



Florida Department of Transportation

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GOVERNOR

605 Suwannee Street
Tallahassee, FL 32399-0450

STEPHANIE C. KOPELOUSOS
SECRETARY

August 24, 2009

The Honorable Ray LaHood
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave, SE
Washington, DC 20590

The Honorable Joseph Szabo
Administrator
Federal Railroad Administration
U.S. Department of Transportation
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Subject: PE/NEPA Application 1B for Orlando-Miami High Speed Rail

Dear Secretary LaHood & Administrator Szabo:

I am pleased to offer this letter and the subject Application as a significant opportunity to accelerate the implementation of a High Speed Rail (HSR) system in this country and the State of Florida. Florida offers a unique opportunity in the *Vision for High Speed Rail in America*, which is the start of construction of the **First** HSR Express System in the nation. That plan will be fully presented in the Track 2 application we will submit in October, and will concentrate on initially constructing the Tampa-Orlando segment.

This Track 1B Application plays a critical role in the Service Development Plan that will be included in the Track 2 application. The FRA schedule for selection is such that the decision for Track 1B will possibly occur prior to the submission of the Track 2 "big picture" plan. **This letter is very important in this context, as described below:**

The advancement of the PE/NEPA project for Orlando-Miami plays a critical role in the overall investment for the Tampa-Orlando project. Past efforts to implement High Speed Rail service in this corridor (Tampa-Orlando-Miami) have recognized the significant incremental upside (ridership and revenue) financial benefits the Orlando-Miami segment has on the Tampa-Orlando segment. The timing we envision for advancing both these segments (to be presented in the Track 2 application) is such that this PE/NEPA work for Orlando-Miami will provide important input for the Tampa-Orlando segment.

As required in the application, I will be sending by overnight express mail the signature page for the SF-LLL Disclosure of Lobbying Activities form, Tracking Number: 425329008220.

We are very excited about the potential for passenger rail implementation in Florida and believe this application for federal funds will ultimately lead to the implementation of high speed rail service in the Miami-Orlando corridor. This will in turn lead to the enhancement of the mobility of our growing resident and visitor populations.

Thank you for your consideration. I look forward to working with you as we progress forward.

Sincerely

A handwritten signature in black ink, appearing to read 'SKopelousos', with a long horizontal line extending to the right.

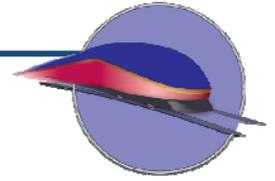
Stephanie C. Kopelousos
Secretary

Project Name: FL- HSR ORL TO MIA- PD&E ORL TO MIA Date of Submission: 8-24-09 Version Number: 1

High Speed Intercity Passenger Rail (HSIPR) Program

Application Form

Track 1b-PE/NEPA



Welcome to the Track 1b – Preliminary Engineering (PE)/National Environmental Protection Act (NEPA) Application for the Federal Railroad Administration’s High Speed Intercity Passenger Rail (HSIPR) Program. Applicants for Track 1b-PE/NEPA are required to submit this Application Form and Supporting Materials (forms and documents) as outlined in Section G of this application as well as detailed in the HSIPR Guidance.

We appreciate your interest in the program and look forward to reviewing your application. If you have questions about the HSIPR program or this application, please contact us at HSIPR@dot.fra.gov.

Instructions:

- Please complete this document and provide any supporting documentation electronically.
- In the space provided at the top of each section, please indicate the project name, date of submission (mm/dd/yy) and the application version number. The distinct Track 1b project name should be less than 40 characters and follow the following format: State abbreviation-route or corridor name-project title (e.g., HI-Fast Corridor-Track Work IV).
- For each question, enter the appropriate information in the designated gray box. If a question is not applicable to your PE/NEPA Project, please indicate “N/A.”
- Narrative questions should be answered concisely in the space provided.
- Applicants must upload this completed application form and any supporting documentation to www.GrantSolutions.gov by August 24, 2009 at 11:59pm EDT.
- Fiscal Year (FY) refers to the Federal Government’s fiscal year (Oct. 1- Sept. 30).
- Please direct questions to: HSIPR@dot.gov

A. Point of Contact and Application Information

(1) Application Point of Contact (POC) Name: Kevin Thibault		POC Title: Assistant Secretary for Engineering and Operations		
Street Address: 605 Suwannee Street	City: Tallahassee	State: FL	Zip Code: 32399-0450	Telephone Number: 850-414-5220
Fax: (850) 414-5201		Email: kevin.thibault@dot.state.fl.us		
(2) Name of lead State or organization applying: Florida DOT				
(3) Name(s) of additional States and/or organizations applying in this group (if applicable): N/A				

(4) Is this PE/NEPA Project related to additional applications for HSIPR funding (under this track or other tracks)?

