

EXPRESS BUS/EXPRESS LANE SYSTEMS

PLANNING GUIDELINES Florida Department of Transportation Central Office

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PLANNING GUIDELINES

I. INTRODUCTION

The Florida Department of Transportation (FDOT) is embarking on a large statewide program for constructing managed lanes (Express Lanes) along the interstate corridors. Several major projects are currently under construction, such as I-4 in District Five and I-295 in District Two with more projects to follow in District Seven.

The  I-95 Express Lanes program in south Florida has been a tremendous success. This program has included converting high occupancy vehicle (HOV) lanes to express toll lanes with Express Bus transit service. The results have shown significant improvement to travel speeds in both the express lanes and general purpose lanes. The initiation of the Express Bus Service in the Express Lanes increased the corridor throughput by attracting new customers to ride the transit service who traditionally drove alone. Broward County recently completed I-595 managed lanes project which includes reversible express lanes with Express Bus service under a Public-Private Partnership (PPP) project delivery approach.

For more details on the  I-95 Express Lanes and Express Bus performance and their benefits see **Appendix A**.

In addition, the Express Bus service success in South Florida has prompted the Miami-Dade Transportation Planning Organization (TPO) to support the expansion of this new transit service. The TPO has recently completed their Strategic Miami Area Rapid Transit (SMART) plan. The SMART plan was endorsed and adopted by the TPO Governing Board in 2016. The SMART plan involves expanding public transportation services along six transit corridors supported by a Bus Express Rapid Transit (BERT) Network. For plan detail follow the link [Miami-Dade TPO SMART Plan](http://www.miamidadetpo.org/smartplan.asp) (<http://www.miamidadetpo.org/smartplan.asp>).

The intent of this document is to provide general guidance on the planning and design of the Express Bus service operating in the Express Lanes. It addresses the major system components, such as service vehicles, stations, park-and-ride facilities as well as technologies in the vehicles and along the corridor. In addition, this document highlights the benefits of partnering with transit agencies to implement Express Bus service.

II. SYSTEMS DESCRIPTION

Express Bus service in Express Lanes (ELs) provides the highest performance and function in terms of rubber tired transit service, by providing no or limited intermediate stops while providing a high degree of reliable travel times. Express Bus service is often used to carry a significant number

of passengers between major origination and destination points such as park-and-ride lots, high density working environment, etc. Express Bus services are typically designed to use the fastest route between the major origination and destination points utilizing existing ELs to meet that goal.

In the State of Florida, buses with transponders can use express lanes and are exempt from additional tolls. However, in the case of the Florida Turnpike Enterprise facilities, they are subject to the general toll rate. Coordination with area transit agencies usually occurs in one of two ways:

1. The Transit Agency and the FDOT collaborate on Express Bus/Express Lane systems from the beginning of the planning stage. This early coordination provides the best opportunity for success and should be pursued by both the FDOT and any Transit Agency. At minimum, the initial focus should include benefits for stakeholders, route and market studies (including a ridership study), location of ingress and egress to ELs, stations and park-and-ride locations, capital investment, operating and maintenance costs.
2. The Transit Agency operates buses in the ELs with little or no coordination/involvement with the FDOT, although coordination with the FDOT is desirable. New administrative ruling requires the registration of buses with SunPass in order to be exempt on the interstates. However, minimal coordination with the Traffic Management Center may take place. All capital and operating/maintenance costs are the responsibility of the Transit Agency.

Express Bus-service operating in ELs are especially effective in large urban areas where peak-period and all-day passenger flows are sufficient to require frequent bus service. Some detailed strategies for Express Bus planning have been identified by the FDOT and area transit agencies and are listed as follows:

- There should be one or more strong employment center, such as a city center, or business/industrial parks. The suggested population thresholds for an urbanized area should exceed 750,000 and for a central business district (CBD) or a major employment district the population threshold should be at least 50,000.
- Express Bus service usually connects suburban areas with major employment centers operating on long freeway segments.
- Express Bus service typically accommodates commute-oriented trips, with trip distances ranging from at least of 5 miles to 20 miles or greater, in some cases. They may be served by park-and-ride lots with more than 50 percent¹ of the bus route operating in ELs.
- Commuter/work-based Express Bus service provide direct connections between major origins/destinations with special provisions for employees.

- Express Buses operate mainly during peak period, which often span about three hours¹ in both the morning and afternoon/evening, thereby providing a greater level of service for commuters.
- Specific service area characteristics that could increase the likelihood of the population using Express Bus service is based on demographic data from U.S. Census information.
- Express Bus routes carry significant numbers of passengers between two distinct points. Express Bus routes are implemented when ridership supports transit service in a particular corridor and are potentially “overlaid” on top of existing service. Express Bus routes should be designed to ensure that 75 percent of the passengers within that corridor can take advantage of the Express Bus service and that it can save them at least 15 percent of their regular travel time along the route.
- Express Bus service can serve special generators such as large tourist destinations as theme parks, cruise terminals, and special events; where Express Bus can serve as a shuttle service operating between park-and-ride lots and those tourist destinations operating in the ELs. This in turn reduces traffic congestion at those tourist destinations.

III. PLANNING AND DESIGN

A. System Ridership

Realistic and reliable ridership forecasts are essential to make sound investment decisions. Ridership forecasts help to size system design features, develop service plans, estimate capital investment and operating/maintenance costs. Ridership forecasts are needed for different time-of-day periods depending on the complexity of the Express Bus/Express Lane system.

Ridership for large Express Bus/Express Lane projects can be estimated by the traditional four-step modeling process; trip generation, trip distribution, mode split, and trip assignment. Household travel surveys can provide the basic information needed for modeling and analysis.

Population density represents the number of people residing per square mile and is the most common measure used by transit agencies to evaluate potential usage of the system. It is the best representation of ridership potential at the point of origin.

Measures for Service Area Characteristics include:

Population Density

- Persons per square mile
- Dwelling units per acre
- Minimum number of households

- Population age 18 and younger
- Population age 60 and older

Income

- Number of households with incomes less than \$10,000
- Per capita income
- Vehicle availability
- Zero car households
- One car households

Employment Density

- Employees per square mile
- Employees per acre
- Employees per employer (threshold) age

Special Generators (Theme Parks, Cruise Terminals, Airports, etc.)

- Number of visitors by mode
- Number of employees by mode

B. Service Coverage

Service coverage involves the availability of park-and-ride facilities or connected transit hubs. Park-and-rides facilities extend the use of the transit system beyond the everyday walk-up user by including the automobile users. Park-and-ride facilities should be provided at appropriate stops along the express bus routes to serve transit users from medium-density and low-density residential areas. Sufficient off-street auto parking opportunities should be provided at park-and-ride facilities to accommodate the total parking demand. Park-and-ride facilities should be provided at any suitable location close to the Express Bus routes which have been shown to attract up to 200 automobile¹ users per day or more.

C. Travel Time and Capacity Standards

1. Bus Schedule Design

The FDOT coordinates with the transit agency regarding the schedule design functions of the transit system. Standards for this category address service frequency, service directness, loading standards, and span of service. Time-of-day is a predominant factor in determining varying headway intervals. The common practice is to have more frequent service during peak hours and less frequent service during off-peak hours.

Ratio of Transit Route Travel Time to Automobile Travel Time:

- The peak period travel time for public transit passengers using Express Bus service should be reasonable in comparison to travel time by private automobile for trips made between similar origins and destinations.
- Express Bus transit travel distances and times should not exceed 1.5 times¹ that of the private automobile.
- Express Bus service should be time-competitive compared to the private automobile in order to be considered an attractive option.

2. Transfers

When transfers are required for a transit passenger to reach their destination, additional time must be factored into the total trip length.

3. Span of Service

Span of service represents the number of hours and days of the week when the Express Bus service is operational. A longer period of time that service is available corresponds to a higher system capacity¹. Express Bus operating in ELs generally have a time-specific span of service (weekday AM and PM peak periods is standard), though demographic characteristics and work hours of the area may require a different spans of service¹.

IV. VEHICLES

A. Vehicle Selection²

When considering Express Bus service in ELs, the size and type of the transit vehicle should be selected based on a number of factors. The physical vehicle size, aisle width, seating numbers, door widths and arrangements of doors are all major components that influence Express Bus system capacity and contribute to the vehicle selection process. The seating arrangements, floor heights, and door configuration impact dwell time at the stations, and therefore, the overall Express Bus travel time. Passenger comfort is also a major consideration. The vehicle standards need to address the various operating aspects of the transit vehicles, such as the assignment of vehicles, utilization and efficiency, reliability, and onboard amenities.

- Vehicles should be selected, and designed, for the type of services offered (e.g., local and express) and the nature of markets served.
- Vehicles should provide sufficient capacity for anticipated ridership levels, on-board rider comfort, wheelchair accommodation and securement, bicycle storage racks or if bicycles are allowed on board.

- Vehicles should have strong passenger appeal and should be environmentally friendly, easy to access, and comfortable. Desirable features include air conditioning, bright lighting, panoramic windows, and real-time passenger information. Additional passenger amenities that may be implemented include closed-circuit television, worktables and Wi-Fi.
- Vehicles should be easy to board and alight. Low floor heights of 15 inches or less above the pavement are desirable.
- Wide aisles and sufficient passenger circulation space on buses can lower dwell times and allow better distribution of passengers within the bus.
- Use of electronic guidance systems enables rail-like passenger boarding and alighting convenience and rail-like service times at stations.
- Standard, stylized, and specialized vehicles can be used for Express Bus service. Each vehicle should have distinct look, using graphics, and icons to create a unique Express Bus service identity and image.

B. Modern Vehicle Styling


Modern vehicle styling refers to the physical “modern” or “futuristic” internal and external appearance of buses used in express systems. This characteristic can influence riders’ perception of Express Bus systems. Additionally, modern-looking, attractive, and comfortable vehicles have been shown to increase ridership (see **Appendix B**).

C. Vehicle Intelligent Transportation Systems (ITS) Elements

The extent and type of Intelligent Transportation Systems (ITS) components to be incorporated into the vehicle need to be identified. Basic ITS components on Express Bus vehicles typically include next-stop annunciators, automatic vehicle locations (AVLs), automatic passenger counters (APCs), and vehicle diagnostics.

Advanced ITS technology that could be integrated into the Express Bus vehicles include precision docking, automated guidance, and collision warning and avoidance systems. Also, real-time passenger information displays could be provided at stations and on-board vehicles.

V. BRANDING STRATEGY

A branding strategy that creates a unique image for the new Express Bus service in Express Lanes should complement vehicles and stations and establish an Express Bus/Express Lane identity. Branding must be addressed in conjunction with further definition of the park-and-ride locations and stations areas. The branding strategy should include identifying a unique name, logo, and color scheme for the Express Bus/Express Lane service, identifying the different system components to be branded, and developing marketing and other public information materials (example flying  in South Florida).

Branding should include the following:

- Branding stations and terminal features such as bus stop signs, passenger information boards, fare collection equipment, and media.
- Branding vehicles to give them a special styling, unique look, added passenger amenities, and marketing panels.
- Branding marketing materials such as route maps, route schedules, web sites, and media information.

All vehicle decisions and selections need to be coordinated jointly between the FDOT and the transit agency.

VI. STATIONS

Stations provide the key link between passengers and the Express Bus system. They are also important in providing a clear system identity (see Branding Strategies). They can range from simple stops with well-lit shelters to complex facilities with extensive amenities and features.

Express Bus stations are widely spaced to allow high operating speeds; the wide spacing also reduces station investment costs. Stations should be located at transit-supportive major activity centers which may include city centers, outlying office and retail complexes, large schools, and hospitals. Good pedestrian, bicycle, transit, and park-and-ride access is essential.

Express Bus stations are facilities that can also be located with park-and-ride lots, at large employment centers, or at a major transit center. Local bus service can be comingled with Express Bus systems which may contribute to increasing ridership. However, there could also be a considerable time penalty. Comingling express and local bus services provides a better interface with pedestrian and bicyclist's access. Each Express Bus corridor will require detailed studies to determine the most appropriate type of station that should be constructed to provide the desired transit service.

Station information can be relayed to passengers through displays and audible announcements. They can inform passengers of the next vehicle's arrival time, the next station name, or possible delays, with real-time accuracy and at programmed intervals. Most passenger information systems of this type work in connection with Bus on-board AVL systems. This information can be relayed via a single-line dynamic message sign in a station or through a station-area kiosk. The kiosk may include additional information, such as a system map with interactive information displays as well as fare collection capabilities.

VII. ROADWAY INFRASTRUCTURE TECHNOLOGIES

Express Bus service may operate along segments of an arterial roadway to reach an employment destination or a transit center. When Express Bus vehicles operate in mixed traffic, it is important to reduce the bus delays and increase service reliability.

There are several roadway infrastructure technologies that would aid in maintaining bus schedule while operating in mixed traffic. Although these technologies are not a requirement for the successful implementation of Express Bus service they increase bus ridership by improving bus service reliability.

These technologies include Transit Signal Priority (TSP). TSP is the process of altering the signal timing to give a priority or advantage to transit operations. TSP modifies the normal signal operation process to better accommodate transit vehicles to meeting their schedule.

Another technology to accommodate transit is Queue Jump; Express Bus vehicles can bypass traffic queues at intersections through the use of available right-turn-lanes. A separate, short bus signal phase would allow the bus an early green phase to move into the through lane ahead of general traffic.

For detailed description of these roadway infrastructure technologies (see **Appendix C**).

VIII. PARK-AND-RIDE FACILITIES^{3,4,5,6,7,8}

One way to enhance the efficiency of the transportation system and promote alternative travel modes in Florida is via park-and-ride facilities. Park-and-Ride lots provide a means for encouraging transit ridership and carpool formation by providing a staging area to transfer from low occupancy or non-motorized modes to higher occupancy vehicles.

