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Park and Ride Study

Site Selection Report

Prepared for:

Berkeley Charleston Dorchester Council of Governments

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BCDCOG
BERKELEY-CHARLESTON-DORCHESTER COUNCIL OF GOVERNMENTS
PLANNING, PARTNERSHIP & PROSPERITY

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1. Executive Summary

The Charleston, SC area has experienced explosive growth over the past few decades. With recent expansions in industrial/manufacturing facilities, including Boeing, Volvo and supporting industries, the Charleston area continues to experience substantial growth that will impact existing traffic patterns and increase congestion. Strained transportation infrastructure struggles to keep up with increased traffic as more residents and businesses move to the area. The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) recognized the need to promote multi-modal transportation solutions and therefore contracted with AECOM to conduct this study to assess Park and Ride sites in the region and to make recommendations for improving and expanding the Park and Ride facilities within the Charleston region.

The goals of this study included:

- Assess the current Park and Ride lots in the region and making recommendations for improvement
- Develop a list of new Park and Ride sites to analyze
- Ensure that new Park and Ride lots are transit accessible
- Develop a prioritization matrix with scoring for each location
- Engage stakeholders and large employers
- Conduct site visits to determine constraints
- Make short-term, mid-term, and long-term recommendations for Park and Ride facilities in the region
- Create conceptual designs and cost estimates for eight of the highest scoring locations

Existing Park and Ride Facilities

The first step in delivering this study was to assess the 19 existing Park and Ride lots. In varying degrees, all of the existing Park and Ride lots are being used by commuters. This study recommends that all current Park and Ride lots be carried forward in the future as funding allows. Many of these existing Park and Ride lots are there by permission. Formal agreements need to be signed with property owners in order to maintain these Park and Ride lots in the future. The most heavily used existing Park and Ride lots are the Rivers at Ontranto Park and Ride lot and the Citadel Mall Park and Ride lot.

Engaging Stakeholders

The project team engaged bus drivers, large employers in the region, and municipal staff to gain input on where to place future Park and Ride facilities. A series of stakeholder workshops were used to engage both the large employers and municipal staff. One-on-one interviews were an effective tool for engaging CARTA and TriCounty LINK bus drivers to get their input on Park and Ride usage.

77 Overall Sites Identified and Analyzed

Based on feedback from stakeholders and research done by AECOM, an overall list of 77 potential Park and Ride locations throughout the Charleston area were analyzed by the project team. A scoring matrix was developed to filter through the potential sites. The scoring matrix included the following five criteria:

- **Visibility** – can drivers see the potential Park and Ride site from a congested roadway?
- **Safety** – would everyday commuters feel safe about leaving their car?
- **Accessibility** – how easy is it to get into and out of the potential Park and Ride facility?
- **Topography Site Restrictions** – are there wetlands or other constraints on the site?
- **Transit Connectivity** – is the Park and Ride location along an existing transit route, high capacity corridor, or future bus rapid transit corridor?

The project team and stakeholders scored each site based on a high, medium, and low score for each of the five categories. The highest scoring sites were carried forward for further analysis.

Stakeholder Site Visit

After completing desktop reviews, the project team and stakeholders then spent a day visiting 21 different Park and Ride locations in the region. At each stop, the project team and stakeholders reviewed maps, identified constraints, and discussed access options and challenges at each location. The field verification provided context for which sites would make good candidates for future Park and Ride facilities.

Recommendations for Existing Park and Ride Locations

Based on the usage observed at the 19 existing Park and Ride locations in the region, the project team recommends that all of the existing locations be maintained as funding allows. Further, the project team recommends these specific improvements.

Table 1 Existing Park & Ride Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
N Charleston / Rivers Avenue (009)	Most highly used PNR	Follow through with plans to build a new PNR on 5-acre site at Ontranto.	Underway
Citadel Mall (047)	Highly used PNR	Work with mall owner to include PNR in redevelopment plans.	Low $0-$1M
Festival Centre (010)	Highly used with room to expand existing PNR	Extend the terms of the agreement for long-term needs.	Low $0-$1M
Berkeley County (076)	Moderate use but has formal agreement and located on future high capacity route.	Maintain and improve existing wayfinding signage.	Low $0-$1M
Dorchester County (029)	Moderate use but has formal agreement and located on future high capacity route.	Maintain and improve existing wayfinding signage.	Low $0-$1M
Oakbrook (030)	Better wayfinding signage at this location could result in more usage.	Maintain location and extend the terms of the agreement for long-term needs.	Low $0-$1M
James Island Walmart (050)	Only PNR on James Island. Improve existing wayfinding signage.	Formalize an agreement.	Low $0-$1M
Mt. Pleasant Walmart (006)	This location is at the North end of the proposed High Capacity Route.	Formalize agreement with property owner and improve existing wayfinding signage or consider Site 004.	Low $0-$1M

New Park and Rides – Short-Term Recommendations

Based on our analysis, the project team recommends the following short-term recommendations for new Park and Ride facilities. The project team defines "short-term" as an action that can be taken in the next 1-2 years.

Table 2 New Park & Rides – Short-term Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
North Charleston Center (019)	Existing parking lot; close to I-26 with good access.	Approach landowner for a lease agreement.	Low $0-$1M
I-26 WB Abandoned Rest Area (031)	5.5 acres site with good access from the frontage road; buses could enter from the interstate or frontage road.	Approach SCDOT about "repurposing" the rest area.	Med $1M-$3M

New Park and Ride s – Mid-Term Recommendations

Based on our analysis, the project team recommends the following mid-term recommendations for new Park and Ride facilities. The project team defines "mid-term" as an action that can be taken in the next 3-5 years.

Table 3 New Park & Rides - Mid-term Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
Roper Hospital Goose Creek (075)	Rapidly developing area near intersection of US 176 and US 17A.	Approach landowner about leasing or purchasing property for PNR.	Med $1M-$3M
I-26 at US 78 site #1 (015)	Rapidly developing area with easy access to I-26.	Approach public works about using public property for PNR site.	Med $1M-$3M
Tanger Outlets (013)	Multiple High Capacity Routes, dense population, but limited available land.	Approach landowner about leasing or purchasing property for PNR.	Low $0-$1M
Nexton Site (035)	Rapidly growing area with lots of commuter traffic.	Partner with Nexton to identify and develop site for PNR and Transportation Hub.	Med $1M-$3M
Roper Hospital Mount Pleasant (004)	Just outside of limits of future High Capacity Route but located prior to congested area. May be able to partner with Hospital on more than one site.	Approach landowner about leasing or purchasing property for PNR.	Med $1M-$3M

Park & Ride Location	Comment	Recommendation	Estimated Costs
I-526 at Hungry Neck Boulevard (007)	Land owned by Town of Mt. Pleasant in a prime location (5.4 acres)	Approach Town of Mt. Pleasant to buy or lease this property	High $3M-$7M

New Park and Rides – Long-Term Recommendations

Based on our analysis the project team recommends the following long-term recommendations for new Park and Ride facilities. The project team defines "long-term" as an action that will be more than 5 years in the future.

Table 4 New Park & Rides – Long-term Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
US 78 at Royle Road (032)	Recommended by I-26 Alt Study along the proposed BRT route with significant population.	Advance with LCRT project development	High $3M-$7M
East 5th North Street at Berlin Myers (026)	Raw Ground; excellent site for a future multimodal center with BRT and PNR capabilities.	Advance with LCRT project development.	Med $1M-$3M
Exchange Park Fairgrounds (027)	Ample available parking; on US 78 which is a BRT line.	Advance with LCRT project development	Low $0-$1M
I-526 at Clements Ferry Road (062)	Howell property, excellent visibility and very close to I-526. Significant commuter traffic and growth anticipated.	Approach landowner about leasing or purchasing property for PNR	High $3M-$7M
Bees Ferry Road Walmart (060)	In a rapidly growing area and along future High Capacity Route. Available adjacent land should be considered.	Approach landowner about leasing property for PNR. Consider available adjacent property if agreement cannot be secured.	Low $0-$1M

Concept Designs

The scope of this study also included conceptual designs for up to eight locations. Based on the site selection process and feedback with BCDCOG, the following eight locations were identified to be carried forward into the conceptual design stage. **Table 5** below shows the eight locations and the anticipated cost of improvements. Full drawings of the conceptual layouts can be found in **Figures 10** through **19**.

Table 5 Concept Designs

Site #	Location	Number of Spaces	Design/ Construction Cost	Comments
047	Citadel Mall	130	Low $0-$1M	Owner has expressed interest in improving transit opportunities. This concept is for existing site improvements. Future redevelopment of the Citadel Mall should pursue public private partnership opportunities to incorporating future BRT, transit and PNR
031	I-26 WB Abandoned Rest Area Option 1	172	Low $0-$1M	SCDOT ownership
031	I-26 WB Abandoned Rest Area Option 2	322	Med $1M-$3M	SCDOT ownership
004	Roper Hospital Mount Pleasant	237	Med $1M-$3M	
007	I-526 at Hungry Neck Blvd Option 1	335	Med $1M-$3M	Town of Mt Pleasant ownership
007	I-526 at Hungry Neck Blvd Option 2	335	High $3M-$7M	Town of Mt Pleasant ownership
075	Roper Hospital Goose Creek	237	Med $1M-$3M	
015	I-26 at US 78 Site #1	251	Med $1M-$3M	City of Charleston Public Works ownership
026	E 5th North St at Berlin Myers Parkway	215	Med $1M-$3M	Privately owned, will be evaluated as part of the proposed LCRT project.
035	Nexton Site	215	Med $1M-$3M	Owner has expressed interest in creating a transportation hub for transit, circulator service, future BRT and park and ride lot as part of overall development.

2. Introduction

The Berkeley-Charleston-Dorchester Council of Governments (BCDCOG) commissioned a study of existing and potential Park and Ride locations. Options for parking in the highly developed and historic downtown Charleston area are limited and expansion opportunities are constrained. The existing and future Park and Ride facilities are intended to provide local commuter traffic and visitors with options for traveling around the Berkeley-Charleston-Dorchester (BCD) area, to reduce congestion and to promote transit use. While the BCDCOG does own one lot under construction and both Charleston Area Regional Transportation Authority (CARTA) and TriCounty Link have leases on several others, most locations are simply granted permission from the property owner. Some privately owned lots are at risk with potential future redevelopment opportunities.

The goal of this study is two-fold. First, the study seeks to identify critical existing Park and Ride locations that need long-term commitments. Many of the existing locations at shopping area parking lots are permitted by owner permission. While these options are convenient and affordable, they may not be secure in the event of revitalization or redevelopment. To accomplish this goal, the study will review existing Park and Ride locations, prioritize improvements, and provide concept drawings of those improvements along with an estimated cost range.

The second goal of this study is to identify future Park and Ride locations with a high potential of success. These will be located along existing and planned CARTA and TriCounty Link routes or on roadways that have high traffic volumes with potential for carpool/vanpool. To accomplish this goal, AECOM is tasked with the following: identifying a menu of Park and Ride locations; ranking the best locations; providing conceptual layouts; and providing cost estimates for short, mid, and long-term recommendations. Candidate locations are ranked for the BCDCOG as an aid in the implementation process. While estimating parking demand was outside of the scope of this report, the high capacity corridors identified in the Regional Transit Framework Plan and ridership data provided by BCDCOG were instrumental in identifying locations with the highest likelihood of success.

3. Background Studies

Several studies and surveys have already established a local interest in expanding and improving the Park and Ride network. The goal of this study is to build from the foundation laid by the previous studies. A summary of each is provided.

3.1 Transportation Demand Management Employee and Employer Surveys

The ETC Institute, a market research firm, conducted a survey of approximately 25 organizations and received over 3,000 responses on commuter services in the fall of 2016. The purpose of the survey was to aid in the development of a Transportation Demand Management Plan. Of the employer's surveyed, 77% were concerned about increasing congestion on I-26/I-526 and 53% believed that transit was important to their organization. They were supportive of outside incentives, telecommuting and many currently support carpools/vanpools and public transit. Most provided on-site parking for their employees. Of the employees surveyed, 90% commuted alone and were most willing to try telecommuting, public transit or flexible hours. However, 61% of the employees stated that no incentive was likely to make them use carpools or vanpools. Most employees did not find transit stops conveniently located near home or work. However, those that used sustainable transportation identified the benefits of saving money on gas, reducing traffic congestion and benefits to the environment.

3.2 I-26 Fixed Guideway Alternatives Analysis: Employer Study

The purpose of this study, completed in 2016, was to understand the behavior and preferences of commuters in the region and to identify unmet needs in the CARTA system. Part of the overall study included a survey that major employers in the region shared with their workers. With hundreds of survey responses, this study provided valuable information to the project team in terms of how respondents view carpool/vanpool usage along with barriers and incentives. Also, current transit riders had a generally positive perception of the transit service. Former and non-riders perceived safety concerns as reasons for not utilizing CARTA service. Those safety concerns factored into this Park and Ride study as safety was a key scoring component in the site selection process.

3.3 CHATS Travel Demand Model

As the designated Metropolitan Planning Organization for the region, one of the functions of the Charleston Area Transportation Study (CHATS) is to analyze and maintain a traffic model for the region. The traffic model breaks out the entire region into Traffic Analysis Zones (TAZ's) and takes into account the existing traffic on the roads. It also includes various assumptions about growth rates and the type of development that will occur based on future land use. The CHATS travel demand model was used to identify growth within the region and show which corridors would likely be good candidates for Park and Ride facilities. The project team analyzed TAZ's for each Park and Ride location suggested and incorporated the same growth rate assumptions used in the travel demand model into this study.

3.4 Regional Transit Framework Plan

This study, in the final stages of development at the time of this writing, will identify a high capacity transit network in the BCD region. The draft plan recommends a regional system of five bus rapid transit corridors and two express bus corridors in addition to improvements in the underlying transit network to meet future transit needs through 2040. The top three travel connections identified in the BCD area are as follows: North Charleston to/from Goose Creek, North Charleston to/from Summerville and North Charleston to/from West Ashley or James Island. A map of the identified high capacity corridors is shown in **Figure 1**.

Promising High Capacity Transit Corridors

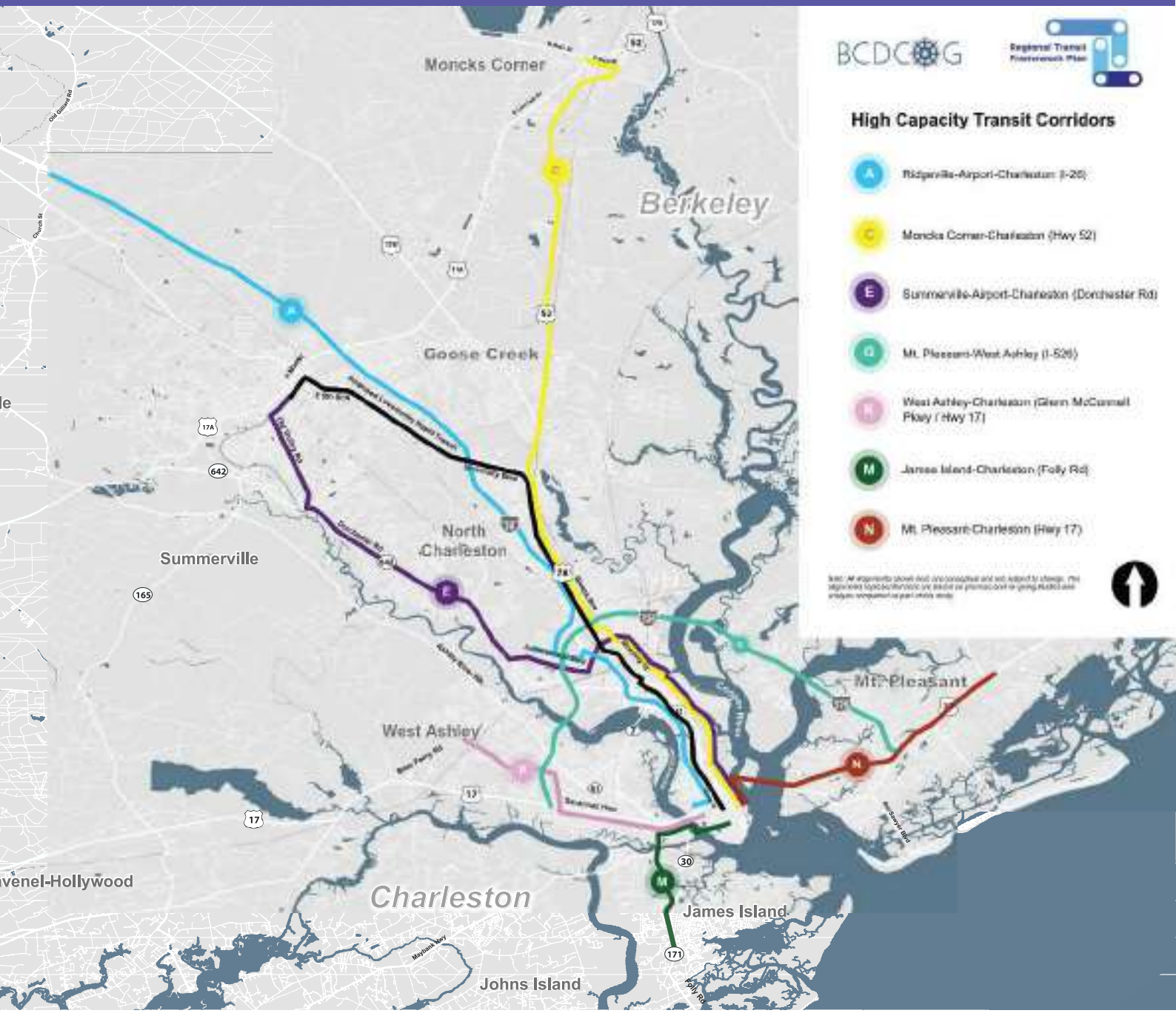


Figure 1

3.5 I-26 Alternative Study Bus Rapid Transit (BRT)

The I-26 Alternative Study recommended a BRT route for 22 miles along US 78/52 from Summerville to Charleston. Recommendations include providing BRT service every ten minutes in the peak hours and 20 minutes in off-peak hours to 18 stations. The stations would vary from Park and Rides and transit hubs to local neighborhood stops. The system is intended to provide a fast and reliable alternative to personal vehicular travel. The I-26 Alternative Study also recommended Park and Ride locations and our project team has included those recommended locations in our analysis. Proposed locations for Park and Ride facilities from the I-26 Alternative Study included:

- E. 5th North Street and Berlin G. Myers
- US 78 and Royle Road
- US 78 and College Park
- Rivers and Ontranto.

