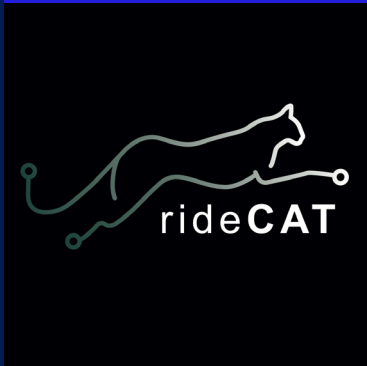


Collier MPO and CAT Park-and-Ride Study

November 2020



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Acronyms and Abbreviations

| | |
|---------|--|
| AUIR | Annual Update Inventory Report |
| B&A | boarding and alighting |
| CAT | Collier Area Transit |
| CDP | Census-designated place |
| CUTR | Center for Urban Transportation Research |
| FDOT | Florida Department of Transportation |
| FTA | Federal Transit Administration |
| FY | fiscal year |
| LeeTran | Lee County Transit |
| LOS | level of service |
| L RTP | Long Range Transportation Plan |
| MOD | Mobility on Demand |
| MPO | Metropolitan Planning Organization |
| MUTCD | <i>Manual on Uniform Traffic Control Devices</i> |
| PL | priority location |
| PPP | Public Participation Plan |
| ROW | right-of-way |
| SIS | Strategic Intermodal System |
| STP | Surface Transportation Program |
| TDC | Tourist Development Council |
| TDP | Transit Development Plan |
| TIP | Transportation Improvement Program |
| USF | University of South Florida |

1. Introduction

As the population of Collier County (hereafter, “the County”) continues to increase, traffic congestion has become a growing concern on the County’s arterial network. The County is considering development of park-and-ride facilities to help alleviate some of the congestion, providing areas where commuters can park and take public transit, carpool, or vanpool into more urban areas. Figure 1-1 illustrates the many benefits to using park-and-ride facilities.

This approach is popular throughout the state as evidenced by the numerous park-and-ride facilities in urban and urban core areas within Florida, indicating these facilities are primarily correlated around interstates and highways (refer to Figure 1-2). Ideal locations for park-and-ride lots would serve congested roadways and target regional and local commuter trips, such as work, shopping, the beach, or the airport, to reduce the number of vehicles on those heavily congested corridors.

In 2005, Collier County addressed park-and-ride strategies by commissioning a study by the University of South Florida (USF) Center for Urban Transportation Research (CUTR) (USF 2005) that identified primary transportation corridors, including major roads and the fixed-route public transit networks provided by Collier Area Transit (CAT) and Lee County Transit (LeeTran). The study developed a list of 32 possible sites that were evaluated and then further refined to 12 prioritized park-and-ride sites. Since that time, continuous population growth, commercial development, and the expanded CAT system have changed the “existing conditions” and the study is now outdated. Thus, an update is needed to reflect current and planned conditions.

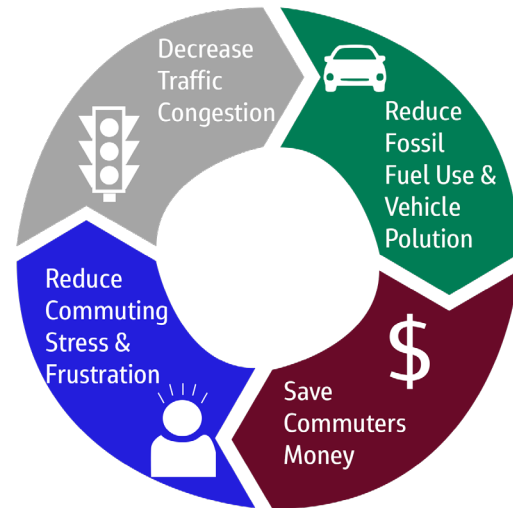


Figure 1-1. Benefits of Using Park-and-Ride

This Park-and-Ride Study updates the analysis and recommendations from the 2005 CUTR Report by confirming whether the park-and-ride locations previously identified are still suitable and by identifying additional sites to address changing land use in the County, regional commuter and transit travel patterns, and the CAT system. This Study was performed in conjunction with the ongoing Collier Metropolitan Planning Organization (MPO) 2045 Long Range Transportation Plan (LRTP) update (Jacobs 2020) and the CAT Transit Development Plan (TDP) to update the park-and-ride strategies and prioritized sites for the County. The new proposed sites are designed to take advantage of existing infrastructure whenever possible and use County-owned parcels where practical. This Study documents and prioritizes sites and provides implementation strategies to successfully integrate additional park-and-ride locations into the multimodal transportation system currently serving the County.

Park-and-ride lots provide options for commuters and other travelers who can benefit from carpooling or who need reliable transit options in the County, including businesses, recreational facilities, or schools. In addition to helping address the impacts of traffic congestion and parking constraints at some facilities, park-and-ride lots offer transit service for individuals without personal transportation and who need viable options to and from work or other activities. Locating potential lots near multimodal facilities, such as transit, pathways, sidewalks, or bike lanes, provides access to alternative transportation modes for travelers.

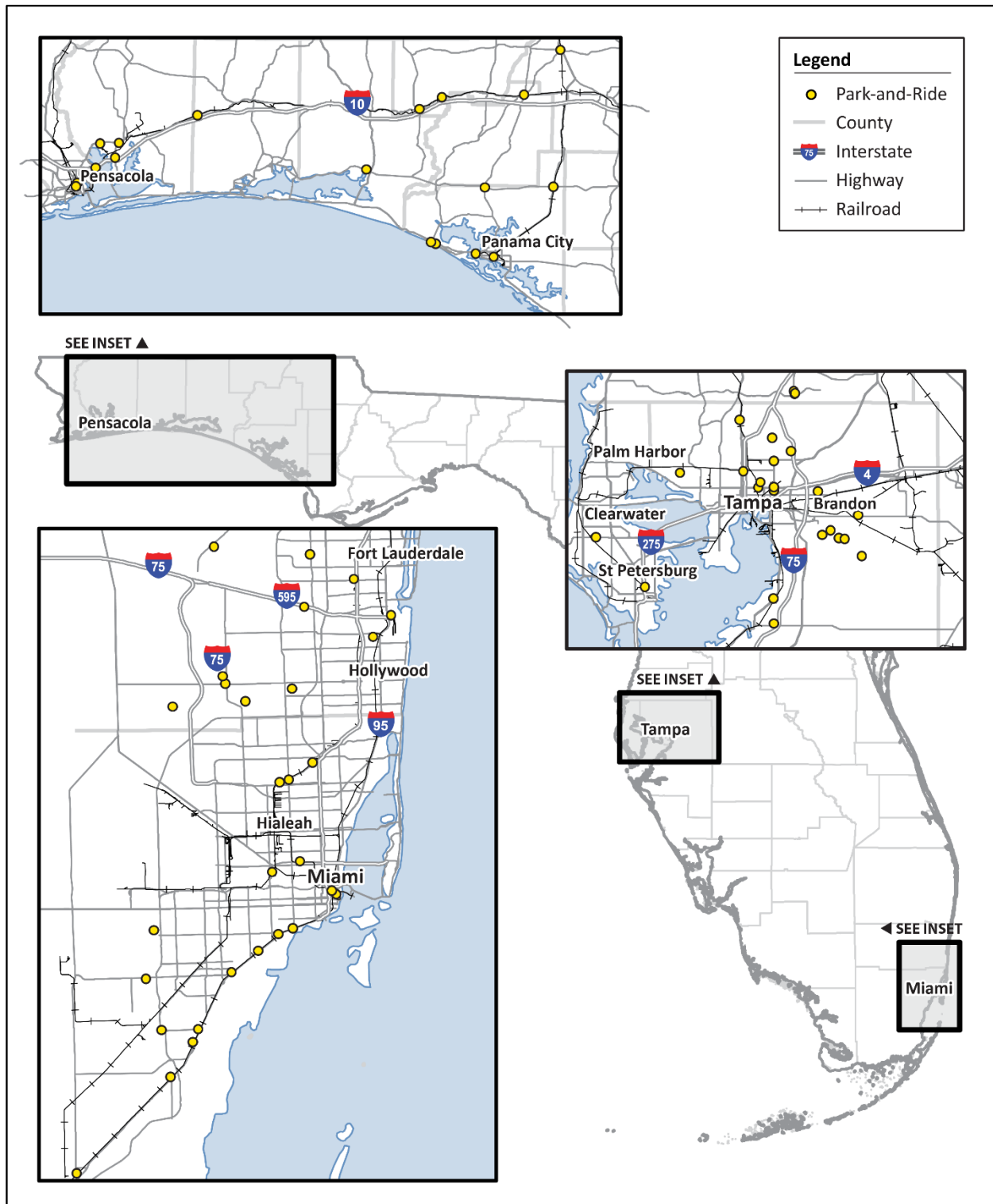


Figure 1-2. Florida Park-and-Ride Locations (2020)

Park-and-ride facilities serve as conveniences to commuters and may be promoted to reduce the demand for limited traffic capacity during peak travel hours. To entice commuters to give up their cars for substantial portions of their daily trips, park-and-ride facilities must be conveniently located. This means commuters must not have to drive far to the park-and-ride site. In addition, the site should not be in a direction contrary to the commuters' work or other destination. Park-and-ride facilities should be located to capture the maximum portion of the common "trunk" trips of commuters. The major trunk of travel for commuter trips in Collier and Lee Counties is I-75. Therefore, park-and-ride facilities should be provided as close as possible to the interchanges.

There are several northbound/southbound and eastbound/westbound roadways that are also used for major commuting patterns within the County. A common commuting pattern for residents travelling to work is westbound in the morning and eastbound in the evening. Some of the major eastbound/westbound arterials and major collectors include Immokalee Road, Vanderbilt Beach Road, Pine Ridge Road, Golden Gate Parkway, and Golden Gate Boulevard. Some of the major arterials for northbound/southbound trips in Collier County include US 41, Goodlette-Frank Road, Airport Road, Livingston Road, Santa Barbara Boulevard, SR 29, and Collier Boulevard. Therefore, park-and-ride facilities serving work patterns should be located as close as possible to these major roadways.

Promoting transit and personal mobility options are areas of growing interest in the County as the population steadily increases and it becomes costly and impractical to add capacity to the local roadways and intersections because of right-of-way (ROW) requirements, drainage, and environmental concerns. The County has successfully implemented intercounty transit service options within the County limits and continues to explore additional public transportation connections to link residents with nearby jobs, services, and tourist destinations. An implementable, cost-effective, and well-vetted park-and-ride strategy is an important component of an effective and wholistic transit system, helping to extend the reach of the available transit services to attract new users and offer alternatives to commuters.

2. Study Methodology

2.1 Research

The Florida Department of Transportation (FDOT) *State Park-and-Ride Guide* (FDOT 2012) provides a basis for planning, site selection, site evaluation, site size estimation, and funding options. In addition to FDOT guidelines, the 2005 CUTR Report (USF 2005) was reviewed and comparable programs in Florida and throughout the U.S were researched. The goal of the review was to identify strategies to increase local demand and use and to identify the best practices that may be integrated into park-and-ride lots within the County. The studies were also reviewed for conventional and innovative funding strategies for developing, implementing, and maintaining park-and-ride lots and programs.

Strategies and best practices identified during the research were analyzed for their application to both existing and planned lots within the County. Top recommendations for the County include:

- Enhance online resources, such as a webpage dedicated to the park-and-ride program detailing the overall vision, benefits of its use, and identification of each site or lot with photos and descriptions of each location.
- Install guide signs off main arterials, per *Manual on Uniform Traffic Control Devices* (MUTCD) (FHWA 2009), to advertise and direct users to the lots in addition to the entrance of the lot (refer to Figure 2-1).
- Provide park-and-ride at transfer stations to serve a wide variety of commute patterns. This could include a designated lot or shared-use parking at an existing lot.
- Provide an additional sense of security by locating lots adjacent to the sheriff facilities, or by installing lighting, video surveillance, and fencing with timed gates.
- Offer direct shuttles and vanpooling to accommodate participants in employment-based or destination-specific lots.



Figure 2-1. Guide Sign from Main Arterial

Source: MUTCD (FHWA 2009)

Another economical strategy is to lease parking spaces within private properties, such as shopping plazas or churches. Leased spaces can include the condition that park-and-ride spaces are only available for weekdays or weekends if serving both the lot's demand and the targeted ridership. For example, if the targeted ridership is employee commuters (weekdays) and the proposed location is to lease spaces from a church (high demand on weekends), providing spaces only during weekdays could offer a more attractive public-private partnership than without such an arrangement. Appendix A provides further details on the research findings and recommendations.