Yes No Maybe

If “Yes” or “Maybe” provide the following information:

Other Program/Project Name	Lead Applicant	Track	Total HSIPR Funding Requested (if known)	Status of Application
Florida High Speed Rail Program	Florida DOT	Track 2	\$ 2.50 billion	Will Apply
Florida East Coast Amtrak	Florida DOT	Track 2	\$ 70+ million	Will Apply
Central Florida Rail Passenger Corridor	Florida DOT	Track 1a - FD/Construction	\$ 270 million	Applied
		Track 1a - FD/Construction	\$	Applied

Project Name: FL- HSR ORL TO MIA- PD&E ORL TO MIA Date of Submission: 8-24-09 Version Number: 1

B. Project Overview

(1) **PE/NEPA Project Name:** HSR PD&E Orlando-Miami

(2) **Indicate the activity(ies) for which you are applying:**

Preliminary Engineering (PE) NEPA site-specific

(3) **What are the anticipated start and end dates for this PE/NEPA Project? (mm/yyyy)**

Start Date: 11-2009 End Date: 11-2011

(4) **PE/NEPA Project Narrative.** *Please limit response to 4,000 characters.*

Describe the PE/NEPA activities that would be completed with HSIPR Track 1 funding through this application. Include the design studies and the resulting project documents for PE activities. For NEPA activities, address the technical and field studies that would be completed and documents that would be prepared, including:

- Project component studies
- PE/NEPA tasks / milestones
- Preparation of documents

Describe the agency and public involvement approach including key activities and objectives (including permitting actions). Address the coordination plan with affected railroads and right-of-way owners.

There has been a long history of planning for HSR between Miami and Orlando. Building largely on previous planning work, the proposed HSR Orlando-Miami PD&E project will entail the performance of NEPA and preliminary engineering activities necessary to position this project to start final design/construction in a two year period. A separate Track 2 application will be submitted on October 2, 2009 for the entire FRA designated Tampa-Orlando-Miami HSR corridor. The construction of the Tampa-Orlando project is planned as a first Phase. This Track 1B application will allow FDOT to proceed with the advancement of the next segment of the project in a timeline that will allow the immediate expansion of the Florida HSR system from Orlando to Miami. This sequence will be further described in the Service Development Plan that will be submitted as part of the Track 2 application.

FDOT will use a consultant team to perform the Florida NEPA/Preliminary Engineering process referred to as the Project Development & Environment documentation (PD&E) for the Orlando-Miami segment. This PD&E work is envisioned to have four component parts: one project-wide and a geographic split with site specific documentation as follows: north segment from Orlando-Ft. Pierce; central segment from Ft. Pierce to West Palm Beach; and south segment from West Palm Beach to Miami. See the map in ATTACHMENT 1. Each of these parts will have a set of defined milestones towards the achievement of a completion in 24 month. The Draft Scope of Services and Schedule for the PD&E consultant work are shown in ATTACHMENTS 2 and 3, respectively.

FDOT utilizes the Efficient Transportation Decision Making (ETDM) process as a successful tool to accelerate the process for performing NEPA documentation by bringing agency interaction forward and performing concurrent activities. Key agency involvement will happen with FDOT and its consultant team throughout the development of the documentation. The use of ETDM allows this aggressive schedule to be achievable, and is one which Florida as well as many federal and local government agencies understand and are committed to.

Relevant previous work performed in this corridor includes two separate initiatives: the Florida Overland eXpress (FOX) was paused in early 1999 at an advanced stage of environmental documentation that was being compiled as an EIS. The Federal Railroad Administration was the lead agency for the FOX EIS and other efforts related to that initiative. A detailed planning study was performed for the Florida High Speed Rail Authority in 2002. The Orlando-Miami Planning study can be found at the following link to the Florida High Speed Rail website:

http://www.floridahighspeedrail.org/uploads/Orlando-Miami_Final_Planning_Study.pdf

There are no existing railroad services on the primary alignments that will be studied. The exception is the southernmost segment on the South Florida Rail Corridor that will be shared with commuter and freight rail. There will be connections to proposed and existing local and commuter rail services along the route that are described later in this application.

