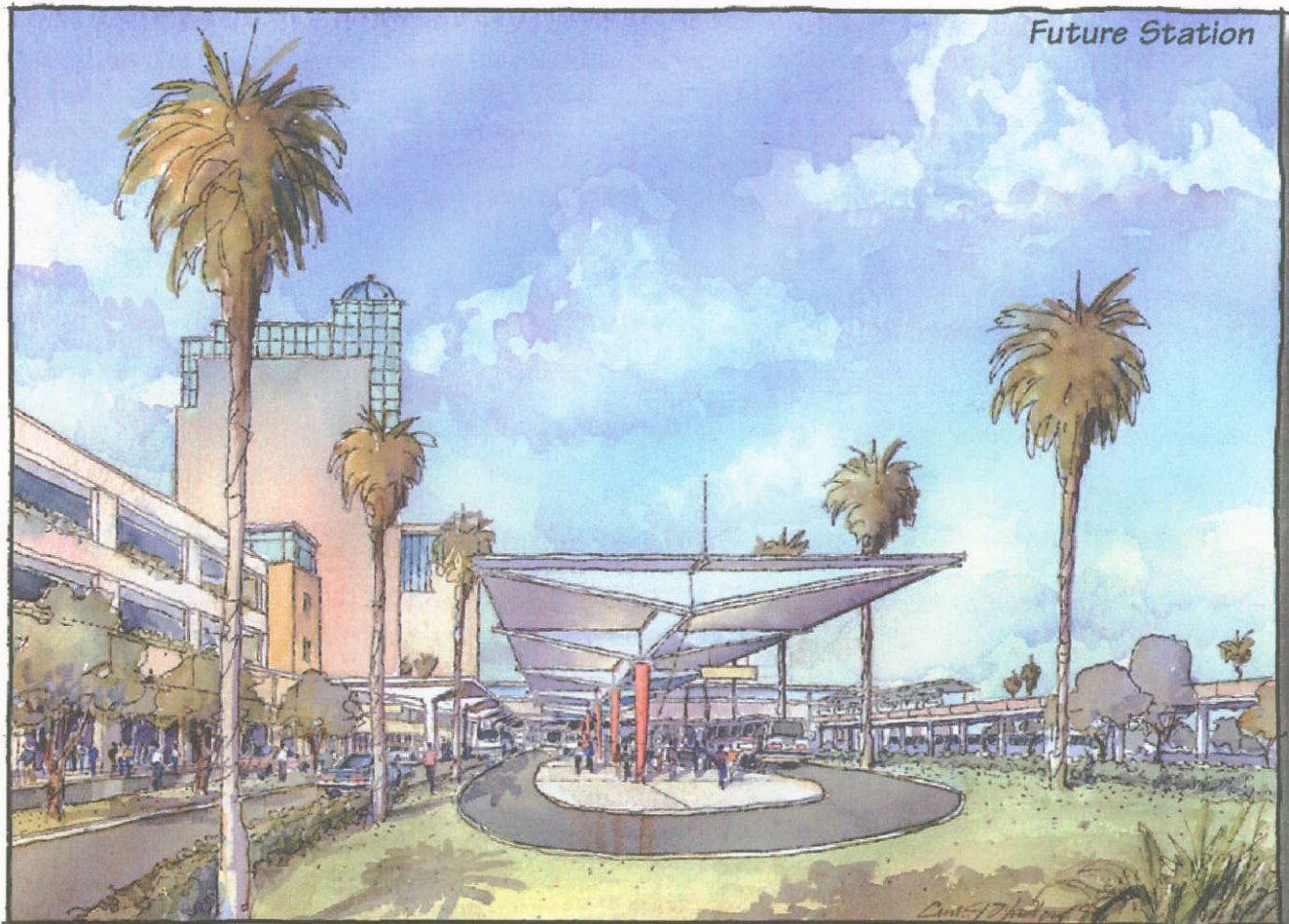




Metropolitan Dade County

Metropolitan Planning
Organization

Golden Glades Multimodal Transportation Facility Feasibility Study Executive Summary