The FDOT's statewide Park-and-Ride Lot Program was initiated in 1982 to provide organized, safe parking for vehicles. Specific program guidelines are provided in FDOT Procedure Topic Park-and-Ride Number 725-030-002.

Park-and-Rides facilities have varying functions depending on factors including their location, size, amenities, and the modes of transportation they serve. Factors such as demand for greater access to multimodal transportation options and local parking constraints also influence the siting, design, and purpose of a park-and-ride facility.

A. Benefits of Park-and-Ride Facilities⁸

There are environmental, economic, and social benefits associated with integrating park-and-ride facilities within a sustainable transportation system.

- Reduce the number of cars on the road.
- Enhance efficiency of the transportation system.
- Enhance multimodal transportation system.
- Reduce CO₂ and other harmful emissions.
- Mitigate impacts to air quality associated with transportation projects.
- Reduce personal transportation expenses for gas, tolls, parking, and repairs.
- Reduce congestion and demand for parking in highly concentrated urbanized areas.
- Extend life of existing roadway systems.
- Encourage transit ridership and carpool formation.
- Increase expedited transportation options in suburban communities.
- Improve access to work, education, and other opportunities.
- Support benefits and incentives for commuters from employers.

B. Site Selection for Park-and-Ride Facilities with Express Lane Service

Park-and-Ride lots should be located in close proximity to public transportation in order to support Express Bus service. Since park-and-ride lot demand is closely related to transit demand, park-and-ride lots should be located where frequent Express Bus service is available.

The FDOT and transit agency should work closely together with local government in the planning and operating of park-and-ride lots.

Various factors can influence the effectiveness of a park-and-ride lot. Some applicable criteria are listed as follows:

- Locate along a primary commuter travel route(s) or near junctions of two or more major transit corridors that have access to Express Lanes.
- Locate directly upstream from congestion in general purpose lanes along the corridors.
- Locate near areas with the greatest demand, such as city centers, large activity centers, higher density residential areas and other compatible land uses; however, the optimal distance of park-and-ride lots to origins/destinations varies by region.
- Locate near transit connections or major intersecting arterial highways (with 0.3 miles⁷ of ELs targeted corridors).
- Locate in areas with good visibility.
- Feature lighted and sheltered waiting areas, where economically feasible.
- Locate strategically in areas where there is considerable distance between major residential areas and employment centers (may vary by region).

- Obtain support from Metropolitan Planning Organization (MPO), Locality, and Transit Agencies.
- Promote free parking accommodations at lots, if possible.
- Provide pedestrian/bicyclist accommodations such as bike racks, lockers, shelters, sidewalks, and Americans with Disabilities Act (ADA) compliant curb ramps.
- Incorporate pedestrian/bicyclists safety into the design.
- Utilize as a resource ride matching databases that contains origin and destination data when identifying where new park-and-ride lots should be considered.
- Consider employers outreach as another data point to determine the location of park-and-ride lots. Analysis using employee address information may help to evaluate potential areas for park-and-ride facilities.

C. Park-and-Ride Lots Demand and Size Estimation⁵

Estimating lot demand and space needs go hand-in-hand with the site selection process summarized previously. Scale, complexity, and project cost should guide the type of approach used for estimating size needs for park-and-ride facilities.

When determining the lot size needed for a park-and-ride facility consider the following eight steps⁵ below:

1. Compute the number of motorists that will use the facility.
2. Convert the number of motorists to the number of parked vehicles.
3. Adjust the number of parked vehicles to account for fluctuations in demand due to seasonal factors.
4. Compute the maximum accumulation of shared-ride vehicles.
5. Compute the number of accessible spaces required.
6. Convert the total estimated number of spaces to an area measurement.
7. Calculate additional space needs for bus facilities, turn radii, and other design criteria.
8. Develop space allowances for landscaping, setbacks, drainage, other design and permitting criteria.

When sizing a multimodal park-and-ride facility the lot area may be expanded to accommodate on-site amenities such as areas for community art, vendors, security, and short-term loading and waiting areas for taxis, carpools, vanpools, and kiss-and-ride passenger drop off and pick up areas. It is assumed that the facility will be optimally located and implemented in the area for which size analyses are being performed.

FDOT District Five has developed a Park-and-Ride Location Suitability Assessment methodology and matrix that takes into account the site geographic location, users' demographics and other

weighted criteria. The matrix provides a quantifiable method of comparing park-and-ride lots against each other and ranking them for the highest potential for success.

A copy of FDOT District Five's methodology, sample matrix comparison and ranking of potential park-and-ride lots are located in **Appendix D**.

Park-and-Ride Facility Estimation Example⁵

The following data was used for computing the size of a park-and-ride facility:

- Traffic analysis zone (TAZ) map of the activity center
- Street map of the activity center
- Design year employment for the activity center
- Mode share distribution for home-based work trips to the activity center, if available
- Traffic counts for major arterials accessing the activity center
- Parking inventory

The TAZ map, design year employment, and design year population can be obtained from the urban area data sets maintained by the local MPO and/or the FDOT District Planning Office. Traffic counts for state facilities are available from the FDOT District Offices. Counts for county and city facilities are available from the county and city governments.

An inventory of available parking spaces may need to be performed. Such inventories may already exist and can be obtained by contacting the local parking authority, city, and county.

Calculate the parking requirements for home-based work trip parking at the activity center, based on the activity center employment. Total parking deficiency within the activity center is then computed by comparing the parking demand with available parking. Estimates of parking demand that can be captured by the new facility are based on assessments of site location and distribution of existing parking supply. Finally, site size requirements are computed considering costs of construction and anticipated revenue.

STEP 1: Estimate total parking demand for the activity center. Identify the TAZs contained in the activity center. The "Total Employment" variable contained in FSUTMS ZDATA files is then accumulated for these zones. The resulting value represents work trips for the activity center. Total parking demand for work trips on a person-trip basis is computed by subtracting transit usage from the total activity center employment. The local mode split distributions from the urban area models can be used to factor out transit usage.

STEP 2: *Determine parking supply deficiency.* The following formula is used to determine the parking supply deficiency:

$$\text{Parking Deficiency} = \text{Total Parking Demand} - \text{Supply (existing parking from inventory)}$$

STEP 3: *Compute the maximum number of parking vehicles the facility can capture.* This is based on the orientation of the parking facility to important access routes. Identify the roads that provide access to the area in which the parking facility is to be located. Then, calculate the maximum number of parked vehicles that could utilize the facility:

$$\text{Maximum Parking Capture} = \text{Parking Deficiency} \times (\text{Vadj} / \text{Vall})$$

Vadj = Traffic volume on adjacent roadways that parkers would utilize to access the facility

Vall = Total traffic volume on commuting arterials and highways accessing the activity center

STEP 4: *Determine parking demand.* Compare the supply of existing parking in the vicinity of the potential new facility with the maximum number of potential parkers computed in Step 3.

STEP 5: *Determine the facility size needs.* The actual parking demand computed in Step 4 is used to determine the facility size using 300 square feet⁵ as gross area per parked vehicle. This would calculate total area of park-and-ride lot size.

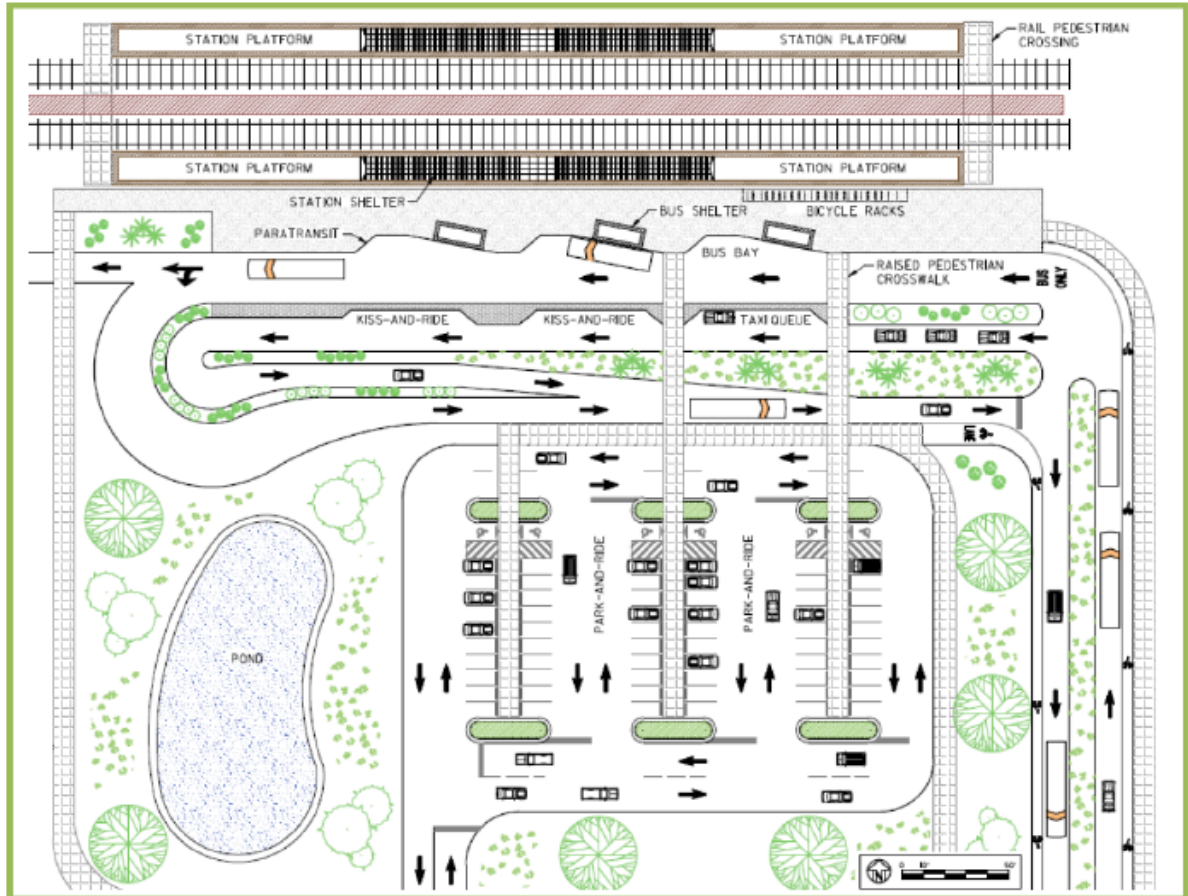
There are several different methods for demand and facility size estimation, depending on the type of facility and scale of analysis, and the most appropriate method for the given land use context should be selected.

D. Park-and-Ride Lots Design Features^{3,4,5,7}

- The park-and-ride facility design should accommodate all modes anticipated to access the facility, including automobiles, buses, bicycles, and pedestrians (ADA Compliance). This relates to roadway widths, turning radii and separation of non-vehicular and vehicular traffic.
- For lots with over 300 spaces, a minimum of two exits and two entrances is recommended. For lots with over 1,000 spaces, provision of entrances and exits on two adjacent streets is recommended to reduce traffic congestion, improve internal circulation and to provide for more efficient traffic distribution.
- Whenever possible, the facility entrance should be located on the right-side of the highest traffic volume direction to minimize the need for a left turn across traffic. If warranted, left turn signals and adequate storage bays should be designed.

- The most efficient access to a facility is via a collector street intersecting the adjacent arterial roadway at a signalized intersection. This eliminates the need for driveways and reduces conflicts on the arterial roadway.
- Access points should be located so as to avoid queues blocking them from nearby intersections or interchanges. For facilities located near the interstate, adequate distance should be provided to and from the park-and-ride lot to the interchange ramps.
- Whenever possible, modes of travel should be separated to maximize safety and efficiency (i.e., buses should have their own travel lanes, entrances and exits; kiss-and-rides, passenger drop off and pick up areas should be separate from parking areas; pedestrian and bicycle paths should be separate from automobile traffic paths as much as possible).
- Since safety is a primary goal, modal conflicts must be avoided as much as possible; at minimum, signage and pavement markings must be provided to assist and guide various movements.
- Intersection and roadway link capacity analyses should be performed to minimize the traffic impacts on the adjacent facility and potentially increase the congestion on adjacent roads served by the lot.
- Where possible, co-locate access points with shopping centers, theaters and other land uses with peak trip generation not occurring during peak commute times.
- The design should provide for adequate sight distances for entrances, exits and crossing maneuvers.
- Entrance/exit locations should provide sufficient distance for weaving, merging, and lane change.
- Un-signalized entrances should be downstream from a signalized intersection.

Below is a conceptual design for a multimodal park-and-ride lot serving a SunRail station. The conceptual design takes into consideration the different modes at the site including commuter rail, bus service, park-and-ride commuters, kiss-and-ride, bicyclists, as well as pedestrian access.



Conceptual Design for Park-and-Ride Lot serving SunRail Station
Source: FDOT State Park-and-Ride Program Best Practices Guide

E. Park-and-Ride Lot Security^{5,6}

Security is one of the most critical factors considered in the decision to use a park-and-ride facility. Arrangements must be made to ensure that security measures are in place and operating at the time of facility opening. Such measures may include:

- Adequate illumination
- Fencing
- Number and location of access points
- Visibility from adjacent roadways
- Careful design of landscaping

- Minimizing places for vandals to hide on the site
- Selection of the types of amenities located at the site
- Control over unauthorized use of the facility (i.e., parking trucks, abandoned vehicles, and dumping trash)
- Emergency call towers
- Surveillance cameras and signage stating the site is under 24-hour surveillance
- Signage advising patrons to call a phone number to report maintenance concern.
- Signage advising patrons to call 911 immediately if they observe suspicious activity
- Proper signage as recommended by state, local, or transit agency requirement

F. Communication and Outreach Strategies^{5,7}

Park-and-Ride programs require a website that provides users with a map of all park-and-ride lots covering the Transit service area. The map should also include relevant information about each lot including directions to the lot, capacity of the lot, surface type, and multimodal access (i.e. bike trails). The park-and-ride program website should identify if the lot is serviced by a transit system and/or vanpools. The most effective websites include up-to-date transit route service times. It is also helpful to provide park-and-ride site diagrams, identify whether or not an entrance sign is posted, etc. The contact information for the entity responsible for maintaining each lot should be available on the park-and-ride program website to report any issues at the lots.