Most of this project is planned on existing interstate highway rights-of-way and the South Florida Rail Corridor that is also owned publicly. FDOT has been visionary in preserving large swaths of corridors for future rail service. The attached policy memorandum of 1999 is attached for background.

While station planning along this corridor will need to be re-initiated for intermediate locations, the termini are owned by public entities as well. The Miami Intermodal Center has been the source of over major investment by FDOT and its partners in South Florida, and has been planned to accommodate HSR. Similarly, Orlando International Airport has been visionary in planning for different rail modes, and has also invested heavily to accommodate HSR. See ATTACHMENT 4 letter from the Greater Orlando Aviation Authority.

(5) Status of Activities: In the following table, please indicate the status of planning studies/documentation supporting your planned investment. Indicate the status and key dates for each applicable activity as noted in Appendix 2 of the HSIPR Guidance.

	Select <u>One</u> of the Following:				Provide Dates for all activities:	
	N/A	No study exists	Study Initiated	Study Completed	Actual or Anticipated Initiation Date (mm/yyyy)	Actual or Anticipated Completion Date (mm/yyyy)
Activities/Documents						
Environmental Studies						
Final NEPA Document (Categorical Exclusion (CE) documentation, Environmental Assessment (EA), or Environmental Impact Statement (EIS))	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995 11/2011	
Historic and Cultural Resource Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Biological Surveys and Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Wetlands Delineation and Hydrology Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Community Impact Assessment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Traffic Impact Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Air Emission Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Noise and Vibration Studies	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Preliminary Engineering						
Capital Cost Estimates	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/2002	11/2011
Travel Demand Forecasting	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/2002	11/2011

Operations Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/2002	11/2011
Operations & Maintenance Cost Estimates	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/2002	11/2011
System Safety Program Plan and Collision/derailment Hazard Analysis	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	12/2002	11/2011
Engineering Studies - specify in space below: FOX Project	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Design Drawings	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Project Management Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	01/1995	11/2011
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

(6) Planned Investment. Please limit response to 4,000 characters.

Provide an overview of the main features of the planned investment that is the subject of the PE/NEPA Project including a brief description of:

- The location of the planned investment, including name of rail line(s), State(s), and relevant jurisdiction(s) (*upload map if applicable*).
- Identification of existing service(s) that would benefit from the project, the cities/stations that would be served, and the state(s) where the service operates.
- How the planned investment was identified through a planning process and how it is consistent with an overall plan for developing High-Speed Rail/Intercity Passenger Rail service.
- How the project will fulfill a specific purpose and need in a cost-effective manner.
- The existing and planned intercity passenger rail service(s).
- The project's independent utility.
- The specific improvements contemplated.
- Any use of railroad assets or rights-of-way, and potential use of public lands and property.
- Other rail services, such as commuter rail and freight rail that will make use of, or otherwise be affected by, the planned investment.

LOCATION: The termini for this project are in place and BOTH are recipients of significant investment to accommodate High Speed Rail Service: Orlando International Airport (OIA) and the Miami Intermodal Center. Based on several previous studies, and the assessment of the 2009 federal "Vision for High Speed Rail in America", FDOT proposes beginning this Project Level NEPA with two viable route alternatives that previous studies have indicated are capable of achieving rail speeds in excess of 180 mph. Other previously studied rail corridors (FEC and CSX) will be reviewed to confirm that travel time, speeds, and ridership potential are not suitable for HSR Express service.

The two primary routes to be studied are depicted in ATTACHMENT 1 and described below:

TURNPIKE ROUTE: Starts in the City of Orlando/Orange County at OIA; exits to the south following Boggy Creek Road where it connects with Florida's Turnpike in Orange County, then follows the Turnpike corridor through Osceola County, clips Okeechobee County, continues into St. Lucie County, Martin County, Palm Beach County, and Broward County, where it will move into South Florida Rail Corridor (FDOT has invested heavily in the SFRC for this purpose), which it will follow until its terminus at the MIC (ALTERNATIVELY, the routing may leave the Turnpike in Broward County, connect to the Sawgrass Expressway corridor, then the I-75 corridor and then connect to the South Florida Rail Corridor which it will follow until its terminus at the MIC);

I-95 ROUTE: Exits north from OIA and traverses east on SR528 (Beachline) into Brevard County towards Port Canaveral; then heads south and enters the I-95 corridor that it will continue on through Brevard, Indian River, St. Lucie, Martin, Palm Beach and Broward County, where it will connect from I-95 to the SFRC (OR the Sawgrass Expressway) and follow to the MIC similar to the Turnpike corridor.