2.2 Site Identification

To ensure a thorough list of potential sites, several criteria were analyzed to identify ideal sites for future locations. Locations were predominantly proposed along existing and planned transit routes that have the highest potential to serve as park-and-ride lots. Sites were identified first based on locations within the County where informal park-and-ride already occurs.

Sites were evaluated to serve major employment, educational, and tourism destinations. Research included the review of the TDP, LRTP, U.S. Census Bureau data, Land Development Regulations, land use patterns, and cell phone (global positioning system directional and delay) travel data. The U.S. Census Bureau data were used to identify employment figures and commute patterns. The Annual Update

Inventory Report (AUIR) was used to identify existing and projected congested corridors. Sites were also identified based on stakeholder input. A similar analysis should be used for identifying any future lot locations considered within the County.

The following factors provided the basis for selecting potential sites in the County:

- Location, dimensions, and ownership of potential site
- Existing ingress/egress and multimodal access to the site
- Safety and security, such as lighting and cameras
- Estimated costs to acquire or lease site
- Estimated operating costs
- Estimated costs to construct the park-and-ride lot
- Estimated transit/park-and-ride demand at site (that is, existing and latent demand for transit route and bus stop)

2.3 Site Evaluation

To evaluate and prioritize potential sites, evaluation criteria using the FDOT *State Park-and-Ride Guide* (FDOT 2012) site selection evaluation methodology were developed and included scoring based on such factors as location and economic feasibility. These criteria were then tailored to the needs of the County. The ranking of the criteria helps identify which locations along existing and planned transit routes have the highest potential as successful park-and-ride lots. The sites were analyzed and ranked based on the following core conditions:

- **Visibility** - Is the site easy to find or close to a primary roadway?
- **Location** - Is the site close to key activity area (businesses, stores, retail)? Is the site near a pathway or major roadway? Is the property available? Are property owners on developed land in favor of a lease agreement?
- **Access** - Is there easy access in and out of the site? If traffic makes it consistently difficult to access the facility, customers will be discouraged from using it.
- **Transit Linkage** - Does the site offer a broad range of route options? Potential near-term linkages between CAT and LeeTran will also need to be addressed.
- **Cost** - Is it cost-effective to develop this site? A currently developed site would cost less as an initial investment.

The ranking of prioritized sites entails both a qualitative and quantitative analysis. Sites must first pass the initial screening for feasibility and effectiveness (qualitative). Feasible sites were then evaluated using the evaluation criteria, which provided scoring to rank and prioritize the potential success of the site (quantitative).

A team consisting of representatives from CAT, Collier MPO, and Jacobs jointly developed the evaluation criteria. The project team assigned weighting to each question to tailor the assessment to County conditions. The weightings reflect the locations' viability for a park-and-ride as well as its anticipated level of success. The weightings are designated as follows:

- 1 - Basic site requirement
- 2 - Desirable benefit for the site
- 3 - Significant benefit to the success of the site

Site evaluation methodology was prepared to explain the objective and scoring options for each question within the evaluation criteria. This Study uses the FDOT *State Park-and-Ride Guide* evaluation criteria and the site evaluation methodology, so the evaluation herein can be performed for any potential locations under consideration by CAT. Refer to Appendix B for the methodology and evaluation forms developed as part of this Study.

Note: A discrepancy exists within some site maps on the site evaluation forms. Revised routes are not reflected on the site maps, as the GIS files were being updated by CAT. However, the latest route layouts were incorporated into the scoring for question 2 of the Site Evaluation Forms. The CAT interactive map was used to evaluate question 2 and the scoring of each site was based on the latest revised route layout (for example, R121 and R28).

2.4 Public Participation

The Collier MPO developed a *Public Participation Plan* (PPP) to identify outreach activities, outline methods that will be used to measure outreach effectiveness, and ensure that relevant activities align with the Collier MPO's guiding principles. The PPP outlines a strategy for leveraging existing outreach and acquiring the necessary new data through the public involvement process. Consistent with the Collier MPO PPP, a Park-and-Ride Study PPP was developed to reach all demographic groups including, but not limited to, commuters, students, large employers, transportation disadvantaged, senior citizens, and the disabled community (refer to Appendix C for the Park-and-Ride Study PPP).

For purposes of consistency and efficiency with the LRTP, the outreach efforts for this Park-and-Ride Study mimic the LRTP, with some project-specific required adjustments to ensure swift committee and board approval. However, because of stay-at-home orders resulting from the COVID-19 pandemic, planned public meetings were cancelled and were no longer feasible within the timeline of this Study. The Park-and-Ride Study PPP was modified to accommodate the stay-at-home orders. However, the original Park-and-Ride Study PPP is also provided in Appendix C to apply to any future public participation regarding park-and-ride studies for the County.

The modified PPP used electronic forms of communication and included outreach via email and online surveys. PowerPoint presentations were made available to organization representatives for discussion and feedback regarding the organization's needs and potential site locations. The PowerPoint presentations were provided through the Microsoft Teams platform and in person (prior to the issuance of stay-at-home orders) and included the following organizations:

- Collier MPO Board
- Technical Advisory Committee
- Citizen's Advisory Committee
- Congestion Management Committee
- Collier County Parks & Recreation Division
- Greater Naples Chamber of Commerce
- Arthrex (large employer)
- Enterprise Rent-a-Car (vanpools for Collier County)
- Collier County Tourism Division
- LeeTran

The key stakeholder identified for each organization was provided links to the online survey to further distribute to obtain feedback. Additional stakeholders within the Collier MPO's adviser network and large area employers within the County were identified and provided a handout describing the project with links to the public survey, but none of the organizations requested a PowerPoint presentation. These organizations included, but were not limited to, representatives of the disabled community, Walmart, Target, Publix, Naples

Community Hospital, Bayshore and Immokalee Community Redevelopment Agency, the Restaurant and Lodging Association, and the Chambers of Commerce for Greater Naples, Immokalee, Marco Island, and Everglades City. Appendix C includes a copy of the distributed handout.

The online public survey was also promoted using several other platforms to enhance public participation from participants outside demographic and employer organizations. The handout information and survey links were posted on the MPO and CAT websites and on CAT social media. The MPO published the link and project summary in their newsletter, which is distributed to the MPO's entire adviser network. CAT emailed all County employees the handout and survey links, and fliers with the survey links were posted in each CAT bus to encourage ridership response. Refer to Appendix C for results of the public participation surveys.

3. Site Identification

This section summarizes proposed sites reviewed as part of this Study. The site identification process described within Section 2.2 should be reevaluated if conditions change in the County for any future lots considered. It should be noted that proposed sites can serve multiple areas, patterns, and needs.

3.1 Priority Sites from CUTR Report

The 2005 CUTR Report identified 46 potential sites and recommended 12 sites as potential priority sites (USF 2005). These 12 priority sites were evaluated and identified in Table 3-1 with the Site ID beginning with "PL" (priority location). Because land development and the transportation network in the County has experienced major growth since the 2005 study, the potential priority locations were reevaluated for feasibility and likelihood of success, with some sites being relocated or removed as applicable. Refer to Figure 3-1 for the relocated or removed priority sites within County jurisdiction.

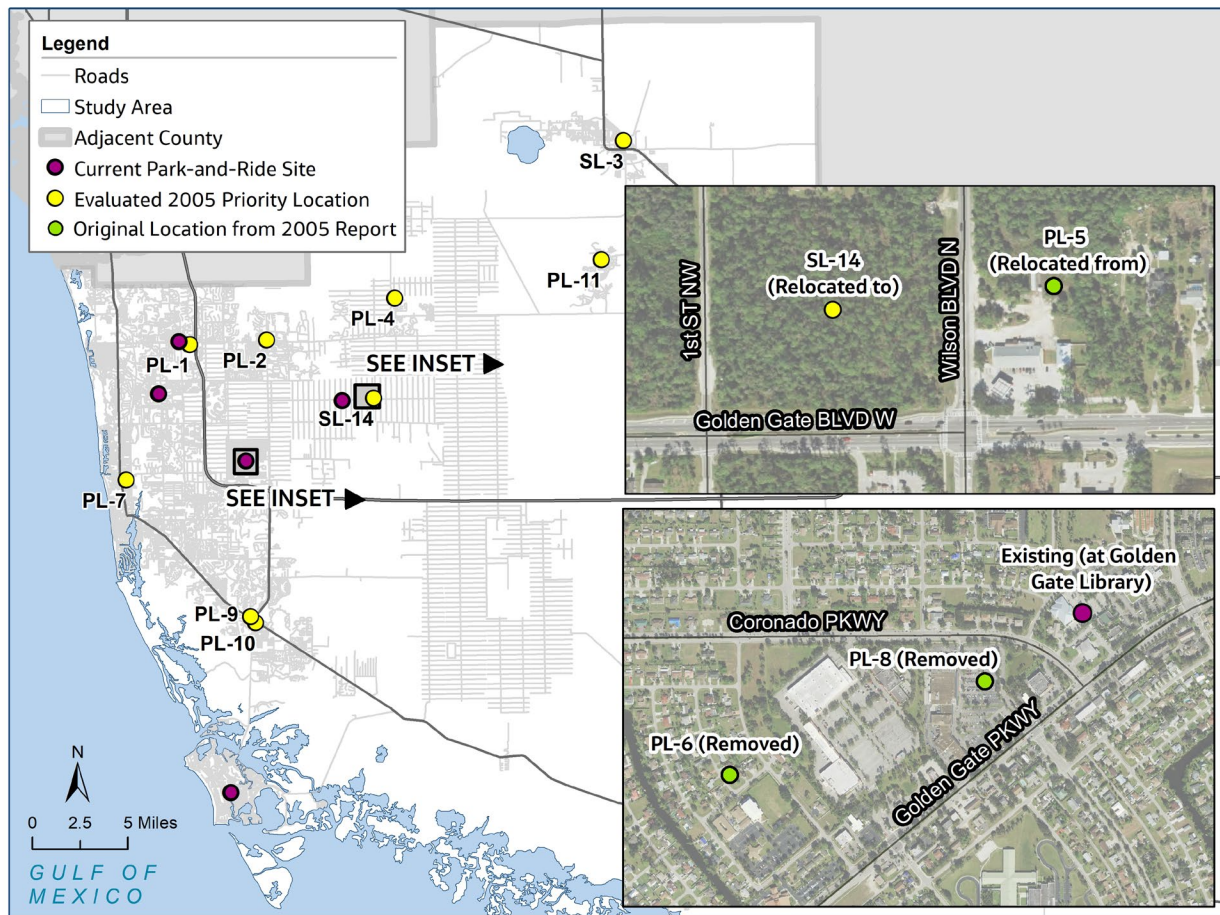


Figure 3-1. Priority Locations from 2005

Table 3-1. 2005 Priority Locations*Source: 2005 CUTR Report (USF 2005)*

| Proposed Location/ Description for Site | Park-and- Ride Site ID | Notes |
|--|------------------------------|---|
| Walmart, exit 111 off I-75 | PL-1 | Proposed using existing spaces on the shared-use lot. |
| Heritage Bay | PL-2 | Northeast corner of Immokalee Rd. and Collier Blvd. Evaluated at the new Government Services Center at Heritage Bay. |
| Immokalee Rd., intersection of CAT Blue Route, Marco Express, Immokalee Circulator, and future LeeTran connections | PL-3 | Evaluated at SL-3, approximately 200 feet south of the intersection described (East Main St. and Immokalee Rd.). |
| USDA Center and Fairgrounds, Immokalee Rd and 39th Ave. NE | PL-4 | Refer to site name as Agricultural Center and Fairgrounds. Proposed using existing spaces at the parking lot. |
| Vacant lot behind Wilson Blvd. gas station | PL-5 | Corner of Golden Gate Blvd. and Wilson Blvd. Relocated to SL-14 (Golden Gate & 1st Street NW) as County will acquire property. Proposed location less than 0.15 miles away. |
| Vacant lot west of Elizabeth Ann Seton Catholic Church and School | PL-6 | Removed because there is an existing park-and-ride at the Golden Gate Library approximately 0.5 miles away. |
| Coastland Mall | PL-7 | Southeast corner of Golden Gate Pkwy. and US 41. Proposed using existing spaces on the shared-use lot. |
| Parkway Plaza Shopping Center | PL-8 | Golden Gate Pkwy./Coronado Pkwy. Removed because there is an existing park-and-ride at the Golden Gate Library less than 0.15 miles away. |
| Freedom Square Shopping Center | PL-9 | Proposed using existing spaces; however, if new lot is developed, excellent location to serve as a transfer station. |
| Naples Outlet Mall | PL-10 | Proposed using existing spaces on the shared-use lot. |
| Ave Maria University | PL-11 | Development Order indicates Ave Maria to promote transit. |
| Miromar Outlets | PL-12 | Removed because it is located in Estero, FL (not within the County's jurisdiction and outside study area). |

3.2 Commute Patterns

Employment data and commute patterns were reviewed for major employers in the County. The employment commute patterns were reviewed in conjunction with existing and planned deficient corridors identified in the AUIR (Collier County 2019) and proposed developments in the County.

