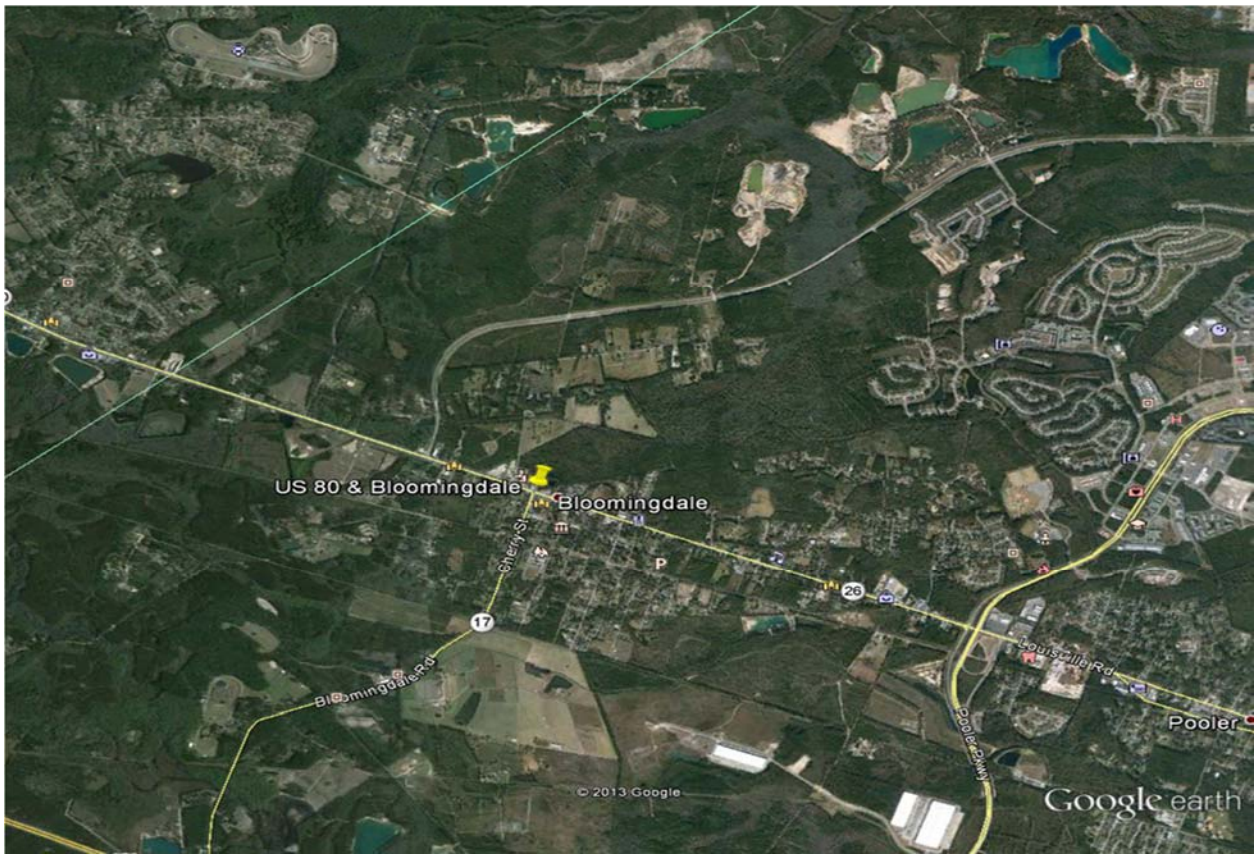
Area Factors: The existing lot is located along US 280/SR 30 and visibility does appear to be good. There are some residential dwellings in the vicinity that may be sufficient to continue to support this lot. The total crime risk is 24 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the existing lot. There does appear to be sufficient right-of-way to expand the lot.

Transit Factors: There are no transit services operating to/from the vicinity of the existing lot.

Suitability Score: 6.00

Figure 4-10: US 80 & Bloomingdale Road, Chatham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot would be in the vicinity of the US 80 and SR 17/Bloomingdale Road intersection. The AADT is approximately 15,800 on US 80 and 4,200 on Bloomingdale Road. The peak period LOS is LOS A along US 80 and LOS C along Bloomingdale Road.

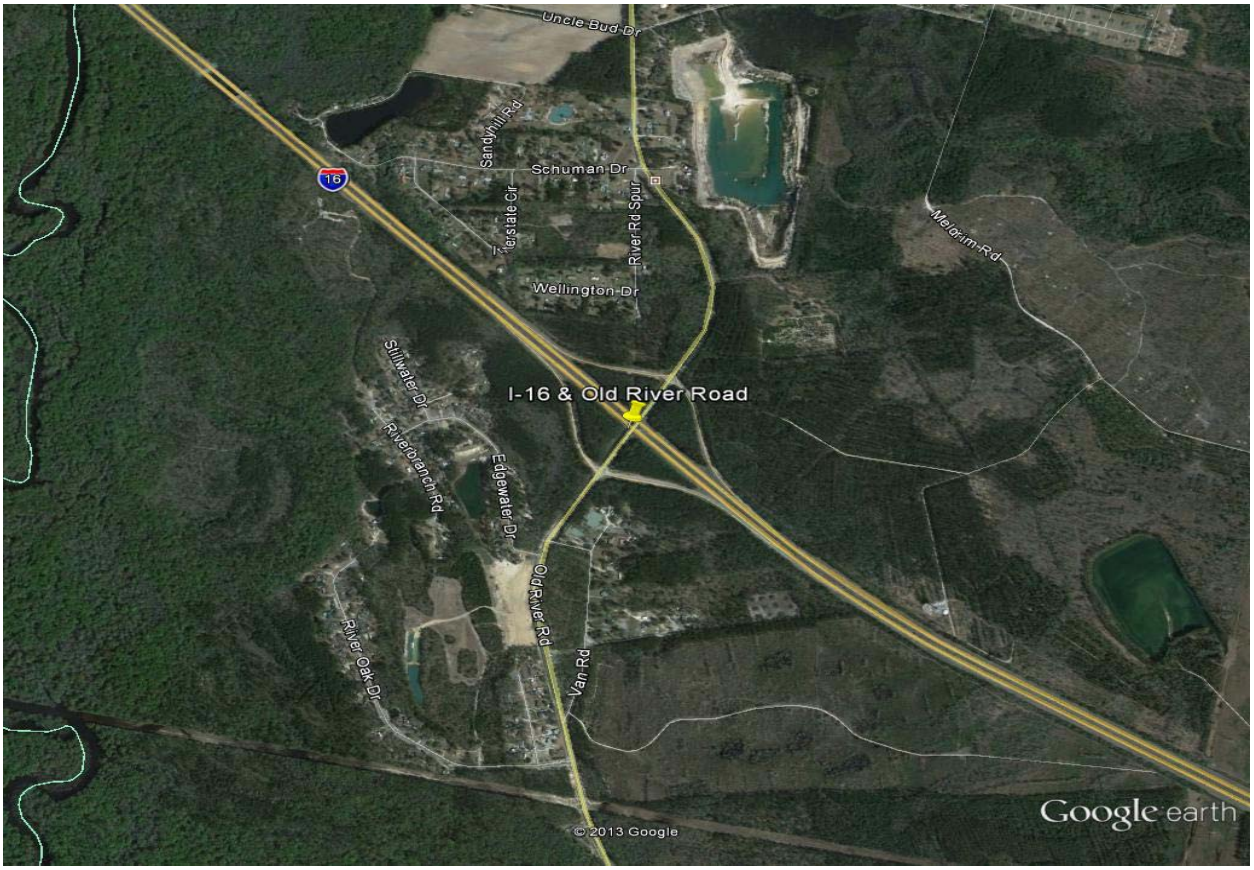
Area Factors: The proposed lot would be located along Bloomingdale Road or US 80 where visibility to the proposed lot would be good. There would appear to be sufficient residences in the area to support a park-and-ride lot. The total crime risk is 69 compared to the national average of 100.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, there would appear to be available right-of-way on vacant land along Bloomingdale Road and US 80.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 6.35

Figure 4-11: I-16 & Old River Road, Effingham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and south areas of the Savannah area.

Area Roadway Factors: The proposed lot would be located along Old River Road and within 0.2 miles of I-16. The AADT is approximately 2,100 on Old River Road and 27,000 on I-16. The peak period LOS along Old River Road is LOS A/C.

Area Factors: The proposed lot would be located along Old River Road where visibility to the proposed lot would be good. There are some residential developments in the vicinity; however, there may not be sufficient density to support the proposed lot. The total crime risk is 69 compared to the national average of 100.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, there would appear to be available right-of-way on vacant land along Old River Road on either side of the I-16 interchange.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 5.90

Table 4-2: Park-and-Ride Suitability, West Corridor

Proposed Park-and-Ride Lot	Weight	I-16 & Pooler Parkway		I-16 & Bloomingdale Road		I-16 & US 280/ SR 30		US 80 & Bloomingdale Road		I-16 & Old River Road	
Suitability Criteria											
		Result	Score	Result	Score	Result	Score	Result	Score	Result	Score
GEOGRAPHIC FACTORS											
Distance to Major Employment/Activity Centers	20	.6	3	2	10	1.8	9	2	10	2	10
Employment Centers Served	10	.6	6	.8	8	.8	8	.8	8	.6	6
Proximity to Major Commuter Ramps	10	1	10	1	10	1	10	1	10	1	10
Proximity to Local Arterials	5	.5	10	.25	5	.5	10	.5	10	.5	10
Highway Peak Period LOS	5	.1	2	.1	2	.1	2	.1	2	.1	2
Highway Corridor AADT	5	.1	2	.1	2	.1	2	.1	2	.1	2
AREA FACTORS											
Visibility	5	.5	10	.5	10	.5	10	.5	10	.5	10
Residential Dwellings	5	.5	10	.25	5	.25	5	.5	10	.25	5
Safety and Security	5	.4	8	.35	7	.45	9	.35	7	.35	7
TRANSIT FACTORS											
Transit Service	20	0	0	0	0	0	0	0	0	0	0
SITE FACTORS											
Trail and/or Bike Access	4	0	0	0	0	0	0	0	0	0	0
Sidewalk Access	1	0	0	0	0	0	0	0	0	0	0
Right-of-Way	5	.5	10	.5	10	.5	10	.5	10	.5	10
Weighted Lot Score	**100**	**4.80**		**5.85**		**6.00**		**6.35**		**5.90**	