- The Google Maps interface is the most used interface for park-and-ride programs and travel demand programs.
- Park-and-ride lot information, as well as transit and/or vanpool information, could be provided using the existing 511 traffic information program to encourage the use of park-and-ride lots.
- In addition to the park-and-ride program website, mobile solutions such as apps and mobile websites should be available to provide much of the same information provided on the park-and-ride program website.
- A “Cellular Phone Parking Space Monitoring and Information System” could be used to inform commuters of park-and-ride lot availability on their mobile device. Commuters could receive real-time information about parking space availability and could be given the ability to reserve a space in a particular lot. If the lot requires a fee, it could also be paid using a mobile device.
- The park-and-ride program should develop a strong brand that will greatly assist in the promotion of park-and-ride lots. The key element of the branding effort is the park-and-ride signage system – consistent graphics and iconology, and a critical mass of park-and-ride signs along Express Bus commuter corridors that serve ELs.

- A marketing communications plan should be developed with assistance from marketing professionals. The best park-and-ride program marketing communications plans target potential Express Bus/Express Lane commuter segments that are more likely use park-and-ride lots.
- Effective marketing strategies include press releases, local radio interviews, advertising, leaflets, posters, exhibitions, promotional videos, internet promotions, direct contact (meetings with major employers), special offers, and inclusion in general travel information.

G. Partnerships⁷

During the process of identifying potential park-and-ride lot locations, the FDOT should consider partnerships with private entities. This can be a cost savings to the FDOT and a win-win with the property owner.

- Public-private partnership (PPP) agreements should be sought after to fulfill park-and-ride lot demand. It may be more economical to meet park-and-ride lot demand through partnership agreements when compared to constructing a new park-and-ride lot.
- PPP lease agreements can vary in duration. To reduce long-term costs, one-time fees should be considered.
- A study found that park-and-ride users are 1.55 times⁷ per week more likely to shop at retail establishments providing park-and-ride spaces. Retail establishments can benefit from an additional \$1,000 dollars per park-and-ride user per year. This practice is oftentimes a win-win situation since the park-and-ride parking spaces will attract additional customers to the retail store while the security presence at the retail store will improve security for the park-and-ride users.
- All lease agreements should have termination clauses in the event that lease property experiences unmitigated issues such as lot security and maintenance.
- A formal lease agreement should be agreed to and signed by all parties prior to providing on-site amenities or improvements, such as bus shelters, bike racks, etc.
- Park-and-Ride lease payment terms may vary with each private owner. The typical payment is made on a monthly or annual term.
- The park-and-ride program should develop standard license agreements with a wide variety of partners, including churches and private businesses (e.g., banks, bowling alleys, and shopping centers, etc.). Lease templates must be provided and approved for use by the FDOT and transit agencies (for an example see Broward County Transit Park-and-Ride Lot License Agreements in **Appendix E**).

H. Partnership Agreements⁷

The most successful partnership arrangements occur when the peak hours of the business do not coincide with peak hours of commuting – morning and evening commuter rush periods when carpools and transit systems are at their busiest.

- Partnership agreements should specify the party responsible for maintenance of park-and-ride lots and which party assumes liability for property damage on the lot.
- Unofficial or temporary park-and-ride lot agreements with churches and retailers should be avoided. Permanent park-and-ride lots provide consistency with users and build ridership.
- The park-and-ride program should encourage park-and-ride users to be respectful of private property and encourage patronization of the businesses providing parking. Information could be posted on the park-and-ride website and/or signage could be placed on-site.
- Park-and-Ride spaces should be clearly marked to limit the number of park-and-ride spaces used to the number designated when provided by retail stores. As an added incentive, retailers could be allowed to place their logos or signage on the park-and-ride lot signs to identify that they are providing the spaces.
- Privately owned park-and-ride lots may require the use of parking passes or tags to restrict the number of vehicles using the facility. *E-Pass*, *Sunpass* transponders could potentially be adapted for park-and-ride usage.
- Partnership agreements with amenities such as vending machines, laundry services, video services (e.g. Redbox or Blockbuster video rentals) should be pursued to encourage lot usage.
- The presence of retail services near park-and-ride lots with associated parking lot lighting and security cameras are often key factors to the success of park-and-ride lots.
- Private partnerships may offer the ability to expand/reduce lot size based on demand ridership.

I. Maintenance Agreements⁵

A maintenance agreement between the FDOT and another business, organization, local transit agency or municipality is to be a written formal document clearly stating the responsibilities of each entity to the lot and is to be included in all contractual arrangements as a special consideration.

Maintenance agreements are to include, at minimum, the name of the entity responsible for the facility; contact information, including name and telephone number; a schedule for cleaning, repair and restriping of the lot; and the term or timeframe for the agreement.

Where ownership is an entity other than the FDOT, the agreement shall be in effect until the facility is closed or ownership is transferred to another entity. The initial term of an agreement

should be a minimum of 10 years (will vary by owner) to prevent premature removal of the lot. Amenities and their upkeep must be incorporated into a maintenance agreement as well. Trash pickup responsibility should occur weekly and be stated in the maintenance agreement.

J. Funding

Dedicated State funds should be budgeted for use by the park-and-ride program. Funding for the park-and-ride program should be identified in statewide transportation improvement plans and included in the MPO's long range transportation plans to ensure future funding for the program.

The specific program guidelines are provided in FDOT Procedure Topic Park-and-Ride Number 725-030-002. These program guidelines include purpose, authority, scope, background, definitions, program management and implementation, program planning, implementation and evaluation. While management of the program is housed in the FDOT's Central Transit Office, all Park-and-Ride facilities planned, funded and/or constructed must be coordinated with the District offices of modal development or public transportation. The Central Office maintains continuing communication between the District Offices of Modal Development and Public Transportation Agencies on matters regarding the Park-and-Ride program.

The FDOT's Park-and-Ride lot program provides funding for the purchase and/or lease of private land for construction, promotion, and monitoring of the lots. The FDOT will fund up to one-half of the non-federal share of the capital costs.

The park-and-ride program coordinators should also seek funding through grants such as Federal Transportation Administration (FTA) grants or Congestion Management and Air Quality Improvement (CMAQ) funds for the construction of new lots.

The following list identifies funding sources for park-and-ride program improvements:

Federal Funding Sources^{5,9}

- Congestion Mitigation/Air Quality Program (CMAQ)
- State Planning and Research (SPR)
- Surface Transportation Program (STP)
- Transportation Enhancements
- Transportation Community and System Preservation Program
- FTA Section 5307 – Urbanized Area Formula Program
- FTA Section 5309 – Major Capital Investments (New Starts and Small Starts)
- FTA Section 5311 – Formula Grants for Other Than Urbanized Areas
- FTA Section (b) (3) – Rural Transit Assistance Program
- FTA Section 5311 (c) – Public Transportation on Indian Reservations

- FTA Section 5317 – New Freedom Program
- Community Development Block Grants (CDBG)
- Federal Earmarks

State Funding Sources^{5, 9, 10}

- Transit/Rail Service Development Funds
- Strategic Intermodal System (SIS)
- Park-and-Ride Commuter Assistance Programs
- Intermodal Development Program
- Public Transit Block Grants
- State Infrastructure Bank (SIB) Loans
- Transit Research Inspection Procurement (TRIPS)
- County Incentive Grant Programs CIGP
- New Starts

Local Funding Sources⁵

Local funds are often necessary to provide the local match share of federal or state capital grants, as well as the operating and maintenance costs not covered by federal or state assistance. Most municipalities fund the local share from the general fund or special taxes dedicated to highways or public transportation.

There are other types of local funding sources that are used throughout the country for local share of transportation. These include, but are not limited to:

- Fuel tax
- Property tax
- Sales tax
- Real-estate transfer tax
- Emission fees
- Auto registration fees
- Utility excise tax
- Payroll/"head" tax
- Rental vehicle tax
- Parking tax
- Hotel/motel room tax
- Business licenses and fees
- Ad valorem tax
- Special-benefit assessment districts

- Local/business improvement districts
- Utility/service districts
- Impact fees, in-kind contributions
- Land transfer fees
- Tax increment assessments

Finally, there is potential for private sector participation. Typically, private financial participation in the provision of transportation facilities such as park-and-ride lots is primarily limited to specific projects such as the joint development of a tract of real estate.

Potential private fund sources typically include:

- Advertising
- Joint development
- Concession agreements
- Park-and-ride agreements
- Grant anticipation notes
- Revenue anticipation notes
- Infrastructure banking

Potential Alternative Funding Sources⁵

There are several non-traditional methods to fund park-and-ride facilities. This section focuses on the public processes that encourage private initiatives. There are two methods that can be used to obtain transit accommodations on private property; regulatory and non-regulatory. The regulatory method is to require transit accommodations as part of the zoning district regulations. This can also be accommodated by requiring transit as part of other land development regulations, specifying how and when transit accessibility standards would be applied.

The non-regulatory methods rely upon good communication and negotiation skills, including incentives such as granting increased density or greater floor area ratio; lower parking requirements, decreasing impact fees, reducing trip generation rates, reducing taxes, and allowing greater flexibility in mitigation.

Unlike the developer contributing land through a development ordinance mandates approach; the off-site parking substitution process allows the developer to receive site approval and reduced parking requirements. In this type of arrangement, parking requirements for new developments are reduced in lieu of the developer providing or funding parking off-site. It entails no responsibilities for the FDOT or local government, but developers are responsible for contributing to a parking trust fund or building offsite parking. In some instances, the developers

are required to provide or contribute to shuttle service for off-site parking facilities located farther away than walking distances. An example of this is the parking garage/LYMMO bus rapid transit (BRT) system in downtown Orlando.

The FDOT Park-and Ride coordinator need to work closely with the Growth Management coordinator and local government to provide meaningful input during the land use zoning and/or rezoning process. This could be accomplished as part of the development transportation impact and assessment reviews; is to designate on-site public parking areas as part of their transportation mitigation process.

Transit Oriented Development Design (TODs) and in-fill redevelopment can serve as a funding mechanism for transit/transportation plans and multimodal transportation improvements by allowing local governments to leverage public-private partnerships. TODs facilitate the implementation of transit, especially rail transit by optimizing transit ridership through appropriate land use strategies. Transportation system related parking can be shared with the TOD project.

Growth Management Mobility fees or fair-share formulas could be used to assist in the implementation of transportation infrastructure, including, but not limited to, transit services and park-and-ride facilities.

The following five potential growth management related alternatives⁵ to allow for transit and park-and-ride facilities were developed for future consideration.

- **Modify Existing Concurrency Management System (CMS) Ordinances.** This alternative consists of modifying the existing local government CMS ordinances to allow for transit and transit related improvements as transportation mitigating factors.
- **Standardized Transit Fees.** This alternative consists of calculating a standard, generalized set of transit fees, based upon an approved set of transit mitigation improvements or an adopted transit plan. This alternative would be utilized either in instances where there are no mitigating roadway improvements due to physical, financial or policy constraints.
- **Proportionate Fair Share by Zone/Sectors.** This alternative consists of calculating proportionate fair-share, based upon an approved set of transit mitigation improvements, an adopted transit development plan or an adopted mobility plan in a specific zone or sector.
- **Transit Corridor Focus.** This alternative consists of calculating proportionate fair-share, based upon an approved set of transit mitigation improvements, an adopted transit plan or an adopted mobility plan in a specific corridor. This alternative focuses on the provision of capacity in major corridors within the local jurisdiction, with the goal of increasing throughput on the major travel corridors.

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APPENDIX A

South Florida Express Bus Experience^{11, 12, 13}

95 Express





South Florida 95-Express Experience

The South Florida 95-Express project was developed in multiple phases. Phase 1 95-Express was constructed in two phases under one contract. Phase 1A opened in 2008 and ran northbound on I-95 from SR-112 to the Golden Glades Interchange (GGI) area just north of NW 151st Street in Miami-Dade County. Phase 1B began tolling on January 2010 and runs southbound on I-95 from the GGI area to I-395. Phase 1B also extended the northbound express lanes further to the south so that northbound lanes now run from north of I-395 to the GGI area.

Phase 2, which began construction in November 2011, also creates managed lanes in both directions on I-95 between the GGI area in Miami-Dade County and Davie Road in Broward County, this will add another 14 miles of Express Lanes (ELs) north from GGI in Miami-Dade County to the Broward Boulevard Park-and-Ride Lot in Broward County, converting the one-HOV lane into two-lane Express Lanes per direction, and making the full distance of approximately 23-miles Express Lanes

I-95 Express Lanes may be used free by registered carpools of three or more persons, registered hybrid vehicles, registered South Florida Vanpools, motorcycles, schools buses, transit, and Greyhound buses. Trucks are prohibited, and all other vehicles are subject to a toll that varies in price based on the level of congestion at the time of travel.

A portion of the toll revenues from the managed lanes was used to fund operations of Express Bus service between Broward County and northern Miami-Dade, and Downtown Miami, with Broward County Transit (BCT) and Miami-Dade Transit (MDT) as the operators. Express Bus service started in 2010 to facilitate movement of the Southeast Florida residents. FDOT provided funds to BCT and MDT through a Partnership Agreement that provided start-up costs for vehicles purchasing and the ongoing annual operations and maintenance.