3.2.1 Deficient Corridors

Based on forecasted traffic volumes, roadways or segments that are not projected to achieve the adopted minimum acceptable level of service (LOS E), as identified in the Growth Management Plan, are classified as deficient. To address existing and projected deficiencies within the County, sites were targeted immediately upstream the direction of travel for the deficient segment. Sites were provided to address each

deficient roadway as identified in the 2019 AUIR (refer to Table 3-2) with deficiencies projected to 2029. Refer to Appendix D for a map of evaluation sites in relation to the deficient segments.

Table 3-2. Proposed Park-and-Ride Locations Serving Deficient Corridors

Source: 2019 AUIR Update Deficiencies Report

| Deficient Segment | Park-and-Ride Site ID | Movement Served |
|---|---|--|
| Old US 41 (US 41 to Lee County Line) and Tamiami Trail E. (Immokalee Rd. to Wiggins Pass Rd.) | SL-15; SL-1 | Proposed sites serving each direction. |
| Immokalee Rd. (Goodlette-Frank Rd. to Livingston Rd.) | PL-1; SL-15 | Proposed sites serving each direction. |
| Immokalee Rd. (I-75 to Santa Barbara Blvd. to Everglades Blvd. and Oil Well Rd.) | SL-5; SL-17 for east side; SL-16; PL-2 | Proposed sites serving each direction. |
| Randall Blvd. (Immokalee Rd. to Everglades Blvd.) | SL-5, PL-3, PL-4, PL-11 | Proposed sites serving each direction. |
| Goodlette-Frank (Vanderbilt Beach Rd. to Immokalee Rd.) | SL-15; SL-25 | Proposed sites serving each direction. |
| Pine Ridge Rd. (Airport Rd. to I-75) | SL-18, SL-24; SL-7 | Proposed sites serving each direction. |
| Golden Gate Pkwy. (Goodlette-Frank Rd. to I-75) | SL-18; SL-8; PL-8; PL-7 | Proposed sites serving each direction. |
| Wilson Blvd. (Vanderbilt Beach Rd. to Randall Blvd.) | SL-14, SL-5, SL-17, | Also supported by the existing park-and-ride at the Golden Gate Estates Library. Site to alleviate congestion heading southbound in the morning and northbound in the afternoon. |
| Collier Blvd. (Manatee Rd. to Mainsail Dr.) | PL-9, PL-10, SL-13 | Existing park-and-ride at the Marco Island Library serves commuters heading northbound in the morning. Proposed sites to alleviate congestion heading southbound in the morning and northbound in the afternoon. |
| Tamiami Trail (Airport Rd. to Rattlesnake Hammock Rd.) | SL-11, SL-20 | Proposed sites serving each direction. |
| Collier Blvd. (Davis Blvd. to I-75) | SL-21, PL-9, PL-10, SL-13, SL-8, SL-9 | Surrounding sites serving each direction. |
| Pine Ridge Rd. (Shirley St. to I-75) | SL-7, SL-18 | Proposed sites serving each direction. |
| Golden Gate Pkwy. (Santa Barbara Blvd. to Collier Blvd.) | SL-8, PL-6, PL-2, SL-9 | Surrounding sites serving each direction. Serving vehicles going through this corridor (destination not in corridor). |
| Tamiami Trail E. (Greenway Rd. to San Marco Dr.) | PL-9, PL-10, SL-13, SL-23 | Proposed sites serving each direction. |
| SR-82 (Lee County Line to SR 29) | SL-3, SL-22 | Proposed sites serving westbound in the morning and eastbound in the evening. |
| Immokalee Rd (Collier Blvd. to Oil Well Rd.) | PL-2, PL-4, SL-5, SL-17 | Vanderbilt Beach Rd. extension expected to reduce volumes. Proposed sites serving westbound in the morning and eastbound in the evening. |
| N. 1st Street (New Market Rd to SR 29) | SL-3, SL-22 | Proposed sites serving each direction. |

3.2.2 Regional Interconnectivity

Sites were proposed to support regional interconnectivity within the state of Florida and intercity transit. FDOT identifies the Strategic Intermodal System (SIS) highway corridors in Collier County as I-75, SR 29, and SR 82 (FDOT 2019). These highways provide regional interconnectivity between cities and counties within Florida. Additionally, there are state grant sources for projects that support regional travel along SIS corridors. Park-and-ride sites were located as close as possible to interchanges and intersections along these highways.

The TDP proposed a new CAT route to accommodate commuters traveling to Lehigh Acres. Sites were proposed in Immokalee to serve the commute into Lee County from Lehigh Acres. Additionally, Lee County is developing a new park-and-ride lot to serve the commute from Lehigh Acres to employment areas. Table 3-3 lists proposed locations for regional interconnectivity.

Table 3-3. Proposed Park-and-Ride Locations for Regional Interconnectivity

| Proposed Location/Description | Park-and-Ride Site ID | Comments |
|---|-----------------------|--|
| Railhead | SL-1 | Located on County property adjacent to the railroad tracks along Old US 41. Can also serve the Southwest Florida International Airport. |
| Immokalee Health Department | SL-3 | Location is adjacent to SR 29. |
| Target (Immokalee Rd.) | SL-16 | Located adjacent to I-75 interchange to support regional commuters from Lee County. PL-1 is the alternative to this location. |
| Creekside Transfer Station | SL-15 | Currently the only transfer station connecting to LeeTran. Provides interconnectivity to Lee County. Supports the airport and Gulf Coast Mall. |
| Physicians Regional Hospital (Pine Ridge Rd.) | SL-18 | Adjacent to I-75 interchange. Can provide carpool opportunities for commuters working outside the County. |
| Lehigh Acres | SL-3 | Servicing commuters heading into Lee County using the TDP's proposed Lehigh Acres route. Connection to LeeTran should be explored with Lee County. |
| Carnestown | SL-23 | Adjacent to SR 29 to service the City of Everglades with its proposed vanpool service. |
| Golf Course/VA Hospital Lot | SL-8 | Adjacent to I-75 interchange for commuters heading eastbound. |
| Sports Complex | SL-9 | Adjacent to I-75 interchange for commuters heading eastbound. |
| Resource Recovery Park | SL-19 | Adjacent to I-75 interchange for commuters heading eastbound. |

3.2.3 Demographics

U.S. Census data was extracted from the U.S. Census Bureau's Center for Economic Studies using data collected from 2017. The U.S. Census data displayed correlations of employee commute patterns by home and work areas through zip codes and places, which included cities, Census-designated places

(CDPs), etc. The analysis of the employee commute patterns displayed most Census tracts where workers live had the highest density quadrants at:

- Golden Gate Estates region and northeast section of Collier County
- Between Immokalee Road and Vanderbilt Beach Road, east of Airport Pulling Road
- Between Vanderbilt Beach Road and north of Golden Gate Parkway, between Livingston Road and I-75

The home-to-work distance directional analysis resulted in approximately 49 percent of workers traveling less than 10 miles, approximately 20 percent traveling between 10 to 24 miles, 7 percent traveling 25 to 50 miles, and 24 percent traveling greater than 50 miles. The longer commutes are likely for commuters living in Immokalee and Marco Island and commuters traveling to these outskirt locations for employment. The cities, CDPs, and places where workers live resulted in: 5.9 percent Golden Gate CDP, 4.1 percent City of Bonita Springs, 3.5 percent for Immokalee CDP, 3 percent at Lehigh Acres CDP, 2.7 percent City of Naples, 2.1 percent City of Marco Island, and 2 percent Cape Coral City, with the remaining locations less than 2 percent.

Cities, CDPs, and places with the largest employers are as follows: City of Naples (13 percent), City of Marco Island (3.7 percent), City of Bonita Springs (2.8 percent), and Immokalee CDP (2.6 percent), with the remainder less than 2 percent. The highest jobs per square mile are along the west boundary and coastline of Collier County, west of I-75, in Marco Island and in Immokalee. The data shows that traffic flow patterns for employment head west in the mornings and east in the evenings, indicating the need to support commuters to Marco Island and Immokalee. Refer to Figure 3-2 for zip code boundaries displaying top home area (residential) versus work areas. Appendix D provides additional demographic maps used in this analysis.

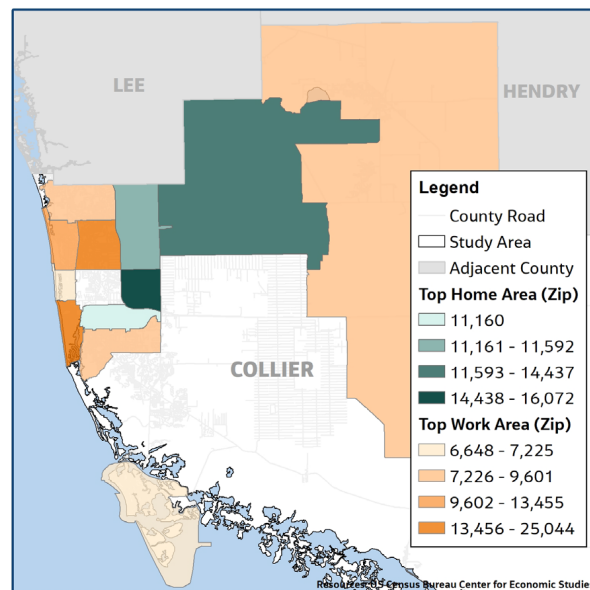


Figure 3-2. Top Zip Codes for Home vs. Work Area

Source: 2017 U.S. Census Data

Because park-and-ride lots should be located within less than 50 percent of commuters' travel time (Renaissance Planning Group 2013), potential sites were evaluated around the employee's home, evaluating direction of travel based on employment centers and places with the largest employers.

The Census data showed 89,002 people employed and living inside the County, 52,918 people employed in the County but living outside the County, and 51,782 people living in the County but employed outside the County, as indicated on Figure 3-3. Of the employed workers in the County, approximately 63 percent live in the County. There is a close balance of commuters entering and leaving the County for work, indicating the need for interconnected service to

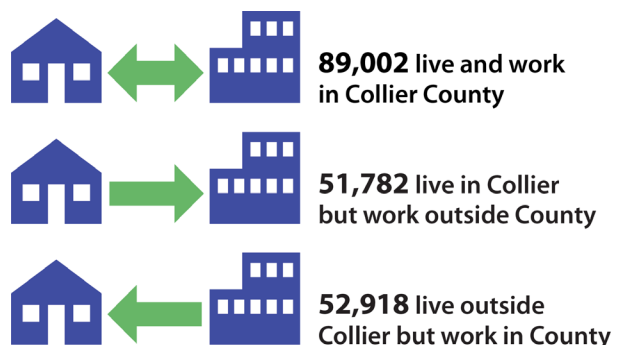


Figure 3-3. Collier County Employment and Residency

Source: 2017 U.S. Census Data

surrounding counties and regional interconnectivity. The Census data show that most commuters come from Lee County surrounding I-75 and the Hendry County border.

3.2.4 Land Use

Employment centers and business districts analyzed included, but were not limited to, the Coastland Center Mall, hospitals, County government campus (main campus, Horseshoe Drive, and planned Resource Recovery Park), Arthrex, Mercado, Waterside Shops, and retirement communities, such as Vi at Bentley Village and Moorings Park. Planned unit developments were used to determine location of commercial and residential areas (Collier County 2020). Employee commute patterns in underserved areas were also evaluated for the City of Everglades, Ave Maria, City of Immokalee, and City of Marco Island. Table 3-4 lists proposed sites that consider employee commute patterns.