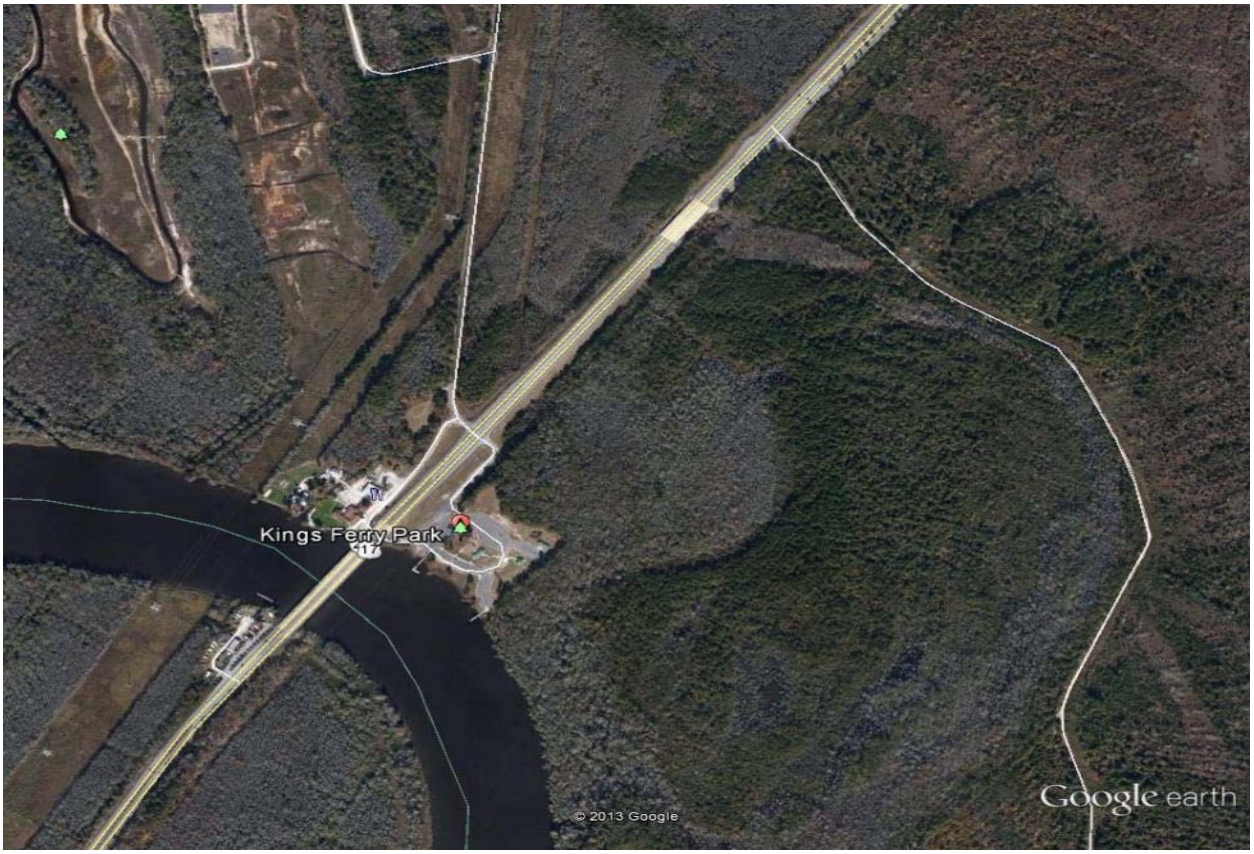
4.5 South Corridor

There were seven park-and-ride lot locations considered in the South Corridor:

- I-95 & SR 204: Existing lot (Chatham County)
- US 17 & Vicinity of Wal-Mart (Chatham County)
- US 17 & Kings Ferry Park (Chatham County)
- I-95 & US 17 (Bryan County)
- US 17 & SR 144 (Bryan County)
- I-95 & SR 144 (Bryan County)
- I-95 & Belfast Keller Road: proposed future interchange (Bryan County)

The suitability scores range from 6.75 for the I-95 and SR 204 location to 4.45 for the Kings Ferry Park location. Four of the seven sites have scores greater than 6.00.

Figure 4-12: US 17 & Kings Ferry Park, Chatham County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: The proposed lot is situated on US 17, which is a major commuter corridor. The AADT along this segment of US 17 is 21,870, with a peak period Level of Service (LOS) of LOS C.

Area Factors: The proposed lot is located along US 17 and would have high visibility. There are no residential developments in the vicinity to support park-and-ride activities and the crime risk rate is 122 compared to the national average of 100.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, the location is an existing County Park with an associated parking lot which could be used as a shared parking lot during weekday commuter periods.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 4.45

Figure 4-13: US 17 & Vicinity of Wal-Mart, Chatham County

Geographic Factors: Many employment centers would benefit because of the distance from this site to employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: The proposed lot would be located along US 17 and within 0.4 miles of SR 204/Abercorn Extension. The AADT is approximately 22,800 on this US 17 segment, 23,000 on SR 204 west of US 17 and 33,000 on SR 204 east of US 17. The peak period LOS along US 17 is LOS D/E.

Area Factors: Siting a lot along US 17 would provide good visibility for the proposed lot. The proposed park-and-ride lot would be located within an area where there does appear to be sufficient residential dwellings to support a park-and-ride lot. In addition, the proposed lot has a crime risk of 122 compared to a 100 national average.

Site Factors: There is an existing bike lane along US 17 in the vicinity; however, there are no sidewalks or designated trails. A proposed lot could be located as a shared-use facility at the Wal-Mart or as a part of another area shopping center.

Transit Factors: CAT Route 6 Cross Town and Route 17 Silk Hope use the Super Wal-Mart Center as a stop for their routes into Downtown Savannah operating on one-hour headways.

Suitability Score: 6.40

Figure 4-14: I-95 & SR 204 (Existing Park-and-Ride Lot), Chatham County

Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: The existing lot is located along SR 204 and within 0.3 miles of I-95. The AADT is approximately 12,700 along this segment of SR 204 and 68,000 on I-95 south of SR 204. The peak period LOS for this SR 204 segment is LOS E/F, while the peak period LOS for I-95 is LOS A.

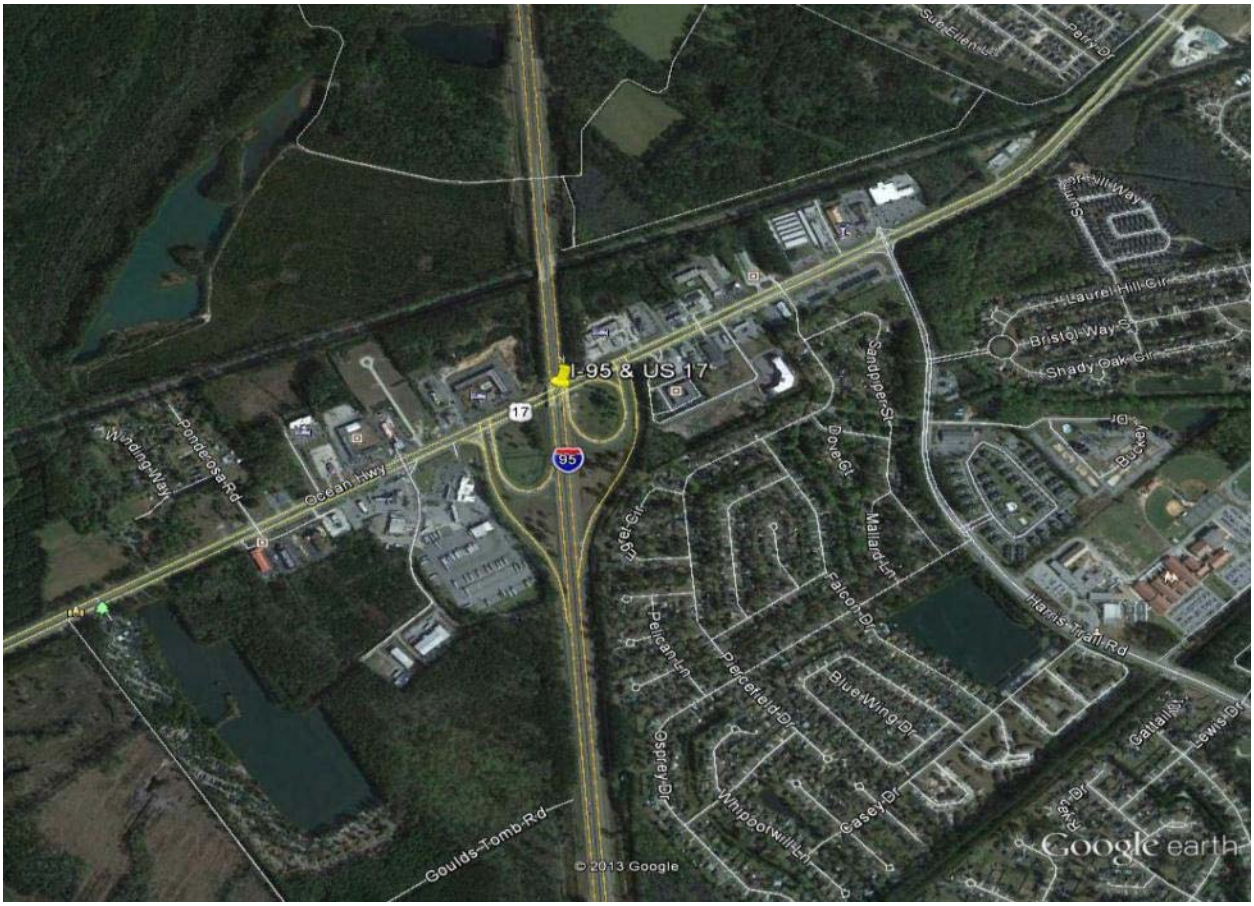
Area Factors: The existing lot is located along SR 204 where visibility to the lot is good. There are some residential developments in the vicinity; however, there may not be sufficient density to increase support to the proposed lot. The total crime risk is 122 compared to the national average of 100.

Site Factors: There do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the existing lot. There does appear to be sufficient right-of-way to expand the lot.

Transit Factors: The CAT Route 114X (Abercorn Express) provides morning and afternoon peak commuter period service between the park-and-ride lot, Savannah Mall and the Joe Murray Rivers, Jr. Intermodal Transit Center. In addition, CAT Route 3 (West Chatham) operates within 2.8 miles of the lot in the vicinity of the Wal-Mart along US 17. CAT Route 17 (Silk Hope) operates within 0.4 miles of the lot in the vicinity of Canebrake Road and Gateway Boulevard.

Suitability Score: 6.75

Figure 4-15: I-95 & US 17, Bryan County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: A potential park-and-ride lot would be located along US 17 approximately 0.5 miles of I-95. The AADT is approximately 41,000 along US 17 and 45,000 along I-95 south of the interchange. The peak period LOS for US 17 is LOS D.