BCT operates express routes that operate between Broward County to downtown Miami and the Civic Center along I-95. BCT also serve downtown Fort Lauderdale along I-595 within the managed lanes system. I-595 Managed lanes are reversible lanes.

Since its inception the 95-Express program has considerably improved the overall operational performance of I-95¹¹. Customers, including transit riders, choosing to use the express lanes have significantly increased their travel speed during the AM and PM peak periods – from an average speed in the high occupancy vehicle (HOV) lane of approximately 20 MPH (prior to program implementation) to a monthly average of 63 MPH and 56 MPH in the southbound and northbound directions, respectively. Drivers travelling via the general purpose lanes (GPL) have also experienced a significant peak period increase in average travel speed since implementation of 95-Express from an average of approximately 15 MPH (southbound) and 20 MPH (northbound) to a monthly average of 50 MPH and 42 MPH, respectively.



Probably more important than the improved speeds when it comes to operational performance are the improvements to the travel time reliability of the facility. Average volume along the express lanes in the AM and PM peak periods were over 9,000 vehicles; a 9.2% increase in volume. These vehicles were traveling at speeds greater than 45 MPH.

95-Express Project Financing

The Phase 1 construction cost was approximately \$132.0 million. The project received \$62.9 million from a USDOT Urban Partnership Agreement Grant, of which \$19.5 million was for transit. An additional \$35.0 million was allocated by the Florida Legislature. The balance of funding will come from future toll revenues and FDOT work program money.

Facility Operations and Corridor Statistics

The express lanes operate with tolls varying with the level of congestion. The goal is to keep traffic in the express lanes moving at a minimum speed of 45 MPH while maximizing person throughput of the entire facility.

During fiscal year 2012, the 95-Express Lanes project has also:

- Remained open to motorists 94.5% of the time, with 2.1% closed due to incidents.
- Serviced approximately 20.4 million vehicle trips of which over 30,000 per month, on average, were registered toll exempt trips by nearly 8,830 registered vehicles.
- Had total revenue of approximately \$16.8 million
- Charged tolls that ranged from \$0.25 to the maximum, \$7.00, in both directions
- Seen increased Express Bus ridership by an average of 170% as compared to pre-95-Express:
 - February 2008 average daily boardings (Pre-95 Express) – 1,746
 - February 2010 average daily boardings (Phase 1 operational) – 2,638
 - June 2011 average daily boardings (end of FY 2011) – 4,286
 - FY 2012 average daily boardings – 4,718

In addition Express Bus services contributed about 20 percent of the total person throughput in the Express Lanes southbound and 25 percent northbound during peak periods

Revenues and Tolls Statistics^{11, 12}

Tolls charged on the express lanes are calculated based on maximizing vehicle throughput, not revenue, using the dynamic pricing algorithm found in the District's OTM software. During FY 2012, 95-Express Phase 1 was utilized, on average, by over 1.7 million vehicles monthly; averaging over \$1.4 million in revenue each month.

In FY 2012, tolls charged ranged from \$0.25 to \$7.00, with 95% of tolls charged being \$3.50 or less. The express lanes are constantly monitored to determine increases or decreases in the number of vehicles accessing the express lane facility so that the toll rates can be changed to maintain speeds of 45 MPH or better.



Use of Excess Toll Revenues for Express Bus Service:

- Currently excess toll revenues are only available in Miami-Dade County
- Excess Toll revenues funded the replacement buses for Express Bus service for Miami-Dade Transit and Broward County Transit
- Excess Toll can be utilized for new and expanding existing park-and-ride facilities
- Park-and-Ride facilities are also used during incident clearances by road rangers

95-Express Survey Results^{12, 13}

In December 2011, a public survey was distributed to SunPass account holders to gauge feedback on 95-Express. The following is an overview of the survey results:

- Of the sampled participants using 95-Express:
 - 78.6% reported faster travel times as their main reason for usage
 - 80.4% believed the express lanes were more reliable than the general-use lanes
 - 59.0% believed they were safe, and 57.9% reported 95-Express provided a good value
- Of the sampled participants using both 95-Express and general-use lanes:
 - 63.8% support using tolls to fund congestion reduction projects
 - 54.9% “strongly favored” or “favored” 95-Express project in the community

In addition an **On-Board Transit¹³** survey was conducted 2008, 2009 and 2011 indicated

- Significant improvement in the perceptions of travel time, reliability and seat availability
- The perception of Travel Time saw the greatest improvement
- Over 80% of riders indicated travel time savings due to the Express Bus operating in the Express Lanes
- 53% of New riders said Express Lanes influenced their decision to take transit
- 38% of New riders used to drive alone
- 86% have access to a motor vehicle

Bus Vehicles in Service

95 Express



Miami-Dade Transit



Commuter Service



Intercity Service

APPENDIX B

Modern Vehicle Styling



LA Orange Line



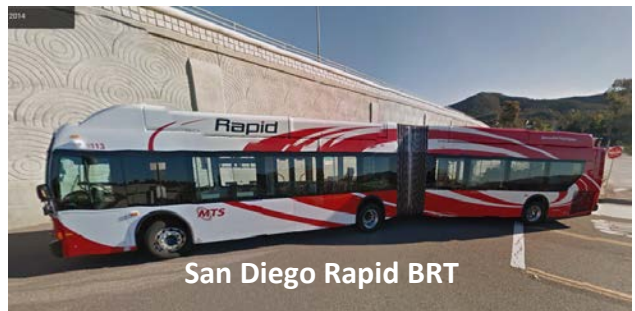
Las Vegas BRT



Cleveland Healthline BRT



Cleveland Healthline BRT



San Diego Rapid BRT

APPENDIX C
Roadway Infrastructure Technologies²

Express Bus schedule adherence and service reliability is a priority to maintain its attractiveness to the automobile users. Technology plays a major part in Express Bus service reliability. Technology can be found on-board the bus, or at the Bus station, or along roadways. The roadway infrastructure technologies that assist in facilitating the Express Bus maneuvering congestion in mixed traffic include Transit Signal Priority, Queue Jump and Curb Extensions or bulbouts.

Transit Signal Priority (TSP)²

For Express Bus with operating segments along the arterial streets Transit Signal Priority (TSP) can significantly assist in the bus maintaining its service schedule. TSP along a roadway is the process of altering the signal timing to give a priority to transit operations. TSP modifies the normal signal operation process to better accommodate transit vehicles within the coordinated operation of the signal system along a corridor. TSP is different from signal preemption, which interrupts normal signal operation to accommodate special events (e.g., a train approaching a railroad grade crossing, or an emergency vehicle responding to an emergency call).

The usual TSP treatment is a relatively minor adjustment of phase split times at a traffic signal. The green phase serving the approaching bus may start sooner or stay green a little longer, so that the bus delay approaching the intersection will be reduced or eliminated. The lengthened transit phase split time is recovered on the following signal cycle so that the corridor signal coordination timing-plan can be maintained.

TSP systems can be implemented automatically. In many cases, the automated TSP will be tied to an Automatic Vehicle Location (AVL) system on board the bus that can provide priority only if the corresponding bus is behind schedule. The priority is based on the TSP logic programmed into the traffic signal controller.

TSP strategies include passive, active, and real-time priority. Passive strategies attempt to accommodate buses through the use of pre-timed modifications to the signal system that occur whether or not a bus is present.

Active strategies adjust the signal timing after a bus is detected approaching the intersection. Depending on the capabilities of the signal controller equipment and the presence of bus location equipment; the signal will provide priority for a given bus based on information from on-board AVL equipment (which can identify if and by how much time the bus is behind schedule) and/or Automatic Passenger Counting (APC) equipment (which can identify how many people are on board), along with signal controller data on how recently priority was given to another bus at the same intersection.

Real-time or adaptive strategies consider both bus and general traffic arrivals at an intersection. Such strategies require specialized equipment that is capable of optimizing signal timings in the field to respond to current traffic conditions and bus locations. The green time can be advanced or extended within any signal cycle.

TSP is most effective at signalized intersections operating under level of service (LOS) D and E conditions with a volume-to-capacity ratio (v/c) between 0.80 and 1.00. In oversaturated traffic conditions (v/c greater than 1.00), long vehicle queues prevent buses from getting to the intersection soon enough to take advantage of TSP without disrupting general traffic operations².

For TSP to be most effective, bus stops should be located on the far-side of a signalized intersection so that a bus can activate the priority-call and travel through the intersection and then make a stop.

Schedule adherence as measured by variability in bus travel times and arrival times at stops improves significantly with TSP application. In Seattle, along the Rainier Avenue corridor, bus travel time variability was reduced by 35%². In Portland, OR, TriMet avoided adding one more bus to a corridor by using TSP and experienced up to a 19% reduction in travel time variability².

Increases in general traffic delay associated with TSP have been shown to be negligible, ranging in most cases from 0.3% to 2.5%. In Los Angeles, the effects of TSP on side-street traffic in the Wilshire-Whittier and Ventura corridors were found to be minimal, where the average increase in delay was 1 second per vehicle at the 12 test locations measured².

Different TSP Detection Systems and Associated Costs

System	Technology	Cost/Intersection	Cost/Bus	O&M Costs
Optical	Optical Emitters	Moderate (\$15,000)	Moderate (\$2,000)	Emitter Replacement (\$1,500)
Wayside Reader	Utilizing Radio Frequency (RF) Technology. Uses Buses mounted tags and wayside antenna.	High (\$20,000)	Low (\$250)	Tag Replacement (\$50)
Smart Loops	Loop amplifier detects vehicle transmitter	Low (\$2,500) per amplifier; use existing loop detectors	Low (\$500)	Same as a loop detector replacement

Source: TCRP Report 118 Bus Rapid Transit Practitioner's Guide

Queue Jumps/Bypass Lanes

Another method of maintaining Bus Schedule on the roadways is Queue Jump/Bypass Lane. The Bus vehicles can bypass traffic queues at intersections through either the application of a “queue jump” or “bypass lane.” With a queue jump, the bus would enter a right-turn-lane-only lane and then stop on the near-side of the intersection. A separate, short bus-only signal phase would then be provided to allow the bus an early green to move into the through lane ahead of general traffic. Typically, green time from the parallel general traffic movement is reduced to accommodate the special bus signal phase, which typically is only 3 to 4 seconds. With a bypass lane, the bus would not have a separate signal phase but would continue through the intersection into a far-side stop before pulling back into general traffic. Queue jumps or bypass lanes are applied as an alternative to mainline TSP.

With either a queue jump or bypass lane treatment, a right-turn-only lane for buses must be provided. On a roadway with existing shoulders, a queue jump or bypass lane treatment can be developed assuming the shoulder is of sufficient width and pavement structural design to accommodate bus traffic loads.

With a queue jump, the bus stop needs to be on the near-side, as the bus would trigger a separate signal phase after it serves the stop. With a bypass lane, the stop should be on the far-side in a short receiving lane, which will reduce the conflict with right-turn traffic. For either treatment, right-turn island channelization must not interfere with bus movements through the intersection.

With a queue jump, the typical type of bus detection is either a loop detector located in the pavement of a right-turn lane or video detection.

Queue jumps and bypass lanes are applied at a single intersection or a series of intersections along an arterial roadway; where Bus volumes are typically fairly low.

By allowing a bus to bypass general traffic queuing at a signalized intersection, bus travel time is reduced resulting in improved service reliability. The extent of bus travel time savings will depend on the extent of general traffic queuing at a signalized intersection. With either a queue jump or bypass lane, some increase in delay to right-turn general traffic could occur.

Queue jumps and bypass lanes have been implemented in several U.S. cities, including Portland, Denver, San Francisco, Las Vegas, and Seattle.

Application of bus queue jumps has been shown to produce 5% to 15% reductions in travel time for buses through intersections. Bus service reliability is improved because of reduced bus delay at signals.

With either a bus queue jump or bypass lane treatment at a signalized intersection, extra signing and pavement marking are important to the general traffic as the bus pulls ahead in an unexpected maneuver.

If queue jumps and/or bypass lanes are applied in a systematic manner along a corridor, a potentially sizable reduction in bus travel time could occur, which could attract increased ridership.

Queue jump and bypass lane treatments are also more effective where the bypass lane is sufficiently long to bypass the general traffic queue and the right-turn volume in the bypass lane is relatively low.

Curb Extensions (Bus Bulbouts)

For Bus service along urban corridors with parallel or angled curb parking; Curb extensions can serve as bus preferential treatments along arterial streets. The concept involves extending the sidewalk area into the street so that buses do not have to pull out of a travel lane to serve passengers at a stop. Curb extensions can be far-side, near-side, or mid-block. This treatment requires the elimination of two or more parking spaces to provide a sufficient length to develop the curb extension. Another term for these treatments is “bus bulbouts.”

In addition to serving as a bus preferential treatment, bus bulbouts provide an opportunity to beautify the streetscape by providing added space for landscaping and passenger amenities such as benches, and pedestrian scale lighting. Bus bulbouts also reduces the pedestrian crossing distance to cross the street on which the bus is operating.

Bus bulbouts are feasible where arterial traffic volumes are low, bus service is frequent, pedestrian volumes are substantial, development densities are high, and curb parking is available at all times of the day along the roadway. For use as bus stops, bus bulbouts are typically implemented with intersection near-side bus stops.

Bus bulbouts have been implemented along bus routes in several U.S. cities, including San Francisco, Charlotte, Orlando, Portland (OR), Seattle, West Palm Beach, and St. Petersburg.

By allowing a bus to stop in the general traffic lane and not have to pull over to a curb at a bus stop, travel time is reduced thus increasing the bus service reliability.

A curb extension for a Bus stop can improve pedestrian safety because the roadway crossing distance is reduced. Curb extensions are typically not provided where there are high right-turn volumes at the intersection.