SERVICE: this will be NEW HSR Express Service with minimal stops/stations. Potential stations would be envisioned on each of the alignments described above as follows:
 I-95: OIA to Port Canaveral/Cocoa Beach, Melbourne, Fort Pierce, West Palm Beach, Ft. Lauderdale, MIC
 Turnpike: same except there would not be stops in Port Canaveral/Cocoa Beach or Melbourne
PLANNING HISTORY: this HSR service has been contemplated for decades in Florida and is included in the 2025 Florida Transportation Plan. The two most recent planning efforts are described above as the FOX in 1998, and the Orlando-Miami feasibility study conducted by the Florida High Speed Rail Authority in 2002.
PURPOSE AND NEED: HSR has been examined for decades in this corridor due to its compelling attributes to serve as a needed transportation alternative: a narrow geography with limited room for highway expansion; the demographics-large tourist travel between South and Central Florida, and gentrification of many residents who would prefer not to drive; flat terrain; increasing pressure to relieve airports; evacuation capabilities; and planned infrastructure at the MIC and OIA;
INDEPENDENT UTILITY: the Orlando-Miami corridor has been studied extensively as a stand-alone corridor that can support HSR, with strong ridership projections in between these two major metro areas.
SPECIFIC IMPROVEMENTS CONTEMPLATED: New HSR Express Service, associated infrastructure, rolling stock and stations between Orlando and Miami.
USE OF PUBLIC LANDS: FDOT has planned and invested heavily in preserving large sections of its interstate and expressway systems to allow for rail service along or within these state-owned rights of way (SEE ATTACHMENT 5: FDOT POLICY MEMO); similarly the state has invested heavily in the South Florida Rail Corridor, a segment of which will be used by the proposed HSR service.
USE BY OTHER RAIL SERVICES: the southernmost segment of this project will be in the South Florida Rail Corridor, with shared use with both freight and commuter rail.

(7) Indicate the expected service objectives (check all that apply):

- | | |
|--|---|
| <input type="checkbox"/> Additional Service Frequencies | <input type="checkbox"/> Improved On-Time performance on Existing Route |
| <input type="checkbox"/> Service Quality Improvements | <input type="checkbox"/> Increased Average Speeds/Shorter Trip Times |
| <input checked="" type="checkbox"/> Other (Please Describe): NEW SERVICE | |

(8) Indicate the type of expected capital investments to be included in the planned investment (check all that apply):

- | | |
|--|---|
| <input checked="" type="checkbox"/> Structures (bridges, tunnels, etc.) | <input checked="" type="checkbox"/> Rolling Stock Acquisition |
| <input type="checkbox"/> Track Rehabilitation | <input checked="" type="checkbox"/> Support Facilities (Yards, Shops, Admin. Buildings) |
| <input type="checkbox"/> Major Interlockings | <input type="checkbox"/> Grade Crossing Improvements |
| <input checked="" type="checkbox"/> Station(s) | <input checked="" type="checkbox"/> Electric Traction |
| <input checked="" type="checkbox"/> Communication, Signaling and Control | <input checked="" type="checkbox"/> Other (Please Describe): |
| <input type="checkbox"/> Rolling Stock Refurbishments | |

(9) Total Cost of PE/NEPA Project: (Year of Expenditure (YOE) Dollars*) \$ 40 million

Of this amount, how much would come from the FRA HSIPR Program: (YOE Dollars) \$ 30 million**

Indicate the percentage of total cost to be covered by matching funds: % See additional info

* Year-of-Expenditure (YOE) dollars are inflated from the base year. Applicants should include their proposed inflation assumptions (and methodology, if applicable) in the supporting documentation

** This is the amount for which the applicant is applying.

(10) Right-of-Way Owner(s): Provide the status of agreements with railroad(s) that own the right-of-way. If appropriate, "owner(s)" may also include operator(s) under track age rights or lease agreements. *If more than two railroads, please detail in "Additional Information" in Section F of this application.*

Railroad owner 1 (Name): N/A

Status of railroad owner 1 (Click on the appropriate option from the dropdown menu shaded in gray): No host railroad involved

Railroad owner 2 (Name): N/A

Status of railroad owner 2 (Click on the appropriate option from the dropdown menu shaded in gray):

No host railroad involved

(11) Intercity Passenger Rail Operator: If applicable, provide the status of agreement(s) with partner(s) that will operate the benefiting planned High-Speed Rail/Intercity Passenger Rail services after completion of the planned investment (e.g., Amtrak). Click on the appropriate option from the dropdown menu shaded in gray:

Name of Operating Partner: Not applicable for this phase of development

Status of Agreement: Operations being competitively bid

(12) Benefits to Other Types of Rail Service: If benefits to non-intercity passenger rail services are foreseen from the planned investment, please briefly describe those agreements and provide details on their status if applicable. Please limit response to 1,000 characters.