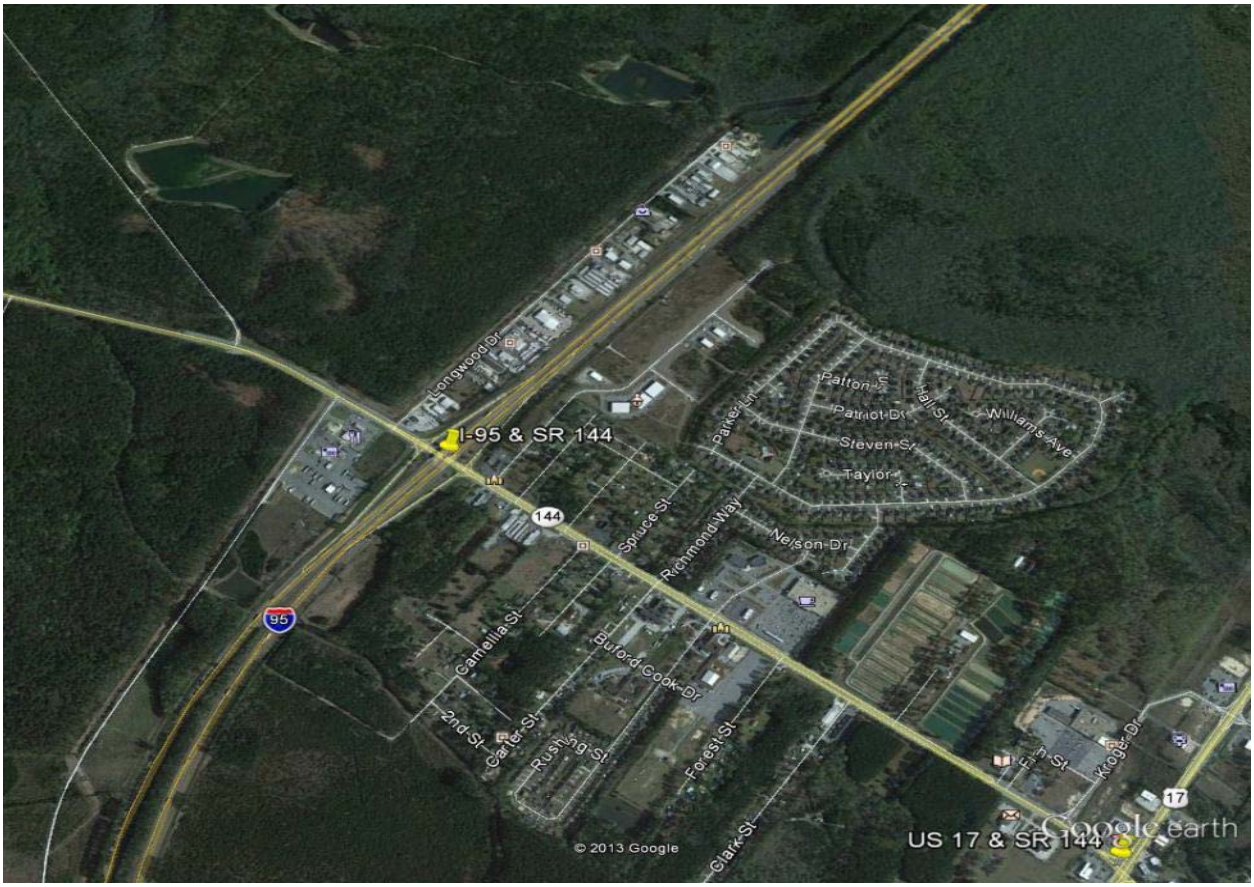
Area Factors: Any potential lot would be located along US 17 providing good visibility and there appears to be sufficient residential density in the area to support lot operations. In addition, the proposed lot has a crime risk of 8 compared to a 100 national average.

Site Factors: While there do not appear to be any designated trails, bike paths or sidewalks in the vicinity of the proposed lot, there does appear to be opportunities to site a park-and-ride lot on vacant land.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 6.55

Figure 4-16: I-95 & SR 144, Bryan County



Geographic Factors: Many employment centers would benefit because of the distance from this site to employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: A potential park-and-ride lot would be located along SR 144 within 0.25 miles of the vicinity of the interchange. The AADT is approximately 7,000 along SR 144, 58,000 along I-95 south of the interchange, and 68,000 along I-95 north of the interchange. The peak period LOS for SR 144 is LOS A/C.

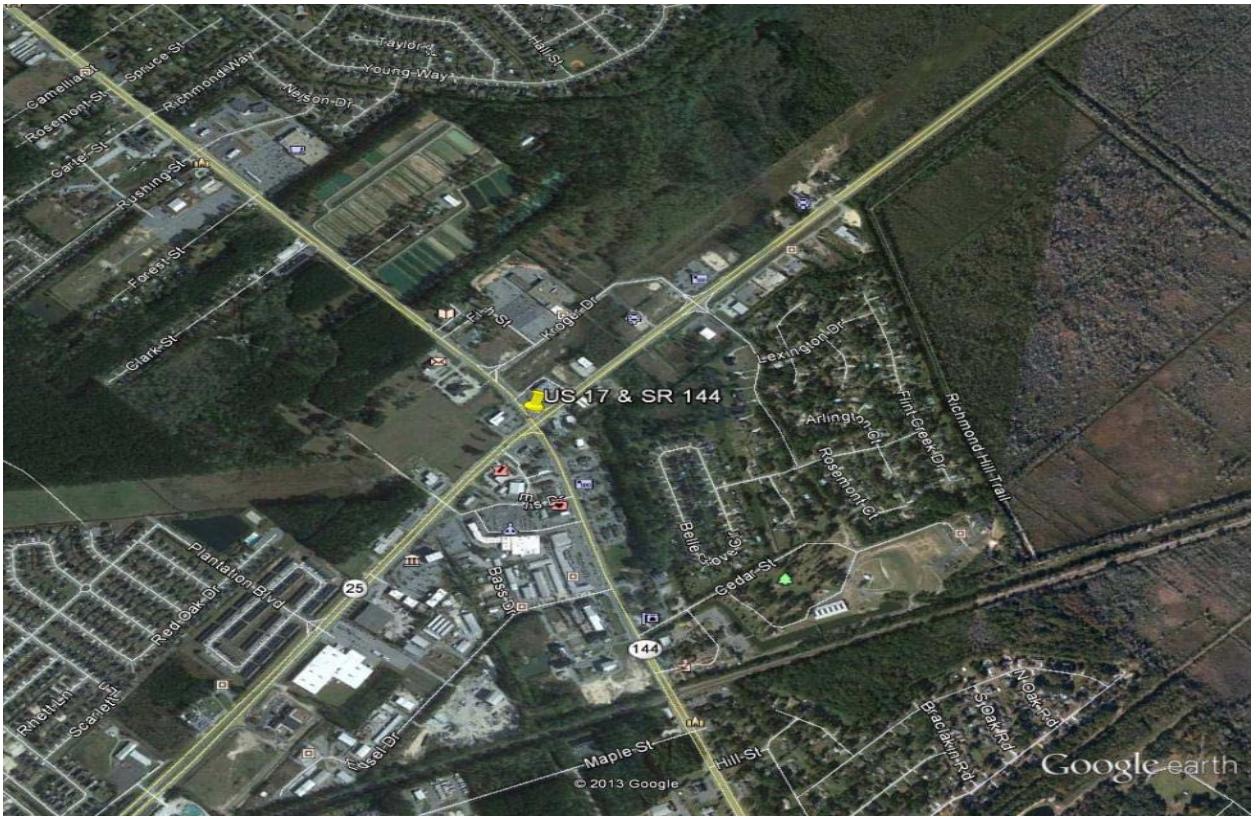
Area Factors: Siting a lot along SR 144 would provide good visibility for the proposed lot. The proposed park-and-ride lot would be located within Richmond Hill area where there does appear to be sufficient residential dwellings to support a park-and-ride lot. In addition, the proposed lot has a crime risk of 46 compared to a 100 national average.

Site Factors: There do not appear to be any designated trails or bike paths in the vicinity of the proposed lot; however, there are sidewalks along the west side of SR 144. Potential locations exist to site a park-and-ride lot on SR 144 west of I-95 on vacant land.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 5.50

Figure 4-17: US 17 & SR 144, Bryan County



Geographic Factors: Many employment centers would benefit because of the distance from this site to the employment areas, particularly those located in the central and northwest areas of the Savannah area.

Area Roadway Factors: A potential lot would be located along either US 17 or SR 144 within 0.5 miles of the vicinity of the intersection. The AADT is approximately 29,000 along US 17 and 17,830 along SR 144. The peak period LOS on US 17 is LOS D.

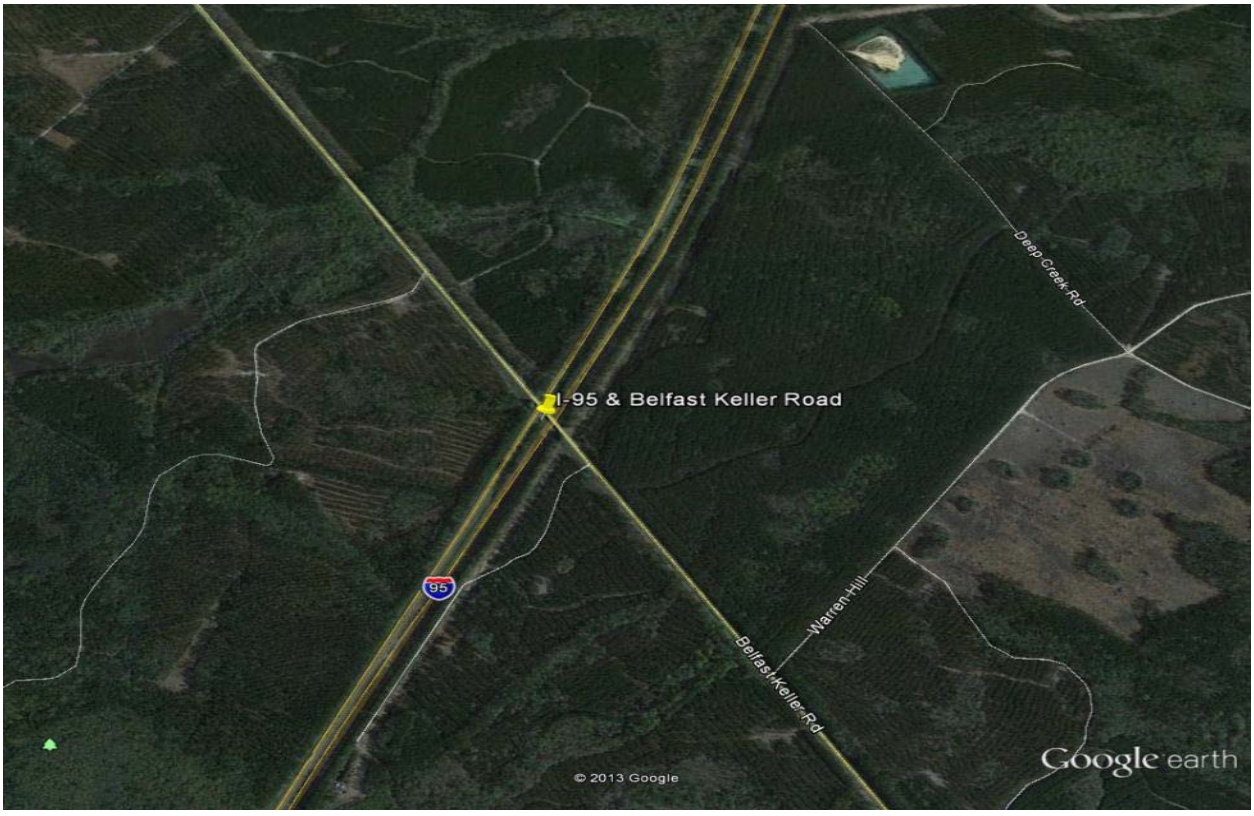
Area Factors: Siting a lot either along US 17 or SR 144 would provide good visibility for the proposed lot. The proposed park-and-ride lot would be located within Richmond Hill area where there does appear to be sufficient residential dwellings to support a park-and-ride lot. The proposed lot has a crime risk of 46 compared to a 100 national average.