3.6 CHATS 2040 Long Range Transportation Plan Update

The long range transportation plan establishes priorities for federal funding on transportation projects within the Charleston urban area. As a part of their long range plan update, CHATS will include the results from the regional transit framework plan and this Park and Ride study. Taken holistically, the 2040 Long Range Transportation Plan update will show how all of these different transportation solutions work together to improve capacity and reduce congestion in the BCD region.

4. Transit Routes

CARTA has 18 fixed routes, three express routes, three dash routes, one airport express route, one HOP (Hospitality on the Peninsula) route, and one shuttle. Fourteen of these routes are adjacent to an existing Park and Ride facility. TriCounty Link has six commuter routes, one lunch route, one shuttle route, and 9 fixed routes. Fifteen of the TriCounty Link routes are adjacent to at least one Park and Ride facility. CARTA routes are shown in green and TriCounty Link routes are shown in purple on the map in **Figure 2**. **Table 6** and **Table 7** summarize the routes in tabular format.

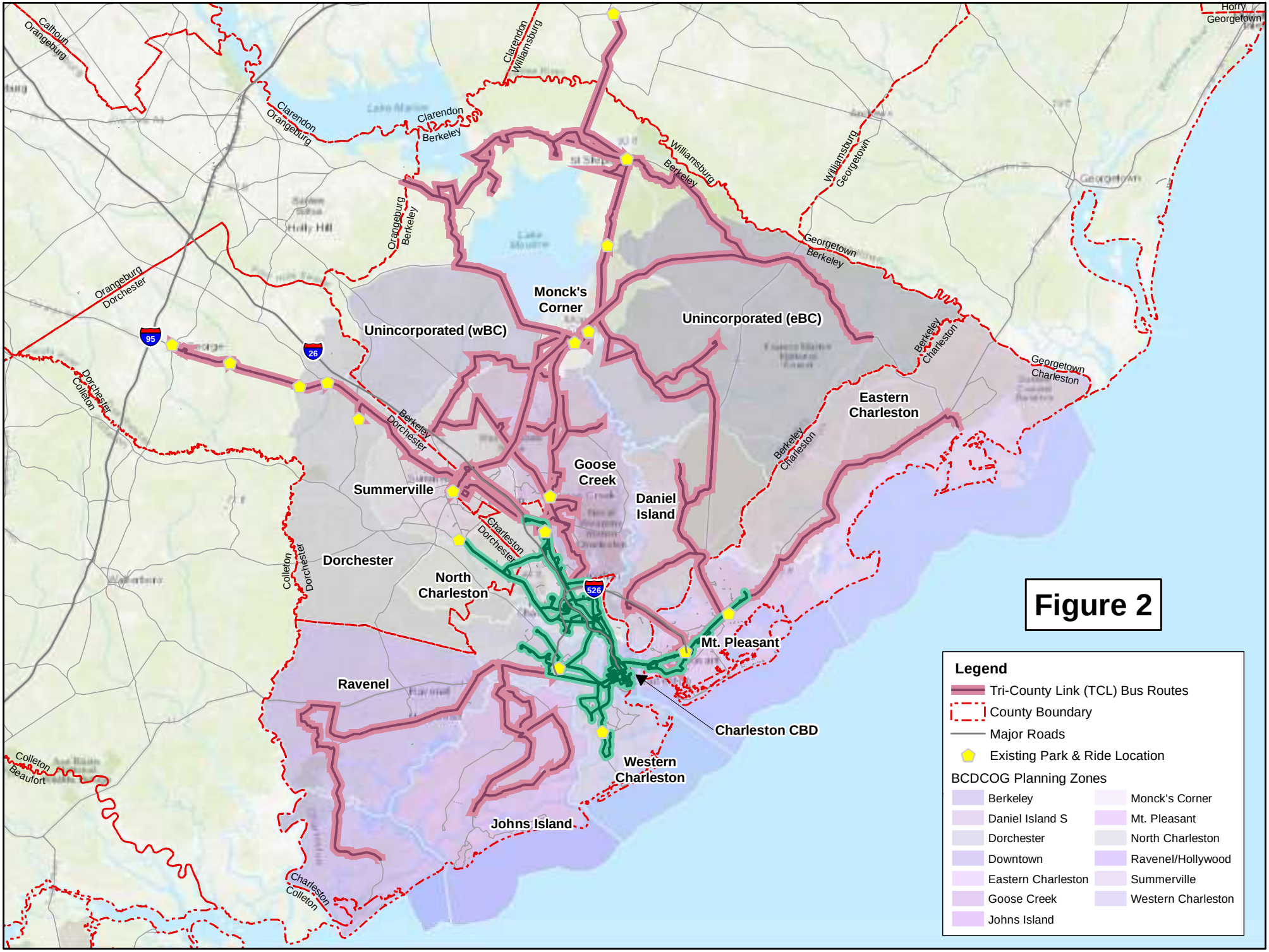


Figure 2
Legend
Tri-County Link (TCL) Bus Routes
County Boundary
Major Roads
Existing Park & Ride Location
BCDCOG Planning Zones
Berkeley
Daniel Island S
Dorchester
Downtown
Eastern Charleston
Goose Creek
Johns Island
Monck's Corner
Mt. Pleasant
North Charleston
Ravenel/Hollywood
Summerville
Western Charleston
Monck's Corner
Unincorporated (wBC)
Unincorporated (eBC)
Summerville
Goose Creek
Daniel Island
Eastern Charleston
Dorchester
North Charleston
Mt. Pleasant
Ravenel
Charleston CBD
Western Charleston
Johns Island
Calhoun
Orangeburg
Clarendon
Williamsburg
Horry
Georgetown
Lake Marion
Lake Moultrie
Holly Hill
St Stephen
Georgetown
Colleton
Beaufort
95
26
526

Table 6 Existing CARTA Routes

Number	Name	Type	Adjacent to Park & Ride
10	Rivers Avenue	Regular	N Charleston (Rivers Avenue)
102	North Neck	Regular	No
103	Leeds Avenue	Regular	No
104	Montague Avenue	Regular	No
12	Upper Dorchester/ Ashley Phosphate Rd	Regular	N Charleston (Rivers Avenue) & Festival Centre
13	Remount Road	Regular	No
20	King Street/Meeting	Regular	No
203	Medical Shuttle	Shuttle	No
204	MUSC/Calhoun Circulator	Regular	No
30	Savannah Highway	Regular	Citadel Mall
301	Glenn McConnell Connector	Regular	Citadel Mall
31	Folly Road	Regular	Walmart James Island
32	North Bridge	Regular	Citadel Mall
33	Saint Andrews/Ashley River Road	Regular	Citadel Mall
40	Mt. Pleasant	Regular	Oakland Plantation & Wando Crossing
41	Coleman Boulevard	Regular	Wando Crossing Walmart
42	Wando Circulator	Regular	Oakland Plantation
7	HOP Shuttle	PNR	HOP
XP1	James Island - North Charleston	Express	N Charleston (Rivers Avenue) & Walmart James Island
XP2	Mt. Pleasant – West Ashley	Express	Oakland Plantation & Citadel Mall & Wando Crossing
XP3	Dorchester Road/Summerville	Express	Oakbrook (Dorchester Village) & Festival Centre
210	College of Charleston/Aquarium	Dash	No
211	Meeting/King	Dash	No
213	Lockwood/Calhoun	Dash	No
11	Dorchester Road/Airport	Regular	HOP
XP4	Airport	Airport	No

Table 7 Existing TriCounty Link Routes

Number	Name	Type	Adjacent to Park & Ride
1	Berkeley	Regular	Santee Cooper, Berkeley County, Goose Creek & N Charleston (Rivers Avenue)
2	Dorchester	Regular	Ridgeville Town Hall, Dorchester County & N Charleston (Rivers Avenue)
3	Dorchester Santee Cooper	Regular	Santee Cooper, Berkeley County & Dorchester County
4	Berkeley Santee Cooper	Regular	Santee Cooper, Bonneau Town Hall & St Stephen IGA Store
5	Berkeley Santee Cooper	Regular	Santee Cooper, St Stephen IGA Store & 52 Station
6	Dorchester Connector	Regular	Waggoner County Services Building, Woodland High School, Kings Mini Stop, Dorchester County Maintenance, Dorchester County
	Link to Lunch	Lunch	Santee Cooper
	Dorchester Conn Shuttle	Shuttle	Dorchester County
B101	Moncks Corner	Regular	No
B102	Moncks Corner- North Charleston-Hanahan	Regular	N Charleston (Rivers Avenue)
B104	St. Stephen-Bonneau-Moncks Corner	Regular	Berkeley County Offices
B105	Moncks Corner- Mt. Pleasant	Regular	No
C201	Edisto Island- Charleston	Regular	Citadel Mall
C203	McClellanville-Awendaw-Mt. Pleasant	Regular	Wando Crossing
C204	John's Island Blue Route	Regular	Citadel Mall
C204	John's Island Green Route	Regular	Citadel Mall
D305	Moncks Corner-Summerville-Lincolnville	Regular	N Charleston (Rivers Avenue)

At present there are 14 CARTA transit routes and 15 TriCounty Link routes that are adjacent to at least one existing Park and Ride lot. Ridership varies on these routes from an assumed typical average of 300 persons to 68,600 persons on a typical month. The bus route with the greatest number of passengers is the CARTA Rivers Avenue route with over 50,000+ passengers per month which extends from the Trident Medical Center on US 78 (University Boulevard) near I-26 in North Charleston to the Mary Street / Meeting Street bus stop in Charleston. This route serves the North Charleston Park and Ride facility that is presently located near the old Kmart. Plans are underway to replace this leased lot with a nearby lot on a five and a half acre parcel owned by CARTA. The next heaviest used route is the Meeting/King Dash route in Charleston with over 30,000+ passengers per month in the heart of the City of Charleston between the Visitors Center and Spring Street Bi-Lo. This route is not adjacent to a Park and Ride lot. The Dorchester/Airport route rounds out the top three with over 20,000+ passengers per month between

the Mary Street/Meeting Street bus stop and Tanger Outlet Boulevard. This route is adjacent to the HOP Park and Ride lot.

CARTA carries over 3 million riders with 10% utilizing one of the three highest use express routes. In addition, a new HOP Park and Ride Shuttle was implemented in April 2018 designed to address the parking needs in the peninsula for hospitality workers. This began as a pilot program reaching out to a new Park and Ride market and has been successful with 10,000 riders in July 2018.

4.1 Future Transit Needs

The Regional Transit Framework Plan is instrumental in identifying future transit needs in the BCDCOG area. The top three travel connections identified in the BCD area are North Charleston to/from Goose Creek, North Charleston to/from Summerville and North Charleston to/from West Ashley or James Island. North Charleston is identified as a regional hub and the importance of the two North Charleston Park and Ride lots located at the Festival Centre and Rivers Avenue are expected to remain high and may require future expansion. However, it will be equally important to provide opportunities for riders from the outlying areas of Goose Creek, Summerville, Mount Pleasant and James Island to reach the North Charleston area easily and with a minimum of delay. At present TriCounty Link serves the Goose Creek Park and Ride lot with approximately 18 spaces and the Dorchester County Park and Ride lot in Summerville with approximately 50 spaces. CARTA serves the Oakbrook Park and Ride lot in Summerville with approximately 50 spaces. Walmart Mount Pleasant and Wando Crossing are both located in Mount Pleasant with approximately 50 spaces each and are served by CARTA and TriCounty Link. The Citadel Mall Park and Ride lot with approximately 50 spaces is located in the West Ashley area and is served by both CARTA and TriCounty Link. The study indicates that larger Park and Ride facilities are needed in the Goose Creek, James Island and Mount Pleasant areas.

5. Benefits of Park and Ride Lots

As the Charleston urban area grows, the commuter corridors and parking areas are becoming more constrained. Options for growth and additional routes are limited by geographical features such as the

Charleston Area Rush Hour Traffic

Atlantic Ocean, Stono River, Ashley River, Cooper River and Wando River. Sensitive historical and environmental wetlands abound within the BCD area. There is only one east-west interstate, I-26, which directly serves Charleston with a bypass route, I-526, located on the west side of the city. The need for providing an alternative to single occupancy vehicles on the roadway system increases with the population growth. Park and Ride facilities are one piece in our total efforts to reduce system congestion.

An additional reason to utilize and promote Park and Ride facilities is the limited parking on the Downtown Peninsula Area. The City of Charleston has worked hard to address the parking challenges on the peninsula, but space is limited due to geographical and historical features. Other modes of transportation, including transit, carpool, and ride sharing are needed to mitigate or reduce the parking demand. The free HOP route with $5 parking is one example of a successful partnership between the City of Charleston, Charleston County, Charleston Area Convention and Visitors Bureau and the BCDCOG designed to relieve a specific parking issue.

5.1 Congestion Mitigation

Interstate I-26 and I-526 are becoming increasingly congested as population within the BCDCOG region grows. The annual average daily traffic (AADT) on I-26 east of US 52 and west of I-526 grew from 122,400 in 2009 to 162,400 in 2016. As congestion increases so do crashes, driver delays, air pollution and driver stress. By providing convenient Park and Ride lots outside of the highly congested areas, some roadway users may switch to transit if the pick-up and drop-off locations are convenient, timely and reliable.

In May of 2018, the westbound James B. Edwards Bridge (I-526 over the Wando River) was closed for emergency bridge repairs. South Carolina Department of Transportation (SCDOT) engineers discovered a snapped cable inside the bridge structure and the bridge closed for repairs for a few weeks. During this time, Charleston area drivers experienced huge commute delays as the more than 35,000 cars crossing the bridge daily had to find alternate routes. This type of congestion demonstrates the need for more cars to shift off the roads and onto other modes of transportation, including transit and Park and Rides.

US 17 after Emergency Bridge Closure on I-526 over Wando River, May 2018

5.2 Improves Air Quality

Passenger vehicles and trucks contribute to air pollution with emissions of ozone, particulate matter, nitrogen oxides and carbon monoxide. These air pollutants may cause cancer and contribute to asthma,

heart disease and eye irritation. According to the Environmental Protection Agency (EPA) a gallon of gasoline is assumed to produce 19.4 pounds of CO_2. By reducing the vehicle miles traveled and total fuel consumption, air quality can be improved.