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⇒ ICF KAISER

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PURPOSE

The Golden Glades Interchange is a complex confluence of limited-access and surface roads in the northeast part of Dade County. The Palmetto Expressway (SR 826), Interstate 95 and Florida's Turnpike intersect at this location. The first two of these are major freeways of the first magnitude, being the two most heavily travelled roadways in Dade County. I-95 is heavily congested most of the day, not just at peak periods, carrying local residents about their daily business and millions of tourists along the eastern seaboard from Maine to Miami. Florida's Turnpike begins here at Golden Glades on its two hundred sixty-five mile run to the northwest, taking many more travellers to Orlando and north Florida, and connecting at Wildwood to the I-75 corridor accessing Atlanta. Three major arterials, SR 9, US 441, and NW 167th Street also converge on this one location, funneling tens of thousands more automobiles daily into the Golden Glades.

During the evolution of the Interchange, part of the land between two of the roadways was converted into a Park and Ride (PNR) Lot. This PNR lot is the largest in the state, able to accommodate up to 1300 automobiles. The purpose of this study was to determine the feasibility of developing a multimodal facility at the Golden Glades PNR lot. In fact, a multimodal facility already exists there, although it is not generally thought of as such. Modes which currently use the facility are not only the single occupant vehicle (SOV) and high occupancy vehicles (HOV) expected at a PNR lot, but also Tri-County Commuter Rail (Tri-Rail), and local and express buses from both Dade and Broward Counties. The question, therefore, could more specifically be posed as "What form should the Golden Glades Multimodal Facility take in the future?"

The time is right to ask such a question. The Intermodal Surface Transportation Efficiency Act of 1991, commonly referred to as ISTEA, has been called not an evolution, but a revolution in the way transportation systems are planned and executed. This act and the Clean Air Act Amendments present the opportunity and the mandate to look at transportation as an overall system, rather than relying on any one mode to the exclusion of others. All modes are necessary in order for the whole system to work, and easy interchanges among modes are crucial to getting the maximum benefit out of every mode.

ASSUMPTIONS

Assumptions for the study were:

- The Golden Glades PNR lot will continue to be served by the public transportation modes which currently operate at the site. Ridership and service are expected to gradually increase.
- Access to the lot from surrounding roadways is somewhat difficult, and will not improve dramatically in the near future.
- The alignment of the railroad tracks will not be altered.
- High-speed rail will evolve from and may succeed Amtrak service. It will use the same right-of-way as Tri-Rail, with improvements to rails and track bed.

MODES

Currently, the primary mode transfer at Golden Glades is from SOV to express bus in the morning, and the reverse in the evening. Although the impact of the relatively new Tri-Rail service is not yet exceptional, increasing numbers of travelers are observed changing from auto to Tri-Rail, and Tri-Rail to bus, and the reverse. Tri-Rail has steadily increased its service over its short lifetime as it has proven to be popular with the residents of South Florida. Double-tracking will soon allow shorter headways; this should also increase ridership.

BENEFITS

Two benefits will accrue from a more effective multimodal facility. The first is added convenience to travelers. Although difficult to quantify, a more pleasant, efficient connection between modes will attract new riders to public transit, in addition to increasing the satisfaction of those already using the center. Moving some SOV travelers from roadways to HOV modes will relieve some of the roadway congestion. If and when Metrorail is extended into the center, a large increase in the number of users of the center can be expected due to this increased convenience, further reducing roadway congestion.

The second benefit is the lessening of adverse environmental impacts. Less congestion and fewer automobiles means less engine idling time, decreased fuel consumption, and improved air and water conditions.