APPENDIX D
FDOT District 5
Park-and-Ride Location Suitability Assessment
And Sample Suitability Matrix



FDOT DISTRICT 5 PARK & RIDE LOCATION SUITABILITY ASSESSMENT

Prepared for: FDOT District 5, Public Transportation Office

Prepared by: TranSystems

The success of Park & Ride lots can be determined by examining geographic, demographic, and other relevant criteria. The following suitability assessment assembles these criteria into a quantifiable manner by outlining relevant criteria and developing analysis methods. These methods are being developed for the purpose of easily identifying the success of potential lots using objective and quantifiable assessment criteria. Existing lots have been analyzed to help assess the effectiveness of this analysis tool.

Lot Location Suitability Analysis

Park & Ride lots have been rated on weighted criteria relevant to the success of existing Park & Ride lots. The criteria were selected by relevance, definability and results from the 2010 Park & Ride User Survey Report.

The suitability criteria examined are:

1. Distance from lot to major employment center(s) (Miles)
2. Number of employment centers serviced
3. Proximity to major commuter corridor(s) ramps (Miles)
4. Proximity to arterials (Miles)
5. Population with less than \$100,000 household income
6. Residential population
7. Express transit routes available to employment centers(s)
8. Fixed transit route transit available
9. Circulator transit routes available at lot
10. Circulator transit routes available at destination(s)
11. Safety and Security (Crime rate for zip code)
12. Trail or Bike Lane Access
13. Sidewalk Access

A. Criteria Rating Methodology

All criteria were assigned a weight based on expert opinion and analysis of the success of existing lots. The scores are based on objective criteria. Scoring of all criteria is based on a 0-10 scale with one (1)

being the least desirable and ten (10) being the most desirable. Zero (0) values indicate not applicable at this point of analysis. The following sections outline the methods used for scoring each criterion.

Criteria 1: Scoring Method for Distance from Employment Center

Commutes to employment centers constitute the main use of Park & Rides. The distance from the employment center determines the time and money saved by using the Park & Ride. Locations that are too close will result in less motivation to carpool or use public transit. Locations that are too far will result in a lower number of residents that will be commuting to the employment center.

The following defines the assumptions and sources for this criterion:

1. The most successful lots are roughly 27 miles from the employment center.
2. It is assumed that lots within 15 miles of employment centers will not be utilized.
3. It is assumed that lots further than 45 miles will not be utilized
4. Mileage to destination per Google maps and to the closest work center.
5. Employment center destinations based on 2010 user survey report

SCORING:

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

Criteria 2: Scoring Method for Number of Employment Centers Serviced

Commutes to employment centers constitute the main use of Park & Rides. The number of employment centers within a commutable distance will result in higher Park & Ride lot utilization.

The number of employment centers for each existing lot is derived from the 2010 Park & Ride User Survey Report.

SCORING:

Three points are assigned for each employment center within 15-45 miles of lot.

Criteria 3: Scoring Method for Proximity to Major Commuter Corridors Ramps

Easy access from the lot and to the lot from major commuter corridors will improve the utilization of a Park & Ride lot.

SCORING:

- 10 Points = 0-0.5 Miles from major commuter corridor

- 9 Points = 0.5-1.0 Miles from major commuter corridor
- 8 Points = 1.0-1.5 Miles from major commuter corridor
- 7 Points = 1.5-2.0 Miles from major commuter corridor
- 6 Points = 2.0-2.5 Miles from major commuter corridor
- 5 Points = 2.5-3.0 Miles from major commuter corridor
- 4 Points = 3.0-3.5 Miles from major commuter corridor
- 3 Points = 3.5-4.0 Miles from major commuter corridor
- 2 Points = 4.0-4.5 Miles from major commuter corridor
- 1 Points = Greater than 5 miles

Criteria 4: Scoring Method for Proximity to Arterials

Easy access from the lot and to the lot from arterials will improve the utilization of a Park & Ride lot.

SCORING:

- 10 Points = Lot located on arterial
- 5 Points = Lot located within 0.25 miles of arterial
- 0 Points = Lot located more than half mile from arterial

Criteria 5: Scoring Method for Lot Visibility

Park & Ride lots with high visibility have shown to have higher utilization rates than lots that are not as visible from surrounding arterials.

SCORING:

- 10 Points = Lot is very visible from adjacent arterials
- 5 Points = Lot is visible, but some visibility may be blocked by vegetation or surrounding structures
- 0 Points = Lot is hard to see with poor visibility from surrounding arterials

Criteria 6: Scoring Method for Household Income Levels

The 2010 user surveys indicate that 85% of Park & Ride users have a household income of less than \$100,000. The more lower to middle income residents proximate to a Park & Ride lot will increase the utilization of the Park & Ride lot.

SCORING: TBD

Criteria 7: Scoring Method for Residential Population

A high working age residential population density will result in higher Park & Ride utilization.

SCORING: TBD

Criteria 8: Scoring Method for Express Route Transit Service

More express routes will result in higher Park & Ride utilization.

Any round trip express routes will be scored as a 10 since the number of routes speaks to the demand and not to availability.

SCORING:

10 Points = One or more round trip express routes

0 Points = No express routes

Criteria 9: Rating Method for Fixed Route Transit Service

Fixed route transit service will result in higher Park & Ride utilization since users will be able to get to and from the lot or their destination easier.

Any round trip fixed route will be scored as a 10 since the number of routes speaks to the demand and not to availability.

SCORING:

10 Points = One or more round trip routes

5 Points = Flex bus routes

0 Points = No bus service

Criteria 10: Rating Method for Circulator Routes Available at Lot

Circulator route availability will result in higher Park & Ride utilization since users will be able to get to and from the lot easier.

The availability of a circulator route at a potential Park & Ride location will be scored as a 10 since the availability of circulator service will likely increase utilization of the lot.

SCORING:

10 Points = Circulator service available

0 Points = No circulator service available

Criteria 11: Rating Method for Circulator Routes Available at destinations

Circulator route availability will result in higher Park & Ride utilization since users will be able to get to and from their destination easier.

The availability of a circulator route at a potential work center destination will be scored as a 10 since the availability of circulator service will likely increase utilization of the lot by allowing people freedom of mobility at destination points.

SCORING:

10 Points = Circulator service available at destination

0 Points = No circulator service available at destination

Criteria 12: Scoring Method for Safety and Security

The crime rate for the Park & Ride lots zip code is indicative of the safety and security of the lot.

Overall crime risk is taken from Homefair.com. National average crime risk is 100

SCORING:

- 10 Points = 0-20 Crime risk
- 9 Points = 20-40 Crime risk
- 8 Points = 40-60 Crime risk
- 7 Points = 60-80 Crime risk
- 6 Points = 80-100 Crime risk
- 5 Points = 100-120 Crime risk
- 4 Points = 120-140 Crime risk
- 3 Points = 140-160 Crime risk
- 2 Points = 160-180 Crime risk
- 1 Points = 180 or more crime risk

Criteria 13: Scoring Method for Trail or Bike Access

SCORING:

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

Criteria 14: Scoring Method for Sidewalk Access

SCORING:

- 10 Points = There is sidewalk access
- 0 Points = There is no trail sidewalk access

B. Conclusion

Through an iterative effort to create relevant criteria, weighting system, and scoring method a useful location suitability analysis has been created. This analysis should be used to assess the potential success of all potential FDOT District 5 Park & Ride lots.



**TABLE 1
PARK & RIDE LOCATION SUITABILITY MATRIX**

Prepared for: FDOT District 5
Prepared by: TranSystems

Existing Park & Ride Lots		Saxon			Clermont			Eau Gallie			Debary			Chuluota			Shady Lane			
	Weight	Result	Score		Result	Score		Result	Score		Result	Score		Result	Score		Result	Score		
Spaces used per 2010 Park & Ride Inventory Report		87			55			41			36			27			9			
SUITABILITY CRITERIA																				
Geographic Factors																				
1	Distance from lot to major employment center(s) (Miles)	20	28.7	10	200.00	24.7	10	200.00	40.0	6	120.00	26.6	10	200.00	26.0	10	200.00	23.2	9	180.00
	Name of employment center		Orlando			Orlando			Titusville			Orlando			Titusville			Orlando		
2	Number of employment centers serviced	10	2	6	60.00	2	6	60.00	2	6	60.00	2	6	60.00	2	6	60.00	1	3	30.00
3	Proximity to major commuter corridor(s) (Miles)	10	0.5	10	100.00	0.50	10	100.00	0.50	10	100.00	0.50	10	100.00	0.50	10	100.00	0.50	10	100.00
4	Proximity to arterials (Miles)	5	0	10	50.00	0.00	10	50.00	0.00	10	50.00	0.00	10	50.00	0.00	10	50.00	0.50	5	25.00
5	Visibility	10	Good	10	100.00	Good	10	100.00	Good	10	100.00	OK	5	50.00	Good	10	100.00	Good	10	100.00
Demographic Factors (within 15 miles of lot)																				
6	Population with less than \$100,000 household income	6		0	0.00		0	0.00		0	0.00		0	0.00		0	0.00		0	0.00
7	Residential population	4		0	0.00		0	0.00		0	0.00		0	0.00		0	0.00		0	0.00
Transit Service																				
8	Express routes available to employment centers(s)	10	Yes	10	100.00	Yes	10	100.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00
9	Fixed route transit available	8	Yes	10	80.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00
10	Circulator routes available at lot	3	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00
11	Circulator routes available at destination(s)	3	Yes	10	30.00	Yes	10	30.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00
12	Safety and Security (Crime rate for zip code)	6	80	6	36.00	82	6	36.00	84	6	36.00	93	6	36.00	41	8	48.00	119	5	30.00
13	Trail or Bike Lane Access	4	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00
14	Sidewalk Access	1	Yes	10	10.00	No	0	0.00	No	0	0.00	No	0	0.00	No	0	0.00	Yes	10	10.00
WEIGHTED AVERAGE LOT SCORE		100		54.71	54.71		48.29	48.29		35.85	35.85		35.43	35.43		39.86	39.86		33.93	33.93
OVERALL LOT RANKING				1			2			4			5			3			6	

Note: For definitions and criteria explanations see supplemental information.

*Viera and Palm Bay employment centers based on Eau Gallie data from the 2010 User Survey Report

Scoring is based on a 0-10 scale with one (1) being the least desirable and five (10) being the most desirable. Zero (0) values indicate not applicable at this point of analysis.

Mileage to destination per Google maps to the center of the closest work center.

Transit information taken from 2010 Park & Ride fact sheets.

Employment center destinations based on 2010 user survey report

Viera and Palm Bay employment centers based on Eau Gallie data from the 2010 User Survey Report

*Other demographics excluded as they are accounted for by AADT

Rating method for distance from employment center

1. The most successful lots appear to be around 27 miles from the employment center.
2. The maximum score is then 27 miles with the score degrading as you move closer or farther away from the work center.
3. It is assumed that lots within 15 miles of employment centers will not be utilized.
4. It is assumed that lots further than 45 miles will not be utilized

Scoring:

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

Rating method for employment centers serviced

1. Employment centers within a 15-45 miles of lot.
2. 3 points for each employment center serviced.

Rating method for proximity to major commuter corridors

Scoring:

10	0-0.5 Miles from major commuter corridor
9	0.5-1.0 Miles from major commuter corridor
8	1.0-1.5 Miles from major commuter corridor
7	1.5-2.0 Miles from major commuter corridor
6	2.0-2.5 Miles from major commuter corridor
5	2.5-3.0 Miles from major commuter corridor
4	3.0-3.5 Miles from major commuter corridor
3	3.5-4.0 Miles from major commuter corridor
2	4.0-4.5 Miles from major commuter corridor
1	Greater than 5 miles

Rating method for proximity to arterials

Scoring:

10	On arterial
5	Within 0.25 miles of arterial
0	Greater than half mile from arterial

Rating method visibility

Scoring:

10	Easily seen from arterial
5	Visibility may be blocked by some trees and shrubs but still visible from arterial
0	Hard to see from arterial, visibility blocked by vegetation or structures

Rating method for household income levels

1. The 2010 user surveys indicate that 85% of Park & Ride users have a household income of less than \$100,000

Rating method for household income levels

1. Assumption: A high working age residential population density will result in higher Park & Ride utilization.

Rating method for express route transit service

1. Assumption: More express routes will result in higher Park & Ride utilization.
2. Any round trip express routes will be scored as a 10 since the number of routes speaks to the demand and not to availability.

Scoring

- 10 1 or more round trip express routes
- 0 No express routes

Rating method for fixed and circulator route transit service

1. Assumption: More fixed and circulator routes will result in higher Park & Ride utilization.
2. Any round trip fixed and circulator routes will be scored as a 10 since the number of routes speaks to the demand and not to availability.

Scoring

- 10 1 or more round trip express routes
- 5 Flex bus routes
- 0 No express routes

Rating method for safety and security

1. Assumption: The crime rate for the area within 1 square mile will determine the safety and security of the lot.
2. Overall crime risk taken from Homefair.com. National average crime risk is 100

Scoring:

- 10 0-20 Crime risk
- 9 20-40 Crime risk
- 8 40-60 Crime risk
- 7 60-80 Crime risk
- 6 80-100 Crime risk
- 5 100-120 Crime risk
- 4 120-140 Crime risk
- 3 140-160 Crime risk
- 2 160-180 Crime risk
- 1 180 or more crime risk

Sidewalk and trail access rating method

Scoring:

- 10 There is trail or sidewalk access
- 5 There is bike lane access
- 0 There is no trail or sidewalk access

APPENDIX E

Example for Park-and-Ride Lots

Public and Private License/Lease Agreements

Contents

- **Pembroke Pines Park-and-Ride Lot**
 - Broward County Transit Private Property License Agreement for 60 Spaces at Pembroke Commons in Broward County
- **Hollywood Park-and-Ride Lot**
 - Broward County Transit Private Property License Agreement for 30 Spaces at Hollywood Hills Plaza in Broward County
- **Hollywood Park-and-Ride Lot Renewal Agreement**
 - Broward County Transit Private Property License Agreement for 30 Spaces at Hollywood Hills Plaza in Broward County
- **North Perry Airport Park-and-Ride Lot**
 - Broward County Transit Public Lease Agreement for 93,000 SQ. FT. paved area for parking on North Perry Airport Property in Broward County

LICENSE AGREEMENT

THIS LICENSE AGREEMENT made and entered into this ___ day of _____, 20___, by and between WRI JT PEMBROKE COMMONS, LP hereinafter referred to as "LICENSOR", and BROWARD COUNTY, a political subdivision of the state of Florida, acting by and through its Board of County Commissioners, hereinafter referred to as the "LICENSEE."