5.3 Promote Carpool/Vanpool/Transit Usage

The need to change from single occupancy vehicles to multiple occupancy vehicles increases with population, congestion and delay. The Park and Ride lots are intended to give options for alternative transportation uses to those within and outside of the urban area. Park and Ride lots are mostly used by those who do not need access to their private vehicles during the work day. Park and Ride lots located beyond the congested areas provide a place for commuters and visitors to park, transition to transit service and have stress free transportation to locations served by CARTA or TriCounty Link. The transit agencies are striving to provide timely, affordable, clean, comfortable transportation with desirable perks such as Wi-Fi. An additional benefit is the convenience of pick-up or drop-off of passengers or shuttle services provided by businesses. In some locations, transit service might not be available yet, however, Park and Ride lots can be developed for car and van pool use.

5.4 Promote Multi-Modal Transportation Solutions

Desirable features of a Park and Ride lot include free or affordable parking, highly visible locations, secure areas and convenient locations. This equates to savings on fuel and maintenance for personal vehicles, less roadway congestion and less stress to roadway users during peak traffic periods. To maximize the use of Park and Ride lots a multi-prong approach is needed by providing transit when and where needed, providing safe and convenient parking lots and marketing the service to the general public. Park and Ride lots at existing transit hub locations typically have the highest use rates. A transit hub is simply a location where passengers can change modes of transportation and can include bus stops, BRT, Park and Ride lots, train stations, airports and ferry slips.

Some cities or agencies restrict Park and Ride lots to locations beyond city centers or other congested areas while others expand their Park and Ride facilities in response to demand. Generally facilities are located in areas where access is good and space for parking is available prior to areas with traffic congestion. In all cases a need is identified, alternatives are considered, and locations are selected based on where Park and Ride facilities make sense for that jurisdiction.

6. Existing Park and Ride Lots

Site of New Park and Ride - Rivers at Ontranto

There are 19 existing Park and Ride locations supported by CARTA or TriCounty Link. Of these parking areas, 18 utilize an existing parking lot provided by a private or public entity for other uses. Only the Dorchester County Park and Ride lot located on the corner Myers Parkway and Gahagan Road is a standalone lot to serve transit needs. One other location is in transition at the Old Kmart in North Charleston or the Rivers Avenue Park and Ride lot (Rivers at Ontranto). A five-acre parcel near the old Kmart was purchased by CARTA for a permanent Park and Ride lot that is under design.

While this Park and Ride study was in progress, in April of 2018 a new Hospitality on the Peninsula (HOP) Shuttle service began operating as a way to mitigate the parking challenges in the downtown area. The new shuttle utilizes property (999 Morrison Drive)

owned by the City of Charleston to provide 170 parking spaces where workers in the area's booming hospitality and food/beverage industry can leave their cars before heading over to the peninsula on the shuttle. The cost to park at the HOP lot is $5 and there is no fee to ride the bus. The shuttle operates 6 a.m. to 3 a.m. daily.

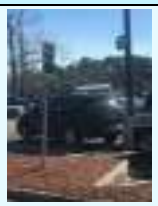
Ribbon Cutting Ceremony at the New HOP Shuttle Lot, April 2018

A site inspection was conducted on January 25, 2018 at each existing Park and Ride lot. The observations of that site visit are summarized in **Table 8**. More details are included in the data sheets provided in **Appendix A**. The lot usage varies by time of day and day of week so the findings documented on the data sheets may not represent average use.

Table 8 Existing Conditions at Park & Ride Lots

Site #	Park & Ride Lot	Photograph	Comments
001	Santee Cooper 1 Riverwood Drive Moncks Corner, SC 29461		Paved and lighted private parking lot.
076	Berkeley County 1003 Highway 52 Moncks Corner, SC 29461		Paved and lighted public parking lot.

Site #	Park & Ride Lot	Photograph	Comments
069	Goose Creek 303 N Goose Creek Blvd Goose Creek, SC 29445		Paved private parking lot.
002	Bonneau Town Hall 422 Municipal Lane Bonneau, SC 29431		Paved public parking lot with some lighting.
003	St Stephen IGA Store 3931 Byrnes Drive St Stephen, SC 29479		Paved and lighted private parking lot.
044	Ridgeville Town Hall 105 School Street Ridgeville, SC 29472		Gravel parking lot located behind the Town Hall.
029	Dorchester County E 6th South Street Summerville, SC 29483		Paved public parking lot with some lighting and a gazebo.
030	Oakbrook 10150 Dorchester Road Summerville, SC 29485		Paved and lighted private parking lot.
009	N Charleston / Rivers Ave 8551 Rivers Ave North Charleston, SC 29406		Paved and lighted private parking lot. Soon to be replaced with a nearby public parking lot.

Site #	Park & Ride Lot	Photograph	Comments
047	Citadel Mall 2070 Sam Rittenberg Blvd Charleston, SC 29407		Paved and lighted private parking lot with covered bus stop.
050	James Island Walmart 1231 Folly Road Charleston, SC 29412		Paved and lighted private parking lot.
005	Wando Crossing Walmart 1551 Johnnie Dodds Blvd Mt Pleasant, SC 29464		Paved and lighted private parking lot.
006	Mt Pleasant Walmart 3000 Proprietors Place Mt Pleasant, SC 29466		Paved and lighted private parking lot. No Park & Ride signing.
021	Waggoner County Services Building 201 County Road S-41 St George, SC 29477		Gravel public parking lot with some lighting and a gazebo.
020	Woodland High School 4128 Highway 78 Dorchester, SC 29437		Paved and lighted public parking lot.
045	Dorchester County Maintenance 2120 East Main Street Dorchester, SC 29437		Gravel public parking lot with a gazebo.

Site #	Park & Ride Lot	Photograph	Comments
046	Kings Mini Stop 2508 Highway 78 Dorchester, SC 29437		Gravel private parking lot.
022	52 Station 2700 S Williamsburg County Hwy Greeleyville, SC 29056		Gravel and lighted private parking lot.
010	Festival Centre 5101 Ashley Phosphate Road North Charleston, SC 29418		Paved and lighted private parking lot.

Of the 19 Park and Ride facilities, TriCounty Link provided a covered gazebo for users at three locations and CARTA provided covered seating at the bus stop at Citadel Mall.

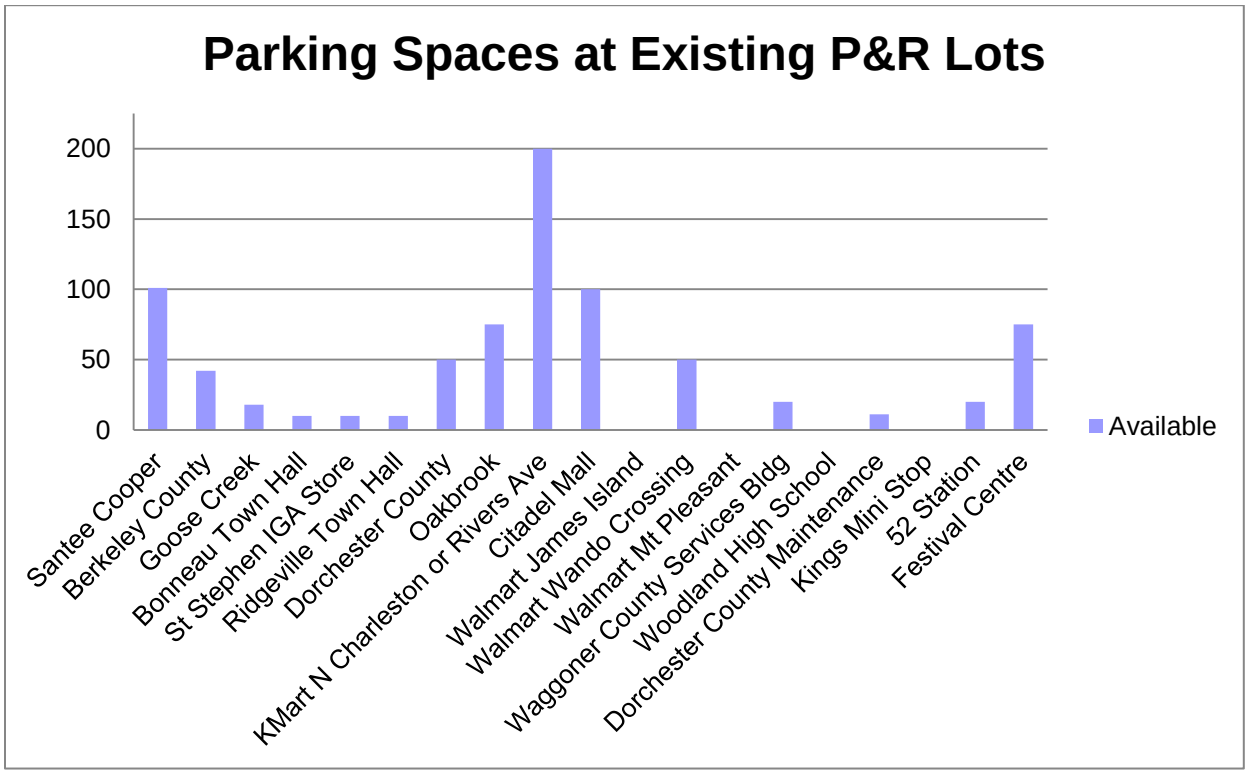
Typical Gazebo Provided by TriCounty Link

Covered Seating Provided by CARTA, Citadel Mall

6.1 Site Data Sheets

On January 22, 2018, each location was visited and existing characteristics documented. Items such as the number of parking spaces occupied at that time versus spaces available, ease of access and lighting were noted. Some of the Park and Ride lots were visited during off peak hours and others had dispersed parking areas making it difficult to determine usage. Detailed data sheets for the existing site survey are included in **Appendix A**. A summary of the parking spaces available is shown in **Figure 3.**

Figure 3 Summary of Parking Spaces at Park and Ride Lots



6.2 Existing Signing

Signing at the existing lots varied substantially. Some lots were clearly marked with signs that were in good condition as shown in the photos below.

Typical CARTA Sign

Typical TriCounty Link Sign

At other locations the signs were in poor condition, poorly placed or totally missing. At Woodland High School and at the Walmart in Mt Pleasant, the designated areas for Park and Ride users were not posted and utilization was unknown on the date of the parking site survey.

6.3 Agreements

The existing Park and Ride lots utilize parking constructed for other purposes with the exception of the Dorchester County Park and Ride lot. Agreements vary from permission of the owner to leases. Most of

the existing agreements can be terminated at any time by the owner with little to no notice. **Table 9** summarizes the agreements in place at this time.

Table 9 Existing Park and Ride Lot Agreements

Site#	Park & Ride Name	Agreements
001	Santee Cooper	Permission by Partnership
076	Berkeley County	Permission of Owner
069	Goose Creek	Permission of Owner
002	Bonneau Town Hall	Permission of Owner
003	St Stephen IGA Store	unknown
044	Ridgeville Town Hall	Permission of Owner
029	Dorchester County	Lease Agreement by Tri County LINK
030	Oakbrook	Lease Agreement by CARTA
009	N Charleston / Rivers Avenue	Permission of Owner
047	Citadel Mall	Permission of Owner
050	James Island Walmart	Permission of Owner
005	Wando Crossing Walmart	Permission of Owner
006	Mt Pleasant Walmart	Permission of Owner
021	Waggoner County Services Building	unknown
020	Woodland High School	unknown
045	Dorchester County Maintenance	unknown
046	Kings Mini Stop	unknown
022	52 Station	unknown
010	Festival Centre	Lease Agreement CARTA

7. Stakeholder Engagement

7.1 Bus Driver Engagement

Members of the AECOM project team first sought stakeholder input on the usage of the 19 existing Park and Ride lots. Project team members interviewed several CARTA and TriCounty Link bus drivers to better understand the nature of who is using the existing Park and Ride lots.

AECOM Project Team Member Interviews TriCounty LINK Bus Driver

Valuable data was gained from interviewing the bus drivers such as Park and Ride commuter's destinations and travel time patterns. For example, project team members learned that the Park and Ride lot in Williamsburg County is mostly used by workers at the SCE&G Power Plant and that the lot is mostly full at 6 a.m. and mostly empty by 4:30 p.m. Also, the 200 commuters who use the Park and Ride lot at Rivers and Ontranto are mostly utilizing the Express Bus that travels to the Medical University of South Carolina. This type of information is not gained by simple desktop research and the bus drivers represent a wealth of knowledge about local commuting patterns.

7.2 Large Employer Engagement

Any successful Park and Ride program includes cooperation and engagement with large employers. For this study, the project team reached out to approximately twenty of the largest employers in the region. Those employers were invited to a series of stakeholder workshops where members of the project team collaborated on the needs of the largest employers. The large employers engaged in these stakeholder meetings included:

- Medical University of South Carolina
- Blackbaud
- Boeing
- Trident Technical College

- Boomtown
- College of Charleston
- Trident Health

These employers were first invited to attend a stakeholder workshop on the morning of February 7, 2018 at the BCDCOG. The meeting began with introductions, and the project team provided an overview of the goals for this study and why it is being conducted. The large employers were then allowed some time to verbalize their comments regarding Park and Ride facilities. Some of the questions the project team asked the large employers during this meeting included:

1. Does your company utilize vanpools, encourage carpooling, incentivize transit, etc.? Are there obstacles to implementing some of these strategies at your company?

2. Where are the majority of your employees commuting from and at what times of day?

3. Is parking an issue at your business? Do you envision this becoming an issue in the future?

4. What locations for new Park and Ride facilities would make the most sense for your company/employees?

February 7, 2018 Stakeholder Meeting with Large Employers

5. What percentage of your employees utilizes transit to get to work?

6. What incentives would encourage more of your employees to do more ride sharing, van pooling, or take transit?

7. What can you share with us about plans for expansion that your company may have in the next 10 years? How many new employees will be added?

The large employers provided valuable feedback to the project team. Some of the most valuable feedback included:

- Boeing noted that they have a “3 strikes and you’re out” policy about worker tardiness. Therefore many of their employees are hesitant to ride transit or carpool since they must avoid being late for any reason.
- Boeing also noted that Express Bus schedules do not match up with their shift time changes.
- Trident Health noted that they currently are out of available parking.
- College of Charleston noted that a student parking pass costs $400-600 per semester and that Park and Ride facilities would make it more affordable for students.
- Medical University of South Carolina and the College of Charleston believe there is an overblown fear of not being able to get home during an emergency. What if my kid gets sick at school or I have a doctor’s appointment? A guaranteed ride home would help solve this problem along with ride sharing services such as Uber.

The full meeting summary of this stakeholder meeting can be found in **Appendix B**.

7.3 Municipality Engagement

In addition to the feedback gained from the bus drivers and the large employers in the region, the project team also sought comments from the local municipalities. Staff members from several of the municipalities were invited to give the project team insight regarding local commute patterns and desirable locations for future Park and Ride facilities. Representatives from the following municipalities were engaged in this stakeholder meetings:

- Town of Summerville
- Town of James Island
- City of Goose Creek
- City of North Charleston
- City of Mount Pleasant
- City of Charleston
- Berkeley County
- Charleston County

These municipalities were first invited to attend a stakeholder workshop on the afternoon of February 7, 2018 at the BCDCOG building. The meeting began with introductions and the project team provided an overview of the goals for this study and why it is being conducted. The municipalities were then allowed some time to verbalize their comments regarding Park and Ride facilities.

Feb. 7, 2018 Stakeholder Meeting with Municipalities

Some of the questions the project team asked the municipalities during this meeting included:

1. Are there any existing Park and Ride Locations within your municipalities (other than the locations we were provided from BCDCOG)? Are these locations currently served by transit?

2. On average, how well utilized are the Park and Ride locations in your municipality?

3. What areas in your municipality make the most sense for adding additional Park and Ride locations? This can include both new locations and expansion of current locations.

4. Describe the typical Park and Ride user in your municipality? Are they white collar/blue collar? Where are they generally commuting to and from?

5. Are there any known vanpools that operate in your municipality?

6. What characteristics of a good Park and Ride location are important for folks in your municipality? Safety, Visibility, Accessibility, Convenience of Amenities, Well Lit, In a Good Neighborhood, etc.?