In Central Florida, the planned SunRail commuter rail system which will operate in the Central Florida Rail Passenger Corridor (CFRPC) will benefit from its proximity to the HSR service, and vice-versa. Construction of the SunRail commuter rail system is anticipated to begin in the near future. Additionally, Central Florida has plans for eventual light rail service from the Orange County Convention Center to OIA, and this service would connect directly with the High Speed Rail Service. This service is in the initial planning stages. In South Florida, the HSR system will connect with two existing services. The first is the Tri-Rail commuter rail system that begins in West Palm Beach and uses the SFRC to Miami. The planned HSR system will use a segment of the SFRC as well and provide strong interconnectivity between the two systems. In Miami, the HSR system will terminate at the MIC, where passengers could then connect to the Miami Dade Transit Metrorail system.

C. Eligibility Information

(1) **Select applicant type**, as defined in Appendix 1.1 of the HSIPR Guidance (*check the appropriate box from the list*):

- State
 Amtrak

If one of the following, please append appropriate documentation as described in Section 4.3.1 of the HSIPR Guidance:

- Group of States
 Interstate Compact
 Public Agency established by one or more States
 Amtrak in cooperation with one or more States

D. Public Return on Investment

(1) **Transportation Project Benefits.** *Please limit response to 2,000 characters.*

Describe the transportation benefits that are anticipated to result from the planned investment for which you are conducting PE/NEPA, including the extent to which the planned investment may be expected to:

- Lead to benefits for Intercity Passenger Rail including travel time reductions, increased frequencies, and enhanced service quality
- Address safety issues
- Address intercity passenger rail reliability issues
- Be integrated and complementary to the relevant comprehensive planning process (23 U.S.C. 135)
- Provide benefits to other modes of transportation, including benefits to Commuter Rail Services, Freight Rail Service, and Highway and Air Congestion Reduction and Delay or Avoidance of Planned Investments

BENEFITS FOR IPR: The new HSR Express Service between Orlando and Miami will provide transportation with attractive travel times as a viable alternative to current travel options in this corridor. Express travel time between Orlando and Miami airports (~230 mi) is in the two hour range. This will be considerably faster than auto (~4 hrs).

SAFETY: HSR's record as a remarkably safe mode of travel promises significant safety improvement over auto travel. This corridor is one heavily used by foreign tourists who are accustomed to train travel, are unfamiliar with driving on our roads, and will feel safer traveling by train. Florida's aging population, also is relevant, with many elderly feeling safer traveling by train than automobile.

IPR RELIABILITY: As new service, this HSR system will necessarily provide a high degree of reliability to be successful. FDOT intends to privatize the operations and maintenance of the system, asking the private sector to assume the ridership revenue risk. Therefore, the strongest of incentives will exist for providing reliable service on this corridor.

COMPREHENSIVE PLANNING PROCESS: The proposed HSR service has been a statewide planning priority for decades. The 2025 Florida Transportation Plan states: "Florida's transportation partners should proactively develop, evaluate, and ...improve the safety, security, and mobility of drivers, passengers, cargo, vehicles, and facilities. These may [facilities] include ... high-speed rail systems ..."

BENEFITS TO OTHER MODES: The last detailed ridership study that looked at mode splits for HSR between Orlando and Miami was the investment grade study done by FDOT/FOX. That study concluded that approximately 60% of the ridership would come from auto and the remainder from air. These diversions will contribute considerably to the reduction in congestion in both modes based on the large volume of annual riders anticipated for HSR.

(2) Environmental Project Benefits Narrative. *Please limit response to 1,000 characters.*

Describe the intended contribution of the planned investment for which you are conducting PE/NEPA towards improved environmental quality, energy efficiency and reduction in the dependence on oil.