ALTERNATIVES

Several alternative station configurations were developed for the Golden Glades Multimodal Center which would accommodate current transportation modes, allow different modes to interface with each other, and provide for expansion of existing modal services and for future modes. A number of conceptual layouts were examined to explore the advantages and disadvantages of different features of multimodal facility designs. These features were incorporated into three alternative schemes for development of the facility. Each alternative is structured so that it could be produced in phases; that is, a minimal core structure at first, with expanded facilities, amenities and joint development added as demand justifies and funding allows. Each alternative includes extensive parking, emphasizes safe paths for PNR passengers to proceed to the terminal, and provides locations for passengers to be dropped off by automobiles ("Kiss and Ride", or KNR). Each has local and express bus bays, intercity bus bays (e.g., Greyhound), and Tri-Rail platforms. They all have the capability to incorporate Metrorail and High Speed Rail service. Amtrak service could be added at the Tri-Rail platforms; baggage and package handling service would need to be provided.

All alternatives emphasize separating vehicular traffic from pedestrian traffic to the maximum extent feasible. All fully recognize the requirements of the Americans with Disabilities Act.

Conceptual Design Criteria

The following are the major, but by no means all, the criteria used in conceptual designs for the multimodal facility:

- Acceptance of location of rail tracks (after double-tracking)
- Acceptance of location of SR 9 southbound, with alternative of relocating northbound lanes
- Accommodation of existing rail modes
- Provision for future rail modes
- Provision for bus modes: local, express, inter-city, tour
- Provision for Park and Ride, with reservation for future parking garage
- Provision for Kiss and Ride
- Full compliance with Americans with Disabilities Act
- Maximum safety features
- Maximum separation of pedestrians and vehicular modes
- Minimum travel distances within terminal, using vertical travel where appropriate
- Points of sale for all ticket requirements
- Passenger information system
- Passenger waiting areas, enclosed where feasible, sheltered where not
- Public rest rooms, water fountains
- Snack bar (or at least food and drink vending machines)
- Other passenger amenities (For example, news stand, gift shop, dry cleaner, etc.)
- Ability to accommodate the addition of other features, such as a child care center, etc.

EVALUATION OF ALTERNATIVES

A matrix was prepared to compare the alternatives with each other or with existing conditions, as appropriate. The consultant team rated each scheme (or feature) regarding how well it satisfied various characteristics which are desirable in a multimodal facility. Copies of sketches and evaluations were given to members of the project steering committee, who evaluated and commented on various features of the schemes from the perspectives of their own agencies. From the analysis of these evaluations, a preferred alternative was developed which retains the best features of the three previous schemes, and avoids most of their flaws. Figure 1 depicts this preferred alternative.