7. What incentives would encourage folks in your municipality to do more ride sharing, van pooling, or taking transit?

8. Where are the anticipated areas of residential growth in your municipality over the next 10 years?

The Large employers provided valuable feedback to the project team. Some of the most valuable feedback included:

- Town of James Island noted that the "Rethink Folly Road" project is underway and that Park and Ride lots would help ease congestion along that corridor.
- Mount Pleasant mentioned that they are updating their Long Range Transportation Plan and areas on the north end of town are attractive for a Park and Ride.
- Municipalities noted that better wayfinding is needed to lead drivers to the Park and Ride locations.
- Municipalities showed a preference for using land that is government owned or possibly surplus SCDOT property.
- US 17A area near Carnes Crossroads was mentioned as a rapidly growing area.

The full meeting summary of this stakeholder meeting can be found in **Appendix B**.

7.4 Map Exercises with the Stakeholders

At the conclusion of each of the February 7, 2018 stakeholder meetings, the project team asked stakeholders (both large employers and municipalities) to place dots on the maps indicating areas that they thought would be most beneficial for Park and Ride facilities. The map in **Figure 4** shows the stakeholder recommended locations for Park and Ride lots. Blue dots are locations suggested by large employers while green dots show locations recommended by the municipality staff members.

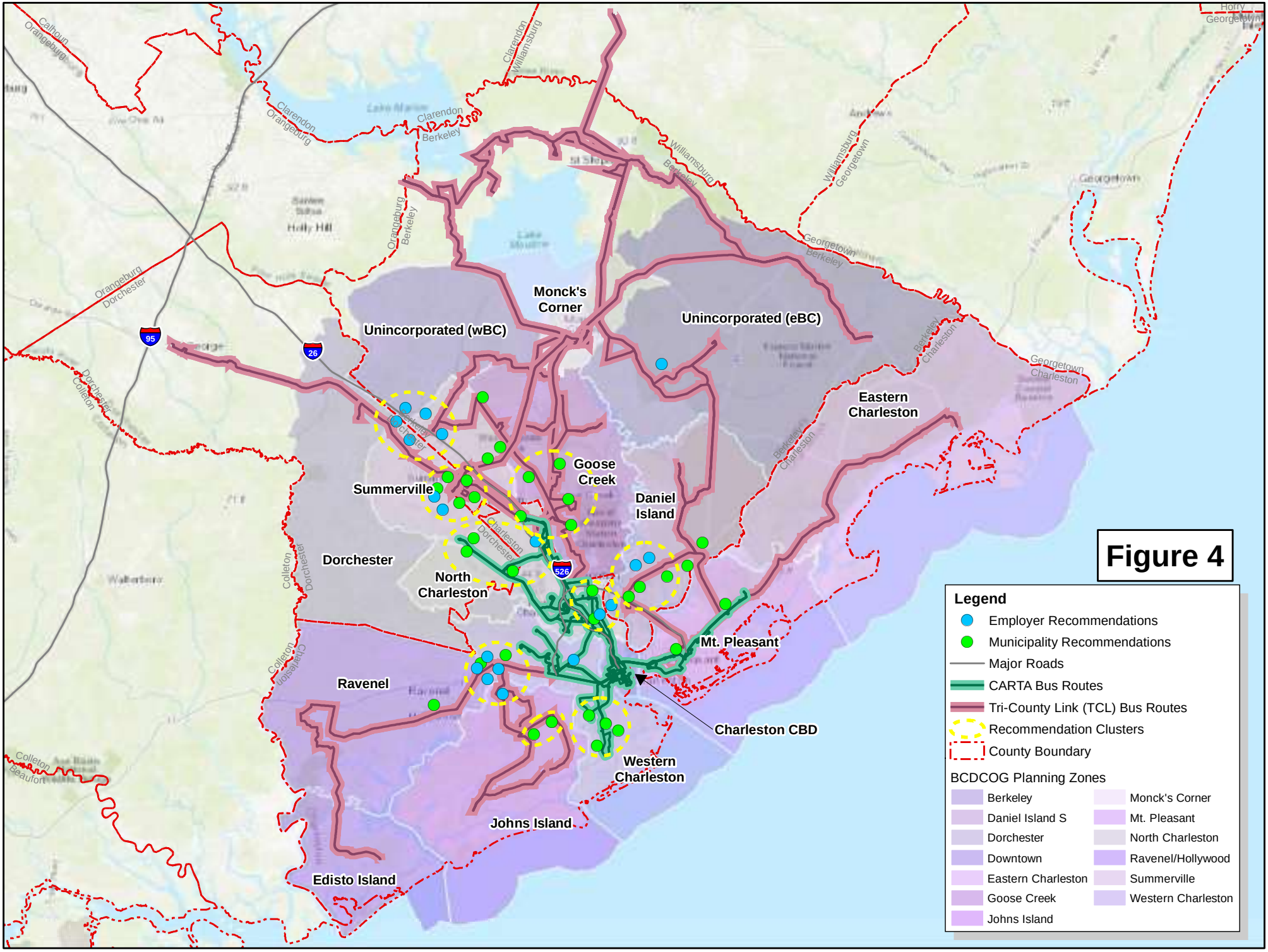


Figure 4
Monck's Corner
Unincorporated (wBC)
Unincorporated (eBC)
Eastern Charleston
Goose Creek
Summerville
Daniel Island
Dorchester
North Charleston
Mt. Pleasant
Ravenel
Charleston CBD
Western Charleston
Johns Island
Edisto Island
Legend
Employer Recommendations
Municipality Recommendations
Major Roads
CARTA Bus Routes
Tri-County Link (TCL) Bus Routes
Recommendation Clusters
County Boundary
BCDCOG Planning Zones
Berkeley
Daniel Island S
Dorchester
Downtown
Eastern Charleston
Goose Creek
Johns Island
Monck's Corner
Mt. Pleasant
North Charleston
Ravenel/Hollywood
Summerville
Western Charleston

Based on the “clusters”, identified with yellow circles on **Figure 4**, by the large employers and the municipalities, the project team began their intensive search for suitable Park and Ride facilities. Sites under public and private ownership were considered. However, because of limited resources, preference was given to finding publicly owned sites that could be utilized as Park and Ride lots.

7.5 Stakeholder Site Visit

Following the February 7, 2018 stakeholders meetings, the project team collected data regarding potential Park and Ride sites and began the process of prioritizing which sites were best. Many of the stakeholders recommended specific areas or sites for suitable Park and Ride locations. The project team collected all feedback and ended up with a list of 77 overall sites. Through coordination with BCDCOG some sites were identified for a stakeholder site visit.

On April 11, 2018 the project team rented a small bus and took some of the stakeholders on a field review of 21 potential Park and Ride sites. The bus included flat screen TV’s connected to a laptop computer so valuable information about each site was readily available. At each location, project team members made a short PowerPoint presentation with site specific information given to each stakeholder. Conversations were had at each site regarding how traffic would access the Park and Ride site, site constraints, topographic considerations, wetlands, etc. Finally, each stakeholder on the site visit was asked to score each site based on the five scoring criteria. More information about the scoring process can be found in Section 8.5 of this report. The PowerPoint slides that were used on the site visit with information about each site can be found in **Appendix B**.

April 11, 2018 Site Visit with Stakeholders

Since it was impossible to visit all sites in a single day, the field trip focused on 21 mostly undeveloped locations. The stakeholders also scored each of the following locations. More information about the scoring system can be found in section 8.5.

1. Site # 062 - I-526 at Clements Ferry Road (#1) – 2.7 acres
2. Site # 063 - I-526 at Clements Ferry Road (#2) – 42.0 acres
3. Site # 007 - I-526 at Hungryneck Boulevard – 5.3 acres

4. Site # 008 - US 17 at Isle of Palm Connector – 3.5 acres
5. Site # 049 - VA Lot on US 17 – 5.0 acres
6. Site # 023 - Hollywood Visitors Center (future site) – 2.8 acres
7. Site # 051 - Walgreens at Camp and Folly Roads – 1.0 acre
8. Site # 054 - Bees Ferry at Bear Swamp Road – 7.0 acres
9. Site # 053 - US 17 at Bees Ferry Road – 2.2 acres
10. Site # 048 - Old Piggly Wiggly on Sam Rittenberg Road – 3.6 acres
11. Site # 016 - Ashley Phosphate Road at Palmetto Commerce Parkway – 2.3 acres
12. Site # 015 - I-26 at US 78 (#1) – 17.9 acres
13. Site # 012 - I-26 at US 78 (#2) – 113.0 acres
14. Site # 025 - US 78 at College Park Road – 7.0 acres
15. Site # 031 - I-26 WB Abandoned Rest Area – 5.0 acres
16. Site # 032 - US 78 at Royle Road – 1.3 acres
17. Site # 026 - E 5th North Street at Berlin Myers Parkway – 57.0 acres
18. Site # 028 - I-26 at US 17Alternate – 3.2 acres
19. Site # 033 - I-26 at Jedburg Road (#1) – 5.7 acres
20. Site # 036 - I-26 at Jedburg Road (#2) – 4.2 acres
21. Site # 040 - I-26 at Royle Road – 3 acres

7.6 Combined Stakeholders Meeting

After the project team collected feedback from the stakeholders at the February 7, 2018 meetings, and the April 11th site visit, intensive efforts were made to identify future Park and Ride sites, analyze and score these sites, and then come back to the stakeholders with the results of this analysis. On May 30, 2018, a combined stakeholder meeting was held that included both large employers and municipality staff. The purpose of this meeting was to reveal the results of the project team analysis and use the stakeholders as a sounding board for which recommendations need to be carried forward for further analysis. Full meeting minutes of that meeting can be found in **Appendix B**.

May 30, 2018 Combined Stakeholder Meeting

8. Site Selection Methodology

The best analogy to describe how the project team narrowed down their selection of potential Park and Ride sites is to think of a funnel. A large volume of data, information, and stakeholder feedback goes into the top of the funnel. Various methods of screening and scoring were used to narrow down the options into a list of recommendations at the bottom of the funnel. The next section of this document will describe how the project team narrowed down all the data collected on Park and Ride facilities (existing and new) and developed the list of recommendations found in Section 9.

8.1 Step 1: Review Existing Sites

At the beginning of this effort, the project team took a detailed look at all 19 of the existing Park and Ride locations throughout the region. CARTA and TriCounty LINK are to be commended for their forward thinking in setting up many of these Park and Ride locations years ago. The project team visited and gathered data on each location to better understand how the current Park and Ride facilities are being

utilized. Interviews were conducted with bus drivers to learn commuting patterns, origins, and destinations. The project team also collected the lease agreements from all existing Park and Ride lots to better understand the terms of those agreements. More information regarding the existing Park and Ride lots can be found in Section 6 of this document.

8.2 Step 2: Major Employer and Municipality Input

After reviewing the existing Park and Ride locations, the second step in the site selection process was to host two stakeholder meetings on February 7, 2018 to gather and collect feedback from the large employers and the municipalities. More information about these meetings can be found in Section 7 of this document.

8.3 Step 3: Site Identification

Based on the geographic distribution of the existing Park and Ride facilities, and based on the feedback gained from the major employers and municipalities, the third step in the site selection process was for the project team to identify areas where they would concentrate efforts for finding Park and Ride facilities. The high capacity corridors and regional destinations identified in the draft Regional Transit Framework Plan were considered and potential locations identified along the corridors and evaluated. Preference was given to properties with a minimum of five acres or more that are owned by governmental agencies when scouting for potential lots. Other considerations included vacant or underutilized parcels near high capacity corridors or existing parking areas with lease potential.

8.3.1 Land / Acreage

The BCD region is experiencing rapid growth and increases in real estate prices. Given that much of the land in the region is extremely expensive, BCDCOG directed the project team to give a preference for government owned property. Shared use of facilities with other governmental agencies requires

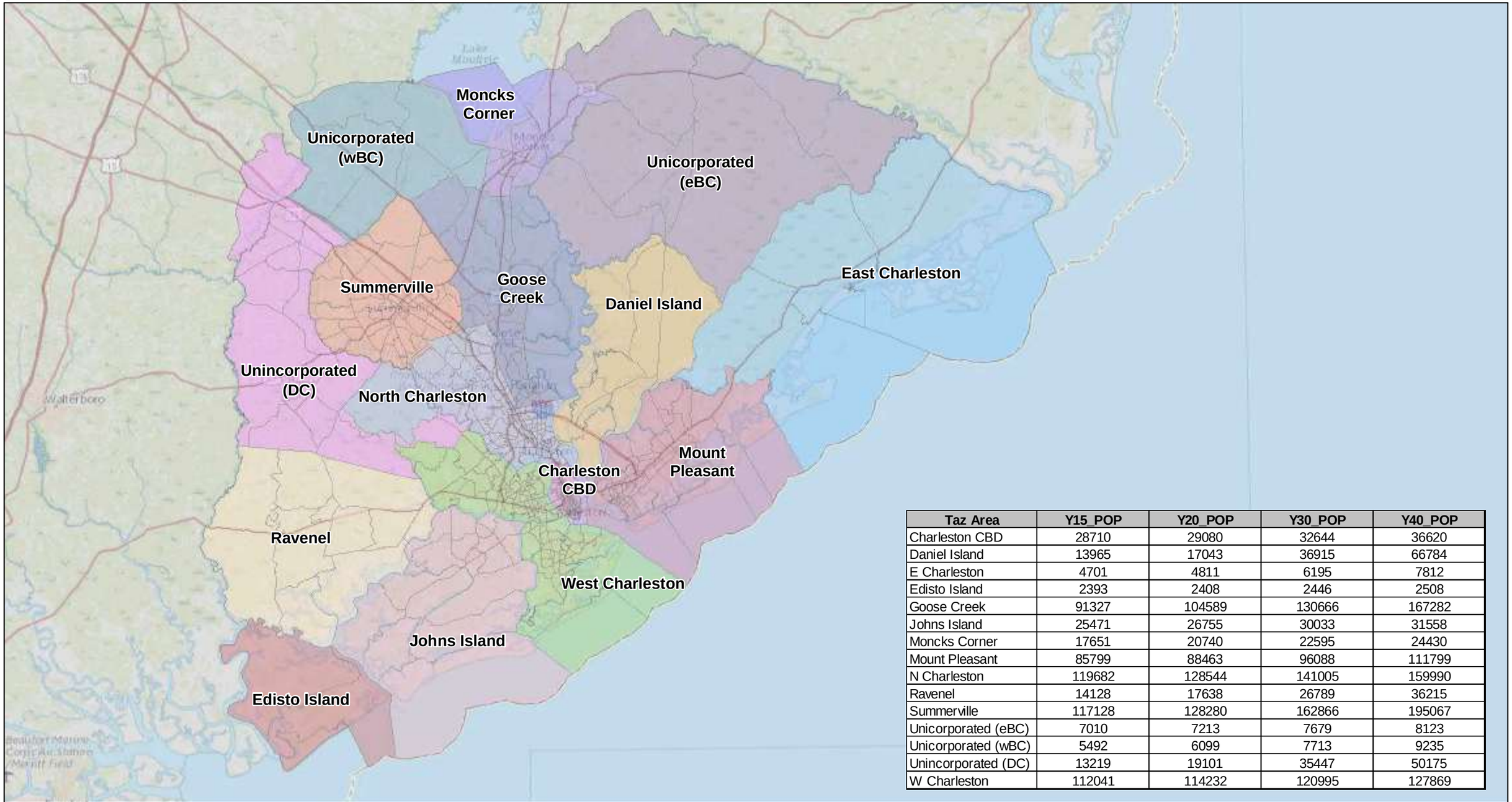
agreements but can provide cost sharing opportunities. Privately owned facilities with churches, shopping centers or business offer the cost effective benefit of increasing utilization an existing paved facility with little or no upfront capital costs. When identifying potential Park and Ride locations, the project team conducted a Geographic Information System (GIS) search of all properties in that area that were publicly owned.

8.3.2 Growth Patterns / Census Data

Park and Ride facilities are most successful in areas of dense and growing populations. To better understand the characteristics of the region, the project team analyzed population data from the U.S. Census Bureau and also the CHATS Traffic Model.

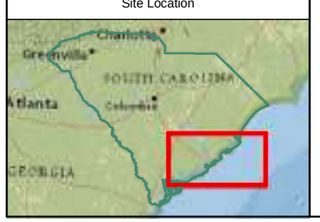
Based on the population data from 2015 and projected population, the population growth rates for 2020, 2030 and 2040 were computed for each traffic analysis zone (TAZ) and are shown in **Figure 5**.