WITNESSETH:

IN CONSIDERATION of the mutual terms, conditions, promises and covenants hereinafter contained, it is hereby agreed by and between the parties hereto as follows:

1. DESCRIPTION OF PREMISES:

LICENSOR hereby grants to LICENSEE the license and privilege of using sixty (60) designated parking spaces of LICENSOR's paved vehicle parking lot located at Pembroke Commons, 702 North University Drive, in the City of Pembroke Pines, Florida, and more particularly described in Exhibit "A," attached hereto and made a part hereof ("Premises") solely as parking for transit users of the I-95 Express and other transit services as set forth in Section 4.

2. TERM:

The term of this License Agreement shall commence on the first day of service commencing January 1, 2013; and shall terminate Three (3) years from such date ("Initial Term"). This License Agreement may be renewable upon the same terms and conditions as set forth in this Agreement for Three (3) additional years ("Renewal Term") collectively with the Initial Term, the "Term"). Such option to renew shall be exercised by LICENSEE, acting through its County Administrator or his/her designee, by providing one hundred eighty (180) days written notice prior to the expiration of the then existing term, to LICENSOR; provided, however, the parties may terminate this License Agreement as provided for under Section 11, titled TERMINATION.

3. COMPENSATION:

LICENSEE agrees to pay to LICENSOR, as compensation for the privileges granted herein, a monthly rent of THREE THOUSAND and NO/100 Dollars (\$3,000.00), payable in advance. The first payment of rent shall be due on the First of January 2013, which is when service will commence. Each subsequent payment of rent shall be payable upon the first day of each calendar month during the Term. LICENSEE shall pay all applicable sales and use taxes levied or assessed under this License Agreement, if any, and all such payments shall be payable to LICENSOR as rent.

4. USE OF PREMISES:

LICENSEE may use and occupy the licensed Premises only for the purpose of parking for transit users of the I-95 Express and other BCT transit services, as delineated in the drawing or aerial photo attached hereto and made a part hereof as Exhibit "A", and for ingress and egress. The Premises shall not be used for any other purpose other than stated above without written consent of LICENSOR. LICENSEE covenants that no nuisance or hazardous trade or occupation shall be permitted or carried on, in or upon said Premises, no act shall be permitted, and nothing shall be kept in or about said Premises which will increase the risk of any hazard, fire or catastrophe other than would normally occur with vehicle parking, and no waste shall be permitted or committed upon or any damage done to said Premises. LICENSEE shall not permit the licensed property to be used or occupied in any manner which will violate any laws or regulations of any governmental authority.

LICENSOR has no responsibility for security of LICENSEE'S employees, visitors, and invitees. LICENSEE has examined and agrees to accept the parking spaces in an "as is" condition. LICENSEE shall abide by all written and posted rules and regulations including without limitation those related to safety and speed limits, and with all reasonable modifications and additions thereto which LICENSOR may make from time to time.

5. ALTERATIONS AND IMPROVEMENTS TO LICENSED PREMISES:

LICENSEE may not make any alteration or improvement to the licensed Premises or any part thereof without obtaining prior written consent of LICENSOR, such consent shall not be unreasonably withheld or delayed. All requests by LICENSEE shall be in writing and shall contain all pertinent plans and specifications. All alterations or improvements shall remain the exclusive property of LICENSOR, or shall, at LICENSOR'S option, be removed by LICENSEE at the expiration or earlier termination of this License Agreement. All such alterations or improvements shall be made at the sole cost and expense of LICENSEE.

6. ASSIGNMENT OR SUBLETTING:

LICENSEE shall have no authority to assign all or any portion of this Agreement during any term of this License Agreement. Should LICENSEE attempt to assign this license, then the license shall be terminated forthwith, automatically, by operation of this clause, without prior notice to LICENSEE.

7. DAMAGE TO PREMISES:

LICENSEE agrees that all personal property placed upon the Premises shall remain the property of LICENSEE, its employees, visitors and invitees as the case may be, and shall be placed upon the property at the risk of each such party. LICENSEE shall give to LICENSOR, prompt written notice by certified mail of any occurrence, incident or accident occurring on the Premises. In the event any damages should occur to the licensed Premises, as a result of the use and occupancy of the licensed Premises hereunder by LICENSEE, LICENSEE shall promptly notify LICENSOR.

8. INSPECTIONS:

LICENSOR, its authorized employees and agents may enter upon said Premises at all reasonable times and hours to examine same to determine if LICENSEE is properly maintaining the Premises according to this License Agreement.

9. INDEMNIFICATION:

LICENSEE is a political subdivision of the State of Florida, and it agrees to be fully responsible for acts and omissions of its agents, employees, visitors, and invitees to the extent permitted by law. Nothing herein is intended to serve as a waiver of sovereign immunity by any party to which sovereign immunity may be applicable. Nothing herein shall be construed as consent by a state agency or political subdivision of the State of Florida to be sued by third parties in any matter arising out of this Agreement or any other contract.

10. INSURANCE:

The LICENSEE is a political subdivision of the state of Florida, a self-insured governmental entity and is subject to the limitations of Section 768.28, Florida Statutes and as may be amended from time to time. LICENSEE has instituted and maintains a fiscally sound and prudent risk management program with regard to its obligations under this Agreement in accordance with the provisions of Section 768.28 Florida Statutes, as may be amended from time to time. Nothing herein is intended to serve as a waiver of the LICENSEE's sovereign immunity. The LICENSEE may provide written verification of liability protection in accordance with state law, upon request.

11. TERMINATION:

This License Agreement is merely a right to use, and grants no estate in the Premises. This License Agreement may be terminated for convenience by LICENSEE acting through its Director of Real Property Section at any time with not less than thirty (30) days written notice. LICENSOR may terminate for convenience with not less than thirty (30) days written notice at any time. The parties acknowledge and agree that it has received good, valuable and sufficient consideration from the other party, the receipt and adequacy of which are hereby acknowledged, for its right to terminate this License Agreement for convenience.

12. MAINTENANCE AND REPAIR OF LICENSED PREMISES:

LICENSOR shall, at its cost and expense keep the licensed Premises clean, safe, sanitary and free from trash and debris during its hours of occupancy, and it shall at its cost and expense repair any damage to the licensed Premises that occur as a result of the use and occupancy of the Premises by LICENSEE.

13. UTILITIES AND OTHER SERVICES

LICENSOR shall make all arrangements for and pay timely all costs of any and all utilities it requires.

14. ATTORNEYS' FEES:

Each party shall bear its own attorney's fees.

15. AMENDMENTS:

No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document prepared with the same or similar formality as this License Agreement and executed by the LICENSEE and LICENSOR or others delegated authority to or otherwise authorized to execute same on their behalf.

16. SURRENDER UPON TERMINATION:

LICENSEE shall peaceably surrender and deliver the licensed Premises to LICENSOR, or its agents, immediately upon expiration or earlier termination of the license term, as provided for in Section 11 hereof.

LICENSEE further agrees that it will leave the licensed Premises in the condition existing at the commencement of this License Agreement, all alterations and improvements that LICENSEE is not required to remove hereunder excepted,

and normal wear and tear excepted, and subject to the repair and maintenance obligations provided in this License Agreement.

17. WAIVER:

Failure of LICENSOR to insist upon strict performance of any covenant or condition of this License Agreement, or to exercise any right herein contained, shall not be construed as a waiver or relinquishment for the future of any such covenant, condition or right; but the same shall remain in full force and effect. None of the conditions, covenants or provisions of this License Agreement shall be waived or modified except by the parties hereto in writing.

18. NOTICES:

Whenever either party desires to give notice to the other, such notice must be in writing, sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the parties designate the following:

Notice to LICENSEE shall be addressed to:

Broward County Board of Commissioners
Government Center
Attention: Director, Real Property Section, Room 326
115 S. Andrews Avenue
Fort Lauderdale, FL 33301

Notice to the LICENSOR shall be addressed to:

Weingarten Realty Investors
P. O. Box 924133
Houston, TX 77292-4133

19. ASSIGNMENT AND PERFORMANCE

Neither this License Agreement nor any interest herein shall be assigned, transferred, or encumbered by LICENSEE.

20. CONTINGENCY FEE

LICENSOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for LICENSOR to solicit or secure this Agreement and that it has not paid or agreed to pay any other person, company, corporation, individual, or firm, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For a breach or violation of this provision, LICENSEE shall have the right, at its discretion, to terminate this License Agreement without liability, or to deduct from this Agreement price or otherwise recover the full amount of such fee, commission, percentage, gift, or consideration.

21. MATERIALITY AND WAIVER OF BREACH

LICENSEE and LICENSOR agree that each requirement, duty, and obligation set forth herein was bargained for at arms-length and is agreed to by the parties in exchange for quid pro quo, that each is substantial and important to the formation of this Agreement and that each is, therefore, a material term hereof.

LICENSEE's failure to enforce any provision of this License Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this License Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this License Agreement.

22. COMPLIANCE WITH LAWS

LICENSOR shall comply with all applicable federal, state, and local laws, codes, ordinances, rules, and regulations in performing its duties, responsibilities, and obligations pursuant to this License Agreement.

23. SEVERANCE

In the event a portion of this License Agreement is found by a court of competent jurisdiction to be invalid, the remaining provisions shall continue to be effective unless LICENSEE or LICENSOR elects to terminate this License Agreement. An election to terminate this License Agreement based upon this provision shall be made within seven (7) days after the finding by the court becomes final.

24. JOINT PREPARATION

Each party and its counsel have participated fully in the review and revision of this License Agreement and acknowledge that the preparation of this License Agreement has been their joint effort. The language agreed to expresses their mutual intent and the resulting document shall not, solely as a matter of judicial

construction, be construed more severely against one of the parties than the other. The language in this License Agreement shall be interpreted as to its fair meaning and not strictly for or against any party. It is expressly understood and agreed that the parties are not joint venturers or in any way in business together for the purposes of this Agreement.

25. PRIORITY OF PROVISIONS

If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this License Agreement by reference and a term, statement, requirement, or provision of Sections 1 through 29 of this License Agreement, the term, statement, requirement, or provision contained in Sections 1 through 29 shall prevail and be given effect.

26. JURISDICTION, VENUE, WAIVER OF JURY TRIAL

This License Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All parties agree and accept that jurisdiction of any controversies or legal problems arising out of this License Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be exclusively in the state courts of the Seventeenth Judicial Circuit in Broward County, Florida, and venue for litigation arising out of this License Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS LICENSE AGREEMENT, LICENSOR AND LICENSEE HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS LICENSE AGREEMENT.**

27. PRIOR AGREEMENTS

This document represents the final and complete understanding of the parties and incorporates or supersedes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained herein. The parties agree that there is no commitment, agreement, or understanding concerning the subject matter of this License Agreement that is not contained in this written document. Accordingly, the parties agree that no deviation from the terms hereof shall be predicated upon any prior representation or agreement, whether oral or written .

28. THIRD PARTY BENEFICIARIES

Neither LICENSOR nor LICENSEE intends to directly or substantially benefit a third party by this License Agreement. Therefore, the parties agree that there are no third party beneficiaries to this License Agreement and that no third party shall

be entitled to assert a right or claim against either of them based upon this License Agreement.

29. REPRESENTATION OF AUTHORITY

Each individual executing this License Agreement on behalf of a party hereto hereby represents and warrants that he or she is, on the date he or she signs this License Agreement, duly authorized by all necessary and appropriate action to execute this License Agreement on behalf of such party and does so with full legal authority.

30. MULTIPLE ORIGINALS

Multiple copies of this License Agreement may be executed by all parties, each of which, bearing original signatures, shall have the force and effect of an original document.

LICENSE AGREEMENT BETWEEN BROWARD COUNTY AND WRI JT PEMBROKE COMMONS, LP.

LICENSOR

WRI JT PEMBROKE COMMONS, LP,
a Delaware limited partnership

ATTEST:

*

By: [Signature]

Print Name: Mark D. Stout

Title: Vice President/General Counsel

(SEAL)

this 12th day of October, 2012

OR

*

By: WRI JT Retail Holdings GP, LLC,
a Delaware limited liability company,
Its General Partner

WITNESSES

[Signature]
Print Name: Terri Edwards

By: WRI-JAMESTOWN Retail Venture, LP,
a Delaware limited partnership,
Its Sole Member

[Signature]
Print Name: Christina Tilley

By: WRI JT GP, LLC,
a Delaware limited liability company,
Its General Partner

By: Weingarten Realty Investors,
a Texas real estate investment trust,
Its Sole Manager

PAB:dmv
8/13/12
10-089.21
pembrokepinesparkride.license.doc



PEMBROKE COMMONS
University Drive & Johnson Street
Pembroke Pines, FL 33024

EXHIBIT A

LICENSE AGREEMENT

THIS LICENSE AGREEMENT made and entered into this ___ day of _____, 20___, by and between WRI JT HOLLYWOOD HILLS ILP, hereinafter referred to as "LICENSOR", and BROWARD COUNTY, a political subdivision of the state of Florida, acting by and through its Board of County Commissioners, hereinafter referred to as the "LICENSEE."