Site Factors: There are no designated trails or bike paths in the vicinity of the proposed lot; however, there are sidewalks along the west side of SR 144 and south side of US 17. Right-of-way opportunities are present on US 17 west of SR 144 on vacant land.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 5.95

Figure 4-18: I-95 & Belfast Keller Road, Bryan County



Geographic Factors: All employment centers would benefit because of the distance from this site to the employment areas.

Area Roadway Factors: A potential park-and-ride lot should be within 0.5 miles of I-95 along Belfast Keller Road to maximize usage. The AADT is approximately 2,400 on Belfast Keller Road and 45,000 on I-95 in this area. The Belfast Keller Road peak period LOS is LOS A.

Area Factors: The proposed lot should be located in a location with high visibility, specifically adjacent to a new I-95 interchange. Presently, there are no dwelling units in the area, but would be part of a proposed large mixed-used development. The total crime risk is 46 compared to the national average of 100.

Site Factors: There are no designated trails, bike paths or sidewalks in the vicinity of the proposed lot. The area is the subject of a proposed large mixed-use development and it would be assumed that right-of-way would be designated in the vicinity of a new interchange to support the proposed development.

Transit Factors: There are no transit services operating to/from the vicinity of the proposed lot.

Suitability Score: 6.15

Table 4-3: Park-and-Ride Suitability, South Corridor

Proposed Park-and-Ride Lot	Weight	US 17 & Kings Ferry Park		US 17 & Vicinity of Wal-Mart		I-95 & SR 204		I-95 & US 17		US 17 & SR 144		I-95 & SR 144		I-95 & Belfast Keller Road	
Suitability Criteria															
		Result	Score	Result	Score	Result	Score	Result	Score	Result	Score	Result	Score	Result	Result
GEOGRAPHIC FACTORS															
Distance to Major Employment/Activity Centers	20	.6	3	.2	1	.4	2	1.6	8	1.2	6	1.2	6	2.0	10
Employment Centers Served	10	.6	6	.6	6	.8	8	.8	8	.8	8	.6	6	.8	8
Proximity to Major Commuter Ramps	10	1	10	1	10	1	10	1	10	1	10	1	10	1	10
Proximity to Local Arterials	5	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10
Highway Peak Period LOS	5	.1	2	.5	10	.5	10	.25	5	.25	5	.1	2	.1	2
Highway Corridor AADT	5	.2	4	.1	2	.1	2	.4	8	.2	4	.1	2	.1	2
AREA FACTORS															
Visibility	5	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10
Residential Dwellings	5	.25	5	.5	10	.25	5	.5	10	.5	10	.5	10	.25	5
Safety and Security	5	.2	4	.2	4	.2	4	.5	10	.4	8	.4	8	.4	8
TRANSIT FACTORS															
Transit Service	20	0	0	1.6	8	2	10	0	0	0	0	0	0	0	0
SITE FACTORS															
Trail and/or Bike Access	4	0	0	.2	5	0	0	0	0	0	0	0	0	0	0
Sidewalk Access	1	0	0	0	0	0	0	0	0	.1	10	.1	10	0	0
Right-of-Way	5	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10	.5	10
Weighted Lot Score	**100**	**4.45**		**6.40**		**6.75**		**6.55**		**5.95**		**5.50**		**6.15**	

5. Travel Market Analysis

The suitability analysis presented in the prior section provides valuable insight regarding geographic, area roadway, area land use, transit and site factors for candidate locations. However, an equally important element is the potential travel market. Specifically, it is necessary to understand the potential market for work trips from a park-and-ride lot area to work site locations.

5.1 Methodology

Tech Memo #2 of this study identified the following ten major employment areas in the Greater Savannah area:

- Downtown Savannah
- Airport/Gulfstream/Crossroads area
- JCB Plant area
- Mitsubishi Plant area
- Southside/Savannah Mall area
- Oglethorpe Mall area
- Hunter Army Airfield
- Memorial/St. Joseph Hospitals area
- Port of Savannah
- Savannah State University area

Work-related travel demand has been estimated for each candidate park-and-ride lot location to each of these major employment areas. The process used to develop these travel demand estimates was as follows:

1. Existing (2011) work-related travel was estimated by reviewing work locations of employees in the American Community Survey (ACS) and the Longitudinal Employer Household Dynamic (LEHD), both from the U.S. Census Bureau. This information was reviewed for all seven counties in the Greater Savannah area (Chatham, Bryan, Effingham, Liberty, Bulloch, Jasper, SC and Beaufort, SC).
2. The LEHD database does not include federal employees, thus people employed by the military (e.g., Hunter Army Airfield, Fort Stewart) are not included in LEHD totals. It also does not include sole proprietors. Thus, ACS totals were determined to be the best representation of home to work travel.
3. The LEHD data, however, provides the most detailed information of work locations of employees, with this data available at the census block level. Therefore, LEHD was utilized, but factored to ACS control totals. Hunter and Fort Stewart were able to provide information on home locations of their personnel. Thus, that information was first included in the home-to-work trip database before factoring to ACS control totals.
4. After developing the existing (2011) home-to-work trip matrix, future (2040) work-related travel was estimated based on population and employment projections from the MPC and county projections from the States of Georgia and South Carolina.

The process described above resulted in the following estimates of work-related travel:

- 2011 – 291,974 home-to-work trips
- 2040 – 376,457 home-to-work trips

This reflects a 29 percent growth in home-to-work travel.

5.2 Results

The regional home-to-work trip matrix described in the prior section was used to estimate travel from each candidate park-and-ride lot site to each major employment area. A 10-mile diameter catchment area was drawn around each candidate site (skewed so that the site was not centered). A 10-mile catchment area was found to be the average in a recent transit on-board survey conducted in the Atlanta area of GRTA express route riders. Figures 5-1 through 5-3 present the catchment areas drawn for each site.

Tables 5-1 through 5-3 present airline distance mileage from candidate park-and-ride lot locations to major employment centers, 2011 estimated home-to-work trips and 2040 estimated home-to-work trips. Unlike roadway mileage distances that are calculated based on different travel routes, airline distances are better able to show relative differences to each major employment area from each potential park-and-ride lot. It is important to keep in mind that there is significant overlap in the catchment areas for park-and-ride lot locations in each corridor. Thus, the total demand in a corridor is not the cumulative total shown in Tables 5-1 through 5-3. It is also important to keep in mind that park-and-ride lot usage is influenced by distance to the work location. As an example, there are a substantial number of trips from the Northwest Corridor's I-95/SR 21 park-and-ride lot catchment area to the Airport/Gulfstream/Crossroads area. However, the distance between the two is relatively short. Thus, park-and-ride lot usage of the I-95/SR 21 park-and-ride lot for trips to this employment area may not be that significant.

Major conclusions from this travel market analysis are as follows.

Northwest Corridor

- The Airport/Gulfstream/Crossroads area has the largest number of work trips coming from all five candidate sites, followed by Downtown Savannah. The Airport/Gulfstream/Crossroads employment area is the closest employment area to the Northwest Corridor candidate park-and-ride lot areas, thus may not be a strong market for park-and-ride activity from this corridor.
- The catchment area with the largest number of trips (for work destinations to the ten major employment centers noted earlier) is the SR 21/Old Augusta Road area.
- The next two largest trip catchment areas are I-95/SR 21 and SR 21 South of Rincon. It is important to note that much of the SR 21/Old Augusta Road catchment area also falls within these two catchment areas.

West Corridor

- The Downtown Savannah area has the largest number of work trips coming from all five candidate sites, followed by the Airport/Gulfstream/Crossroads employment area.

- The catchment area with the largest number of work trips to major employment centers is the US 80/Bloomingdale Road area.
- The next two largest trip catchment areas are I-16 and Pooler Parkway, followed by I-16 and Bloomingdale Road.

South Corridor

- The Downtown Savannah area has the largest number of work trips coming from all seven candidate sites, followed by the Savannah Mall area. The Savannah Mall area is the closest employment area to the South Corridor candidate park-and-ride lot areas, thus may not be a strong market for park-and-ride activity from this corridor.
- The catchment area with the largest number of work trips to major employment centers is the US 17/Wal-Mart area.
- The next three largest trip catchment areas are I-95/SR 144, Kings Ferry Park and I-95/SR 204. The Kings Ferry Park and I-95/SR 204 catchment areas have significant overlap with the US 17/Wal-Mart area.