Path: L:\Group\IT_GIS\GIS Projects\Transportation_GVL\Park and Ride Study\Maps\Tammy_DO NOT CHANGE\Taz_Population Map.mxd



Taz Area	Y15_POP	Y20_POP	Y30_POP	Y40_POP
Charleston CBD	28710	29080	32644	36620
Daniel Island	13965	17043	36915	66784
E Charleston	4701	4811	6195	7812
Edisto Island	2393	2408	2446	2508
Goose Creek	91327	104589	130666	167282
Johns Island	25471	26755	30033	31558
Moncks Corner	17651	20740	22595	24430
Mount Pleasant	85799	88463	96088	111799
N Charleston	119682	128544	141005	159990
Ravenel	14128	17638	26789	36215
Summerville	117128	128280	162866	195067
Unicorporated (eBC)	7010	7213	7679	8123
Unicorporated (wBC)	5492	6099	7713	9235
Unincorporated (DC)	13219	19101	35447	50175
W Charleston	112041	114232	120995	127869

Site Location



Legend

- Population_Erase
- Charleston CBD
- Daniel Island
- East Charleston
- Edisto Island
- Goose Creek
- Johns Island
- Moncks Corner
- Mount Pleasant
- North Charleston
- Ravenel
- Summerville
- Unicorporated (eBC)
- Unicorporated (wBC)
- Unincorporated (DC)
- West Charleston

Sources:
Aerial: Bing Maps through ESRI
Map Projection: SC State Plane

TAZ Population Map

0 20,000 40,000 80,000 Feet

1 inch = 40,000 feet

AECOM

BCDCOG COUNCIL OF GOVERNMENTS

August 2018

Figure 5

TAZ areas located along I-26 corridor, namely Summerville, North Charleston, and West Charleston, are currently the most populated areas in the Berkley-Charleston-Dorchester TriCounty region and are expected to grow with the projected population for Summerville to be approximately 200,000 by 2040. Areas located further away from the I-26 corridor, namely Daniel Island, Ravenel and the Unincorporated Dorchester County (DC) areas, although less populated, have the highest growth rates. These projected population and growth rates are shown numerically in **Table 10** and graphically in **Figure 6** and **Figure 7.**

Table 10 TAZ Population and Growth Rates

Taz Area	Population				Growth Rates		
	Y15	Y20	Y30	Y40	Y20	Y30	Y40
Charleston CBD	28,710	29,080	32,644	36,620	0.26%	0.86%	0.98%
Daniel Island	13,965	17,043	36,915	66,784	4.06%	6.70%	6.46%
E Charleston	4,701	4,811	6,195	7,812	0.46%	1.86%	2.05%
Edisto Island	2,393	2,408	2,446	2,508	0.13%	0.15%	0.19%
Goose Creek	91,327	104,589	130,666	167,282	2.75%	2.42%	2.45%
Johns Island	25,471	26,755	30,033	31,558	0.99%	1.10%	0.86%
Moncks Corner	17,651	20,740	22,595	24,430	3.28%	1.66%	1.31%
Mount Pleasant	85,799	88,463	96,088	111,799	0.61%	0.76%	1.06%
N Charleston	119,682	128,544	141,005	159,990	1.44%	1.10%	1.17%
Ravenel	14,128	17,638	26,789	36,215	4.54%	4.36%	3.84%
Summerville	117,128	128,280	162,866	195,067	1.84%	2.22%	2.06%
Unincorporated (eBC)	7,010	7,213	7,679	8,123	0.57%	0.61%	0.59%
Unincorporated (wBC)	5,492	6,099	7,713	9,235	2.12%	2.29%	2.10%
Unincorporated (DC)	13,219	19,101	35,447	50,175	7.64%	6.80%	5.48%
W Charleston	112,041	114,232	120,995	127,869	0.39%	0.51%	0.53%

Figure 6 TAZ Population

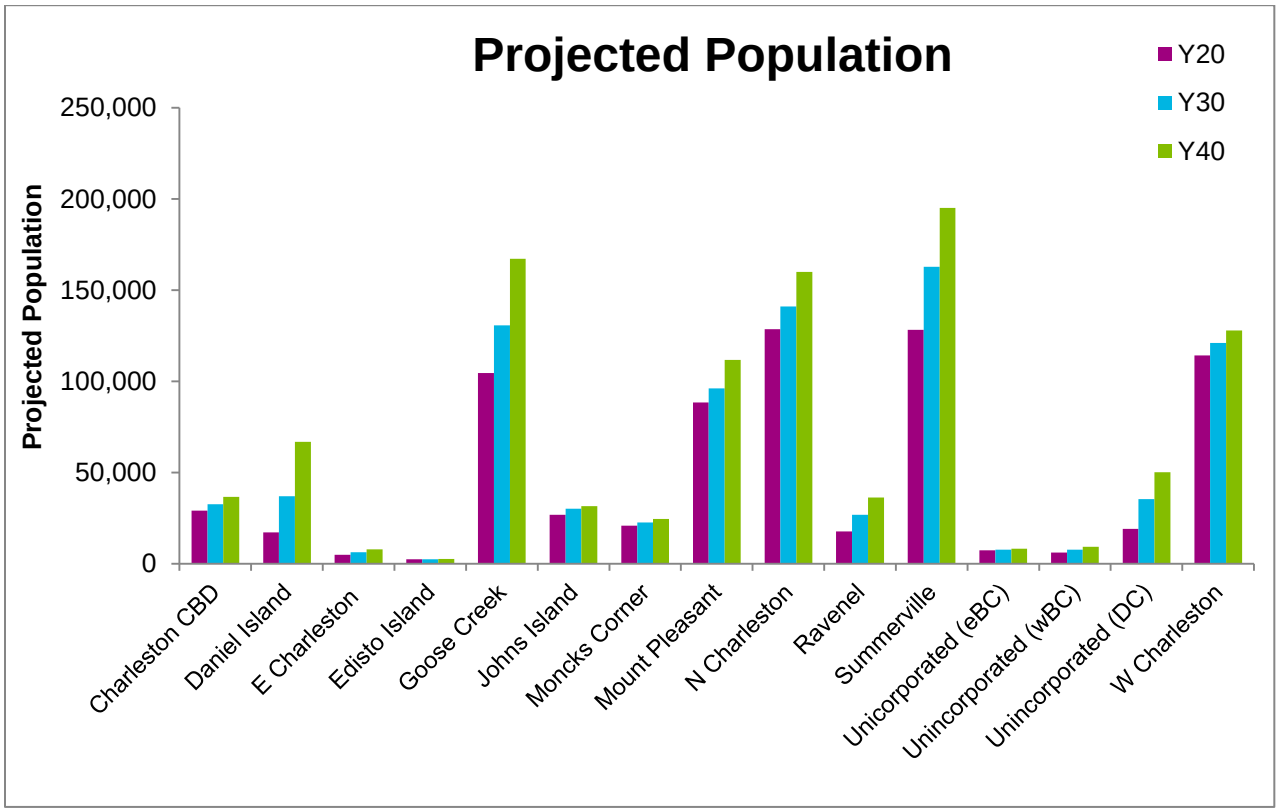
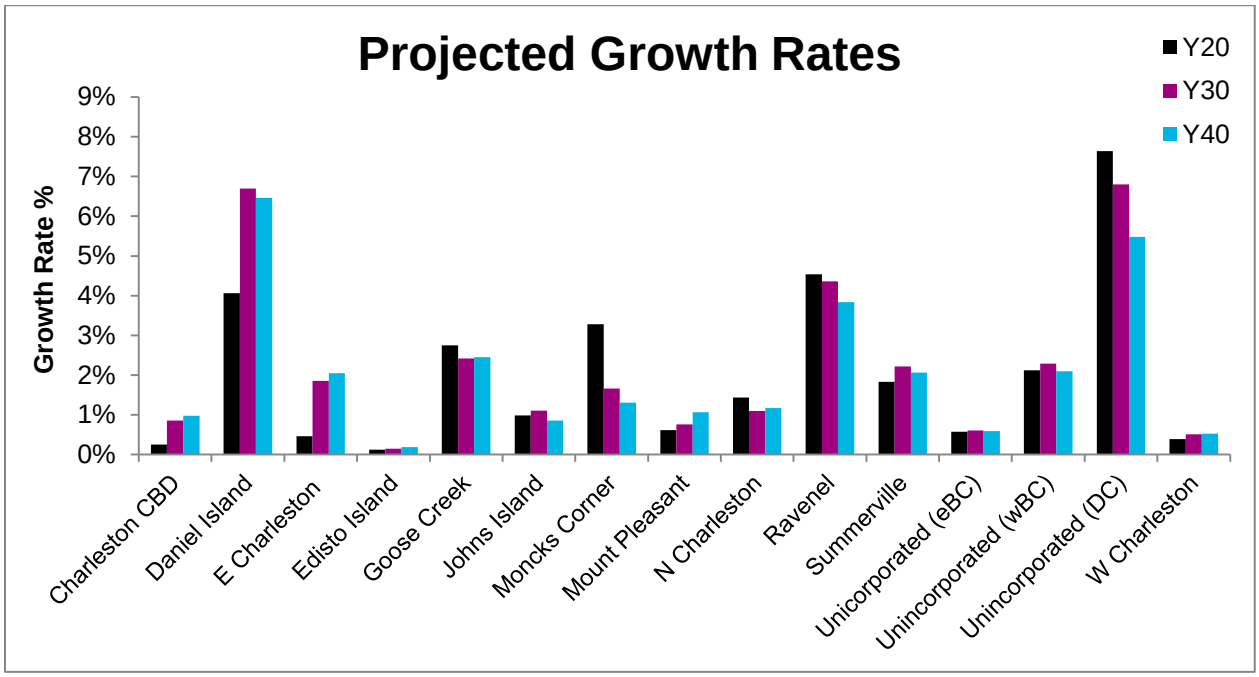
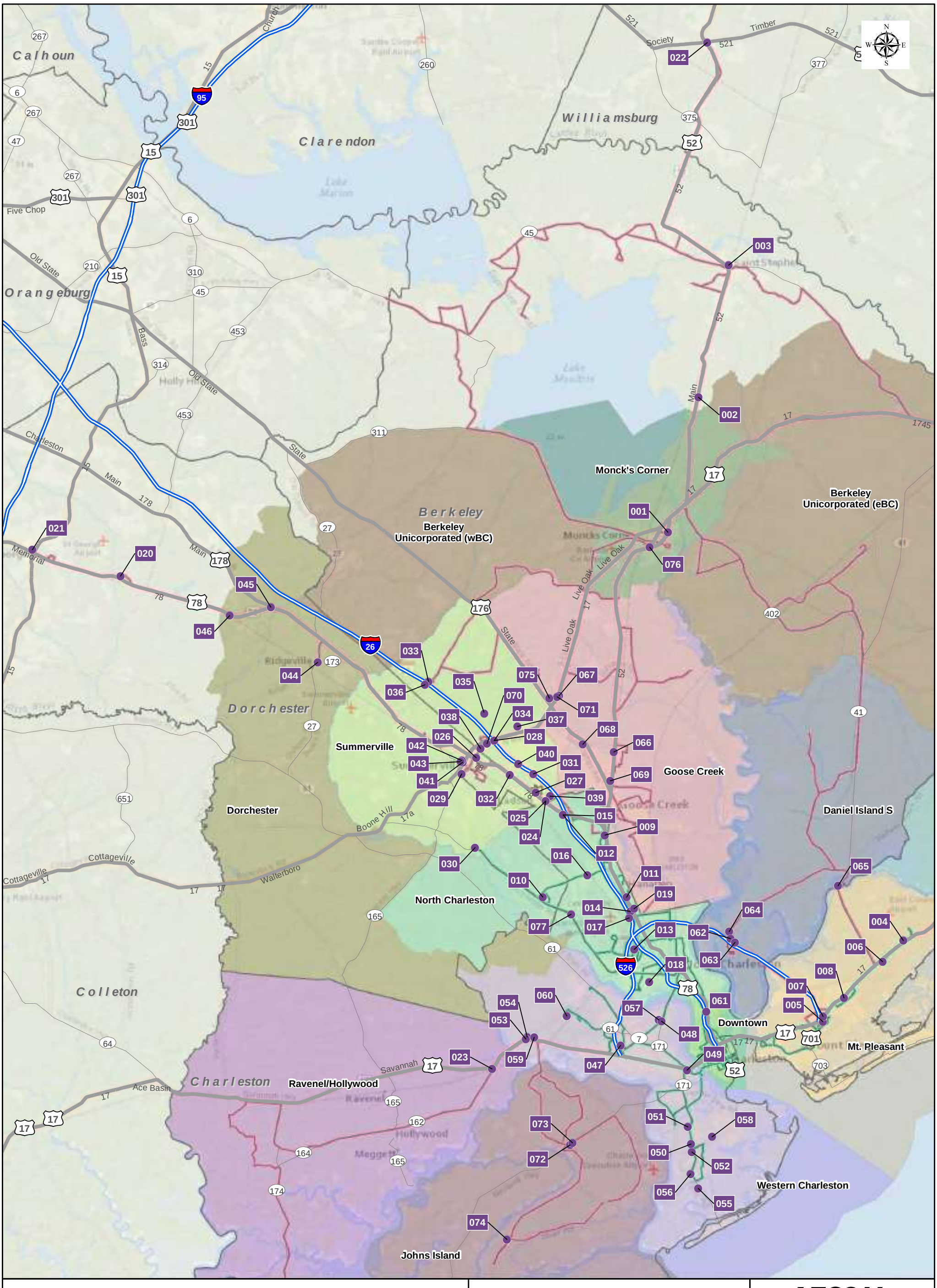


Figure 7 TAZ Growth Rate



A map of all 77 Park and Ride sites is shown on **Figure 8**.


Calhoun
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Williamsburg
Orangeburg
Berkeley
Dorchester
Colleton
Charleston
Berkeley Unicorporated (wBC)
Monck's Corner
Berkeley Unicorporated (eBC)
Summerville
Goose Creek
Dorchester
Daniel Island S
North Charleston
Downtown
Mt. Pleasant
Ravenel/Hollywood
Western Charleston
Johns Island
Five Chop
Ridgeville
Walterboro
Cottageville
Ace Basin
Hollywood
Meggett
Holly Hill
Lake Marion
Lake Moultrie
Society
Timber
Main
Live Oak
Boone Hill
Bass
Old State
Memorial
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074
Legend
Park and Ride Ranking Locations
CARTA Bus Routes
Tri-County Link (TCL) Bus Routes
County Line
TAZ Zones
Berkeley
Daniel Island S
Dorchester
Downtown
Eastern Charleston
Goose Creek
Johns Island
Monck's Corner
Mt. Pleasant
North Charleston
Ravenel/Hollywood
Summerville
Western Charleston
Considered Park and Ride Locations
0 12,500 25,000 50,000 Feet
1 inch = 25,000 feet
AECOM
BCDCOG
May 2018
Figure 8
L:\Group\IT_GIS\GIS Projects\Transportation_GVL\Park and Ride Study\Maps\20180529\Park&RideLocations_20150529.mxd

8.4 Step 4: Stakeholder Field Review

After the project team reviewed the existing sites, engaged the stakeholders, and then identified sites based on data, the fourth step was to take the stakeholders out in the field and look at 21 of the sites. The Stakeholder Field Visit occurred on April 11, 2018. More information can be found about the site visit in Section 7.5 of this document.

8.5 Site Scoring

A scoring matrix was developed to sort through and prioritize the nearly 80 potential sites to a more manageable set of recommendations. Based on the American Association of State Highway and Transportation Officials (AASHTO) *Guide for Park and Ride Facilities*[1], the Florida Department of Transportation's (FDOT) *State Park and Ride Guide*[2], and similar studies completed by AECOM for other clients, the project team decided on the following five criteria to be used to score potential Park and Ride sites:

[1] American Association of State Highway and Transportation Officials, Guide for Park and Ride Facilities, November 2004.
[2] Florida Department of Transportation, State Park and Ride Guide, June 1, 2012.