Reduction in fossil fuel use and the associated reduction in greenhouse gas and other emissions are obtained due to the energy efficiency of rail versus other modes. Comparison was made based on data for BTU's per passenger mile of various travel modes published by US DOE. Ridership info was from the last study for the corridor. An annual reduction in fossil fuel use of 4.8M gallons in 2020 and 7.9M gallons in 2040 was calculated. This results in reduced annual CO2 emissions of 42,000 and 70,000 metric tons in 2020 and 2040 respectively. These calculations include trips diverted to HSR and the impact of induced trips due to greater mobility. Specifically: $(\text{Total PMT (rail)} * \% \text{ diverted} * (\text{btu per PMT(rail)} - \text{btu per PMT(car)})) + (\text{Total PMT(rail)} * \% \text{ induced} * (\text{btu per PMT(rail)}))$. BTU's were converted to gallons of fossil fuel and then to carbon emissions based on data from US DOE and US EPA. Reduction in fuel use also results in reduction of other pollutants.

(3) Livable Communities Project Benefits Narrative. *Please limit response to 3,000 characters.*

Describe the anticipated benefits of the planned investment for which you are conducting PE/NEPA for fostering and promoting Livable Communities, and include information on the following:

- Integration with existing high density, livable development (including relevant details on livable development (e.g., central business districts with walking and public transportation distribution networks with transit oriented development)).
- Development of intermodal stations with direct transfers to other transportation modes (both intercity passenger transport and local transit).

See ATTACHMENT 6: ORLANDO-MIAMI RAIL/TRANSIT INTERMODAL LINKS

INTEGRATION WITH OTHER TRANSIT SYSTEMS: The higher density communities along this corridor are Orlando, West Palm Beach, Fort Lauderdale and Miami. At each of these locations, there are public transportation opportunities that provide convenient connectivity to other public transportation. At Orlando Airport, connection exists to the LYNX bus service, and planning is already in place to allow future light rail service to connect directly with the HSR service. Also, connection to SunRail operating in the CFRPC will be provided through dedicated express bus service to key commuter rail stations from the airport.

In West Palm Beach, the Tri-Rail commuter rail service begins, and this PD&E study would examine the most efficient connectivity between the two systems that would enhance use. Tri-Rail service continues to Ft. Lauderdale, where similar connections will be studied as part of this proposed work. Note that both WPB (PalmTran) and Ft. Lauderdale (Broward County Transit) have strong bus systems in place that will be an integral part of the connectivity solution as well. In Miami, the Miami Dade Transit Metrorail system already includes direct connection at the Miami Intermodal Center.

INTERMODAL STATIONS: Both proposed terminal stations have a strong emphasis on intermodality: the Orlando International Airport has been visionary in planning for other modes, and the planned HSR station will be at an Intermodal Passenger Terminal; similarly the Miami Intermodal Center is by definition an intermodal facility. Similar intermodality will be sought as a key component of this planned PD&E study at other stations.

(4) Economic Recovery Benefits. *Please limit response to 2,000 characters.*

Estimate the benefit that the PE/NEPA Project and the planned investment for which you are conducting PE/NEPA will make towards economic recovery and reinvestment, including information on the following:

- How both the PE/NEPA Project and the planned investment will result in the creation and preservation of jobs (including number of onsite and other direct jobs (on a 2080 work-hour per year, full-time equivalent basis). Include a timeline for the anticipated job creation, specifying which jobs would be created for the PE/NEPA studies and an estimate for the planned investment (consider the construction period and operating period).
- How the project represents an investment that will generate long-term economic benefits (including the timeline for achieving economic benefits) and describe, if applicable, how the project was identified as a solution to a wider economic challenge.
- If applicable, how the project will help to avoid reductions in State-provided essential services.

This PE/NEPA project is large and will have a very significant and immediate positive employment impact in the Planning

and Engineering industry, one that has not benefited as much as others from ARRA, which has prioritized "shovel ready" work.

The following table presents the approx employment impacts related to the different stages of the Orlando-Miami HSR Corridor development within the corridor area counties. Please note that the operations-related jobs continue throughout the operating horizon.

EMPLOYMENT (in job-years)									
	2009	2010	2011	2012	2013	2014	2015	2016	2017
Construction									
Direct	0	0	0	20,200	20,200	19,400	13,500	3,100	0
Total	0	0	0	45,100	45,100	43,300	30,000	6,900	0
Prelim. Engineering Services									
Direct	20	120	90	0	0	0	0	0	0
Total	60	300	230	0	0	0	0	0	0
Operations/Maintenance									
Direct	0	0	0	0	0	0	0	0	2,500
Total	0	0	0	0	0	0	0	0	4,800

*notes: total = direct + indirect + induced

Impacts are specific to the eight-county corridor region, and are rounded to the nearest 10 (for Prelim. Engineering) or 100 otherwise.