PREFERRED ALTERNATIVE

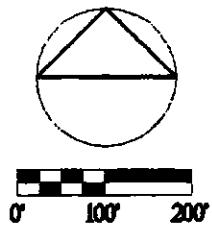
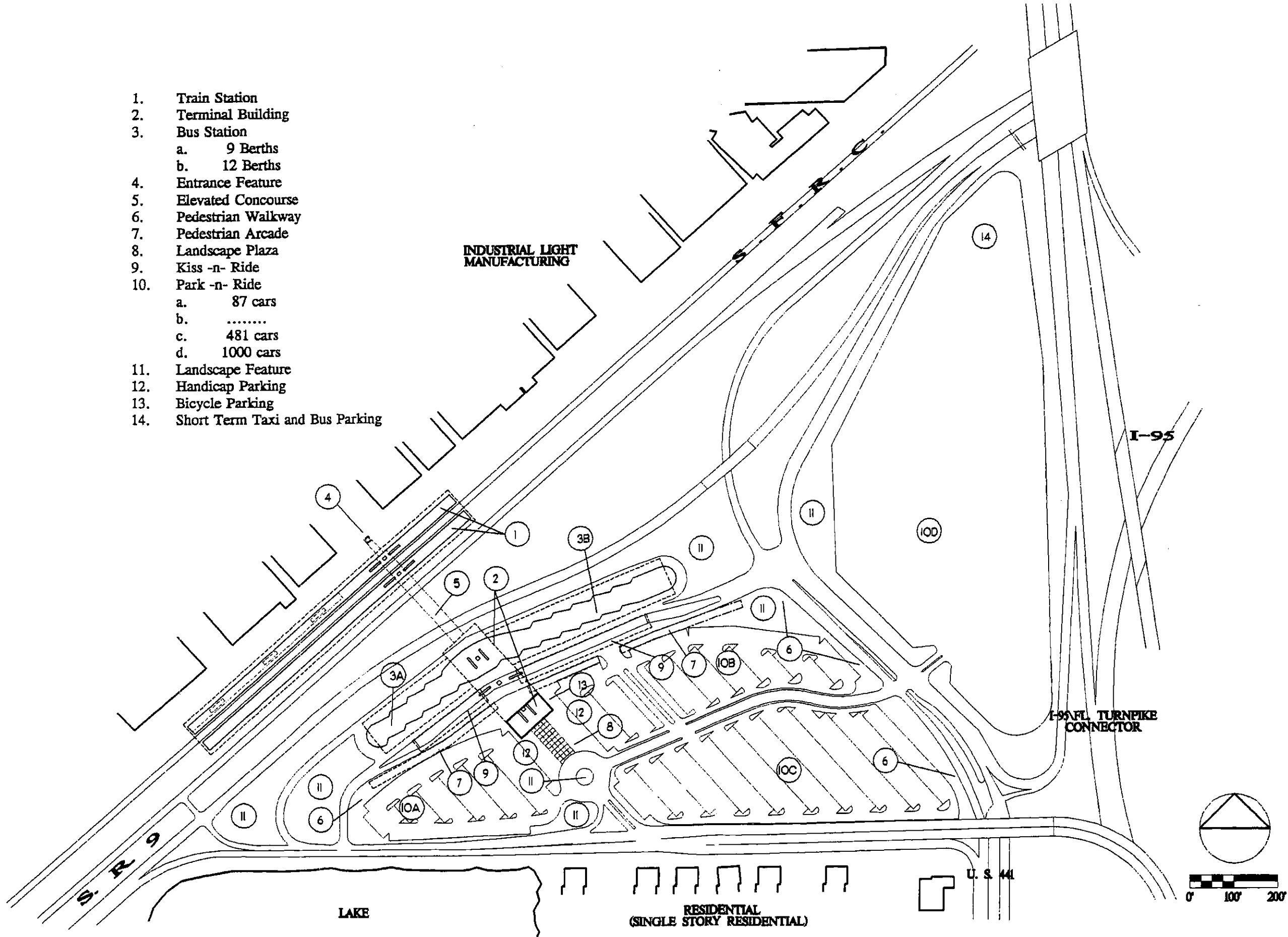
The features of Phase One of the preferred alternative are:


- An elevated terminal, air conditioned, with restrooms, ticket booths, a snack bar, and other amenities. (The terminal will initially have eight bus bays, with the capability of adding up to twelve more.)
- Bus and KNR lanes which run under the terminal
- Escalators, elevators and stairways which connect the two levels
- Covered train platforms
- An elevated walkway connecting the terminal and the train platforms
- A covered pedestrian arcade which funnels PNR customers to the terminal, and denies access across bus and KNR lanes.
- Extensive landscaping

TRAFFIC MOVEMENTS

The at-grade, signalized intersection in the center of the PNR lot is a serious impediment to accessing

1. Train Station
2. Terminal Building
3. Bus Station
 - a. 9 Berths
 - b. 12 Berths
4. Entrance Feature
5. Elevated Concourse
6. Pedestrian Walkway
7. Pedestrian Arcade
8. Landscape Plaza
9. Kiss -n- Ride
10. Park -n- Ride
 - a. 87 cars
 - b.
 - c. 481 cars
 - d. 1000 cars
11. Landscape Feature
12. Handicap Parking
13. Bicycle Parking
14. Short Term Taxi and Bus Parking