Table 11 Site Criteria

Site Criteria	Explanation
Visibility	How well can the site be seen from an adjacent roadway?
Safety	Would users feel safe leaving their car there for long periods during the day or night?
Accessibility	Will it be easy for traffic to get into and out of the Park and Ride site?
Topography Site Restrictions	Does the site contain certain elements that would make it difficult to develop as a Park and Ride facility? Wetlands?
Transit Connectivity	Is the site located on a current transit line? Is the site located on the future BRT site? Is the site location on an identified High Capacity Transit Route?

Scoring System: For each site, the scorers rated the site high, medium, or low. For example, if a site was located along the proposed Bus Rapid Transit line, the scorer would likely rate it "high" for transit connectivity. Scores were then converted into a numbering system with High = 3, Medium = 2, and Low = 1. Twenty-one of the sites were scored by stakeholders during the site visit on April 11, 2018. The remaining sites were scored by the project team. All scores were entered into a tabulated matrix to identify the high scoring sites. A summary of the scores is in **Table 12** with copies of the score sheets located in **Appendix C**.

During the scoring process, project team members gave a preference to publicly owned sites at the direction of BCDCOG. Not all sites evaluated were publicly owned and some of the recommended sites are currently privately owned. The project team also made an effort to geographically distribute Park and Ride locations throughout the entire area based on growth patterns and commuter patterns. Roads that have higher daily traffic (ADT) are better served by Park and Ride facilities along with routes were identified as high capacity transit routes. Scoring was also based on an analysis of TAZ zones with higher population density. Those TAZ's that have higher population density will generally experience higher Park and Ride usage. And finally, AASHTO Park and Ride Guidance recommends that all Park and Ride facilities be located within 25 miles of the activity center. In this case, the activity center is the Charleston peninsula and all recommended Park and Ride facilities in this study are within 25 miles of the activity center.

Table 12 Stakeholder Field Review Scores

Site #	Location	Visibility	Safety	Accessibility	Topography Site Restriction	Transit Connectivity	Total Score
062	I-526 at Clements Ferry Road site #1	2.8	2.7	2.5	2.3	2	**12.3**
063	I-526 at Clements Ferry Road site #2	3	2.7	2.2	2.3	1.8	**12**
007	I-526 at Hungryneck Boulevard	3	2.4	1.2	2.2	2.6	**11.4**

Site #	Location	Visibility	Safety	Accessibility	Topography Site Restriction	Transit Connectivity	Total Score
008	US 17 at Isle of Palm Connector	3	2.8	1.2	1.7	2.3	**11.0**
049	VA Lot on US 17	2.7	3	3	3	3	**14.7**
023	Hollywood Visitors Center (future site)	1.3	1.6	1.6	2.5	1.3	**8.3**
051	Walgreens at Camp and Folly Roads	2.7	2.5	2.6	2	2.1	**11.9**
054	Bees Ferry Road at Bear Swamp Road	2.3	2.5	2.2	2.3	1.7	**11**
053	US 17 at Bees Ferry Road	2.3	2.5	2.2	2.3	1.7	**11**
048	Old Piggly Wiggly on Sam Rittenberg Road	3	3	2.9	3	2.8	**14.7**
016	Ashley Phosphate at Palmetto Commerce Parkway	2.3	1.8	1.7	3	2.5	**11.3**
015	I-26 at US 78 site #1	3	2.8	1.8	2.5	2.5	**12.6**
012	I-26 at US 78 site #2	2.7	2.8	2.8	2.8	2.5	**13.6**
025	US 78 at College Park Road	3	3	3	2	3	**14**
031	I-26 WB Abandoned Rest Area	2.9	2.6	2.5	2.8	2.1	**12.9**
032	US 78 at Royle Road	2.9	2.1	2.7	2.6	2.4	**12.7**
026	E 5th North Street at Berlin Myers Parkway	3	2.8	2.6	2.9	2.6	**13.9**
028	I-26 at US 17 Alternate	3	2.7	2.9	3	1.8	**13.4**
033	I-26 at Jedburg Road site #1	3	2.7	1.9	2.2	1.3	**11.1**
036	I-26 at Jedburg Road site #2	3	2.3	1.3	2.1	1.3	**10**
040	I-26 at Royle Road	2.9	2.1	2.7	2.6	2.4	**12.7**

8.6 21 Highest Ranking Site Locations

The complete list and scores of all site locations considered are shown in **Appendix D**. The scores for all locations were compared and those ranking in the top 35 percentile or approximately 25 sites were identified and are shown in **Table 13.**

Table 13 21 Highest Ranking Sites

Site #	Location	Acres	Ranking	Comments
009	N Charleston / Rivers Avenue 8551 Rivers Ave N Charleston, SC 29406	1.4	Existing High	Construction of new publically owned lot underway.
047	Citadel Mall 2070 Sam Rittenberg Blvd Charleston, SC 29407	80	Existing High	Secure long-term agreement with property owner.
010	Festival Centre 5101 Ashley Phosphate Road N Charleston, SC 29418	45	Existing High	Secure long-term agreement with property owner.
076	Berkeley County 1003 Highway 52 Moncks Corner, SC 29461	0.4	Existing High	Maintain and improve existing wayfinding signage.
029	Dorchester County E 6th South Street Summerville, SC 29483	3.0	Existing High	Maintain and improve existing wayfinding signage.
030	Oakbrook 10152 Dorchester Road Summerville, SC 29485	8.8	Existing High	Secure long-term agreement with property owner.
050	James Island Walmart 1231 Folley Road Charleston, SC 29412	22.8	Existing High	Secure long-term agreement with property owner.
006	Mt Pleasant Walmart 3000 Proprietors Place Mt Pleasant, SC 29466	78.8	Existing High	Secure long-term agreement with property owner.
019	North Charleston Center 5950 Rivers Ave N Charleston, SC 29406	20.7	New High	Secure long-term agreement with property owner.
031	I-26 WB Abandoned Rest Area North of College Park Ladson, SC 29456	5.5	New High	Secure agreement with the SCDOT to utilize interstate r/w.
075	Roper Hospital 995 US Hwy 176 Goose Creek, SC 29445	109	New Mid-Term	Begin process to secure long-term agreement with property owner.
015	I-26 at US 78 site#1 NW corner of I 26 interchange N Charleston, SC 29445	17.9	New Mid-Term	Begin process to secure long-term agreement with Charleston Public Works.
013	Tanger Outlets 4840 Tanger Outlet Blvd N Charleston, SC 29418	15	New Mid-Term	Begin process to secure long-term agreement with property owner.
035	Nexton Site Summerville, SC 29486	1000+	New Mid-Term	Begin process to secure long-term agreement with property owner.
004	Roper Hospital	78.8	New Mid-Term	Begin process to secure

Site #	Location	Acres	Ranking	Comments
	3510 US 17 Mt Pleasant, SC 29466			long-term agreement with property owner.
007	I-526 at Hungry Neck Blvd NW Corner Mt Pleasant, SC 29466	5.4	New Mid-Term	Begin process to secure long-term agreement with Town of Mt Pleasant.
032	US 78 at Royle Road 10233 Highway 78 Ladson, SC 29456	9.1	New Long-Term	Advance as part of the LCRT project.
026	E 5th North St at Berlin Myers Parkway Summerville, SC 29486	58.9	New Long-Term	Advance with LCRT project development.
027	Exchange Park Fairgrounds 9850 Highway 78 Ladson, SC 29456	139.3	New Long-Term	Secure long-term agreement with property owner. Advance with LCRT project development
062	I-526 at Clements Ferry Road NE Corner Charleston, SC 29492	2.7	New Long-Term	Begin process to purchase or secure long-term agreement with property owner.
060	Bees Ferry Road Walmart 3951 W Ashley Circle Charleston, SC 29414	29.5	New Long-Term	Begin process to secure long-term agreement with property owner.

9. Recommendations

A complete version of the scoring matrix can be seen in **Appendix C**. Based on the results of the stakeholder feedback, data collected, and site selection scoring, the project team offers the following recommendations and map of these recommended locations is shown on **Figure 9**.

9.1 Existing Park and Ride Locations

The project team knows that ultimately the success of a Park and Ride program, moving cars off congested roads, depends on having multiple Park and Ride facilities within a region. With that in mind, the project team recommends that BCDCOG keep and maintain all 19 of their existing Park and Ride facilities as funding allows. This study does not recommend the elimination of any Park and Ride facilities. In fact, existing Park and Ride facilities that do not rank highly could be expanded to provide carpool/vanpool opportunities. Smaller parking areas can be used effectively for carpools and vanpools, as specifically mentioned in the AASHTO Park and Guide (November 2004).

However, there are actions that can be taken by BCDCOG to improve eight of the most used and most important existing Park and Ride facilities. Those recommendations are summarized in the **Table 14** below.

Table 14 Existing Park & Ride Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
N Charleston / Rivers Avenue (009)	Most highly used PNR	Follow through with plans to build a new PNR on the 5-acre site at Ontranto.	Construction Underway
Citadel Mall (047)	Highly used PNR	Work with mall owner to include PNR in redevelopment plans.	Low $0-$1M
Festival Centre (010)	Highly used with room to expand existing PNR	Extend the terms of the agreement for long-term needs.	Low $0-$1M
Berkeley County (076)	Moderate use but has formal agreement in place and on future high capacity route.	Maintain and improve existing wayfinding signage.	Low $0-$1M
Dorchester County (029)	Moderate use but has formal agreement in place and on future high capacity route.	Maintain and improve existing wayfinding signage.	Low $0-$1M
Oakbrook (030)	Better wayfinding signage at this location could result in more usage.	Maintain location; extend the terms of the agreement for long-term needs.	Low $0-$1M
James Island Walmart (050)	Only PNR on James Island. Improve existing wayfinding signage.	Need to formalize an agreement.	Low $0-$1M
Mt Pleasant Walmart (006)	This location is at the North end of the proposed High Capacity Route.	Formalize agreement with property owner and improve existing wayfinding signage. If not able to formalize consider Site 004.	Low $0-$1M

9.2 New Park and Rides – Short-Term Recommendations

Based on our analysis the project team recommends the following short-term recommendations for new Park and Ride facilities. The project team defines “short-term” as an action that can be taken in the next 1-2 years.

Table 15 New Park & Rides – Short-term Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
North Charleston Center (019)	Existing parking lot; close to I-26 with good access.	Approach landowner for a lease agreement.	Low $0-$1M
I-26 WB Abandoned Rest Area (031)	5.5 acres site with good access from the frontage road; buses could enter from the interstate or frontage road.	Approach SCDOT about "repurposing" the rest area.	Med $1-$3M

9.3 Mid-Term Recommendations

Based on our analysis the project team recommends the following mid-term recommendations for new Park and Ride facilities. The project team defines "mid-term" as an action that can be taken in the next 3-5 years.

Table 16 New Park & Rides - Mid-term Recommendations

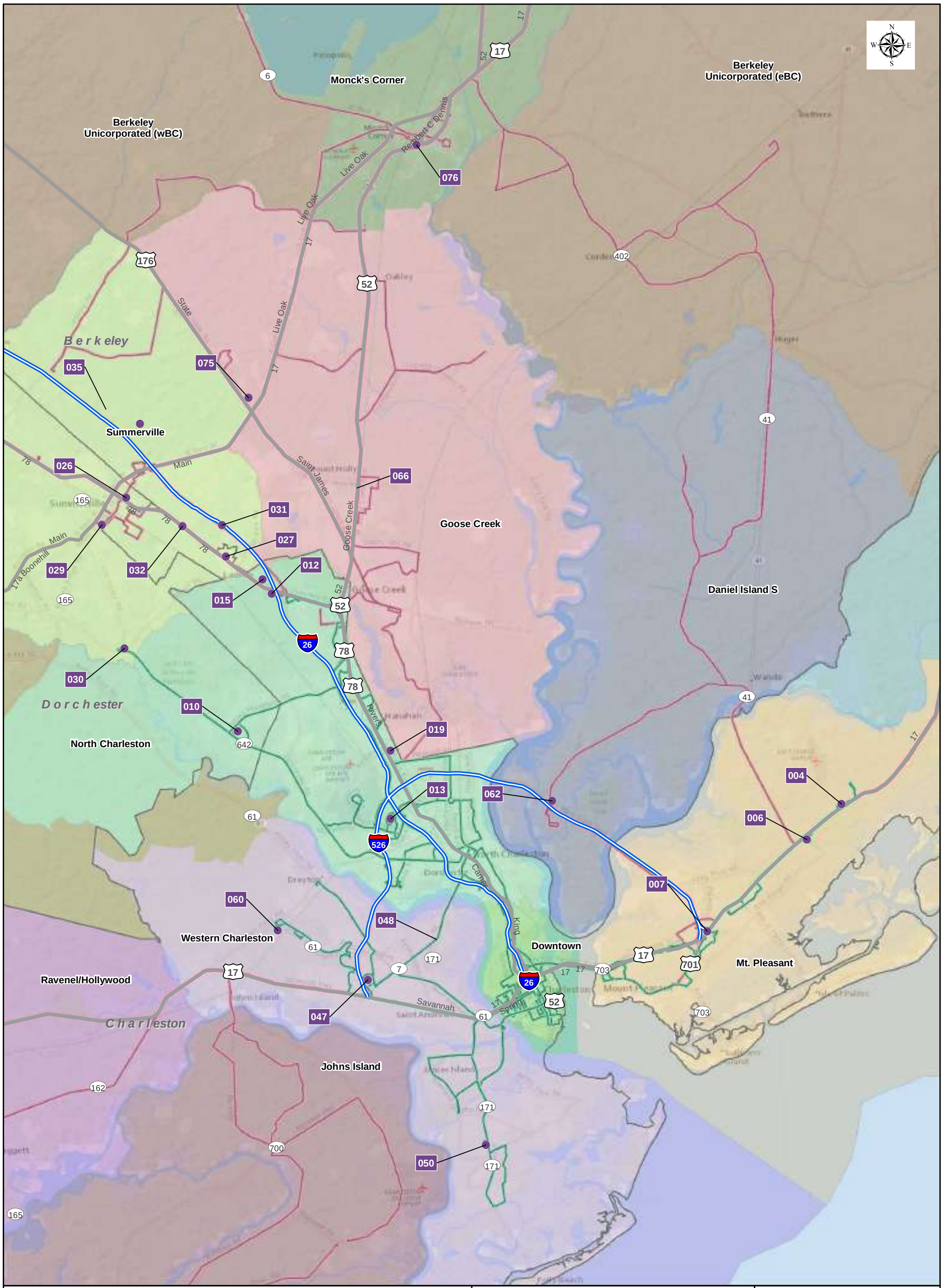
Park & Ride Location	Comment	Recommendation	Estimated Costs
Roper Hospital Goose Creek (075)	Rapidly developing area near intersection of US 176 and US 17A.	Approach landowner about leasing or purchasing property for PNR	Med $1-$3M
I-26 at US 78 site #1 (015)	Rapidly developing area with easy access to I-26.	Approach public works about using public property for PNR site.	Med $1-$3M
Tanger Outlets (013)	Multiple High Capacity Routes, dense population, but limited available land.	Approach landowner about leasing or purchasing property for PNR.	Low $0-$1M
Nexton Site (035)	Rapidly growing area with lots of commuter traffic.	Partner with Nexton to identify and develop site for PNR and Transportation Hub.	Med $1-$3M
Roper Hospital Mount Pleasant (004)	Just outside of limits of future High Capacity Route but located prior to congested area. May be able to partner on more than one site.	Approach landowner about leasing or purchasing property for PNR.	Med $1-$3M
I-526 at Hungry Neck Boulevard (007)	Land owned by Town of Mt. Pleasant in a prime location (5.4 acres)	Approach Town of Mt. Pleasant to buy or lease this property	High $3-$7M

9.4 Long-Term Recommendations

Based on our analysis the project team recommends the following long-term recommendations for new Park and Ride facilities. The project team defines “long-term” as an action that will be more than 5 years in the future.