Table 3-4. Proposed Park-and-Ride Locations Based on Employee Commute Patterns

| Commute Pattern or Area | Park-and-Ride Site ID | Comments |
|--|--|---|
| Employment in the City of Marco Island | PL-9, PL-10, SL-13, SL-3, SL-22 | Many sites serve this area; however, these are targeted lots. |
| Employment in the City of Cape Coral (Lee County) | SL-15, SL-16, PL-1 | Existing Seed-to-Table lot also serves this area. |
| Employment in the City of Immokalee and ZIP 34142 | SL-5, SL-17, PL-4, PL-11, PL-9, PL-10, SL-13 | Existing lot at Golden Gate Estates Library also serves this commute. |
| Employees commuting from Golden Gate CDP | PL-6, SL-8 | Existing lot at the Golden Gate Library also serves this area. |
| Employees commuting from City of Bonita Springs and City of Cape Coral | PL-1, SL-16 | Existing Seed-to-Table lot also serves this area. |
| Employees commuting from Immokalee CDP | SL-3, SL-22 | |
| Employees commuting from Lehigh Acres CDP | SL-3, SL-22 | Lee County is in progress for developing a park-and-ride lot for Lehigh Acres within Lee County limits. |
| Employees commuting from City of Naples | PL-8, PL-7, SL-12, SL-20, SL-6 | |
| Employees commuting from Marco Island | Existing at Marco Island Library | Advertisement and guide signs are recommended to increase awareness of this lot. |

Table 3-4. Proposed Park-and-Ride Locations Based on Employee Commute Patterns

| Commute Pattern or Area | Park-and-Ride Site ID | Comments |
|--|-----------------------|--|
| Employment circulation: inflow and outflow to Collier County | SL-15, SL-16, PL-1 | To and from Lee County and City of Bonita Springs. |
| | SL-3, SL-22 | To and from Lehigh Acres. |
| | SL-8, SL-9, SL-19 | To and from Broward and Dade County. |
| | SL-23 | To and from Monroe County. |
| Employees commuting from City of Everglades | SL-23 | In conjunction with proposed vanpool service. |
| Employees commuting from Ave Maria | PL-11 | Serving Ave Maria residents. |

3.3 Beach Facilities

Collier County serves as a destination location with the Gulf of Mexico coastline and beaches as its major generator of tourism (Naples beaches attract visitors worldwide). County and city public beaches reach capacity with both residents and tourists during peak season from October through March, causing informal park-and-ride to occur for beach access and beach hotel parking. Acquiring additional public beach access is costly and the limited opportunities attract private businesses, making it challenging for the County to acquire ideal locations at a reasonable cost. Several hotels along the coastline have constructed parking garages to support their parking demands, with hotel expansions requiring additional parking capacity, such as the Ritz-Carlton of Naples constructing a second parking garage to accommodate their expansion.

Beach capacity statistics were reviewed for the County beaches from 2017 through 2019. Table 3-5 lists the number of days during the fiscal year (FY) that each beach reached parking capacity. Table 3-6 displays the quantity of vehicles required to turn around at beach parking lots resulting from lack of capacity. Turnarounds were only counted where park attendants or vehicle counters exist. The beach parking locations not listed do not have statistics on turnaround counts (Sullivan, pers. comm. 2020).

Table 3-5. Beach Parking Demand (2017–2019)

Source: Sullivan, pers. comm. 2020

| Beach | Days at Capacity | | |
|-------------------------|------------------|-----------------|--------------------|
| | FY 17 | FY 18 | FY 19 ^a |
| Barefoot Beach Access | 84 | 54 | 72 ^a |
| Barefoot Beach Preserve | 39 | 24 | 30 |
| Clam Pass Beach Park | 36 | 10 ^a | 29 |
| Conner Park | 9 ^a | 1 ^a | 5 |
| South Marco Beach | 156 | 177 | 164 |
| North Gulf Shore Beach | 32 | 16 | 35 |
| Tigertail Beach Park | 13 | 8 | 12 |
| Vanderbilt Beach Park | 71 | 29 | 45 |

^a Value has missing quarterly data. All Quarter 4 data for FY 19 was not included.

Table 3-6. Beach Capacity Total Turnarounds (2017–2019)*Source: Sullivan, pers. comm. 2020*

| Beach | Turnarounds | | |
|-------------------------|-------------|--------------------|--------------------|
| | FY 17 | FY 18 | FY 19 ^a |
| Barefoot Beach Preserve | 9,433 | 11,109 | 6,805 |
| Clam Pass Beach Park | 5,740 | 3,447 ^a | 4,539 |
| Tigertail Beach Park | 5,778 | 4,816 | 4,075 |
| Vanderbilt Beach Park | 2,793 | 2,689 | 1,460 |

^a Value has missing quarterly data. All Quarter 4 data for FY 19 was not included.

Beach parking locations were considered for areas under the existing power transmission lines that parallel Livingston Road on the west. Because of limited land use options, a park-and-ride facility under the transmission lines is an innovative use of the property. However, during stakeholder meetings, while the Parks & Recreation Division recommended beach park-and-ride lots east of US 41 because of its congestion, the County Tourism Division requested to locate beach lots closer than Livingston Road. Vacant properties were examined around Goodlette-Frank Road to serve beaches along the arterials of Pine Ridge Road, Vanderbilt Beach Road, and Immokalee Road. Refer to Table 3-7 for proposed beach sites.

Of the existing County beaches, Clam Pass and Barefoot Beach Preserve have capacity to support additional visitors but available areas can only be accessed by walking and do not have access by shuttle or boardwalk. There is an existing CAT beach express bus that circulates from the Creekside transfer station to Conner Park to Delnor-Wiggins Pass State Park. However, each proposed beach lot is recommended to have a designated beach shuttle during tourism season, if one does not exist.

Table 3-7. Proposed Park-and-Ride Locations for Beach Access

| Proposed Location/Description | Park-and-Ride Site ID | Comments |
|-----------------------------------|-----------------------|--|
| Beach lot (Goodlette-Frank Road) | SL-24 | Undeveloped 13-acre parcel along Goodlette-Frank Rd. |
| Beach lot (Vanderbilt Beach Road) | SL-25 | Undeveloped 5-acre parcel between US 41 and Goodlette-Frank Rd. |
| Beach lot (Pine Ridge Road) | SL-26 | Undeveloped 1.6-acre parcel adjacent to Goodlette-Frank Rd. with parcel to the north |

3.4 Candidate Locations Based on Stakeholder Input

Using public participation data (Appendix C), candidate sites were evaluated against locations already identified to determine any additional sites. Survey responses included requests for proposed sites already being considered such as:

- shuttle to beach
- Lee County to main government campus
- close to I-75

- East Naples
- parking to help travel to Marco Island for work
- Golden Gate Estates express bus
- within Orangetree area to reduce traffic from Golden Gate Estates

Table 3-8 lists additional locations added based on stakeholder feedback. Park-and-ride lots on the outskirts of downtown Naples to serve places that approach parking capacity, such as 5th Avenue North and Cambier Park are recommended. Continued communication is needed between the County and City of Naples to identify and develop park-and-ride lots to serve the downtown Naples area.

Table 3-8. Proposed Park-and-Ride Locations Based on Stakeholder Input

| Proposed Location/Description | Park-and-Ride Site ID | Comments |
|---|-----------------------|--|
| Pine Ridge and Collier Boulevard (CR 951) | SL-8 | Requested along CR 951 to serve the Golden Gate Estates area. Location proposed to capture area after existing lot at Estates Library. |
| Downtown Naples (5th Ave., Cambier Park, beaches) | N/A | Requested to serve crowded destination spots within the City of Naples. |
| Big Corkscrew Regional Island Park | SL-4 | Removed because PL-4 (Agricultural Center and Fairgrounds) is closer and serves same targeted ridership. |

3.5 Proposed Park-and-Ride Sites

Based on the site identification described herein, the complete list of the evaluation sites developed is shown on Figure 3-4 and Figure 3-5.