Figure 5-1: Northwest Corridor Park-and-Ride Catchment Areas

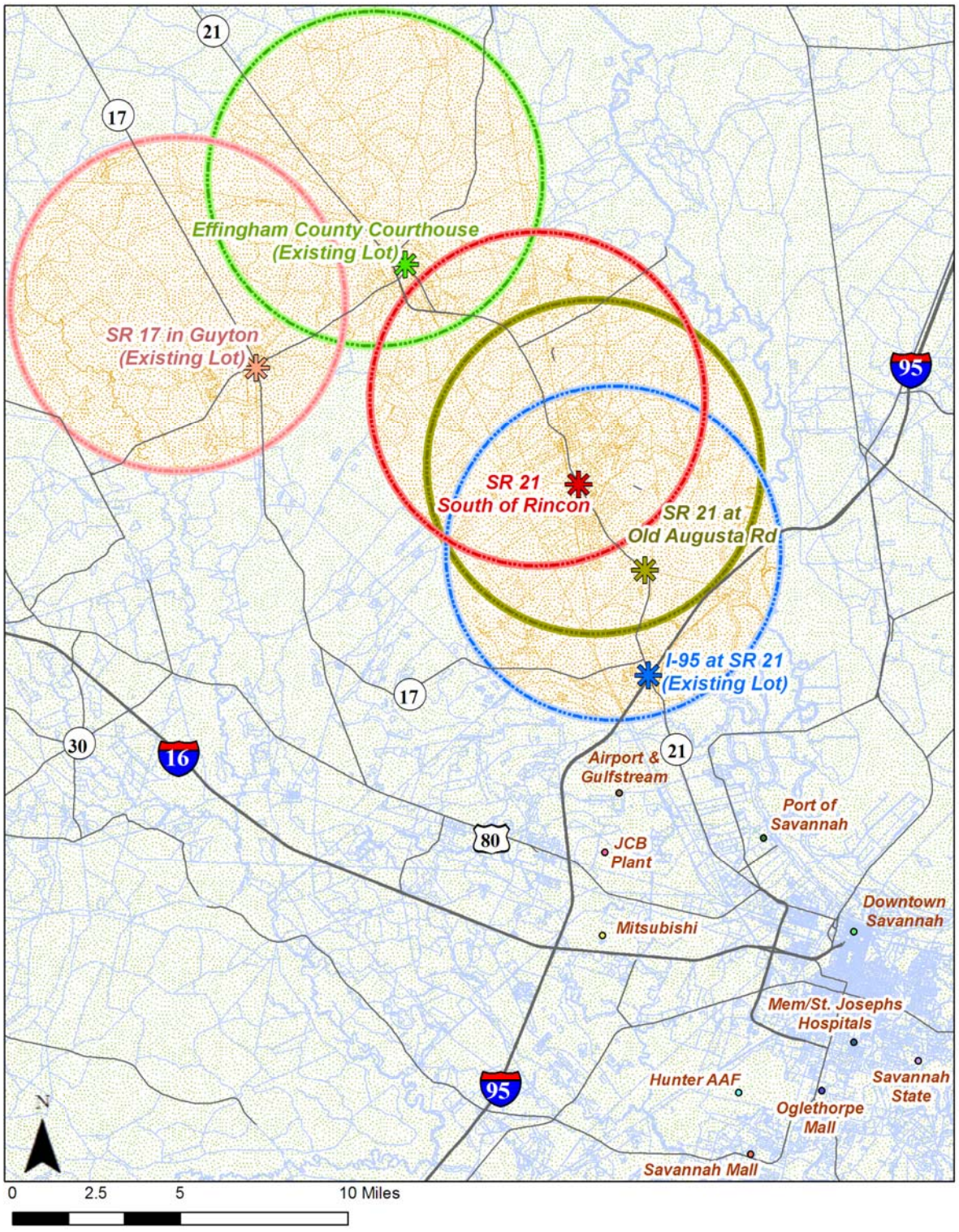


Table 5-1: Home-to-Work Trip Estimates for Northwest Corridor Park-and-Ride Lot Sites

PNR Location Area	County Location	Characteristic	Trips from PNR Catchment Area to Work Trip Destination									
			Downtown Savannah	Airport, Gulfstream, Crossroads	Oglethorpe Mall Area	Hunter AAF	JCB Plant	Mem./ St. Joe Hospitals	Mitsubishi	Port of Savannah	Savannah State Univ. Area	Southside/ Savannah Mall Area
SR 21 South of Rincon	Effingham	Airline Mileage	15.70	9.30	19.53	18.81	11.02	18.59	13.50	11.92	20.00	20.66
		2011 Work Trips	838	1,473	455	450	83	497	14	555	16	391
		2040 Work Trips	1,108	1,960	599	597	110	673	18	738	20	515
SR 21 at Old Augusta Road	Effingham	Airline Mileage	12.49	6.70	16.45	15.89	8.52	15.44	11.00	8.75	16.80	17.74
		2011 Work Trips	1,950	2,289	858	850	153	890	17	849	68	705
		2040 Work Trips	2,635	3,087	1,154	1,149	206	1,215	22	1,142	92	947
I-95 at SR 21 (Existing Lot)	Chatham	Airline Mileage	9.82	3.61	13.46	12.78	5.44	12.57	7.89	5.95	14.07	14.62
		2011 Work Trips	1,847	2,023	780	760	141	886	14	742	62	667
		2040 Work Trips	2,502	2,743	1,053	1,031	192	1,210	19	1,002	84	901
Effingham County Courthouse (Existing)	Effingham	Airline Mileage	24.04	17.05	27.68	26.71	18.56	26.85	20.92	20.22	28.33	28.53
		2011 Work Trips	355	672	229	239	46	173	7	318	9	178
		2040 Work Trips	462	873	298	311	59	227	9	416	12	230
SR 17 in Guyton (Existing Lot)	Effingham	Airline Mileage	24.57	16.72	27.45	26.05	17.85	26.94	19.89	20.68	28.66	27.77
		2011 Work Trips	380	633	232	253	53	173	9	309	6	181
		2040 Work Trips	505	820	305	336	70	229	12	406	7	236

Figure 5-2: West Corridor Park-and-Ride Catchment Areas

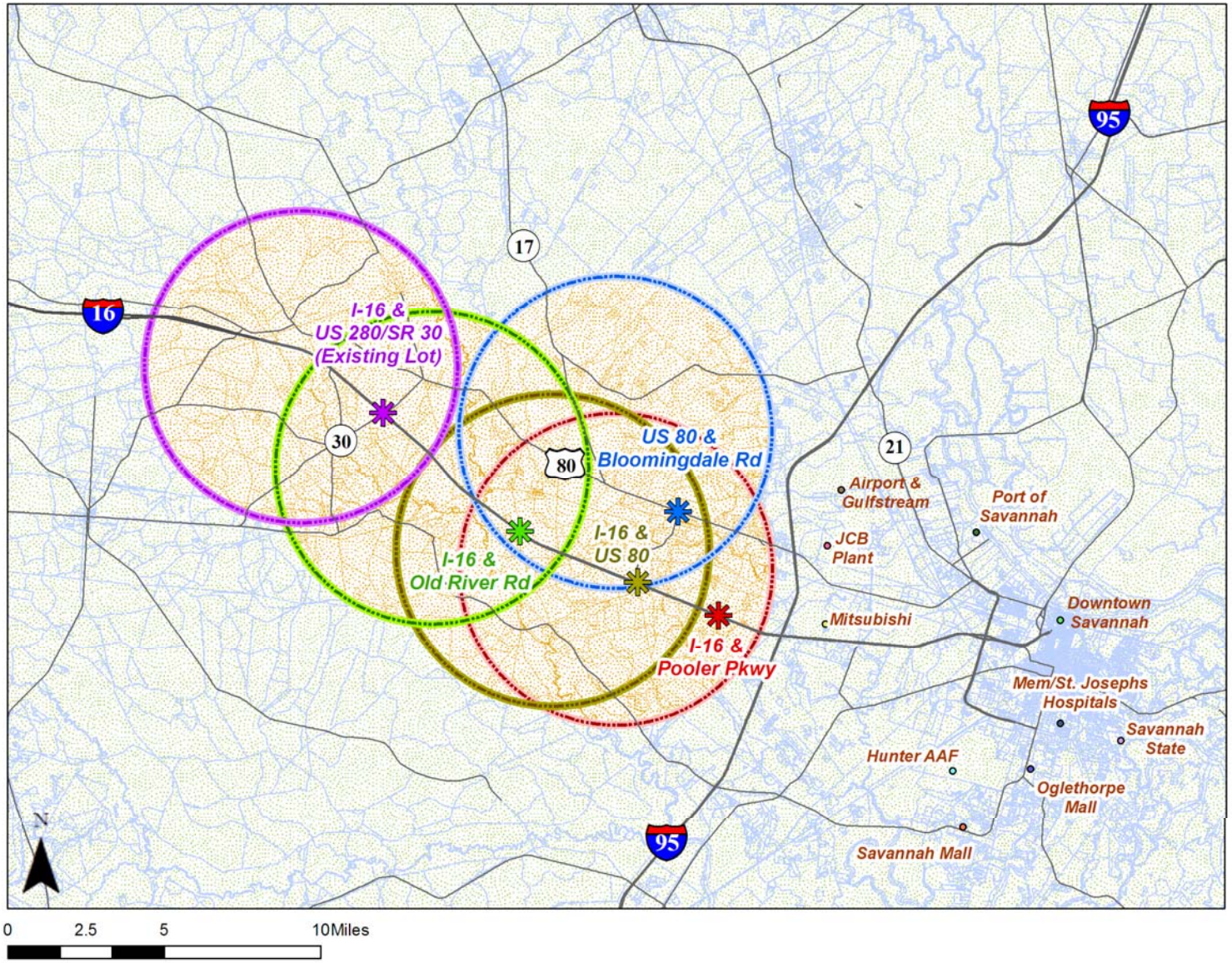


Table 5-2: Home-to-Work Trip Estimates for West Corridor Park-and-Ride Lot Sites

PNR Location Area	County Location	Characteristic	Trips from PNR Catchment Area to Work Trip Destination									
			Downtown Savannah	Airport, Gulfstream, Crossroads	Oglethorpe Mall Area	Hunter AAF	JCB Plant	Mem./ St. Joe Hospitals	Mitsubishi	Port of Savannah	Savannah State Univ. Area	Southside/ Savannah Mall Area
I-16 & Pooler Parkway	Chatham	Airline Mileage	10.93	5.61	11.11	8.99	4.14	11.46	3.44	8.65	13.47	10.38
		2011 Work Trips	2,792	2,075	1,173	1,181	262	1,161	38	878	97	1,026
		2040 Work Trips	4,185	3,070	1,767	1,767	391	1,743	57	1,283	145	1,552
I-16 & Bloomingdale Road	Chatham	Airline Mileage	13.57	7.14	13.91	11.75	6.18	14.25	6.16	10.93	16.26	13.06
		2011 Work Trips	1,803	1,289	796	798	196	798	36	615	49	734
		2040 Work Trips	2,815	1,981	1,244	1,236	299	1,240	54	919	79	1,147
US 80 & Bloomingdale Road	Chatham	Airline Mileage	12.71	5.27	13.95	12.08	4.91	13.97	5.93	9.55	15.94	13.63
		2011 Work Trips	2,939	2,346	1,235	1,246	270	1,276	41	945	96	1,091
		2040 Work Trips	4,410	3,486	1,862	1,867	403	1,919	62	1,387	144	1,652
I-16 & Old River Road	Effingham	Airline Mileage	17.49	10.34	17.98	15.80	9.83	18.32	10.20	14.56	20.32	17.05
		2011 Work Trips	1,265	1,158	625	625	133	611	25	575	27	595
		2040 Work Trips	1,898	1,654	933	923	190	915	35	805	43	892
I-16 & SR 30 (Existing Lot)	Bryan	Airline Mileage	22.64	14.85	23.62	21.52	14.83	23.82	15.68	19.33	25.81	22.83
		2011 Work Trips	480	584	293	305	56	253	12	308	9	233
		2040 Work Trips	666	782	405	424	76	353	17	421	12	320