Table 17 New Park & Rides – Long-term Recommendations

Park & Ride Location	Comment	Recommendation	Estimated Costs
US 78 at Royle Road (032)	Recommended by I-26 Alt Study along the proposed BRT route with significant population.	Advance with LCRT project development	High $3-$7M
East 5th North Street at Berlin Myers (026)	Raw Ground; excellent site for a future multimodal center with BRT and PNR capabilities.	Advance with LCRT project development.	Med $1-$3M
Exchange Park Fairgrounds (027)	Ample available parking; on US 78 which is a BRT line.	Advance with LCRT project development	Low $0-$1M
I-526 at Clements Ferry Road (062)	Howell property, excellent visibility and very close to I-526. Significant commuter traffic and growth anticipated.	Approach landowner about leasing or purchasing property for PNR	High $3-$7M
Bees Ferry Road Walmart (060)	In a rapidly growing area and along future High Capacity Route. Available adjacent land should be considered.	Approach landowner about leasing property for PNR. Consider available adjacent property if agreement cannot be secured.	Low $0-$1M



Legend

- Park and Ride Locations Considered
- CARTA Bus Routes
- Tri-County Link (TCL) Bus Routes
- County Line

TAZ Zones

- Berkeley
- Daniel Island S
- Dorchester
- Downtown
- Eastern Charleston
- Goose Creek
- Johns Island
- Monck's Corner
- Mt. Pleasant
- North Charleston
- Ravenel/Hollywood
- Summerville
- Western Charleston

Recommended Park and Ride Locations

0 7,500 15,000 30,000 Feet

1 inch = 15,000 feet

AECOM

BCDCOG Council of Governments

May 2018

Figure 9

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10. Conceptual Designs

Park and Ride lots can be very basic with a parking area, usually paved, and wayfinding signing or extravagant with amenities such as bicycle racks, covered shelters, trash receptacles, restrooms, vending machines, lighting, electric-vehicle charging stations, security, public art and landscaping. Since all roadway users are pedestrians at some point in their trip, consideration of pedestrian movements from the parking area to the bus loading/unloading area will be addressed in the design meeting current ADA standards. If vehicle storage capacity is an issue, valet assisted parking can maximize vehicle parking in small lots located in desirable locations.

Sites considered should not have environmental or drainage issues and be fairly level for affordable construction. Safe and easy access into the public roadway system is a must with good sight distance for drivers of personal vehicles and public transit busses. Improved branding and wayfinding of new and existing Park and Ride facilities is essential.

10.1 Design Criteria

AASHTO provides a *Guide for Park and Ride Facilities* dated November 2004. Recommendations are provided for the planning process, measures of effectiveness, location and design. A good site location is identified as one that has strong demand, can be integrated with the community and has reduced financial and risk impacts to the agency. Park and Ride lots are recommended to be located no closer than four miles and no further than 25 miles from the activity center or in our case downtown Charleston. Studies indicate that facilities located more than 30 miles are less likely to be successful. Locations upstream of reoccurring congested areas are also likely to attract commuters trying to avoid driving through congested areas.

Studies have shown that 50% of a typical Park and Ride facilities demand is from a two and one-half mile radius of the lot and that lots located in areas with the greatest population density are more likely to be successful. Visibility from interstates or major arterials with AADT volumes exceeding 20,000 is an important factor to develop demand quickly. Users also want security features such as visibility, lighting, telephones and cameras. Wayfinding, signage, and branding can also help encourage usage and the likelihood of a successful project. Pedestrian and bicycle connectively can also promote facility usage.

Since the effective capacity of a Park and Ride lot occurs when 85% of the parking lot is regularly filled, sites with expansion potential are desirable. It is generally easier and quicker to expand a successful site than to identify and construct a new one. Some contributing factors supporting Park and Ride demand are listed below:

- Express bus trips
- Ratio of auto costs to transit costs
- Lot located between 4 to 25 miles from activity center
- Visible from freeway or major arterial
- Population density within 2 ½ mile radius
- Adjacent to high use transit corridor
- Near multifamily housing
- Shorter transit schedule times
- Traffic volumes and congestion on nearby roadways
- Parking constraints and costs
- Employment at activity center
- Transit priority policies
- Perceived safety
- Paved parking
- Lighting
- Passenger shelter
- Passenger amenities
- Transit information
- Ease of access

Lot size can vary based upon estimated demand and site characteristics. Park and Ride facilities must meet ADA requirements for ramps, shelters and parking spaces. Roadway design features must meet design criteria for transit busses in lane width and turning radii and to provide accommodations for

kneeling busses if required. The minimum turning radius for a typical bus is 45 feet and accommodations for movements into and out of the lot are necessary. Shelters must be set back or have adequate vertical clearance for buses to serve passengers. Sight distance requirements must be met for safe entrance into the roadway system for busses and passenger vehicles.

Types of Parking Required

- **ADA Parking –** One accessible space for every 25 spaces, up to 100 spaces. One accessible space for every 50 spaces, up to 200. One accessible space for every 100, up to 500 spaces.
- **High Occupancy Vehicles** – Consider reserved spaces for Vanpools and Carpools with preferential parking.
- **Passenger Pick up and Drop Off –** Provide 15-minute parking or kiss-and-ride spaces that can be used for pick-up, drop-off, taxis or Uber.
- **Bicycle –** Bicycle racks and lockers should be considered at each new facility to encourage multi-modal transportation.
- **Car Sharing Services –** Consider providing spaces for car sharing. Private companies, such as Zip Car offer these services.
- **Alternative Fuel –** Consider providing dedicated spaces with recharging stations for alternative fuel vehicles.
- **Single Occupancy –** 95% or more of the spaces should be dedicated to the traditional commuter vehicle, a single occupancy vehicle.

Stormwater Design
Park and Ride designs must conform to state and local regulatory requirements. Standing and flowing water should be avoided in areas where pedestrians walk or stand. On-site retention of stormwater runoff should conform to local codes. Bioswales may be another option for stormwater capture and treatment and should be investigated.

Pavement Design
Pavement should be designed with a 20-year minimum life expectancy and for the expected loads. Multiple pavement types may be required. Permeable pavement and porous concrete for parking stalls are options that should be considered.

Wayfinding Signage
Guide signs should be provided to the facility from the interstate and/or major arterial. This is important to guide users and promote the lot. Signs should meet the following criteria:

- Conform to the latest edition of the *Manual for Uniform Traffic Control Devices* (MUTCD).
- Assume drivers do not know where they are going.
- Should direct you from major interstates/arterials and at all decision points.

10.2 Conceptual Site Designs

Conceptual site designs are provided for the eight highest potential locations identified in section 8.7. Each of these sites is located on a high capacity corridor which indicates strong demand, convenient for bus and vehicle access, and located within 25 miles of Charleston's Central Business District. The project team acknowledges that there may be other job centers such as North Charleston and Summerville. However, guidance for where to build Park and Ride lots generally states that they should be located within 25 miles of an activity center. Additionally, conceptual layouts are shown in **Figures 10** through **19** with cost estimates provided in **Appendix E**.

10.3 Maintenance

If the Park and Ride facilities are designed as outlined in the Design Considerations section above, they should have a 20 year minimum life expectancy on the infrastructure; however there will be routine maintenance that is expected for these facilities as outlined below.

Pavement- It is anticipated that the pavement would be resurfaced once during the 20 years. Additionally it is assumed the lot would receive a maintenance overlay twice during the 20 years. Estimated costs for resurfacing and overlays are anticipated to be 110,000 and $40,000, respectively.

Lighting- It is anticipated that the lights would be Light Emitting Diode (LED) and be owned and not leased. It is anticipated that the costs for this would range between $200 and $300 per year/per light.

Landscaping/Irrigation – At a minimum this shall include annual mulching and weed control. If irrigation is installed it shall include the monthly water bills associated with irrigating these areas, however it is recommended that drought tolerate plants be selected for facilities to minimize and/or eliminate this expense. Estimated costs for 100 spaces would range from $1,800 to $3,200 per year.

Other – It is anticipated that trash cans and bus shelters will be provided at these facilities; these would need to be serviced and picked up on a routine basis. Additionally some sites may include restroom facilities; these would need to be checked daily. Other items may include emergency call boxes, signage, bicycle facilities and other items that would need to be addressed on an individual basis.

Table 18 Annual Maintenance Costs (per 100 spaces)

	Annual Operations				Pavement Maintenance				
# of Spaces	Land-scaping/ Irrigation	Electrical	Other	Annual Ops Cost	Slurry Seal (year 7 and 20)	Resur-facing (year 14)	20 Year Total	Annual Pvmt Cost	**Annual Cost**
100	$3,200	$2,400	$850	$6,450	$41,250	$110,000	$192,500	$9,625	**$16,075**

Detailed cost estimates which include estimated Maintenance costs are included in **Appendix E**.

Table 19 Concept Design

Site #	Location	Number of Spaces	Estimated Cost	Land Acquisition Comments	Design Features
047	Citadel Mall	130	Low $0-$1M	Agreement with Landowner	Existing PNR provides shelter on mall side of Mall Perimeter Road. Owner has expressed interest in improving transit opportunities. This concept is for existing site improvements. Future redevelopment of the Citadel Mall should pursue public private partnership opportunities to incorporating future BRT, transit and PNR.
031	I-26 WB Abandoned Rest Area option 1	172	Low $0-$1M	Obtain agreement with SCDOT	Utilizes existing ramps and picnic area, rehabilitated rest room facilities, expanded parking area and new entrance
031	I-26 WB Abandoned Rest Area option 2	322	Med $1M - $3M	Obtain agreement with SCDOT	Provides left turn lanes on Treeland Drive, new shelter areas, maximizes parking area
004	Roper Hospital Mt Pleasant	237	High $3M - $7M	Obtain agreement with Landowner	Provide new parking area and shelters, arterial visibility
007	I-526 at Hungry Neck Blvd option 1	335	Med $1M - $3M	Obtain agreement with Town of Mt. Pleasant/SCDOT	New parking area, new shelters, new access into undeveloped property
007	I-526 & Hungry Neck Blvd option 2	335	High $3M - $7M	Obtain agreement with Town of Mt. Pleasant/SCDOT and Property Owners	Expanded from concept 1 to include access management on US 17 and driveway connection to frontage road with traffic signal at US 17
075	Roper Hospital Goose Creek	237	High $3M - $7M	Obtain agreement with Landowner	Multiple locations available on site, provide new parking area and shelters
015	I-26 at US 78 site #1	251	Med $1M - $3M	Obtain agreement with Charleston Public Works	Provide new parking area and shelters, excellent interstate visibility, driveway access will require a bridge structure
026	E 5th North St at Berlin Myers Parkway	215	Med $1M - $3M	Advance with LCRT project	Provide new parking area and shelters, opportunity to connect to existing signalized intersection.
035	Nexton Site	215	Med $1M - $3M	Obtain agreement with Landowner	Provide new parking area and shelters, multiple possible locations within very large site.

VICINITY MAP

GENERAL NOTES

ACREAGE

10.65 ACRE SITE
2.48 ACRE PARKING LOT

EXISTING DRAINAGE USED

PARKING

7 ACCESSIBLE PARKING SPACES
114 STANDARD PARKING SPACES

121 TOTAL PARKING SPACES

N

0 40' 80'

No.	REVISION	DATE

FIRM

AECOM

PROJECT
CITADEL MALL

Figure 10

PROJECT	PROSPECTIVE	SHEET
DATE	8/09/2018	
SCALE	1" = 40'	

PONDEROSA PINE RD

EASTERN WHITE PINES RD

GROWDEN LN

TREELAND DR

PARK & RIDE ENTRANCE

PROPOSED CHAIN LINK FENCE

PROPOSED SITE DRAINAGE

EXISTING BATHROOM TO BE REHABILITATED (NOT IN COST ESTIMATE)

PROPOSED CHAIN LINK FENCE

PROPOSED SITE DRAINAGE

EXISTING TABLES & AWNINGS TO REMAIN

EXISTING SITE DRAINAGE

EXISTING SITE DRAINAGE

Bus Path

BUS ONLY LANE (WESTBOUND ACCESS)

BUS ONLY LANE

PROPOSED SHELTER

PROPOSED SHELTER

RAMP TO I-26 WB

I-26 WB

I-26 EB

1.6 ACRE SITE APPROX.

164 STANDARD PARKING SPACES
8 ACCESSIBLE PARKING SPACES
172 TOTAL

PROPOSED SITE DRAINAGE
EXISTING SITE DRAINAGE
BUS ONLY LANE

N

0 50 100 150
SCALE FEET
1" = 50'

CONSULTANTS:

BCDCOG PARK & RIDE
CHARLESTON, SOUTH CAROLINA

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: P306170040
SCALE: 1" = 50'
DATE: $DATE$
DESIGNED BY: AJM
DRAWN BY: AJM
CHECKED BY: MLW

SHEET TITLE:
I-26 REST STOP PARK & RIDE EXHIBIT OPTION 1

SHEET NO.
Figure 11
SHEET

$USER$
$DATE$ - $TIME$ - $FILE$

IF THIS DRAWING IS LESS THAN 22" X 34" IT IS A REDUCED SIZE DRAWING

PONDEROSA PINE RD

EASTERN WHITE PINES RD

GROWDEN LN

TREELAND DR

PARK & RIDE ENTRANCE

PROPOSED LEFT ONLY LANE

PROPOSED LEFT ONLY LANE

PROPOSED CHAIN LINK FENCE

PROPOSED BUS ONLY GATE

PROPOSED BIKE RACKS

PROPOSED SHELTER

PROPOSED BUS ONLY GATE

PROPOSED SHELTER

EXISTING SITE DRAINAGE

EXISTING SITE DRAINAGE

Bus Path

Bus Path

Bus Path

BUS ONLY LANE (WESTBOUND ACCESS)

RAMP TO I-26 WB

I-26 WB

I-26 EB

4.6 ACRE SITE APPROX.

310 STANDARD PARKING SPACES
12 ACCESSIBLE PARKING SPACES
322 TOTAL

EXISTING SITE DRAINAGE

PROPOSED ROADWAY

N

0 50 100 150
SCALE FEET
1" = 50'

CONSULTANTS:

BCDCOG PARK & RIDE
CHARLESTON, SOUTH CAROLINA

REVISIONS:

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CHECKED BY: MLW

SHEET TITLE:

I-26 REST STOP
PARK & RIDE
OPTION 2
EXHIBIT

SHEET NO.

Figure 12

SHEET

$USER$ - $TIME$ - $FILE$
$DATE$

IF THIS DRAWING IS LESS THAN 22" X 34" IT IS A REDUCED SIZE DRAWING

GENERAL NOTES

ACREAGE

78.8 ACRE SITE
2.7 ACRE PARKING LOT

0.6 ACRE DETENTION POND EXPANSION

PARKING

7 ACCESSIBLE PARKING SPACES
230 STANDARD PARKING SPACES

237 TOTAL PARKING SPACES

N

0 40' 80'

No.	REVISION	DATE

FIRM

AECOM

PROJECT

ROPER HOSPITAL
AT MOUNT PLEASANT

Figure 13

PROJECT	SHEET
PROSPECTIVE	
DATE 7/30/2018	
SCALE 1" = 40'	

HUNGRY NECK BLVD

MARK CLARK EXPY

N HWY 17

SOUTHBOUND BUS EXIT

PROPOSED BIKE SHARE

PROPOSED BIKE SHARE

PROPOSED SHELTERS

EXISTING PARCEL LIMITS

PROPOSED BUS GATE

PROPOSED CHAIN LINK FENCE

SOUTHBOUND BUS EXIT

PROPOSED WATER RETENTION POND

PROPOSED CHAIN LINK FENCE

PARK & RIDE ENTRANCE

PROPOSED CHAIN LINK FENCE

JOHN DILLIGARD LN

EXISTING PARCEL LIMITS

5.26 ACRE SITE APPROX.

310 STANDARD PARKING SPACES
25 ACCESSIBLE PARKING SPACES
335 TOTAL

EXISTING PARCEL LIMITS

PROPOSED WATER RETENTION (.5 ACRES)

0 50 100 150
SCALE FEET
1" = 50'

CONSULTANTS:

BCDCOG PARK & RIDE
CHARLESTON, SOUTH CAROLINA

REVISIONS:

MARK	DATE	DESCRIPTION

PROJ NO: P306170040
SCALE: 1" = 50'
DATE: $DATE$
DESIGNED BY: AJM
DRAWN BY: AJM
CHECKED BY: MLW

SHEET TITLE:
NORTH HWY 17
PARK & RIDE
EXHIBIT
OPTION 1

SHEET NO.
Figure 14
SHEET

$USER$ - $TIME$ - $FILE$

IF THIS DRAWING IS LESS THAN 22" X 34" IT IS A REDUCED SIZE DRAWING

5.26 ACRE SITE APPROX.

310 STANDARD PARKING SPACES
25 ACCESSIBLE PARKING SPACES
335 TOTAL

EXISTING PARCEL LIMITS

PROPOSED WATER RETENTION (.5 ACRES)