WITNESSETH:

IN CONSIDERATION of the mutual terms, conditions, promises and covenants hereinafter contained, it is hereby agreed by and between the parties hereto as follows:

1. DESCRIPTION OF PREMISES:

LICENSOR hereby grants to LICENSEE the license and privilege of using thirty (30) designated parking spaces of LICENSOR's paved vehicle parking lot located at Hollywood Hills Plaza, Hollywood Boulevard and North Park Road, in the City of Hollywood, Florida, and more particularly described in Exhibit "A," attached hereto and made a part hereof ("Premises") solely as parking for transit users of the I-95 Express and other transit services as set for in Section 4.

2. TERM:

The term of this License Agreement shall commence on the first day of service commencing January 1, 2013; and shall terminate Three (3) years from such date ("Initial Term"). This License Agreement may be renewable upon the same terms and conditions as set forth in this Agreement for Three (3) additional years ("Renewal Term") collectively with the Initial Term, the "Term". Such option to renew shall be exercised by LICENSEE, acting through its County Administrator or his/her designee, by providing one hundred eighty (180) days written notice prior to the expiration of the then existing term, to LICENSOR; provided, however, the parties may terminate this License Agreement as provided for under Section 11, titled TERMINATION.

3. COMPENSATION:

LICENSEE agrees to pay to LICENSOR, as compensation for the privileges granted herein, a monthly rent of TWO THOUSAND ONE HUNDRED and NO/100 Dollars (\$2,100.00), payable in advance. The first payment of rent shall be due on the First of January 2013, which is when service will commence. Each subsequent payment of rent shall be payable upon the first day of each calendar month during the Term. LICENSEE shall pay all applicable sales and use taxes levied or assessed under this License Agreement, if any, and all such payments shall be payable to LICENSOR as rent.

4. USE OF PREMISES:

LICENSEE may use and occupy the licensed Premises only for the purpose of parking for transit users of the I-95 Express and other BCT transit services, as delineated in the drawing or aerial photo attached hereto and made a part hereof as Exhibit "A", and for ingress and egress. The Premises shall not be used for any other purpose other than stated above without written consent of LICENSOR. LICENSEE covenants that no nuisance or hazardous trade or occupation shall be permitted or carried on, in or upon said Premises, no act shall be permitted, and nothing shall be kept in or about said Premises which will increase the risk of any hazard, fire or catastrophe other than would normally occur with vehicle parking, and no waste shall be permitted or committed upon or any damage done to said Premises. LICENSEE shall not permit the licensed property to be used or occupied in any manner which will violate any laws or regulations of any governmental authority.

LICENSOR has no responsibility for security of LICENSEE'S employees, visitors, and invitees. LICENSEE has examined and agrees to accept the parking spaces in an "as is" condition. LICENSEE shall abide by all written and posted rules and regulations including without limitation those related to safety and speed limits, and with all reasonable modifications and additions thereto which LICENSOR may make from time to time.

5. ALTERATIONS AND IMPROVEMENTS TO LICENSED PREMISES:

LICENSEE may not make any alteration or improvement to the licensed Premises or any part thereof without obtaining prior written consent of LICENSOR, such consent shall not be unreasonably withheld or delayed. All requests by LICENSEE shall be in writing and shall contain all pertinent plans and specifications. All alterations or improvements shall remain the exclusive property of LICENSOR, or shall, at LICENSOR'S option, be removed by LICENSEE at the expiration or earlier termination of this License Agreement. All such alterations or improvements shall be made at the sole cost and expense of LICENSEE. LICENSEE shall make such alterations and improvements as provided on Exhibit "B" attached hereto and made a part hereof, prior to the Term Commencement Date.

6. ASSIGNMENT OR SUBLETTING:

LICENSEE shall have no authority to assign all or any portion of the premises during any term of this License Agreement. Should LICENSEE attempt to assign this license, then the license shall be terminated forthwith, automatically, by operation of this clause, without prior notice to LICENSEE.

7. DAMAGE TO PREMISES:

LICENSEE agrees that all personal property placed upon the Premises shall remain the property of LICENSEE, its employees, visitors and invitees as the case may be, and shall be placed upon the property at the risk of each such party. LICENSEE shall give to LICENSOR, prompt written notice by certified mail of any occurrence, incident or accident occurring on the Premises. In the event any damages should occur to the licensed Premises, as a result of the use and occupancy of the licensed Premises hereunder by LICENSEE, LICENSEE shall promptly notify LICENSOR.

8. INSPECTIONS:

LICENSOR, its authorized employees and agents may enter upon said Premises at all reasonable times and hours to examine same to determine if LICENSEE is properly maintaining the Premises according to this License Agreement.

9. INDEMNIFICATION:

LICENSEE is a political subdivision of the State of Florida, and it agrees to be fully responsible for acts and omissions of its agents, employees, visitors, and invitees to the extent permitted by law. Nothing herein is intended to serve as a waiver of sovereign immunity by any party to which sovereign immunity may be applicable. Nothing herein shall be construed as consent by a state agency or political subdivision of the State of Florida to be sued by third parties in any matter arising out of this Agreement or any other contract.

10. INSURANCE:

The LICENSEE is a political subdivision of the state of Florida, a self-insured governmental entity and is subject to the limitations of Section 768.28, Florida Statutes and as may be amended from time to time. LICENSEE has instituted and maintains a fiscally sound and prudent risk management program with regard to its obligations under this Agreement in accordance with the provisions of Section 768.28 Florida Statutes, as may be amended from time to time. Nothing herein is intended to serve as a waiver of the LICENSEE's sovereign immunity. The LICENSEE may provide written verification of liability protection in accordance with state law, upon request.

11. TERMINATION:

This License Agreement is merely a right to use, and grants no estate in the Premises. This License Agreement may be terminated for convenience by

LICENSEE acting through its Director of Real Property Section at any time with not less than thirty (30) days written notice. LICENSOR may terminate for convenience with not less than thirty (30) days written notice at any time. The parties acknowledge and agree that it has received good, valuable and sufficient consideration from the other party, the receipt and adequacy of which are hereby acknowledged, for its right to terminate this License Agreement for convenience.

12. MAINTENANCE AND REPAIR OF LICENSED PREMISES:

LICENSOR shall, at its cost and expense keep the licensed Premises clean, safe, sanitary and free from trash and debris during its hours of occupancy, and it shall at its cost and expense repair any damage to the licensed Premises that occur as a result of the use and occupancy of the Premises by LICENSEE.

13. UTILITIES AND OTHER SERVICES

LICENSOR shall make all arrangements for and pay timely all costs of any and all utilities it requires.

14. ATTORNEYS' FEES:

Each party shall bear its own attorney's fees.

15. AMENDMENTS:

No modification, amendment, or alteration in the terms or conditions contained herein shall be effective unless contained in a written document prepared with the same or similar formality as this License Agreement and executed by the LICENSEE and LICENSOR or others delegated authority to or otherwise authorized to execute same on their behalf.

16. SURRENDER UPON TERMINATION:

LICENSEE shall peaceably surrender and deliver the licensed Premises to LICENSOR, or its agents, immediately upon expiration or earlier termination of the license term, as provided for in Section 11 hereof.

LICENSEE further agrees that it will leave the licensed Premises in the condition existing at the commencement of this License Agreement, all alterations and improvements that LICENSEE is not required to remove hereunder excepted, and normal wear and tear excepted, and subject to the repair and maintenance obligations provided in this License Agreement.

17. WAIVER:

Failure of LICENSOR to insist upon strict performance of any covenant or condition of this License Agreement, or to exercise any right herein contained, shall not be construed as a waiver or relinquishment for the future of any such covenant, condition or right; but the same shall remain in full force and effect. None of the conditions, covenants or provisions of this License Agreement shall be waived or modified except by the parties hereto in writing.

18. NOTICES:

Whenever either party desires to give notice to the other, such notice must be in writing, sent by certified United States Mail, postage prepaid, return receipt requested, or sent by commercial express carrier with acknowledgement of delivery, or by hand delivery with a request for a written receipt of acknowledgment of delivery, addressed to the party for whom it is intended at the place last specified. The place for giving notice shall remain the same as set forth herein until changed in writing in the manner provided in this section. For the present, the parties designate the following:

Notice to LICENSEE shall be addressed to:

Broward County Board of Commissioners
Government Center
115 S. Andrews Avenue
Fort Lauderdale, FL 33301
Attention: Director, Real Property Section, Room 326

Notice to the LICENSOR shall be addressed to:

Weingarten Realty Investors
P. O. Box 924133
Houston, TX 77292-4133

19. ASSIGNMENT AND PERFORMANCE

Neither this License Agreement nor any interest herein shall be assigned, transferred, or encumbered by LICENSEE.

20. CONTINGENCY FEE

LICENSOR warrants that it has not employed or retained any company or person, other than a bona fide employee working solely for LICENSOR to solicit or secure this Agreement and that it has not paid or agreed to pay any other person, company, corporation, individual, or firm, any fee, commission, percentage, gift, or other consideration contingent upon or resulting from the award or making of this Agreement. For a breach or violation of this provision, LICENSEE shall have the right, at its discretion, to terminate this License Agreement without liability, or to deduct from this Agreement price or otherwise recover the full amount of such fee, commission, percentage, gift, or consideration.

21. MATERIALITY AND WAIVER OF BREACH

LICENSEE and LICENSOR agree that each requirement, duty, and obligation set forth herein was bargained for at arms-length and is agreed to by the parties in exchange for quid pro quo, that each is substantial and important to the formation of this Agreement and that each is, therefore, a material term hereof.

LICENSEE's failure to enforce any provision of this License Agreement shall not be deemed a waiver of such provision or modification of this Agreement. A waiver of any breach of a provision of this License Agreement shall not be deemed a waiver of any subsequent breach and shall not be construed to be a modification of the terms of this License Agreement.

22. COMPLIANCE WITH LAWS

LICENSOR shall comply with all applicable federal, state, and local laws, codes, ordinances, rules, and regulations in performing its duties, responsibilities, and obligations pursuant to this License Agreement.

23. SEVERANCE

In the event a portion of this License Agreement is found by a court of competent jurisdiction to be invalid, the remaining provisions shall continue to be effective unless LICENSEE or LICENSOR elects to terminate this License Agreement. An election to terminate this License Agreement based upon this provision shall be made within seven (7) days after the finding by the court becomes final.

24. JOINT PREPARATION

Each party and its counsel have participated fully in the review and revision of this License Agreement and acknowledge that the preparation of this License

Agreement has been their joint effort. The language agreed to expresses their mutual intent and the resulting document shall not, solely as a matter of judicial construction, be construed more severely against one of the parties than the other. The language in this License Agreement shall be interpreted as to its fair meaning and not strictly for or against any party. It is expressly understood and agreed that the parties are not joint venturers or in any way in business together for the purposes of this Agreement.

25. PRIORITY OF PROVISIONS

If there is a conflict or inconsistency between any term, statement, requirement, or provision of any exhibit attached hereto, any document or events referred to herein, or any document incorporated into this License Agreement by reference and a term, statement, requirement, or provision of Sections 1 through 29 of this License Agreement, the term, statement, requirement, or provision contained in Sections 1 through 29 shall prevail and be given effect.

26. JURISDICTION, VENUE, WAIVER OF JURY TRIAL

This License Agreement shall be interpreted and construed in accordance with and governed by the laws of the state of Florida. All parties agree and accept that jurisdiction of any controversies or legal problems arising out of this License Agreement, and any action involving the enforcement or interpretation of any rights hereunder, shall be exclusively in the state courts of the Seventeenth Judicial Circuit in Broward County, Florida, and venue for litigation arising out of this License Agreement shall be exclusively in such state courts, forsaking any other jurisdiction which either party may claim by virtue of its residency or other jurisdictional device. **BY ENTERING INTO THIS LICENSE AGREEMENT, LICENSOR AND LICENSEE HEREBY EXPRESSLY WAIVE ANY RIGHTS EITHER PARTY MAY HAVE TO A TRIAL BY JURY OF ANY CIVIL LITIGATION RELATED TO THIS LICENSE AGREEMENT.**

27. PRIOR AGREEMENTS

This document represents the final and complete understanding of the parties and incorporates or supersedes all prior negotiations, correspondence, conversations, agreements, and understandings applicable to the matters contained herein. The parties agree that there is no commitment, agreement, or understanding concerning the subject matter of this License Agreement that is not contained in this written document. Accordingly, the parties agree that no deviation from the terms hereof shall be predicated upon any prior representation or agreement, whether oral or written .

28. THIRD PARTY BENEFICIARIES

Neither LICENSOR nor LICENSEE intends to directly or substantially benefit a third party by this License Agreement. Therefore, the parties agree that there are no third party beneficiaries to this License Agreement and that no third party shall be entitled to assert a right or claim against either of them based upon this License Agreement.

29. REPRESENTATION OF AUTHORITY

Each individual executing this License Agreement on behalf of a party hereto hereby represents and warrants that he or she is, on the date he or she signs this License Agreement, duly authorized by all necessary and appropriate action to execute this License Agreement on behalf of such party and does so with full legal authority.

30. MULTIPLE ORIGINALS

Multiple copies of this License Agreement may be executed by all parties, each of which, bearing original signatures, shall have the force and effect of an original document.

IN WITNESS WHEREOF, the parties hereto have made and executed this License Agreement on the respective dates under each signature: BROWARD COUNTY through its BOARD OF COUNTY COMMISSIONERS, signing by and through its Mayor or Vice Mayor, authorized to execute same by Board action on the ___ day of _____, 20___ and WRI JT HOLLYWOOD HILLS ILP, signing by and through _____, duly authorized to execute same.