GOLDEN GLADES MULTIMODAL TRANSPORTATION FACILITY STUDY		PREFERRED ALTERNATIVE	
PHASE 1 MASTER PLAN		DATE: NOV. 23, 1993	PROJECT NO. 9336.000
ICF KAISER <small>370 NW 10TH AVENUE SUITE 200 MIAMI, FLORIDA 33136 305/281-4800 FAX 305/281-2255</small>			
 <small>Bernhardt, Altmann & Partners, Inc. Architectural Engineering Planning Interior Design Landmarks Architecture</small>			

the multimodal center. If the Transit Center/PNR center is to function at high efficiency, through traffic must not be allowed to bisect it. For the time being, measures can be taken which will allow the multimodal center to continue to function, but the center will handle travelers much more slowly than its potential, and would therefore be much less attractive to the SOV driver. Ultimately, through traffic must be removed, either by a grade-separated interchange, or by routing it around the area.

In the meantime, the signalized intersection of US 441 and the PNR access road should be moved to the northwest about 200 feet to allow more direct access to the new terminal by buses and KNR vehicles. (Taxis and jitneys will use the same roadways as KNR.) Buses will have access to the terminal from the intersection at the north, from SR 9 at the south, and from the ramps coming directly from northbound I-95. Buses will circulate around the bus platform (partially under the terminal) in a clockwise direction. Bus egress to all roadways will be from the south side of the terminal; no bus egress to the US 441 intersection will be permitted. Such egress would create unacceptable cross traffic among buses, other PNR traffic, and through traffic on US 441, which includes vehicles changing from SR 826 eastbound to I-95 northbound, a very heavy movement.

Automobile traffic enters the PNR lot at the same points where bus traffic enters, but is immediately separated and directed through the KNR lane or into the parking lot itself. Auto traffic also exits the area at the same points as buses. Crossing of the parking areas will be necessary for some automobile movement, not considered to be significant. Design of the parking lot will not allow high-speed, through traffic, but will require meandering.

COST

Although the Preferred Alternative for the multimodal facility is conceptual at this point, enough assumptions can be made to produce an order-of-magnitude cost estimate, as shown in Table 2. Assumptions affecting the estimate include:

- Double tracking of Tri-Rail and construction of new Tri-Rail platforms will occur before construction of the multimodal facility. The estimate in Table 1 includes connecting to those new platforms and extending them 300 feet to the northeast, as well as installing stairs, an escalator and an elevator to each platform from the elevated walkway.
- Eight covered bus bays are provided, with space available to add more. Four of the bays are sixty-five feet long, capable of accommodating articulated buses.
- Because of the long walkway from the multimodal facility terminal to the train platforms, a price has been estimated for a reversible moving sidewalk in the walkway. If this moving sidewalk is included, it should be installed at the time of construction of the elevated walkway. If two single-direction moving sidewalks were desired, the price for the sidewalk would be doubled, and the walkway might have to be increased in width.
- If and when Metrorail is extended to the Golden Glades, it will use the median of SR 9, at grade if possible, or elevated above the median if not. When High Speed Rail arrives, it will use the SFRC right-of-way.

TABLE 1

GOLDEN GLADES MULTIMODAL CENTER

MAGNITUDE ESTIMATE

ITEM DESCRIPTION	UNIT PRICE	UNIT	MEASURE	EST COST
CONSTRUCTION COST				
AC Paving (with base course)	\$27	SY	4,000	\$108,000
Bus Platform, Covered	60	SF	4,650	279,000
KNR Platform, Covered	50	SF	3,000	150,000
Train Platform, Covered	100	SF	14,400	1,440,000
Pedestrian Arcade, Covered	60	SF	10,000	600,000
Elevated Terminal	200	SF	2,687	537,400
Enclosed Elevated Walkway	150	SF	3,600	540,000
Stairs, complete	25,000	EA	5	125,000
Escalators, 25' Vertical Rise, complete	160,000	EA	2	320,000
Escalators, 15' Vertical Rise, complete	100,000	EA	3	300,000
Elevators, complete	100,000	EA	5	500,000
Utilities		LS		75,000
Demolition		LS		100,000
Landscaping		LS		100,000
TOTAL CONSTRUCTION COST				\$5,174,400
RIGHT-OF- WAY				0
ENGINEERING AND MANAGEMENT				517,440
SUBTOTAL				5,691,840
CONTINGENCY				1,422,960
TOTAL				\$7,114,800
ESCALATION: 3-4% PER YEAR				
Moving Sidewalk, 48" w. x 350' long (One direction, reversible)	1,500	LF	300	450,000