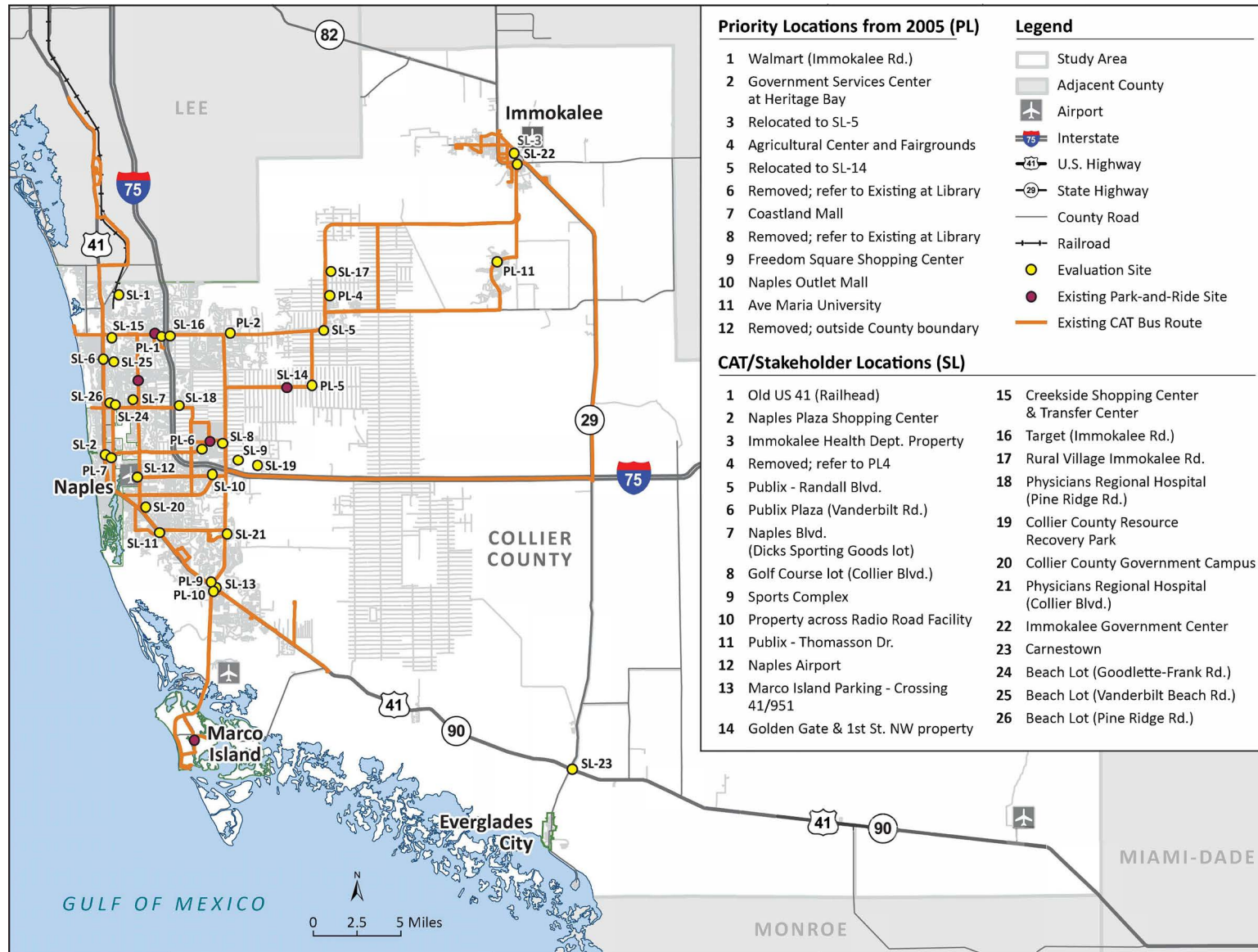


Figure 3-4. Final Proposed Site Locations

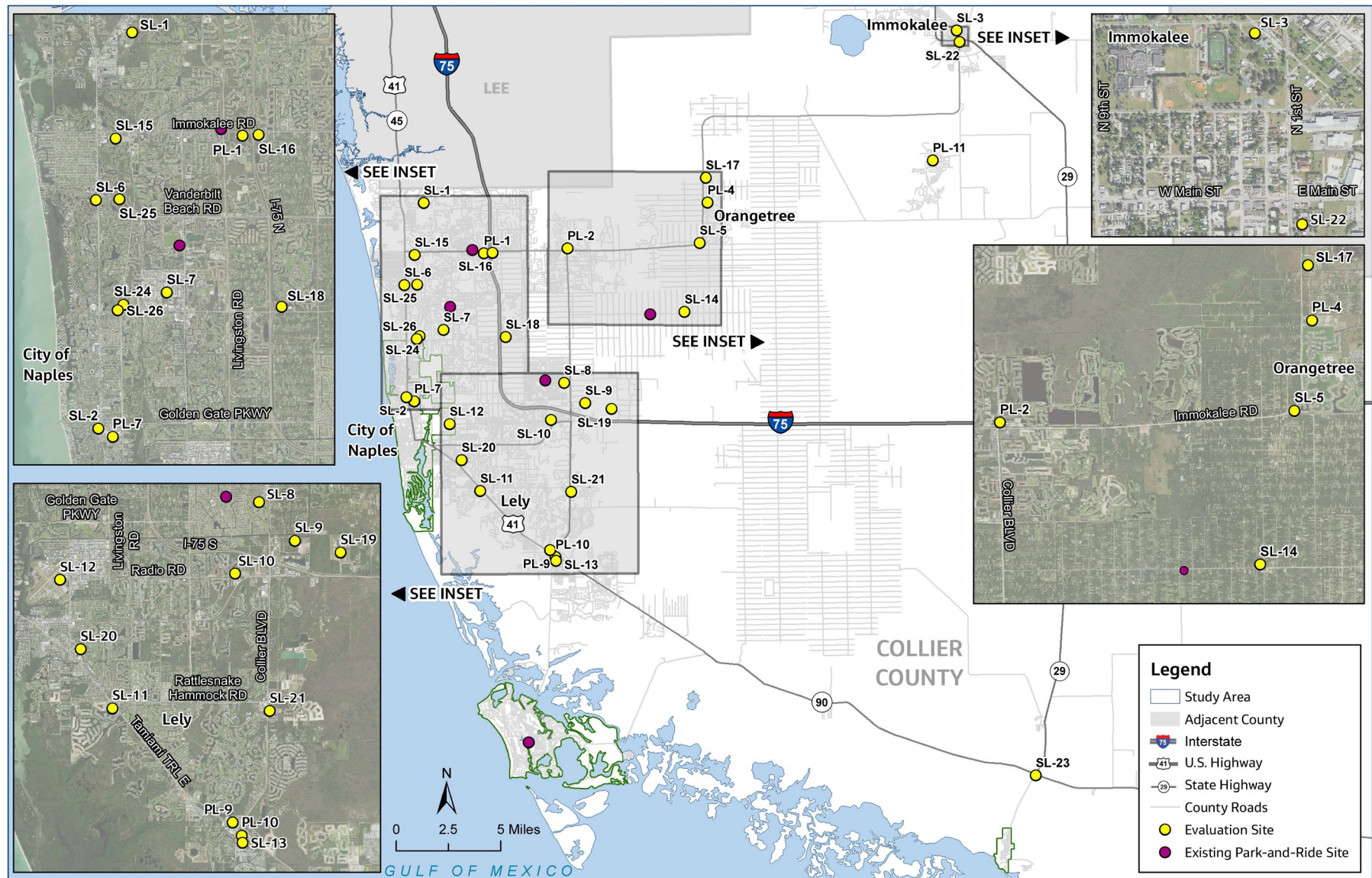


Figure 3-5. Close Up of Final Proposed Site Locations

4. Site Design

4.1 Facility Types

The targeted ridership and area served will determine the type of park-and-ride facility. Table 4-1 lists the types of park-and-ride lots identified in this Study serving the County's current conditions. A full list of park-and-ride facility types, with descriptions and standards for each, are identified in Table 3-1 of the *FDOT State Park-and-Ride Guide*.

Table 4-1. Types of Park-and-Ride Facilities

Source: *State Park-and-Ride Guide (FDOT 2012)*

| Facility Type | Description | Recommended Site Size |
|---|---|---|
| Shared-use (hosted on existing lots) | Signing existing parking spaces in a privately-owned lot. Typically located at shopping plazas to ideally reduce additional trips taken by the user. Lease agreements are required for this private-public partnership. | Recommended 5 to 10 spaces based on demand. For developer agreements, a minimum of 5 spaces is recommended; however, quantity should be tailored to the size of the development it would serve based on full build-out. |
| Remote | 20+ miles from employment. Low population growth anticipated. | Refer to the <i>FDOT State Park-and-Ride Guide</i> for site size estimation calculations. |
| Urban Fringe | Located along the boundaries of an urban area. Serves areas of high concentrations of employees (home residence). | Refer to the <i>FDOT State Park-and-Ride Guide</i> for site size estimation calculations. |
| Parking Deficiency | Supports locations where parking deficiencies already exist. Informal park-and-ride and carpool may already occur. | Refer to the <i>FDOT State Park-and-Ride Guide</i> for site size estimation calculations. |

4.2 Lot Size Estimation

The quantity of parking spaces recommended and total lot size (acres) was estimated for each Priority Site. The lot size estimation was based on the FDOT (2012) *State Park-and-Ride Guide* methodology, tailored to the information provided or accessible. Once the lot size (quantity of spaces) is estimated, future build-out was determined with a design year of 2045. Acreage required for the lot was then estimated, including sidewalk, bus bay waiting areas, and stormwater treatment. It is recommended to acquire properties with the full acreage required to develop the 2045 build-out. Refer to Appendix E for detailed calculations on site size.

Typically, lots are constructed to operate at 75 percent capacity. However, consideration should be made based on construction costs and funding available to determine the size constructed. Designs can be tailored to accommodate size and shape of the property available for parking. For example, a combination of pervious and impervious spaces may be used to reduce the area needed for stormwater treatment.

Cost estimates were prepared based on lot size (refer to Section 6). Such additional features as restrooms, car charging stations, or ride sharing accommodations were not included in the lot size estimation and cost estimates. If such additional features with the site are desired, it is recommended to prepare a conceptual site plan to estimate additional space and utilities required for the site size, as well as a revised cost estimate.

For shared-use lots on private property, the number of spaces provided usually ranges between 5 to 30 (Franklin Regional Council of Governments 2008). Because most sites proposed on shared-use are for employees and carpools at locations that still have available capacity, a quantity of 5 spaces, no greater than 10, was proposed for shared-use lots to serve current conditions.

5. Site Evaluations

5.1 Evaluation Ranking

Site visits were performed at each proposed shared-use lot to identify additional features that could benefit or hinder the success of the lot. Such features include lighting, security cameras, and the capacity of the existing lot (that is, does the lot already reach capacity or is it underutilized). Sites that ranked the highest reduce single occupancy trips and increase transit ridership. Sites with proposed alternative transportation modes, as opposed to transit, to serve the site (such as an express bus, vanpool, Mobility on Demand [MOD], etc.) are indicated under the comments section within each evaluation. Table 5-1 summarizes the final scores and prioritized rank. Refer to Appendix D for site photos and evaluation reports on each location.

The TDP update was not finalized prior to the completion of this Study. The draft TDP report was used to evaluate planned transit routes along each site, with planned routes noted in the comments section of each form indicated as 'TDP Proposed Routes' (Medina 2020). Because the evaluations were based on the existing network, the scoring was not affected if the TDP-proposed routes no longer accommodated a site. However, if a vanpool service or MOD was proposed for the area, it was scored as an additional site benefit. If the TDP plans to eliminate transit along a proposed site and a direct shuttle, vanpool, or MOD service is not pursued by CAT to accommodate, the proposed site should not be pursued.

Of the 32 sites evaluated, the top 14 ranked sites are recommended as priority sites. A total of 4 sites are proposed on existing lots, while 3 are not on County property and will require lease agreements. The average score of evaluated sites was 81.5 percent with a standard deviation of 7.8.

5.2 Priority Sites

Figure 5-1 shows a map of the recommended priority site locations (including alternate locations) according to rank and recommended alternate. If a priority site cannot be pursued at the proposed location, the next highest-ranked site will be pursued. A site may be eliminated if agreement with property owners cannot be reached for property acquisition or lease.

Table 5-1. Final Evaluation Rankings

| Rank | Site ID | Final Score | Site Name | Lease Agreement Required? | County Owned? | Parking Spaces ^a | Lot Size (acres) | Alternate Locations | Targeted Ridership/ Destination Served | Notes ^b |
|------|---------|-------------|--|---------------------------|---------------|-----------------------------|------------------|---------------------|--|--|
| 1 | SL-15 | 102.8 | Creekside | | | 78 | 1.28 | SL-1 | Commuting between Collier and Lee County | Phase I: Plaza not interested, proceed to Phase II. Options for lot location provided. |
| 2 | SL-20 | 101.0 | Government Campus | | ✓ | 5-10 | | | Commuters to work. Commuters to CBD | Recommended adjacent to museum parking (closest to transfer station). |
| 3 | PL-7 | 98.6 | Coastland Center Mall | ✓ | | 5-10 | | SL-2 | Commuters to work, Commuters to shopping/ entertainment | Options provided to serve this location. |
| 4 | PL-9 | 93.8 | Freedom Square shopping center | ✓ | | 5 | | PL-10, SL-13 | Commuters to Marco Island or Everglades City | Recommended over two alternate locations. |
| 5 | SL-18 | 91.3 | Physicians Regional (Pine Ridge) | ✓ | | 5 | | | Commuters to work, Carpool | |
| 6 | SL-22 | 89.3 | Immokalee Government Center | | ✓ | 43 | 0.91 | SL-3 | All trips for Immokalee residents; Remote facility | SL-3 is recommended over SL-22 because of funding obtained. |
| 7 | SL-13 | 87.9 | Marco Island (Crossing 951 & 41) | ✓ | | 5 | | PL-9, PL-10 | Commuters to Marco Island or Everglades City | Reevaluate need if higher-ranked alternate, PL-9, is developed. |
| 8 | SL-8 | 87.6 | Golf Course / VA hospital | | ✓ | 10 | | SL-10 | Commuters to work, Regional interconnectivity | County to determine development plans and adding spaces for park-and-ride/ |
| 9 | PL-10 | 87.5 | Naples Outlet Mall | ✓ | | 5 | | PL-9, SL-13 | Commuters to Marco Island or Everglades City | Reevaluate need if higher-ranked alternates, SL 13 and PL-9, are developed. |
| 10 | SL-3 | 86.9 | Immokalee Health Dept | | ✓ | 43 | 0.91 | SL-22 | All trips for Immokalee residents leaving Immokalee | Recommended over SL-22 because location has Tiger Grant funding for CAT transfer station. |
| 11 | SL-26 | 85.6 | Beach Lot (Pine Ridge Rd) | | ✓ | 420 | 4.81 | | Beach parking deficiency | County to determine plans for the lot. |
| 12 | SL-25 | 85.6 | Beach Lot (Vanderbilt Beach Rd) | | ✓ | 373 | 4.21 | | Beach parking deficiency | County to determine plans for the lot. |
| 13 | SL-1 | 85.4 | Railhead (Old US 41) | | ✓ | 94 | 1.46 | SL-15 | Airport, Commuters to work, Commuters between Collier and Lee County | If SL-15 is constructed, a smaller site size is recommended. Size should be reevaluated based on site size of SL-15. |
| 14 | SL-10 | 83.1 | Radio Rd Transfer Station lot | | | 67 | 0.88 | SL-8 | Parking deficiency for transfer station and employment center | Serves the Radio Rd. transfer station lot, which receives informal park-and-ride and is reaching parking capacity. |
| 15 | SL-6 | 82.9 | The Marketplace at Pelican Bay | ✓ | | 5 | | SL-25 | Commuters to work | Not recommended if SL-25 is built. |
| 16 | SL-11 | 82.8 | Shoppes at Hammock Cove (Thomasson Dr) | ✓ | | 5 | | SL-20 | Commuters to work, Commuters to shopping/ entertainment | |
| 17 | SL-5 | 81.5 | Publix Plaza (Randall Blvd) | ✓ | | 5 | | | Commuters to work, primarily westbound | |
| 18 | PL-1 | 80.4 | Walmart (Immokalee Rd) | ✓ | | 5 - 10 | | SL-16 | Commuting between Collier and Lee County | Options provided. |
| 19 | PL-2 | 78.5 | Government Services Center at Heritage Bay | | ✓ | 5 | | | Commuters to work, primarily westbound or southbound | |
| 20 | SL-24 | 77.2 | Beach lot (Goodlette-Frank Rd) | | | 420 | 4.81 | | Beach parking deficiency | |
| 21 | SL-17 | 76.8 | Rural Village (Immokalee Rd) | ✓ | | Needs Sizing | | PL-4 | Commuters to work, primarily westbound | |
| 22 | SL-7 | 75.7 | Dicks Sporting Goods (Naples Blvd) | ✓ | | 5 | | | Commuters to work, Commuters to shopping/ entertainment | |
| 23 | SL-2 | 75.1 | Naples Plaza shopping center | ✓ | | 5 | | PL-7 | Commuters to work, Commuters to shopping/ entertainment | |
| 24 | SL-21 | 75.1 | Physicians Regional - Collier | ✓ | | 5 | | | Commuters to work, Carpool, primarily north and southbound | |
| 25 | SL-16 | 75 | Target (Immokalee Rd) | ✓ | | 5 | | PL-1 | Commuting between Collier and Lee County | Lease for Phase 1 |
| 26 | PL-4 | 73.3 | Agricultural Center and Fairgrounds | | ✓ | Needs Sizing | | SL-17 | Commuters to work, primarily westbound; Remote facility | Phased as demand increases. |
| 27 | SL-23 | 73.3 | Carnestown | ✓ | | Needs Sizing | | | Commuters to work; remote facility | |
| 28 | SL-9 | 73.1 | Sports Complex | | ✓ | 5 | | | Commuters to work, Carpool | |
| 29 | SL-14 | 71.7 | Golden Gate Estates (1st St) | | ✓ | Needs Sizing | | | Commuters to work, Carpool; Remote facility | |
| 30 | PL-11 | 68.8 | Ave Maria | ✓ | | 5 | | | Commuters to work, Carpool; Remote facility | Options provided. |
| 31 | SL-12 | 66.1 | Naples Airport | ✓ | | 5 | | | Commuters to work, Carpool | Options provided. |
| 32 | SL-19 | 50.6 | Resource Recovery Park | | ✓ | Needs Sizing | | | Commuters to work | |