LICENSEE

ATTEST:

BROWARD COUNTY, through its Board of County Commissioners

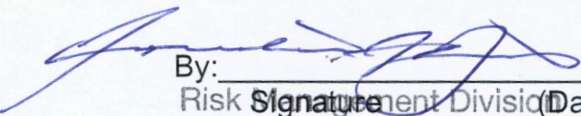
County Administrator and Ex-Officio
Clerk of the Board of County
Commissioners of
Broward County, Florida

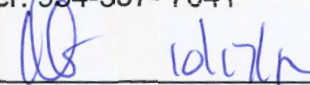
By: _____
_____, Mayor

____ day of _____, 20__.

Insurance requirements
approved by Broward County
Risk Management Division

Approved as to form by
Joni Armstrong Coffey
Broward County Attorney
Governmental Center, Room 423
115 South Andrews Avenue
Fort Lauderdale, Florida 33301
Telephone: 954-357-7600
Telecopier: 954-357- 7641

By:  10/5/12
Risk Management Division (Date)

By:  10/17/12
Noel M. Pfeffer (Date)
Deputy County Attorney

Jacqueline A. Binns

Print Name and Title above
Risk Insurance and
Contracts Manager

PAB:dmv
8/13/12
6/8/10
hollywoodparkride.license.doc

LICENSE AGREEMENT BETWEEN BROWARD COUNTY AND WRI JT HOLLYWOOD HILLS ILP.

LICENSOR

WRI JT Hollywood Hills I, LP,
a-Delaware limited partnership

ATTEST:

*

By: *[Signature]*
Print Name: Mark D. Stout

Title: Vice President/General Counsel

(SEAL)

this 24th day of October, 2012

OR

* By: WRI JT Hollywood Hills I GP, LLC,
a Delaware limited liability company,
Its General Partner

WITNESSES

By: WRI-JAMESTOWN Retail Venture, LP,
a Delaware limited partnership,
Its Sole Member

[Signature]
Print Name: TERRI EDWARDS

By: WRI JT GP, LLC,
a Delaware limited liability company,
Its General Partner

[Signature]
Print Name: Christina Tilley

By: Weingarten Realty Investors,
a Texas real estate investment trust,
Its Sole Manager



EXHIBIT A

**HOLLYWOOD HILLS PLAZA
Hollywood Boulevard & North Park Road
Hollywood, Florida 33021**

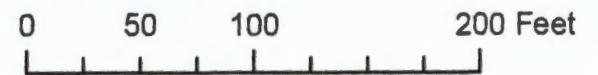
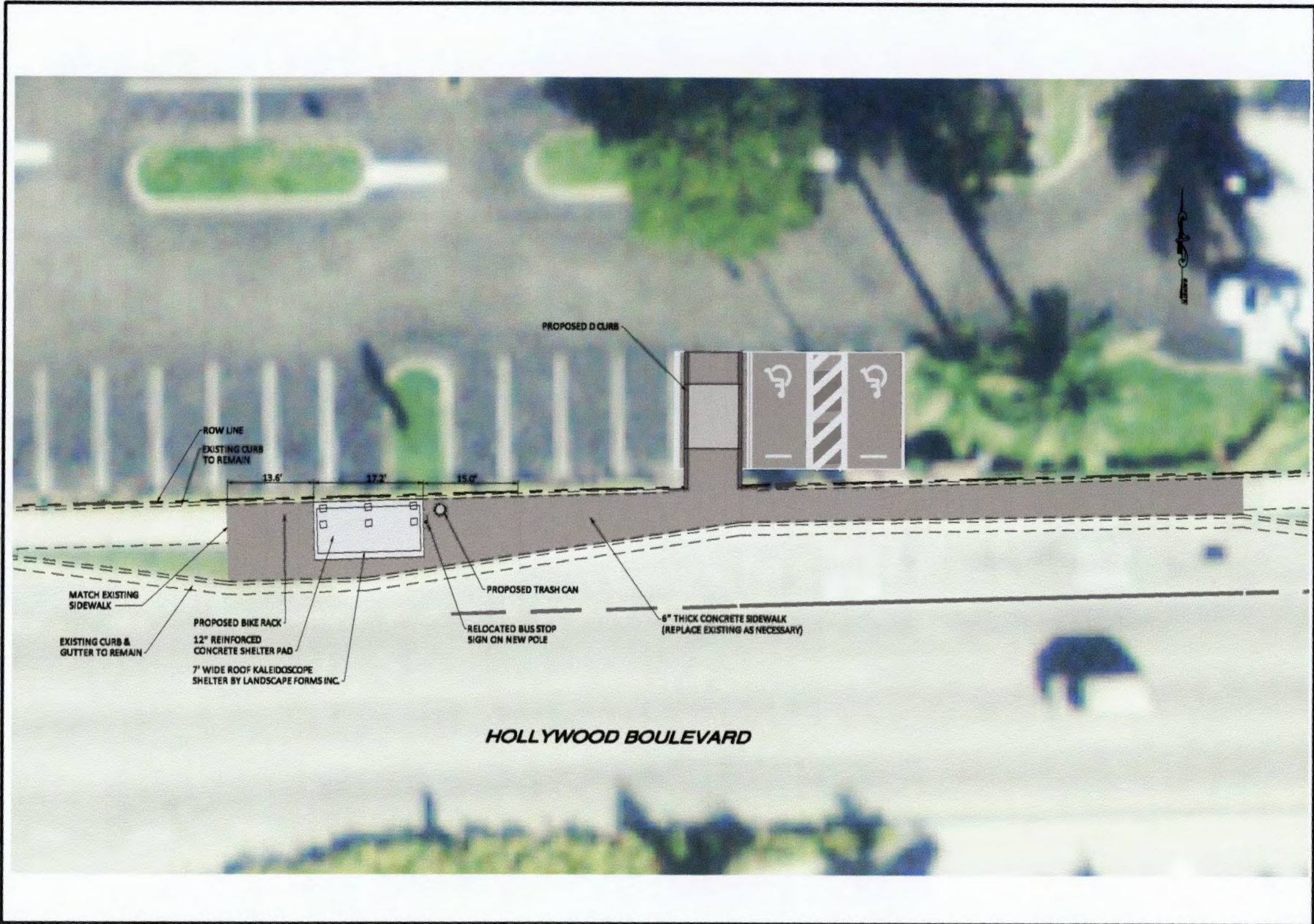


EXHIBIT B



REVISIONS				REVISIONS			
DATE	NO.	REMARKS	BY	DATE	NO.	REMARKS	BY
				8-2-2012			NRH



TRANSPORTATION DEPARTMENT
 SERVICE AND CAPITAL PLANNING
 1 North University Drive,
 Plantation, FL 33324

HOLLYWOOD HILLS PLAZA
 3253 Hollywood Florida,
 Hollywood, FL

WB
 3633

WEINGARTEN REALTY
July 26, 2016

Dear Mr. Oftedal:

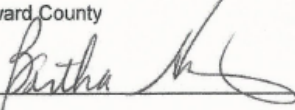
Pursuant to Paragraph Two of the above referenced license agreement, Broward County hereby exercises its renewal option to extend the term of the subject License for an additional successive period of three (3) years, commencing **January 1, 2016 and terminating December 31, 2018** for the use of thirty (30) designated parking spaces for a Park-N-Ride lot located at Hollywood Hills Plaza, Hollywood Boulevard and North Park Road in the City of Hollywood.

The County is exercising this renewal option upon the same terms and rental rate currently in effect of **\$2,100 per month** as provided for in the License Agreement.

This written notice being signed and submitted by:

Broward County, through its B
Broward County, through its B
Director, Real Property Sectio
Government Center
115 S. Andrews Avenue
Ft. Lauderdale FL 33301

Broward County

By: 
Bertha Henry, County Administrator
Broward County, Florida

Date: 5/19/15

RE: I-95 Express - Lease Agreement at Hollywood Hills Plaza

This letter serves as notification that we are updating our accounting system. This impacts you in several ways:

1. Some tenants will need to send payments to a new address. Please send all future payments to:

WRI JT Hollywood Hills I, LP
P.O. Box 733306
Dallas TX 75373-3306

2. Reference your newly-assigned Tenant Number and Company Number on all future remittance:

Tenant No. 110622
Company No. 40750

3. The Landlord will no longer provide annual coupon books. Instead, refer to the recurring monthly charges below. Note that you will be invoiced separately for any nonrecurring charges. As always, monthly payments are due on the first day of every month.

Unit	Charge Type	Jul 2016	Aug 2016	Sep 2016	Oct 2016	Nov 2016	Dec 2016
LI1	Base Rent-PM	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00
	Lease Totals:	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00	2,100.00

Please contact Diana Padron at 713-868-6583, should you have any questions.



By: J. Berk Clare
Assistant Controller/Director Credit & Collections
Email: BClare@Weingarten.com
2600 Citadel Plaza Drive, Suite 125 | Houston, Texas 77008

People-to-People. Coast-to-Coast.



AVIATION DEPARTMENT – North Perry Airport
101 S.W. 77th Way • Pembroke Pines, Florida 33023 • 954-359-1016

AMENDED AND RESTATED
MEMORANDUM OF UNDERSTANDING

DATE: March 1, 2014

TO: Chris Walton, Director
Broward County Transportation Department

FROM: Kent G. George, Director
Broward County Aviation Department

SUBJECT: Amended and Restated Memorandum of Understanding ("MOU") between Broward County Aviation Department and Broward County Transit

PARTIES Broward County Transit ("BCT"), signing by and through the Director of the Broward County Transportation Department and Broward County Aviation Department ("BCAD") signing by and through its Director.

USE The use of ground parcels at North Perry Airport as a Park and Ride facility to support the 95 Express Project. On January 6, 2014, the Parties entered into a MOU for the use of certain parcels of property at North Perry Airport and, by this Amended and Restated MOU, the Parties wish to increase the size of the premises for this use.

PREMISES ~~76,000~~ 93,500 Square Feet at North Perry Airport (see Exhibit A-1)

TERM The term of this MOU will be for a period of three (3) years commencing on February 1, 2014 and ending on January 31, 2017, unless sooner terminated. Either party shall have the right to terminate for convenience upon giving thirty (30) calendar days written notice to the other party of its intention to do so.

RENTAL BCT shall pay BCAD an annual rental of ~~\$76,608.00~~ 94,248.00. This rental was derived from a required non-aviation land appraisal dated September 9, 2013. The rent will be adjusted annually by the greater of the Consumer Price Index or three percent (3%).

It is understood and agreed that BCT will be responsible for all costs associated with the maintenance of the premises including any structural improvements, including, but not limited to paved parking, drainage, lighting and landscaping. Any future improvements to the leased premises by BCT shall be submitted to BCAD prior to work being undertaken.

NONDISCRIMINATION

BCT, as a part of the consideration hereof, does hereby covenant and agree that (1) no person on the grounds of race, color, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination in the use of said premises, (2) that in the construction of any improvements on, over or under such land and the furnishing of services thereon, no person on the grounds of race, color, or national origin shall be excluded from participation in, denied the benefits of, or be otherwise subjected to discrimination, (3) that BCT shall use the premises in compliance with all other requirements imposed by or pursuant to Title 49, Code of Federal Regulations, Department of Transportation, Subtitle A, Office of the Secretary, Part 21, Nondiscrimination in Federally assisted programs of the Department of Transportation-Effectuation of Title VI of the Civil Rights Act of 1964, and as said Regulations may be amended.

That in the event of breach of any of the above nondiscrimination covenants, Broward County shall have the right to terminate the MOU and to re-enter and as if said lease had never been made or issued. The provision shall not be effective until the procedures of Title 49, Code of Federal Regulations, Part 21 are followed and completed, including exercise or expiration of appeal rights.

AIRPORT PROTECTION

It shall be a condition of this MOU that Broward County reserves unto itself, its successors and assigns, for the use and benefit of the public, a right of flight for the passage of aircraft in the airspace above the surface of the real property hereinafter described, together with the right to cause in said airspace such noise as may be inherent in the operation of aircraft, now known or hereafter used, for navigation of or flight in the said airspace, and for use of said airspace for landing on, taking off from or operating on the airport.


BCT expressly agrees for itself, its successors and assigns, to restrict the height of structures, objects of natural growth and other obstructions on the hereinafter described real property to such a height so as to comply with Federal Aviation Regulations, Part 77.

BCT expressly agrees for itself, its successors and assigns, to prevent any use of the hereinafter described real property which would interfere with or adversely affect the operation or maintenance of the airport, or otherwise constitute an airport hazard.

PROPERTY RIGHTS RESERVED

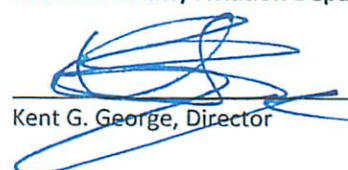
This MOU and all provisions hereof are subject and subordinate to the terms and conditions of the instruments and documents under which Broward County acquired the airport from the United States of America and shall be given only such effect as will not conflict or be inconsistent with the terms and conditions contained in the MOU of said lands from Broward County, and any existing or subsequent amendments thereto, and are subject to any ordinances, rules or regulations which have been, or may hereafter be adopted by Broward County pertaining to the North Perry Airport.

Ex-officio Clerk of the Broward County
Board of County Commissioners


Chris Walton, Director

Date

Broward County Aviation Department



Kent G. George, Director

Date

Approved as to form by
Joni Armstrong Coffey
Broward County Attorney
Aviation Office
2200 SW 45th Street, Suite 101
Dania Beach, Florida 33312
Telephone: (954) 359-6100
Telecopier: (954) 359-1292

By _____
Christine C. Lee (Date)
Senior Assistant County Attorney

RLT/ch
Amended and Restated MOU
02/21/14
#14-071.40