IMPLEMENTATION

Phase One can be built in stages so that the current PNR lot can continue to operate during construction. The terminal and new pedestrian overpass will be northeast of the existing Tri-Rail ticket office and walkway. Train platforms will be extended to the northeast to connect to the new walkway, and as far to the northeast as necessary for service to trains. The existing bus bays can likewise continue to operate during construction of the new terminal bus bays and KNR lanes. The parking areas should be improved a section at a time, maintaining access to current operations at all times, especially during transition from the old facilities to the new.

Phase Two would begin when the parking demand reaches about 75% of the capacity of the entire PNR lot, including the areas east of US 441. (Interim measures to enable travelers to get from the eastern lot to the terminal should be effected. A shuttle van or pedestrian bridge are possibilities. Preferred parking for carpools should be initiated.) The parking garage would be built adjacent to the terminal, allowing convenient access to the transit modes, while not obstructing access to them by KNR or buses.

Phase Three and later phases would be initiated as joint development agreements and funding are achieved.

Ultimately, development of the Golden Glades Multimodal Facility depends on answers to several questions, answers which cannot be predicted at this time. The most important consideration, because it influences the size of the facility and joint development at the site, is whether Metrorail will be extended to and through the site. With the inclusion of Metrorail, growth will be rapid and extensive; without it, growth will continue slowly, and full joint development may never occur. Other unknowns are:

- The future costs of motor fuels
- Growth in congestion on South Florida roads
- Change in quality of South Florida air
- Change in freight rail service on the South Florida Rail Corridor (SFRC)
- When High Speed Rail service will come to Florida
- Any change in the catchment area of the Golden Glades PNR, e.g., large conversion of single family areas to higher density dwellings

A very important series of institutional-oriented questions relates to the "ownership" of the multimodal center. Which entity will sponsor succeeding studies (PD&E) and design; which will budget for construction; and which will operate and maintain the center, apart from the transportation modes themselves?

CONCLUSIONS

In summary, the following conclusions have been reached regarding the feasibility of developing a multimodal transportation facility at the Golden Glades Park and Ride Lot:

- **Development of such a facility is quite feasible.** One possible arrangement for a terminal, which accommodates transportation system interfaces and joint development, has been presented. Improvement of the existing facility is needed to carry out even the current operations.

- The major determinant in how fast and to what size a Golden Glades Transit Center could grow is whether or not Metrorail is extended through the center.
- The Golden Glades PNR lot is unique in Dade County in containing so much State-owned, unoccupied land adjacent to and available for transportation purposes.

RECOMMENDATIONS

- **The multimodal center should be highly visible.**

It should be prominent not only from the park and ride area, but also from as many of the surrounding roadways as possible. It should impress on the minds of drivers of single occupancy vehicles that there are ways to get to a destination other than driving alone. Building the center elevated above the transportation modes (SR 9, Tri-Rail) not only reduces interference in moving from one mode to the other, but serves to achieve the goal of visibility.

- **Connections from the multimodal center to the surrounding roadway network should be as easy as possible.**

Major changes to the network to make it more user friendly are probably not realistic as part of this project, but are important to facilitate transfers between the roadways, and should be accomplished as soon as possible.

- **The multimodal center should have a short, descriptive and catchy name, something like "Golden Glades Timesaver Center."**
- **Responsibilities for future actions should be agreed on among the governmental entities involved.**
- **A Project Development and Environment (PD&E) Study should begin as soon as possible to ensure continuing momentum of the Golden Glades Multimodal Facility project.**

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