Figure 5-3: South Corridor Park-and-Ride Catchment Areas

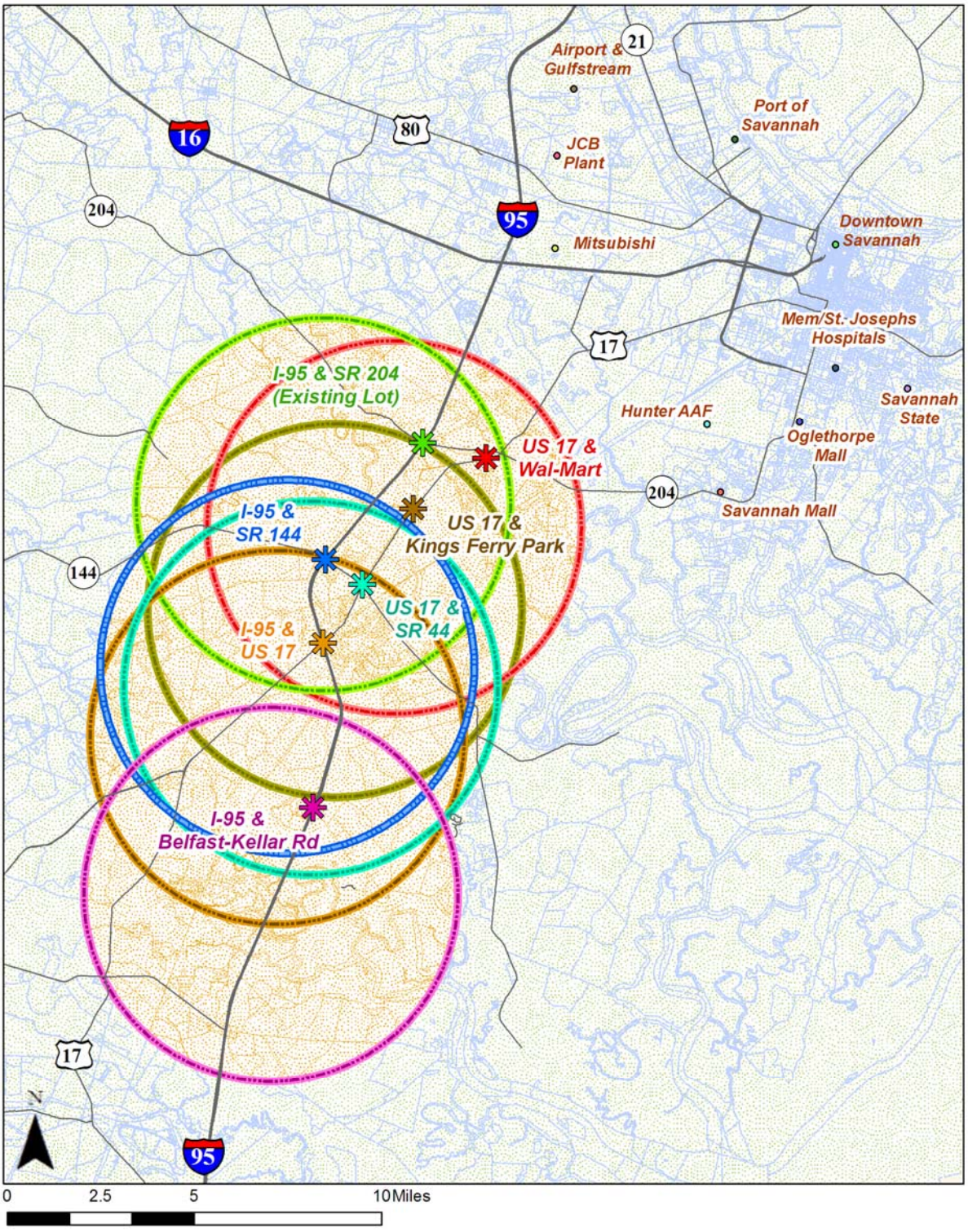


Table 5-3: Home-to-Work Trip Estimates for South Corridor Park-and-Ride Lot Sites

PNR Location Area	County Location	Characteristic	Trips from PNR Catchment Area to Work Trip Destination									
			Downtown Savannah	Airport, Gulfstream, Crossroads	Oglethorpe Mall Area	Hunter AAF	JCB Plant	Mem./ St. Joe Hospitals	Mitsubishi	Port of Savannah	Savannah State Univ. Area	Southside/ Savannah Mall Area
I-95 & SR 204 (Existing lot)	Chatham	Airline Mileage	12.24	10.30	10.08	7.60	8.50	11.20	6.29	11.64	13.03	8.05
		2011 Work Trips	1,934	948	1,026	822	99	977	16	382	86	1,089
		2040 Work Trips	2,841	1,416	1,484	1,216	152	1,413	24	560	124	1,579
US 17 & Vicinity of Wal-Mart	Chatham	Airline Mileage	10.96	10.16	8.43	5.97	8.33	9.64	5.91	10.82	11.41	6.32
		2011 Work Trips	3,233	1,319	1,718	1,290	138	1,567	29	596	117	1,805
		2040 Work Trips	4,331	1,840	2,280	1,753	197	2,090	39	804	159	2,407
US 17 & Kings Ferry Park	Chatham	Airline Mileage	13.33	12.04	10.58	8.17	10.23	11.90	7.94	13.11	13.60	8.22
		2011 Work Trips	1,995	987	1,080	877	105	1,014	18	409	92	1,164
		2040 Work Trips	2,908	1,458	1,539	1,272	158	1,451	26	587	130	1,653
I-95 & US 17	Bryan	Airline Mileage	17.37	16.29	14.04	11.81	14.49	15.55	12.26	17.41	17.04	11.36
		2011 Work Trips	737	506	443	402	53	440	6	223	28	520
		2040 Work Trips	1,023	699	595	554	74	610	7	301	37	706
US 17 & SR 144	Bryan	Airline Mileage	15.59	14.42	12.46	10.15	12.62	13.91	10.37	15.53	15.48	9.88
		2011 Work Trips	1,654	800	970	780	88	891	14	378	81	1,061
		2040 Work Trips	2,234	1,090	1,300	1,060	122	1,208	19	508	108	1,424
I-95 & SR 144	Bryan	Airline Mileage	16.04	14.24	13.19	10.82	12.47	14.56	10.34	15.69	16.21	10.70
		2011 Work Trips	2,050	1,008	1,124	934	110	1,047	18	437	93	1,224
		2040 Work Trips	2,995	1,491	1,610	1,363	166	1,504	26	632	132	1,749
I-95 & Belfast Keller Road	Bryan	Airline Mileage	20.57	20.48	16.61	14.71	18.66	18.28	16.33	21.16	19.46	13.79
		2011 Work Trips	419	319	234	223	34	254	4	137	17	284
		2040 Work Trips	639	479	343	329	51	386	5	193	24	420

6. Stakeholder Input to Site Selection Process

Findings from the site evaluation and travel market analyses were presented to this project's stakeholder group at the January 23, 2014 stakeholder meeting. After a review of analysis findings, stakeholders were broken into groups and asked to address the following questions.

- What is/are the appropriate number of park-and-ride lot(s) in each corridor?
- Trade-off considerations between:
  - ✓ location analysis (scoring based on suitability criteria)
  - ✓ travel demand analysis (trip volumes to destinations)
  - ✓ How important is each in selection?
- What park-and-ride locations would YOU suggest for further consideration?

Comments provided by each group are as follows.

Group One

- The South Corridor probably only needs one location for now, probably at US 17 near Wal-Mart. People are already using this as an informal park and ride lot, plus it is served by transit. This is a good location because it is before congestion becomes significant on SR 204.
- Formalizing the park and ride lot at the Wal-Mart could really increase the demand.
- I-95/SR 204 traffic is not as bad; this lot does not provide service to west Chatham (i.e., JCB/Pooler).
- US 17/Kings Ferry – not very accessible to metro police, isolated.
- The West Corridor probably only needs one location as well.
- The US 280/I-16 location could pick up some riders, but probably is too far out right now. Not as feasible for transit service.
- Either location in Bloomingdale would be good – this is just before traffic gets too heavy on I-16.

Group Two

- The Northwest Corridor probably needs two locations. The current lot at I-95/SR 21 needs expansion. It has a large capture area – SR 21, SR 30, and South Carolina.
- Second location should be just south of Rincon, not as far south as Old Augusta Road. Currently, Old Augusta Road is primarily a truck route. This may be a more viable location in the future.
- Potentially look at moving the current lot in Guyton further south to around SR 17/US 80 to capture more traffic from west Effingham.
- Courthouse lot could easily be closed. If a lot in Springfield is needed, it should be on SR 21, potentially the Harvey's parking lot.
- For the West Corridor, a lot in Bloomingdale could help capture west Effingham traffic. There is DOT or County owned property at SR 17/US 80 (following intersection improvements) that could potentially be available.

7. Park-and-Ride Lot Recommendations

A total of 17 existing and potential candidate park-and-ride lot locations were analyzed for suitability based upon 13 criteria ranging from proximity of employment/activity centers, local congestion and traffic volumes, availability of sidewalks, trails and bike lanes, nearby residential developments, to transit availability. These 17 candidate locations were also reviewed from the standpoint of a home-to-work travel market analysis to ten major employment centers. Results from these analyses were reviewed with stakeholders, where they were asked to weigh in on preferred locations. This analysis and stakeholder input have resulted in the following candidate locations recommended for further consideration in this study.

7.1 Corridor Recommendations

Northwest Corridor

It is recommended that travel in this corridor be supported by the following two park-and-ride lot locations.