N

0 50 100 150
SCALE FEET
1" = 50'

EXISTING PARCEL LIMITS

PROPOSED ACCESS ROAD

PROPOSED WATER RETENTION POND

PROPOSED CHAIN LINK FENCE

PARK & RIDE ENTRANCE

PROPOSED BUSINESS NEW ACCESS

Bus Path

Bus Path

Bus Path

Bus Path

PROPOSED BUS GATE

PROPOSED SHELTERS

MARK CLARK EXPY

PROPOSED BIKE SHARE

PROPOSED BIKE SHARE

PEDESTRIAN ACCESS

EXISTING PARCEL LIMITS

N HWY 17

PROPOSED MEDIAN

N HWY 17

IF THIS DRAWING IS LESS THAN 22" X 34" IT IS A REDUCED SIZE DRAWING

BCDCOG PARK & RIDE
CHARLESTON, SOUTH CAROLINA

CONSULTANTS:

REVISIONS:

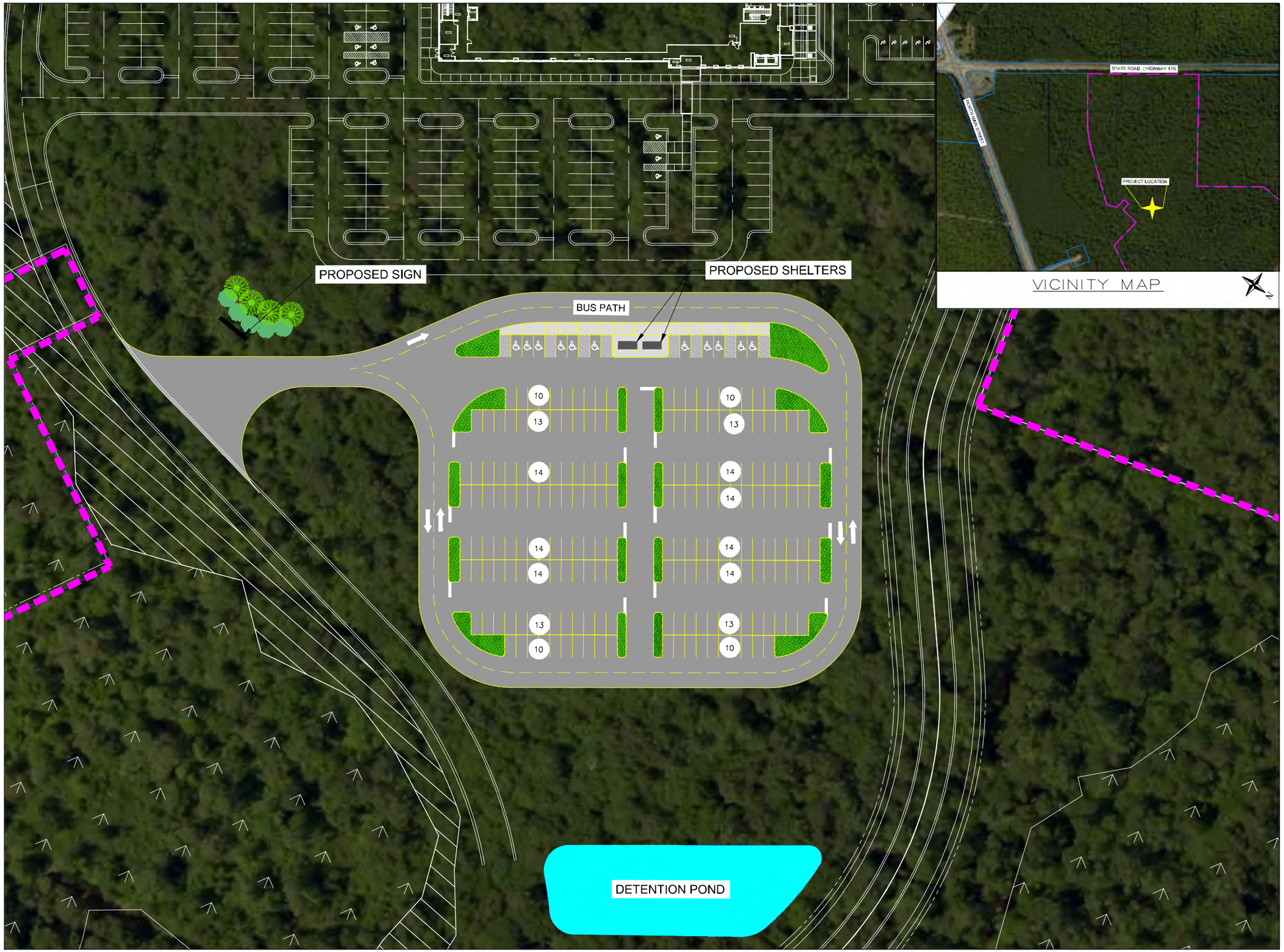
MARK	DATE	DESCRIPTION

PROJ NO: P306170040
SCALE: 1" = 50'
DATE: 7/31/2018
DESIGNED BY: AJM
DRAWN BY: AJM
CHECKED BY: MLW

SHEET TITLE:
NORTH HWY 17
PARK & RIDE
EXHIBIT
OPTION 2

SHEET NO.
Figure 15
SHEET 4 OF 5

wchopkins
7/31/2018 - 11:34:02 AM
ow://hqdvsh01.aw.ramseysoon.com/ramseysoon/Documents/Projects/CR308 - Charleston/P306170040 - BCDCOG Park & Ride Study Site Selection/305.00 - Road/305.01 - Standard Sheets/305.02 - Exhibits/C40rbHWY-17 OPTION 2_WCH



VICINITY MAP

GENERAL NOTES

ACREAGE

109.25 ACRE SITE
2.5 ACRE PARKING LOT

0.43 ACRE DETENTION POND

PARKING

11 ACCESSIBLE PARKING SPACES
204 STANDARD PARKING SPACES

215 TOTAL PARKING SPACES

N

0 40' 80'

No.	REVISION	DATE

FIRM
AECOM

PROJECT
ROPER HOSPITAL
Goose Creek

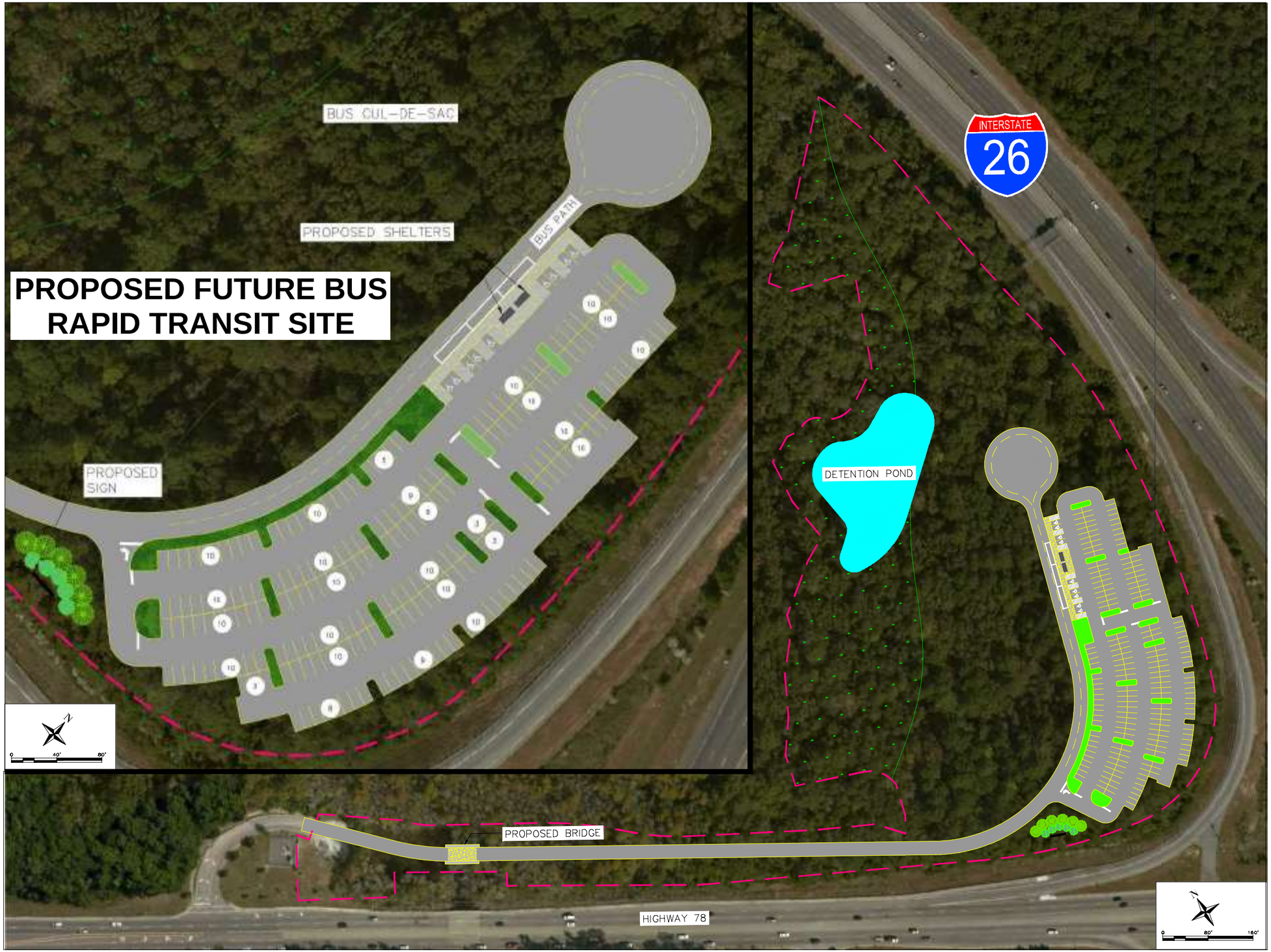
Figure 16

PROJECT
PROSPECTIVE

DATE
7/30/2018

SCALE
1" = 40'

SHEET



GENERAL NOTES

ACREAGE

17.91 ACRE SITE
3.05 ACRE PARKING LOT

0.7 ACRE DETENTION POND

PARKING

9 ACCESSIBLE PARKING SPACES
242 STANDARD PARKING SPACES

251 TOTAL PARKING SPACES

No.	REVISION	DATE

FIRM
AECOM

PROJECT
CHARLESTON PUBLIC WORKS
I-26 AND US 78 (#1)

Figure 17

PROJECT PROSPECTIVE
DATE 7/03/2018
SCALE N/A
SHEET

I-26 and US 78 (#2).dwg
3/19/2007

GENERAL NOTES

ACREAGE

57.98 ACRES SITE
2.6 ACRE PARKING LOT

0.68 ACRE DETENTION POND

PARKING

11 ACCESSIBLE PARKING SPACES
204 STANDARD PARKING SPACES

215 TOTAL PARKING SPACES

0 40' 80'

No.	REVISION	DATE

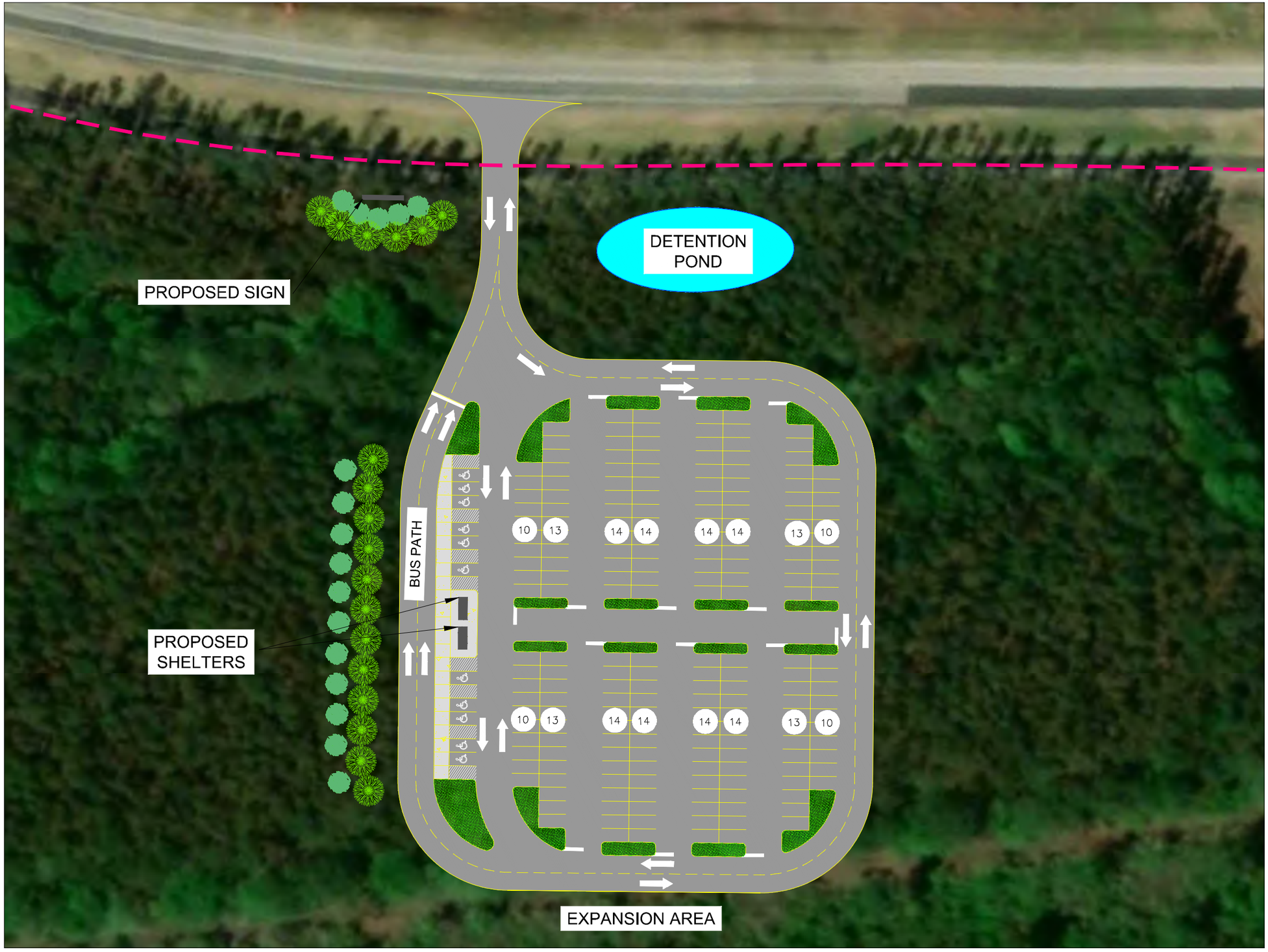
FIRM
AECOM

PROJECT
EAST 5TH NORTH STREET
AT BELIN MYERS PARKWAY

Figure 18

PROJECT PROSPECTIVE
DATE 7/03/2018
SCALE 1" = 60'
SHEET

East 5th North SP.dwg
3/19/2007



GENERAL NOTES

ACREAGE

APPROXIMATE 3.00 ACRE SITE

PARKING

11 ACCESSIBLE PARKING SPACES
204 STANDARD PARKING SPACES

215 TOTAL PARKING SPACES

*THIS SITE PLAN ILLUSTRATES A TYPICAL DESIGN AND DOES NOT REFERENCE A SPECIFIC LOCATION

N

0 30' 60'

No.	REVISION	DATE

FIRM
AECOM

PROJECT
NEXTON SITE
SITE PLAN
Figure 19

PROJECT	SHEET
PROSPECTIVE	
DATE 7/03/2018	
SCALE 1" = 30'	

3/19/2007 Nexton Site SP.dwg

AECOM

About AECOM

AECOM is built to deliver a better world. We design, build, finance and operate infrastructure assets for governments, businesses and organizations in more than 150 countries. As a fully integrated firm, we connect knowledge and experience across our global network of experts to help clients solve their most complex challenges. From high-performance buildings and infrastructure, to resilient communities and environments, to stable and secure nations, our work is transformative, differentiated and vital. A Fortune 500 firm, AECOM companies have annual revenue of approximately US$18 billion. See how we deliver what others can only imagine at aecom.com and @AECOM.

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