These impacts are only expenditure (on design/engineering, construction, and operations) based, and do not include other impact types such as those related to travel efficiency savings or additional development in the corridor that would also be expected to occur.

Project Name: FL-HSR ORL TO MIA-PD&E ORL TO MIA Date of Submission: 8-24-09 Version Number: 1

E. Project Success Factors

(1) Project Management Approach and Applicant Qualifications. *Please limit response to 3,000 characters.*

Describe qualifications of the applicant and its key partners for undertaking the PE/NEPA Project, include the following information:

- **Management Experience** – provide relevant information on experience in managing rail programs and planning activities of a similar size and scope to the one proposed in this application. Provide an organizational chart (or equivalent) that outlines the roles played by key project team members in completing activities as well as information on the role of contract support, engineering support and program management.
- **Financial Management Capacity and Capability**– provide relevant information on capability to absorb potential planning project cost overruns.
- **Risk Assessment** – provide a preliminary assessment of uncertainties within the planning process and possible mitigation strategies (consider grantee risk, funding risk, schedule risk and stakeholder risk).

MANAGEMENT EXPERIENCE: FDOT has a strong history of managing major projects and environmental documents. The most relevant management experience is that of key senior individuals who are available to manage this PD&E for Orlando-Miami, based on their successful history in advancing an accelerated NEPA/PE process for the Tampa-Orlando corridor. An Organization Chart is provided under ATTACHMENT 7. The key individuals with relevant experience are listed below:

Kevin Thibault, the Department's Assistant Secretary for Engineering and Operations will be the key contact and will oversee this important project.

FDOT Project Manager - Nazih K. Haddad, P.E. is the Manager for Intercity Passenger Rail for FDOT and has been responsible for managing the State of Florida's HSR initiatives for over a decade. He was FDOT's lead manager for the FEIS from Tampa-Orlando that was completed in 2005, and for the Florida Overland eXpress work performed up to November 1998;

General Consultant Team - Key managers with the Department's General Engineering Consultant team will be responsible for providing support to the project manager in managing the overall NEPA/PE work activities.

FINANCIAL MANAGEMENT: FDOT plans to have close oversight throughout the duration of this project, and plans to have direct involvement from each of the local FDOT Districts throughout which the proposed Orlando-Miami route traverses. By having the local districts involved in this work, FDOT can have in-house resources assist with the advancement of this project and therefore serve as the backstop for additional efforts that may be required.

RISK ASSESSMENT: Risks are manageable based on the extensive previous work on this corridor, and the reliance on the use of existing disturbed transportation corridors as the primary routes for HSR.

(2) Funding Sources: In the following table, please provide the requested information about your funding sources (*if applicable*)

Non FRA Funding Sources	New or Existing Funding Source?	Status of Funding ¹	Type of Funds	Dollar Amount (YOE \$)	% of Total Project Cost	Describe any uploaded supporting documentation to help FRA verify funding source
FDOT -see Additional Info			DOT	TBD	TBD	

(3) Project Implementation Narrative. *Please limit response to 1,000 characters.*

Provide a preliminary self-assessment of PE/NEPA Project uncertainties and mitigation strategies (consider grantee risk, funding risk, schedule risk and stakeholder risk). Describe any areas in which you could use technical assistance, best practices, advice or support from others, including FRA.

The most challenging aspect of this PE/NEPA Project is the schedule. However, the overall project is being organized in a segmented approach (North, Central and South segments) such that any key elements can be isolated and resolved in an expedited manner. The use of ETDM described previously will also contribute by involving key agencies and stakeholders early in the process. Funding risks are mitigated by the use of in-house FDOT District resources working closely with the PD&E consultants that will perform the individual segment's work. The fact that the proposed routes are on existing disturbed transportation corridors, and that these routes have been studied for the specific purpose of having a HSR Express on them, greatly mitigates risk. While there has been significant development along these corridors in the past few years, the state-owned rights of way predominate the corridor and allow for expedited analysis.

(4) Timeliness of Project Completion. *Please limit response to 1,000 characters.*

Describe the extent to which the PE/NEPA Project will lead to future project and/or Service Development Program applications for Tracks 1 FD/Construction and Track 2 Programs.

The performance and completion of this PE/NEPA project is fundamental to the development of the full FRA-designated Tampa-Orlando-Miami corridor. The Tampa-Orlando segment is approaching completion of an updated FEIS, a draft of which will be submitted before the Track 2 application for the Florida High Speed Rail Program on October 2, 2009. The Tampa-Orlando segment is the first Phase of the implementation and initiation of the first HSR Express service in the nation. While Tampa-Orlando provides independent utility, the complementary addition of the Orlando-Miami HSR service will bring to fruition the full transportation, environmental and economic benefits of the HSR Express system.