^a Quantity of parking spaces estimated to serve 2045 needs. Refer to Appendix E for site size calculations and FDOT *State Park-and-Ride Guide* for site sizing guidance.

^b Refer to Appendix D for the Site Evaluation on each location.

Notes: Sites removed or relocated include PL-3, PL-5, PL-6, PL-12, SL-4 (Big Corkscrew Regional Park). Refer to Table 3-1 for details.

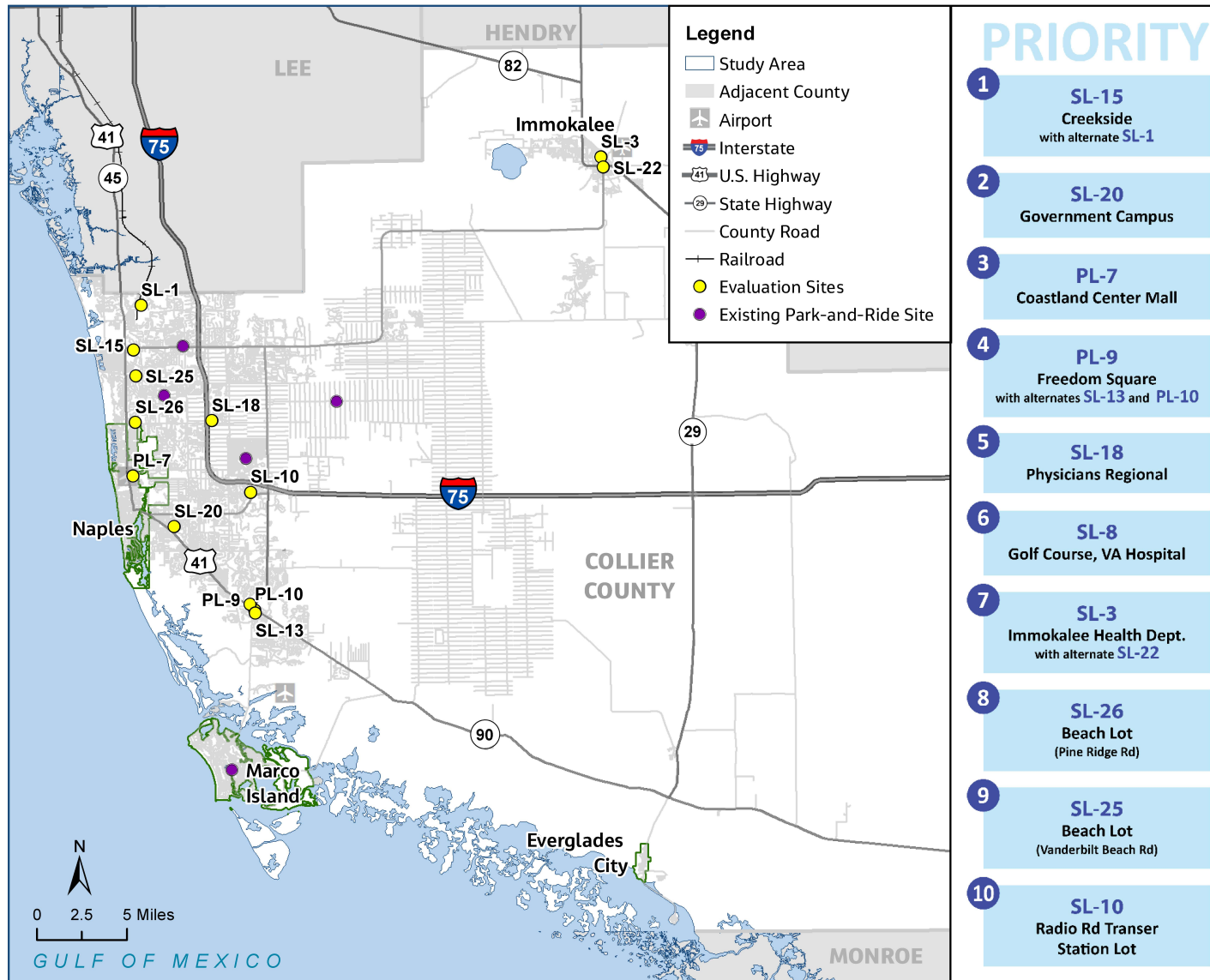


Figure 5-1. Recommended Priority Sites (Including Alternative Locations)

5.3 Alternate Sites

Some service areas had alternative sites (separate site IDs) evaluated or phased development listed within the comments section. The alternate with the highest rank should be pursued first and the other alternates pursued as applicable. Sites with higher-ranked alternates should have its site size reevaluated based on the size of the higher-ranked alternate that is developed. These locations in the Priority Sites include SL-22, SL-13, PL-10, and SL-1.

Options are also presented on the evaluation forms for locations that may have more than one property pursued, if the recommended parcel is not successful. Alternative sites should be evaluated to pursue on a case-by-case basis, based on whether it is proposed on a shared-use or developed lot.

5.3.1 Alternates for Public-Private Partnerships

For sites requiring public-private partnerships, sites were proposed on shared-use lots where the participating property owner would host a park-and-ride site on their lot. In this scenario, a lease agreement would be required, and the designated parking spaces would be signed as park-and-ride. Alternative sites on shared-use lots are considered interchangeable but can also be used in conjunction with each other where applicable. For example, PL-9, PL-10, and SL-13 are all proposed on a shared-use lots that requires a lease agreement and are alternates to each other. All three locations ranked as a priority site. However, all three sites may not need to be pursued. The highest-ranked site (PL-9) should be pursued first. If the property owner at the highest-ranked site is not amenable to providing the quantity of proposed parking spaces, the remaining spaces recommended should be pursued at the next highest-ranked alternate location.

5.3.2 Alternates for Developed Lots

For developed lots with alternative sites, only one site shall be pursued with the other alternate site resized or eliminated. For example, SL-1 (Creekside) and SL-15 (Railhead) are alternates proposed for a transfer facility and connection with LeeTran. SL-15 resulted in a higher score because it already serves as a transfer station and accommodates several routes but requires the County to purchase property within an approximate 0.5-mile range. However, if property cannot be acquired within a reasonable price, the County should pursue its alternate, SL-1, which is on County-owned property. The transfer station with LeeTran and applicable CAT routes should be evaluated and rerouted to accommodate the new location as appropriate. If SL-15 is purchased and constructed, the site size for SL-1 should be significantly reduced.

SL-22 (Immokalee Government Center) and SL-3 (Immokalee Health Department) are the two alternates proposed in the City of Immokalee and are both ranked within the top priority sites. Although the Immokalee Government Center scored slightly higher than the Immokalee Health Department, the Health Department already has funding in place from the Tiger Grant awarded in 2018 to construct a bus transfer station (Collier County 2020). Therefore, because of the proximity of the two lots, SL-3 should be the lot constructed and SL-22 removed from consideration.

5.3.3 Phased Development

Some sites proposed various options for a location within the individual evaluation form. The evaluation was performed on the proposed phase, with an interim or long-term solution indicated as the applicable phase. Typically, approximately 5 spaces are proposed as an interim Phase I solution, with the fully developed lot as the long-term solution.

Some locations had options presented to pursue. The prioritized option should be pursued first, then if an agreement or property acquisition cannot be made at agreeable terms, then the next option should be pursued for that location.

6. Cost Estimates

Cost estimates were developed for the priority site locations. Cost estimates included initial construction costs, estimated operating costs, and anticipated leasing fees. Initial construction costs included the cost of land acquisition, design, permitting, and the development of the site with recommended amenities. The estimate for SL-15 is \$564,940, \$352,251 for SL-3, \$2,587,310 for SL-26, \$2,318,200 for SL-25, and \$565,013 for SL-10. Refer to Appendix E for a detailed breakdown of estimated costs and site size requirements. As noted in Section 4.2, additional features such as restrooms and utilities were not included in the cost estimates. Additional amenities desired, such as those proposed for SL-3, should be added to the cost estimates provided.

The cost estimate for a new beach express shuttle to serve SL-26 is proposed to operate only during peak season. Because the beach only reached maximum capacity 36 days per year within the last 3 years (refer to Table 3-5), the cost estimate for a beach shuttle is anticipated to align with the cost of the R29a Beach Bus. A new beach express shuttle is also recommended to serve SL-25. The cost for new service to accomodate the sites would be added to the cost estimates provided.

The yearly maintenance cost per space for maintaining pavement, drainage, landscaping, and fencing is anticipated to cost at \$130 per space per year for 2020. The yearly leasing fee for shared-use lots on private property is anticipated to be minimal, estimated at approximately \$15 per space per year for 2020 (FDOT 2012).

7. Funding Sources

An important consideration for prioritizing park-and-ride sites is determining available funding for developing and maintaining the site. Federal, state, and local funding options were reviewed in relation to each proposed park-and-ride site. Funding allocation will be needed for all elements of the development and maintenance including design, ROW acquisition or lease, construction, promotion, monitoring, operating, and management of the development and maintenance of the facilities. Funding will also be needed for any future expansion or improvements to the sites.

The FDOT *State Park-and-Ride Guide* (FDOT 2012) summarizes potential federal and state funding sources for building park-and-ride facilities. The programs were evaluated for funding, implementing, and maintaining park-and-ride facilities as applicable to the proposed sites for the County. Refer to Section 8.2 for recommended funding sources to pursue for priority lots.

7.1 Federal Funding

Federal resources are available and generally targeted to support the highway system and improve its capacity. Table 7-1 summarizes potential federal resources for programs administered by the Federal Transit Administration (FTA). A recent award of the FY 17 Buses and Bus Facilities Infrastructure Investment Program through the FTA was to Lee County for the transfer station and park-and-ride lot (FTA 2020).