- SR 21 South of Rincon is a candidate site located on the boundary of Chatham and Effingham Counties and has a site suitability score of 6.65. It has the third highest number of work trips in its catchment area of the five Northwest Corridor sites that were evaluated. However, this site's catchment area has little overlap with the other preferred location for this corridor (described below) and is a further distance away from the major employment centers. This candidate site was also identified as a preferred location by project stakeholders. This area of SR 21 contains numerous opportunities for joint park-and-ride usage (e.g., Lowe's and a vacant grocery store parking lot). There are other vacant parcels and commercial strip areas which could also be used for a lot. The City of Rincon also owns a parcel located off of SR 21 that is presently used for special events and is eventually planned as a park.
- I-95 and SR 21 is an existing lot located in Chatham County that has a score of 6.75 for suitability. It also has the second highest number of work trips in its catchment area of the five Northwest Corridor sites that were evaluated, and has little overlap with the other preferred location for this corridor. The stakeholder committee also identified this location as a preferred site. An advantage of this site is its close proximity to I-95, making it well-suited for capturing trips from South Carolina. Expansion of the existing park-and-ride lot is recommended.

As noted earlier in this Tech Memo, there are two other existing park-and-ride lots located in this corridor. It is recommended that the existing lot on SR 17 in Guyton continue to be a part of the regional park-and-ride lot system. This site did not score as high as the other two recommended locations, but it is a facility that already exists. The existing lot at Effingham County Courthouse park-and-ride lot, however, is not recommended for continued park-and-ride usage. This is a shared use facility that does not have any parking spaces specifically designated for park-and-ride use. The

courthouse parking lot is also fully utilized on court days. Therefore, it is recommended that this lot be removed from the regional park-and-ride lot system.

West Corridor

It is recommended that travel in this corridor be supported by the following two park-and-ride lot locations.

- US 80 and Bloomingdale Road is a candidate site located in Chatham County. This site scored 6.35 in the suitability analysis because of its proximity to residential development. It also had the second highest number of work trips in its catchment area of the five West Corridor sites that were evaluated. The stakeholder committee also identified this location as a preferred site, noting that it has the potential to capture trips from Effingham County coming in from SR 17. There are undeveloped parcels in the area that could be investigated for park-and-ride development. There are few commercial uses in the area that could be used for shared park-and-ride usage; however, there are some churches located in the area that could possibly be utilized.
- I-16 and US 280/SR 30 is an existing park-and-ride lot located in Bryan County. It scored 6.00 in the suitability analysis. The stakeholder committee noted that this site seemed too far away from the corridor's commuter travel shed, which was verified in the travel market analysis. However, since the lot presently exists, it is recommended that it continue to be a part of the regional park-and-ride lot system.

South Corridor

It is recommended that travel in this corridor be supported by the following two park-and-ride lot locations.

- US 17 in the vicinity of Wal-Mart in Chatham County achieved a suitability score of 6.40. This location also had the highest number of work trips in its catchment area of the seven South Corridor sites that were evaluated. It was the preferred location by stakeholders, noting that it is in a location that captures demand from both the SR 204 and US 17 corridors, and is located before peak period traffic congestion on SR 204 occurs. This area is also presently served by Chatham Area Transit. A potential lot along this US 17 segment could be secured as a joint-use location coupled with an existing commercial use, or located in presently vacant commercial establishments.
- A second location is also recommended for this corridor, either at SR 144/US 17 or SR 144/I-95 in Bryan County. The SR 144/US 17 site scored better from a suitability standpoint (5.95 at SR 144/US 17 vs. 5.50 at SR 144/I-95). The SR 144/I-95 location, however, had a higher number of trips in its catchment area (second highest number of work trips in its catchment area of the seven sites that were evaluated for this corridor). There are potential shared use opportunities at the SR 144/US 17 location. New park-and-ride lot construction would likely be required at the SR 144/I-95 location.

As noted earlier in this Tech Memo, there is an existing park-and-ride lot located in the South Corridor at I-95 and SR 204. This lot is relatively small in size and has limited expansion potential. Stakeholder committee members felt that usage of this lot would drop if an alternative park-and-ride facility were provided at US 17 in the vicinity of Wal-Mart. It is recommended that this park-and-ride lot remain a part of the regional park-and-ride lot system, but eventually be removed should demand at this location diminish.

Another potential location for this corridor is at the proposed I-95 and Belfast Keller Road interchange. There is no demand at this location today because of the lack of an interchange. However, with the proposed development of the Belfast Commerce Centre (an approved 900-acre, mixed use development that is to contain 10.5 million square feet of industrial, warehousing, distribution, office and commercial space) and with the proposed interchange, this site warrants consideration as a potential long-range park-and-ride lot. Bryan County and CORE MPO should work with GDOT to determine the potential of including a park-and-ride lot as part of the design of the interchange.

7.2 Park-and-Ride Facility Considerations

For all of the recommended locations noted above, it is important to keep in mind that these recommendations are not for a particular site or parcel, but rather for an area. For many of these areas, there are opportunities for new park-and-ride development and/or shared use arrangements with existing commercial developments or churches. As particular sites are pursued in these locations, there are several considerations to keep in mind, such as lot size, access, amenities, signage, landscaping, maintenance and lot expansion potential. These considerations are described further in the following paragraphs.

Lot Size

The Institute of Transportation Engineers (ITE) model is based on the assumption that park-and-ride demand is a function of peak period traffic on adjacent roadways. The main model assumption is that commuters will not make a major diversion from their present travel patterns to use a park-and-ride lot, but rather divert from the adjacent street network (currently they are passing by the lot). Demand, therefore, is estimated as a percentage of peak period trips on adjacent roadways. The formula used for this model is:

$$\text{Demand} = a\,(\text{Peak}) + b\,(\text{Prime})$$

where:

Peak = Total peak period traffic on the adjacent facilities (including the prime facility);
Prime = Peak period traffic on the prime facility; and,
a, b = Diversion factors for total traffic and prime facility traffic, respectively.

Prime facilities would be considered any arterial street or freeway used by commuters as part of their current travel route adjacent to the potential park-and-ride location under consideration. For park-and-ride locations at the intersection of major roadways there may be more than one prime facility.

Adjacent roadways represent other facilities in the vicinity, but not directly adjacent to the potential park-and-ride lot.

The ITE model recommends diversion factors of one percent for the total area traffic and an additional three percent for traffic on the prime facility.

The ITE approach is limited in that no attempt to distinguish between commuting and non-commuting trips or among trips to different destinations is taken into consideration. This method should be used to provide a range and/or order-of-magnitude demand for the park-and-ride facility.

Internal Lot Design

The design of the internal components of a park-and-ride facility will depend on the modes expected to use the facility and the size and configuration of the site. Certain components will have more or less importance depending on the function and use of the facility.

Internal circulation is one of the most critical elements determining the successful design of a park-and-ride facility. The site layout should provide for safe, rapid parking and related movements, minimization of conflicts between motor vehicles and pedestrians, and optimization of space. Internal layout concepts which should be considered include:

- Transfer terminals should be located either in a central location with the parking areas for the various user modes surrounding it or at one end with the user mode parking areas extending radially from the terminal;
- The facilities layout should strive to minimize access/egress times for transit, paratransit, and kiss-and-ride vehicles;
- The system of circulation produced by the arrangement of parking aisles and stalls should be designed to minimize travel distances, conflicting movements, and number of turns;
- Major circulation routes which are located at the periphery of the facility minimize vehicle/pedestrian conflicts;
- Mixing of automobile and bus traffic should be avoided if possible;
- One-way, two-lane circulation roads permit passing of stopped transit vehicles and are desirable where buses and autos cannot be separated;
- The layout of parking areas in regard to closeness to a transfer terminal should be given in order of handicapped, kiss-and-ride and taxis, short-term parking, and long-term parking;
- Parking aisles should be oriented to the transfer terminal to provide for convenient pedestrian movement through the facility;
- Separate facility entrances and exits are preferred or a traffic island or pavement markings separating exiting and entering vehicles should be provided; and
- Drivers should not be confronted with multiple decisions at the same point in the circulation system.

The parking layout is another critical feature of a successful facility design. The design will need to address up to four of the following types of parking areas in the site layout:

Handicapped Parking

The American Association of State Highway and Transportation Officials (AASHTO) has developed guidelines for selecting the number of handicapped parking stalls delineated at public facilities. It is suggested that four percent of the total number of spaces within a facility should be designated for the handicapped.

Also, the handicapped symbol pavement marking may be provided. The color of handicapped pavement markings is usually white; however, light blue is being used more and more to delineate handicapped spaces. Light blue provides for greater delineation of handicapped parking areas than does the color white.

Recommended stall sizes vary and typically range from 9-foot wide by 18-foot long to 10-foot wide by 20-foot long. Smaller stalls should have marked areas between the stalls to facilitate vehicle access. AASHTO recommends a width of 8-foot wide plus an additional 5-foot clear zone between vehicles. The Institute of Transportation Engineers (ITE) recommends a 9-foot wide by 18-foot long stall size with 4-foot wide strips between the stalls.

Kiss-and-Ride Parking

Kiss-and-ride parking should be located to provide for easy and safe access to the transit terminal or bus loading zone if these exist at the facility. Kiss-and-ride traffic should be separated from transit and normal park-and-ride traffic to the greatest degree possible in order to reduce conflicts and increase safety.

Short-Term Parking

Short-term parking areas are typically located next to kiss-and-ride areas, but further away from the transit terminal. The purpose for providing short-term parking at a park-and-ride facility is to promote the use of transit as well as to provide joint use of the facility. Short-term parkers are permitted to use the lot to access nearby establishments; however, their use is controlled by placing a restriction on the amount of time they can park. Provision of such parking may prove beneficial to having the facility accepted by area businesses.

Standard Park-and-Ride Parking

The layout of long-term parking areas can be designed in the same manner as other parking facilities. The design should consider parking space maximization, parking area circulation and parking dimensions. The alignment of parking rows should be in the direction of the longest dimension of the site. This configuration results in less space being used for aisles and more for parking spaces.

Generally, 10-degree parking is preferred over angle parking for safety and user convenience reasons. Ninety-degree parking is generally the most efficient as measured by square feet per space. Aisles should be one-way with angle parking and two-way for 90 degree parking. Parking

angles between 75 and 90 degrees should be avoided, since this alignment will become difficult to maintain for one-way aisle operation.

Access

The site must be easily and directly accessible by autos and transit vehicles. Lots should not divert commuters more than 0.5 to 0.75 miles from their normal travel path. Access should be safe and include traffic signal controls where warranted. Congestion between the main travel roadway and the park-and-ride facility may discourage lot use by adding time to the trip. Sites should be located where time between the main commute roadways and the lot can be minimized. Site selection should seek to minimize congestion on these roadways, particularly in residential areas.

Traffic Control Devices

Traffic control devices relevant to park-and-ride facilities include regulatory signs, pavement markings, and channelization. The proper controls should be developed from engineering analyses of access drives to the facility as well as nearby intersections which will be significantly impacted by the facility traffic.

Signage

The signs designated for park-and-ride facilities should conform to the *Manual on Uniform Traffic Control Devices (MUTCD)*. Where particular signs applicable to park-and-ride facilities are not contained in the MUTCD, consistency and conformity to local applications should be practiced.

Within the park-and-ride facility, different types of signing may be required including:

- Guide signs to direct vehicles to kiss-and-ride parking and drop-off areas, handicapped parking, and bicycle paths and parking areas;
- Guide signs to direct traffic to facility exits (particularly applicable to large lots);
- Regulatory and warning signs to control traffic on roadways, particularly at locations where vehicular/pedestrian/bicycle conflicts are anticipated;
- Regulatory signs to prohibit unauthorized use;
- Parking restriction signs including handicapped parking, no parking zones, short-term parking durations, bus stop, tow-away zones, overnight parking prohibition, etc.;
- Information signs describing transit information, proper use of the facility, declarations of liability responsibility, or construction funding information particularly if federal funds were used;
- Information signs indicating the responsible administrating agency which helps to reduce unauthorized use of the facility; and
- Information signs identifying specific section of a large lot to facilitate vehicle retrieval.

Guide signs to park-and-ride facilities not only guide users, but also promote the lot. Sign placement should intercept users on their normal paths and guide them directly to the facility. These signs also

should conform to the MUTCD. Factors which should be considered in developing guide signage plans for park-and-ride facilities include the following.

- All guide signs should conform to the latest MUTCD edition which incorporates flexibility for signing special situations, services, and inclusion of special logos. Standard signs, however, should be used for driver expectancy and for reducing maintenance costs.
- Locations should relate to the influence zone(s) from which potential users are expected to be generated. Locations should intercept potential users on their normal travel path and guide them directly to the facility.
- Signing placement should assume that the motorist does not know where to go. Guide signs should be placed at all decision points, far enough in advance to allow for adequate distance to maneuver to the location.
- Guide signing continuity is critical. Guide signs should lead the motorist through decision points to the destination.
- Guide signs should be placed on all facility approaches, even on approaches usually considered to service travel opposite to the predominate direction.

Amenities

Amenities include trash receptacles, shelters, bicycle/motorcycle parking areas, and newspaper racks. While not considered essential to proper facility design, these elements can improve facility utilization and possibly sustain transit ridership.

- Trash receptacles, while being an inexpensive means of litter control, can also be abused. A trash removal schedule must be established with the associated costs included in the annual operating budget for the facility. Trash pick-up needs should be included if a maintenance agreement is negotiated with the local jurisdiction.
- Shelters may be considered at facilities where transit and ridesharing levels are expected to be significant. These structures provide shelter during inclement weather for persons waiting for transit or ride-sharers waiting for their carpool or vanpool arrangement. The shelter size is dependent on the maximum accumulation of users. Shelter size should be based on eight square feet per person.
- Where a large concentration of bicycle or motorcycle traffic is expected, the facility design should include storage spaces for these vehicles. Identification and accessibility, type of storage racks, lot boundary screening, and provision of locking devices to prevent theft should be considered. Space requirements should be a 2-foot wide by 5-foot long stall for bicycles and 3-foot wide by 6-foot long stall for motorcycles.

Landscaping

Landscaping is important for aesthetic and ecological reasons and helps to better balance the facility in its surrounding environment. A park-and-ride lot with well-maintained landscaping can increase the perception of security, while poorly maintained landscaping can have the opposite effect. Planting should be clean, long-lasting, reasonably decorative, and hardy. The maintenance of landscaping should also be a provision in lot maintenance agreement noted previously. Other landscaping considerations include the following.

- Landscaping should not obscure visibility between the lot and adjacent roadways in order to maximize perceptions of security.
- Landscaping should be compatible with the site's surroundings.
- Plantings and their placement should not interfere with lighting of the facility, the proper placement of traffic control devices, the ability of pedestrians to use the facility, and the safe line-of-sight of motorists.
- Trees provide shade and visual interest, reduce glare, and are less costly to maintain than shrubs and ground cover.
- The design should minimize places where vandals can hide.
- Landscaping is effective for establishing walking patterns within the site.
- Sufficient set back must be provided so that vehicle overhang does not injure or kill the plants or block sprinklers. Also, maintenance can take place while cars are parked.
- Extreme care should be exercised in placing plantings near entrances/exits so that sight distances are not restricted. Plants with limited growth patterns should be used in such areas so that sight distances do not become restricted as the plant matures.
- Swales, berms, and mounds provide a low-cost means for providing screening, delineation, visual interest, and drainage.

Maintenance

The success of any park-and-ride lot is closely related to its aesthetics and security levels as perceived by potential users. Park-and-ride facilities should receive appropriate and periodic maintenance in order to reach and maintain high levels of utilization.

Periodic maintenance includes patching striping, painting, cleaning out drains, replacement or repair of pavement, traffic control devices, lighting devices, signage, fences, landscaping, and guiderails, as necessary. Routine maintenance includes utility charges, signal operations, trash removal, and landscaping.

To the maximum extent possible, all maintenance activities should be performed by the local jurisdiction. Before committing to the implementation of a facility, efforts should be made to obtain a maintenance agreement outlining commitments and provisions for maintaining the lot, approved and signed by the local jurisdiction or transit provider. The initial maintenance agreement should detail the maintenance activities and commit the requesting agency/jurisdiction to properly perform those

functions. Those functions should include, but are not be limited to trash pick-up and removal, mowing, landscaping, maintenance of lighting, and restriping.

Boundary Identification

Boundary identification is important primarily from the standpoint of minimizing unauthorized use of the facility. This is more likely a larger issue for joint use lots than free-standing facilities. Materials which have been used to delineate park-and-ride spaces from adjacent areas include fencing, plantings such as hedges, delineator posts, concrete or bituminous curbs, railroad ties, and concrete bumpers.

Expansion Potential

Funding constraints may dictate construction of a lot smaller than what is needed to meet future demand. In this case, a site with potential for expansion would be selected, if possible. Additionally, area identification is dependent upon the facility type. Table 7-1 presents a description of the park-and-ride facility types, standards and other considerations.

Lot Naming and Addresses

The locations of park and ride lots play a vital role in the viability and ultimately utilization by area commuters. New and existing lots should be given a proper physical address as well as an easily identifiable name for the purpose of safety, recognition, and marketing of the lot. Proper lot addresses allow lot users to give directions to the lot, act as a navigational point, and permit emergency vehicle services to respond and document lot activity and information properly.

In addition to the logistical purposes for having a physical address, every lot should have an easily identifiable and memorable name for the purpose of branding and marketing of the lot, which can increase local awareness and utilization. Name and address signs should be placed at each lot in an area easily seen by potential users of the lot, as well as by emergency service vehicles.

Address Signs

As a method to promote safety and security, all lots should be properly labeled and easily navigable for everyday users and emergency responders. Each lot should have a physical address whenever possible and have that address prominently displayed at the lot entrance. The preferred location for the address panel is attached to the standard park-and-ride sign. If this location is not an option, an additional location would be near the lot entrance on a stand-alone pole or structure.

Park-and-ride lots are typically located on excess GDOT right-of-way or property purchased during land acquisitions for roadway projects, which do not have proper addresses. Every attempt should be made to contact the department within the local jurisdiction in order to obtain a proper address for the lot. The correct department to contact can differ greatly for each municipality, but in most cases is the planning office, property appraiser's office, or emergency response office (police and fire dispatch).

The addresses of existing lots should be verified through the local appraiser's office before address signs are installed to ensure that accurate information is used.

Lot Naming

Easily recognizable names should be used in order to brand the lot. Lot names play a key role in increasing lot visibility in the community by creating a familiar tag user can associate with the lot. An appropriate name should be chosen based on the lot's physical location, common names associated with the area, the city or county name, or based on some other criteria that logically associate the lot with the surrounding area which enables the lot to be easily identified.

Table 7-1: Description of Park-and-Ride Lot Standards and Considerations

TYPE OF LOT	DESCRIPTION	STANDARDS	CONSIDERATIONS
Remote or Rural Facility	Located in areas with low population growth and are not expected to grow excessively. Lots are generally located outside the urban area in rural or small town settings. Trip lengths of home-to-lot and lot-to-work tend to be longer than for other lot types.	▪ Between 20 to 60 miles from employment centers ▪ More than 20,000 employees per square mile ▪ Centrally located ▪ Publically-owned right-of-way available ▪ Less than one mile from commute route	▪ Success is dictated by the amount of employment located at the destination end and distance traveled. ▪ Centrally locate lots to service area population. ▪ Greater usage if located near a major commute route.
Urban Fringe Facility	Located at the edge of urban development. These lots can be, but are not generally, served by transit. Trips tend to originate outside or at the outer limits of the urban area, while the destinations may be concentrated or dispersed within the urban area.	▪ Trip destination patterns may be concentrated or dispersed within the urban area ▪ Located along arterial roadways with four or more lanes ▪ Minimum 10,000 employees per square mile to support the formation of carpools ▪ Located in the vicinity of an urban area boundary ▪ More than ¾-mile from commuter route	▪ Service area demand and concentration of employment are factors that determine the urban fringe lot usage. ▪ 35,000 AADT is suggested as a traffic minimum.
Peripheral Facilities	Typically located at periphery or on the edge of an intensely developed, highly congested or access-restrained activity center. These lots are designed to supplement parking deficiencies and include facilities which serve activity centers with limited parking and/or auto access such as auto-free zones, colleges, and universities.	▪ Congested or restricted access ▪ On a major access route ▪ Insufficient parking facilities in the area ▪ Distances from residential areas generally longer than other park-and-ride facilities, while distances to the activity center are usually shorter.	Consider: ▪ Parking demand/supply ▪ Activity center circulation ▪ Activity center access routes ▪ Existing parking facilities
Urban Corridor	Located along a major commute route within the urban area typically served by express bus, urban rail, or commuter rail. Trip origins tend to be disbursed along the corridor; destinations are usually concentrated in a central business district or employment center.	▪ Level of Service E or worse ▪ 50,000 AADT ▪ Traffic based on support of one 100-space lot operated at 75% capacity ▪ More than 2,000 dwelling units within two miles ▪ More than 10 miles from employment center	▪ Identify highly congested areas with corridors operating at LOS E or worse ▪ Locate lot closer to trip origins and further from trip destinations
High Occupancy Vehicle (HOV) Corridors	Subset of urban corridors, located adjacent to major commute routes with HOV lanes to support rideshare and express transit services.	▪ More than 35,000 AADT ▪ Confluence of feeder roads near lot ▪ Five to 10 miles minimum spacing between lots	▪ Parkers tend to use first lot encountered ▪ Closely spaced lots may become underutilized