Table 7-1. Federal Funding Sources

Source: *State Park-and-Ride Guide* (FDOT 2012)

| Funding Source | Agency | Description | Comments |
|--|--------|--|---|
| 5309 Bus and Bus Facilities (Transit Project Earmarks) | FTA | The Capital Investment Grants and Loans Program (formerly Discretionary Grants) provides transit capital assistance for new fixed guideway systems and extensions to existing fixed guideway systems (New Starts), fixed guideway modernization, and bus and bus-related facilities. | Project must be consistent with the MPO plan, and typically matched on 80/20 basis. |
| Small Starts | FTA | This program is following a simplified process for projects seeking less than \$75 million in federal discretionary "Small Starts" funds and with a total project cost not exceeding \$250 million. | Has many requirements that are still in process. Exclusivity of corridor, model, and ridership may be issues. |
| Very Small Starts | FTA | FTA has defined a class of projects that are very simple, low-cost, and demonstrably effective called Very Small Starts projects within the Small Starts Program. FTA's intent is that Very Small Starts will qualify for an even simpler and expedited evaluation and rating process. | Designed for the bus rapid transit services. Can be as high as 80/20 funding. |

Table 7-1. Federal Funding Sources*Source: State Park-and-Ride Guide (FDOT 2012)*

| Funding Source | Agency | Description | Comments |
|----------------------------|--------|--|---|
| 5307 Formula Funds | FTA | The Urbanized Area Formula Grants Program provides transit capital and operating assistance to urbanized areas with populations of more than 50,000. Approximately \$18 billion is provided to transit agencies for bus and rail vehicle replacements and facility recapitalization. | Project must be consistent with MPO plan and Transportation Improvement Program (TIP). Typically used by transit agencies for non-project-specific funding. |
| 5311 Capital Grant Program | FTA | This program provides grants for transportation projects that are included in a state program of mass transportation service projects (including service agreements with private providers of mass transportation service) for areas other than urbanized areas. Each state receives an apportioned amount based on its amount of non-urban area. This program is often used for operating assistance. | Eligible activities include planning and marketing for intercity bus transportation; capital grants for intercity bus shelters; joint-use stops and depots; operating grants through purchase-of-service agreements, user-side subsidies, and demonstration projects. |
| CMAQ Funds | FTA | A modification to the law during Transportation Equity Act of the 21st Century provides states that receive the minimum apportionment of 0.5 percent with some flexibility to use CMAQ funds for Surface Transportation Program (STP)-eligible purposes. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| STP Funds | FTA | These funds are excess highway funds or those chosen to be flexed to transit projects. Federal and state funds that are flexed are permanently removed from a highway project or from potential highway project funding. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |

7.2 State Funding

FDOT has a Park-and-Ride Grant Program that supports the purchase or leasing of private land for the construction of park-and-ride lots, as well as the promotion (advertisement) and monitoring of the lots. It is an integral part of the Commuter Assistance Program. The Central Office has established criteria for detailed park-and-ride planning, implementation, and evaluation. All local park-and-ride projects are reviewed for eligibility by the FDOT District office, and suitable projects are considered for funding.

Table 7-2 summarizes potential state resources for programs administered by FDOT.

Table 7-2. State Funding Sources*Source: State Park-and-Ride Guide (FDOT 2012)*

| Funding Source | Agency | Description | Associated Issues |
|---|--------|--|--|
| Transit/Rail Service Development | FDOT | Discretionary funding allocated to specific projects by FDOT policy makers to assist in initiating new transit or rail service. Assistance can be either capital or operating grants, although operating assistance is limited to a defined timeframe (typically 3 years). | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| Strategic Intermodal System | FDOT | An initiative by FDOT to provide funding for statewide and regionally significant transportation facilities and services. | Initial focus is on improving intercity transportation corridors, rather than local services. |
| Park-and-Ride; Commuter Assistance Programs | FDOT | Programs to facilitate the use of car pools/vanpools by providing funding for planning, marketing, and capital projects. | Historically, focus has been on commuter assistance. |
| Intermodal Development | FDOT | Program designed to provide funding for improved access, connections to other modes (for example, airports, seaports, and rail), and to facilitate intermodal or multimodal movement of people and goods. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| Public Transit Block Grants | FDOT | Formula grants to established transit providers for use on capital projects or operating assistance. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| State Infrastructure Bank Loans | FDOT | Provides low interest loans for transportation projects – all modes. Repayment terms are flexible and are negotiated on a case-by-case basis. This is a financing tool, not a grant. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. Not a grant—requires repayment. |
| TRIPS | FDOT | Program to improve travel on regionally significant facilities or benefit regional travel or commerce; 50 percent of project cost or 50 percent of non-federal share. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| CIGP | FDOT | Up to 50 percent for improvements to relieve congestion on State Highway System. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |
| New Starts | FDOT | Dollar-for-dollar match of local funds for New Starts projects. | Project must be consistent with the local comprehensive plan and must be included in MPO plan and TIP. |

7.3 Local Funding

Local funding is typically required to match the federal and state resources. Local funds can include general Capital Funds or various taxes, such as sales tax, property tax, local business tax, taxes associated with transportation (such as vehicle registration fees), or tourist development tax.

The County's tourist development tax is governed by the Tourist Development Council (TDC) and TDC tax dollars are used for the promotion of tourism. Any projects and expenditures of tourist development tax must be approved by the TDC. This is a potential funding source to assist with park-and-ride lots associated with beach park facilities or those specifically designed to support tourism. Projects seeking TDC funding require TDC Board conceptual approval prior to advancement to ensure eligibility and support.

Another possible local funding option includes working with the County MPO Congestion Management System to determine if their program has potential for funding certain park-and-ride facilities. Park-and-ride lots would be eligible under this program if they are located along corridors that do not meet an acceptable level of service and do not have funding for widening within the next 5 years. The Congestion Management Committee would review selected park-and-ride lots that meet this program's goal to determine if it would be advanced for recommendation. If advanced, the Congestion Management Committee would prioritize the project and bring to the MPO Board for final approval.

7.4 Alternative Funding Strategies

An alternative strategy for the development of additional park-and-ride lots in congested areas is to work with new commercial developments in their conceptual and design stage. When designing parking requirements for a commercial use, allowing developers to provide required parking spaces offsite can help promote park-and-ride facilities and reduce congestion. The developer could be given the option to either build a park-and-ride offsite or participate in a joint planned effort with funds from several developers being pooled for constructing lots or parking garages. Offsite parking for developers can be made more attractive by providing incentives and benefits, such as increased square footage capability for buildings, water treatment and storage, or even reduced development fees.

The Seed-to-Table park-and-ride lot near the intersection of Livingston Road and Immokalee Road is a good example of such an arrangement (refer to Figure 7-1). Seed-to-Table is a retail market and café who funded and constructed a park-and-ride lot on County property. The design of the lot incorporates one section designated for Seed-to-Table use only and another section for public use. Because the lot is not ideal for pedestrian commute to the shopping center, the County required Seed-to-Table to provide a shuttle service to safely bring users (targeted for employees) across Livingston Road to the shopping center.



Figure 7-1. Seed to Table Park-and-Ride lot

Another alternative strategy is to use regulatory requirements to implement revisions to County and City systems (Naples, Marco Island, and Everglades City). For example, modifications to the Concurrency Management System Ordinances could be made by revising mitigating improvements to accept transit, instead of contributing to roadway improvements. This

would be advantageous where developments are increasing trips on corridors that have limited or no capability for ROW expansion (for example, Immokalee Road around I-75) or congested segments that cannot improve capacity or level of service because of financial limitations or environmental restrictions.

It is recommended for the County and its associated municipalities to endorse this ordinance change. A standard process would need to be developed for computing transit fees as an alternative mitigating improvement. Specific areas or segments should be selected where this option is available to developers. The associated fees should be updated as needed in conjunction with the transit or mobility plan accepting this alternative (FDOT 2012).

8. Recommendations and Conclusions

Park-and-ride priority lots should be adopted into the County's LRTP and TDP updates. In addition, new sites should be acquired and reserved for the future along corridors identified in the AUIR or LRTP as deficient and along corridors with high commuter patterns, even if transit is currently not yet provided along that route. The County's property acquisition team should inform CAT when any opportunities arise for potential purchase of land near these main arterials to serve this demand, as well as for beach parking within a 3-mile radius of beaches at capacity (refer to Table 3-5) especially in areas with limited availability, such as South Marco Beach Access in Marco Island.

8.1 Best Practices

Designing and building cost-efficient park-and-ride facilities is key for the success of funding and feasibility. Facilities should be designed with landscaping that requires little to no maintenance to further reduce upkeep costs. In addition, Collier County Vertical Construction Standards should be incorporated where applicable for such items as video surveillance. Designing the sites with conventional facility standards that are used around the County, such as standard lighting fixtures and gates, will allow for efficient maintenance and servicing.

Strategies and best practices should be incorporated into site design where feasible, as noted in Appendix A. Where appropriate based on parking and roadway capacity, park-and-ride spaces on shared-use lots can be designed for use only from Monday through Friday or weekends only.

For the lots designed to accommodate offsite airport parking for the Southwest Florida International Airport. If charging is desired, parking meters and the PayByPhone system, or equivalent, could be implemented, with numbered parking spaces. The County shall determine the maximum amount of days to allow overnight parking. Expired spaces may be ticketed or towed at the owner's expense. Using a parking meter that can be paid through an online (PayByPhone) portal would allow commuters who have unplanned extended trips to pay for the additional parking days remotely.

The PayByPhone parking system with phone application is used by more than 300 cities designed to accommodate this service. An MOD service should be developed with Lee County to serve the airport commuters, such as those using SL-1. Lots allowing overnight parking should be fenced with automatic timed gates and night vision cameras to increase safety and security.

8.2 Property Acquisition and Lease Agreements

To develop new lots, the following actions are recommended:

- Establish funding, secure local funds, or obtain grants as applicable
- Acquire property
- Design and permit
- Construct

To establish funding for SL-15 (Creekside) and SL-10 (Radio Rd Transfer Station lot), grants may be pursued as the facility will also serve the transfer station. It is recommended to pursue the bus and bus facilities grant; however, funding can also be pursued using public transit block grants or possibly through the MPO's Congestion Management Committee.

For SL-3 (Immokalee Health Department), the funding for the transit center was included with Immokalee Complete Streets grant proposal, which was awarded the Tiger IX Grant in March 2018. The project

included a bus bay, canopy shelter, waiting area, trash receptacles, vending machines, restrooms, and Americans with Disabilities Act improvements.

For the proposed beach lots, SL-26 (Pine Ridge Rd) and SL-25 (Vanderbilt Beach Rd), it is recommended to pursue TDC funds and the bus and bus facilities grant. An alternate funding source could be through public transit block grants.

For shared-use lots requiring private-public partnerships, funding should be pursued using the FDOT Park-and-Ride commuter assistance programs. Property owners of the priority locations on shared-use lots were contacted. CAT and Collier MPO should more formally engage with property owners at proposed lease locations to describe the project and inform on the benefits a park-and-ride can bring to commercial lots. A sample maintenance agreement can be found in the FDOT *State Park-and-Ride Guide*.

8.3 Promotion of the Facilities

As discussed in Appendix A, guide signs following the latest MUTCD guidelines are recommended on the major arterial leading to each park-and-ride lot (existing and future) provided within the County, as well as at the entrance of each lot. In addition, CAT should create a separate webpage identifying each lot and shared-use site available for park-and-ride within the County, with photos and descriptions of each lot. The webpage should include information on the benefits of using park-and-ride and links for commuter service and MOD available. In addition, park-and-ride locations should be added to the overall CAT map and to the interactive bus route maps' Real Time Trip Planner webpage (CAT 2020).

The facilities can also be promoted by installing amenities to entice users to the lot, such as electric vehicle car charging stations. To help commuters to reach their ultimate destination after taking transit, alternative methods such as electric scooter stations can be installed at popular stops. Each developed park-and-ride lot and transfer station should have informational signs about the lots available within the County and information on CAT and the commuter assistance program.

To advertise designated beach park-and-ride lots, tourism and Parks & Recreation websites should promote the lots to increase awareness. Pamphlets of the beach shuttle should be available at hotels and tourist locations. The Parks & Recreation Division recommended the beach shuttle be exchanged with a beach trolley, with open windows and beach graphic wraps to attract tourists and entice users. Additional promotion and marketing strategies outlined in FDOT *State Park-and-Ride Guide* (FDOT 2012) should be pursued as resources and funding are available.

For all beach park-and-ride lots, digital 'real-time' tracking signs indicating the quantity of available spaces is proposed along the arterials. Real-time tracking for SL-26 should be posted at the park-and-ride lot (Pine Ridge Road) for drive-by trips as well as on US 41 prior to visitors entering Seagate Drive. This will reduce trips on Seagate Drive and promote lot use. The real-time tracking should also be posted online to allow visitors to plan their route accordingly during peak season. The online location should be easy to search, with the location posted on the interactive sign. It would be ideal for the website to indicate 'real-time' availability of parking at each of the County beach lots.

8.4 Park-and-Ride Handbook

A Park-and-Ride Handbook was developed to assist in the evaluation process for future sites analyzed after the conclusion of this Study (refer to Appendix B). The handbook should also be used as the basis for any future park-and-ride studies performed for the County. The handbook includes guidance on the site selection and evaluation process as well as the Evaluation Methodology and Evaluation Forms.

Weighting and evaluation methodology should be reevaluated as demographics, needs, and development changes occur within the County from the current 2020 conditions of this Study.

9. References

BMI, Burgess & Niple, Inc., and Fitzgerald & Halliday, Inc. 2003. *Northern Virginia Park & Ride Lot Feasibility Study Final Report*. Prepared for: Virginia Department of Transportation Northern Virginia District. April. <http://www.virginiadot.org/projects/resources/NorthernVirginia/NoVA-pknride-study.pdf>.

Coastal Region MPO. "Park and Ride Lot Initiative." Accessed July 2020. <https://www.thempc.org/Core/Pr#gsc.tab=0>.

Collier County. 2016. *IMMOKALEE COMPLETE STREETS GROWING CONNECTIONS TO CREATE MOBILITY OPPORTUNITIES TIGER 2016 APPLICATION*. <https://www.colliercountyfl.gov/home/showdocument?id=65746>

Collier County. 2019. ANNUAL UPDATE & INVENTORY REPORT/CAPITAL IMPROVEMENT ELEMENT SCHEDULE UPDATE ON PUBLIC FACILITIES 2019 AUIR/CIE. Prepared by Comprehensive Planning Section Zoning Division Growth Management Department.

Collier County. 2019. Collier County Sports Complex & Events Center. December 10. <https://www.colliercountyfl.gov/home/showdocument?id=90757>

Collier Metropolitan Planning Organization (MPO). 2020. *Public Participation Plan*. June 12.

Commonwealth of Massachusetts. 2020. "Park and Ride." Accessed July 2020. <https://www.mass.gov/park-and-ride>.

Commuter Services of Pennsylvania. 2020. "Park & Ride Map." Accessed July 2020. <https://pacommuteservices.org/park-ride-map/>.

Connetics Transportation Group, Moffatt & Nichol, and Symbioscity. 2014. *Park-And-Ride Lot Study Final Report*. Prepared for: Coastal Region MPO. September. <https://www.thempc.org/eagenda/x/acat/2014/October%2020.%202014%20Regular%20Meeting%20of%20the%20CORE%20MPO%20ACAT%20on%20Monday.%20October%2020.%202014/47438766-0949-402D-8459-D1A489615413.pdf>

David Plummer and Associates, Inc. 2010. *Miami-Dade Countywide Consolidated Park-and-Ride Facilities Plan*. October. <http://miamidadetpo.org/library/studies/consolidated-park-and-ride-facilities-plan-final-2010-10.pdf>

Emerald Coast Regional Council. 2020. Park and Ride. Accessed August 17. https://www.ecrc.org/programs/transportation_planning/park_and_ride.php

Federal Highway Administration (FHWA). 2009. *Manual on Uniform Traffic Control Devices for Streets and Highways*. 2009 Edition. U.S. Department of Transportation. December.

Federal Transit Administration (FTA). 2020. "Fiscal Year 2017 Bus and Bus Facilities Projects." Accessed July 2020. <https://www.transit.dot.gov/funding/grants/fiscal-year-2017-bus-and-bus-facilities-projects>.

Florida Department of Environmental Protection (FDEP). 2009. *Florida's Statewide Comprehensive Outdoor Recreation Plan*. FDEP Division of Recreation and Parks. November 16. <https://floridadep.gov/sites/default/files/OutdoorRecreationinFlorida2008.pdf>

Florida Department of Transportation (FDOT). 2012. *State Park-and-Ride Guide*. Prepared for: Florida Department of Transportation Transit Office. June 1.

https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/transit/pages/finalparkandrideguide20120601.pdf?sfvrsn=a592696c_0

Florida Department of Transportation (FDOT). 2019. *SIS Atlas*. October 31.

<https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/planning/systems/programs/mspi/pdf/sis-atlas-103119d82d9d26abf840a38ffc216e03e26474.pdf>

Florida Department of Transportation (FDOT). 2020. Commute Connector. Accessed August 17.

<https://commuteconnector.agilemile.com>.

Franklin Regional Council of Governments. 2008. *Franklin County Park and Ride Study*. Prepared for:

Franklin County. September. https://frcog.org/wp-content/uploads/2014/04/%E2%80%A2-ParkandRideStudy_Final-Report-%E2%80%A2-.pdf

Google. 2020a. "Park & Ride, San Carlos Drive, Fort Myers Beach." Accessed July 2020.

<https://earth.google.com/web/>.

GradyMinor. 2018. *Clam Pass Parking Garage*. May 29.

Jacobs. 2020. *Collier MPO 2045 Long Range Transportation Plan*. December 2020 (expected).

Karto, Zachary, Senior Planner, Collier Area Transit. 2020. Personal communication (email) with Felicia Kirby, Jacobs. July 13.

Lee County Transit (LeeTran). 2019. LeeTran System Map.

<https://www.leegov.com/leetrans/PublishingImages/Lee%20Tran%20System%20Map%202019%20web.pdf>

Manatee County Area Transit (MCAT). 2018. *MCAT Transit Development Plan 2019 - 2028 Major Update Final Report*. Prepared for: Manatee County. Prepared by: Manatee County Area Transit. August.

https://www.mymanatee.org/UserFiles/Servers/Server_7588306/File/Departments/MCAT/Agency%20Information/Transit%20Development%20Plan/Manatee-Connect-TDP-Final-Report-1.pdf

Manatee County Area Transit (MCAT). 2019. *2019-2020 Annual Progress Report for the MCAT Transit Development Plan 2019-2028 Major Update*. August.

<https://www.mymanatee.org/published/August%206.%202019%20-%20Regular%20Meeting%20on%20Tuesday,%20August%2006.%202019/71D20B1E-CBE7-4E7A-8F1E-084047CBB58D.pdf>

Manatee County Area Transit (MCAT). 2020. "Bus Routes and Maps."

https://www.mymanatee.org/departments/mcat/bus_routes_and_maps. Accessed July 2020.

Matthew C. Boyer & Associates. 2014. *Humboldt County Association of Governments Park and Ride Study: Technical Memorandum: #1B (Commute Patterns)*. Prepared for: Humboldt County. April.

http://www.hcaog.net/sites/default/files/tm_1b_draft_final_042814.pdf

Matthew C. Boyer & Associates. 2017. *Draft Park-and-Ride Master Plan*. Prepared for El Dorado County Transit Authority. January 24.

<http://3nmak51dheck3t8vkw20jvcz-wpengine.netdna-ssl.com/wp-content/uploads/2017/01/Report-Draft-El-Dorado-Transit-Park-and-Ride-Master-Plan-2017-02-02.pdf>

Medina, Josephine, Senior Planner, Collier MPO. 2020. Personal communication (email) with Felicia Kirby, Jacobs. April 1, 2020.

Miami-Dade County. 2020. "Metrobus Park and Ride Lots." Accessed July 2020. <https://www.miamidade.gov/global/transportation/metrobus-park-ride.page>.

Miami-Dade County. 2018. *Dolphin Station Truck Parking and Park & Ride Site Feasibility Study*. Prepared for: Miami-Dade County. Accessed June 2020. <https://www.mdxdway.com/pdf/2-Dolphin%20Park%20and%20Ride%20Transportation%20Aesthetics%20Review%20Committee%20presentation.pdf>

Olson, Nancy, Regional Manager, Parks & Recreation. 2018. Personal communication (email) with Felicia Kirby, Jacobs. May 23.

Renaissance Planning Group. 2013. *Regional Park-And-Ride Strategic Implementation Plan for the Sarasota/Manatee Metropolitan Planning Organization*. Prepared for: Sarasota MPO. December.

Ride Solutions. *Park-And-Ride Study: Inventory, Use, and Need for the Roanoke and New River Valley Regions*. Prepared for: Virginia Department of Transportation. Prepared by: Ride Solutions. <http://nrvrc.org/wp-content/uploads/2015/07/Park-And-Ride-Study-2009.pdf>

Spillar, Robert J. 1997. *Park-and-Ride Planning and Design Guidelines*. Prepared by: Parsons Brinckerhoff Quade & Douglas, Inc. October. <http://cdn.wspgroup.com/8kzmue/park-and-ride-planning-and-design-guidelines.pdf>

Sullivan, Jake, Acting Manager Region I, Collier County. 2020. Personal communication (email) with Felicia Kirby, Jacobs. March 3, 2020.

Tindale-Oliver & Associates, Inc. 2011. *Transit Development Plan FY 2012 - 2021 Final Report*. Prepared for: Lee County Transit. September. https://www.leegov.com/leetrans/Documents/LeeTran_2012_TDP.pdf

Tindale-Oliver & Associates, Inc. 2012. *Conceptual Vision for Park-and-Ride Facilities Final Report*. Prepared for: Pasco County MPO. December. <https://www.pascocountyfl.net/DocumentCenter/View/11055/Pasco-Park-and-Ride-Vision---Final?bidId=>

Tindale-Oliver & Associates, Inc. 2012. *Transit Infrastructure Guidelines Manual*. Prepared for: Pasco County Metropolitan Planning Organization. December.

Tindale-Oliver & Associates, Inc. 2018. *MCAT Transit Development Plan 2019 - 2028 Major Update Final Report*. Prepared for Manatee County Area Transit. August. https://www.mymanatee.org/UserFiles/Servers/Server_7588306/File/Departments/MCAT/Agency%20Information/Transit%20Development%20Plan/Manatee-Connect-TDP-Final-Report-1.pdf

University of South Florida (USF). 2005. *COLLIER COUNTY Park & Ride Site Identification Study*. Prepared for: Collier County. Prepared by: Center for Urban Transportation Research (CUTR). November.

University of South Florida (USF). 2011. *TBEST Model Enhancements Parcel Level Demographic Data Capabilities and Exploration of Enhanced Trip Attraction Capabilities*. Prepared for: State of Florida Department of Transportation (FDOT). Prepared by: Center for Urban Transportation Research (CUTR). September. <https://www.nctr.usf.edu/wp-content/uploads/2011/11/77801.pdf>

Valley Metro. 2018. *North Glendale Park-And-Ride Study Final Report*. May. https://www.valleymetro.org/sites/default/files/uploads/event-resources/n_glendale_pnr_study_final_rpt_0518.pdf

Valley Metro. 2020. "Park-and-Rides." <https://www.valleymetro.org/park-and-ride>. Accessed July 2020.

Vanasse Hangen Brustlin, Inc. (VHB). 2019. *Transit Development Plan Major Update (2020–2029)*. Prepared for Sarasota County Area Transit. August. <https://www.scgov.net/home/showdocument?id=42942>

Collier County. 2020. *Collier County GIS Hub*. Accessed April 15. <https://hub-collierbcc.opendata.arcgis.com/search?q=pud%20Collier%20County>.

U.S. Census Bureau. 2020. *OnTheMap*. Accessed April 29, 2020. <https://onthemap.ces.census.gov>.

Caltrans. 2020. "Park and Ride Program." Accessed July 2020. <https://dot.ca.gov/caltrans-near-me/district-11/programs/district-11-planning-local-assistance/district-11-park-ride-program>.

Citrus Connection. 2020. "Routes/Services." Accessed July 2020. <https://ridecitrus.com/routes/>.

City of New York. 2020. "FAQ: Park-n-Ride." Accessed July 2020. <https://www1.nyc.gov/site/opa/commuters/faq-park-n-ride.page>.

Google. 2020b. "Gow B. Fields Park and Ride." Accessed July 2020. <https://earth.google.com/web/>.

Lee County. 2020. "Lee Tran Beach Park and Ride." Accessed July 2020. <https://www.leegov.com/facilities/project?PID=25/>.

Broward County Transit. 2020. System Map. Accessed August 17. <https://www.broward.org/BCT/Documents/SystemMap.pdf>.

Palm Tran. 2020. Accessed August 17. <https://www.palmtran.org/>.

PayByPhone. 2020. Accessed September 2020. <https://www.paybyphone.com/>.

Collier County. 2020. TIGER GRANT IX. Accessed September 14, 2020. <https://www.colliercountyfl.gov/your-government/divisions-a-e/capital-project-planning-impact-fees-and-program-management/transportation-planning-section/grants/tiger>.

Collier Area Transit. 2020. MyStop. Accessed September 16. <http://collierivl.availtec.com/infopoint/>.