¹ Reference Notes: The following categories and definitions are applied to funding sources:

Committed: Committed sources are programmed capital funds that have all the necessary approvals (e.g. legislative referendum) to be used to fund the proposed project without any additional action. These capital funds have been formally programmed in the State Rail Plan and/or any related local, regional, or state Capital Investment Program (CIP) or appropriation. Examples include dedicated or approved tax revenues, state capital grants that have been approved by all required legislative bodies, cash reserves that have been dedicated to the proposed project, and additional debt capacity that requires no further approvals and has been dedicated by the sponsoring agency to the proposed project.

Budgeted: This category is for funds that have been budgeted and/or programmed for use on the proposed project but remain uncommitted, i.e., the funds have not yet received statutory approval. Examples include debt financing in an agency-adopted CIP that has yet to be committed in their near future. Funds will be classified as budgeted where available funding cannot be committed until the grant is executed, or due to the local practices outside of the project sponsor's control (e.g., the project development schedule extends beyond the State Rail Program period).

Planned: This category is for funds that are identified and have a reasonable chance of being committed, but are neither committed nor budgeted. Examples include proposed sources that require a scheduled referendum, requests for state/local capital grants, and proposed debt financing that has not yet been adopted in the agency's CIP.



F. Additional Information

(1) Please provide any additional information, comments, or clarifications and indicate the section and question number that you are addressing (e.g., Section D, Question 3). This section is optional.

GENERAL: This Track 1B application is key in the vision for High Speed Rail Express service on the FRA-designated Tampa-Orlando-Miami HSR Corridor, PARTICULARLY IN ATTRACTING PRIVATE INVESTMENT that is crucial for the system. The parallel advancement of this PE/NEPA for the Orlando-Miami segment while the procurement of a private partner occurs on the Tampa-Orlando corridor will result in maximum benefit in achieving the transportation, environmental and economic benefits for this system. Substantial documentation will accompany the draft update of the FEIS for the Tampa-Orlando corridor in the Track 2 application for the Florida High Speed Rail Program that will be submitted on October 2, 2009. That application will substantiate the "Ready to Go" status of that first Phase of the HSR Program. That application will also describe the intent to issue an RFP for a private partner that will be asked to assume the Operations and Maintenance cost risk in exchange for the ridership revenue potential of the system. Previous ridership forecasts have shown the high probability for the private sector's willingness to assume this risk, and similar expectation exists currently. Having stated that, IT WILL BE VERY IMPORTANT FOR THE PRIVATE PARTNER TO UNDERSTAND THE VIABILITY AND POTENTIAL OF THE CONTINUED SERVICE TO MIAMI. The timing of advancing the Orlando-Miami segment is therefore very important as relates to the overall system.

This Track 1B application is offered as a Project-Specific NEPA based on extensive previous work done and millions of dollars invested in planning for High Speed Rail in this corridor. This previous work has demonstrated the viability of establishing an attractive HSR Express system on the two routes proposed to be studied (I-95 and Turnpike), each which is an established transportation corridor. The termini for the HSR system between these two studies have already planned for HSR service with major infrastructure investments. Based on this, it is clear that we are not at the initial planning service level of development, and are confident that this Track 1B is the correct one for the Orlando-Miami project.

ITEM B-9: The State of Florida has invested heavily in planning work done in this corridor. This planning work will be used extensively as a basis for advancing this Orlando-Miami PD&E work. It is estimated that approximately \$10 million was spent on PD&E activities (NEPA review and Preliminary Engineering) in this corridor and therefore is applied as a State-share contribution to this work.

ITEM E-2: The acceptance of this Track 1B for the Orlando-Miami project will come at a very opportune time for FDOT. Due to the significant slowdown in the collection of gas tax revenue, FDOT has had to slow its program down considerably. This has hit particularly hard in the planning/PD&E arena, and few major PD&E projects are being advanced currently. The in-house staff that each FDOT District has assigned to this area of work have therefore more capacity and availability to assist with the performance of this work. FDOT will therefore be able to use this state-funded resource as a supplement to the consultant teams that will be utilized to advance the project and enhance the likelihood of meeting the schedule deadlines as well as providing a backstop in the form of FDOT personnel for the investment being made by the federal government.

LIST OF ATTACHMENTS:

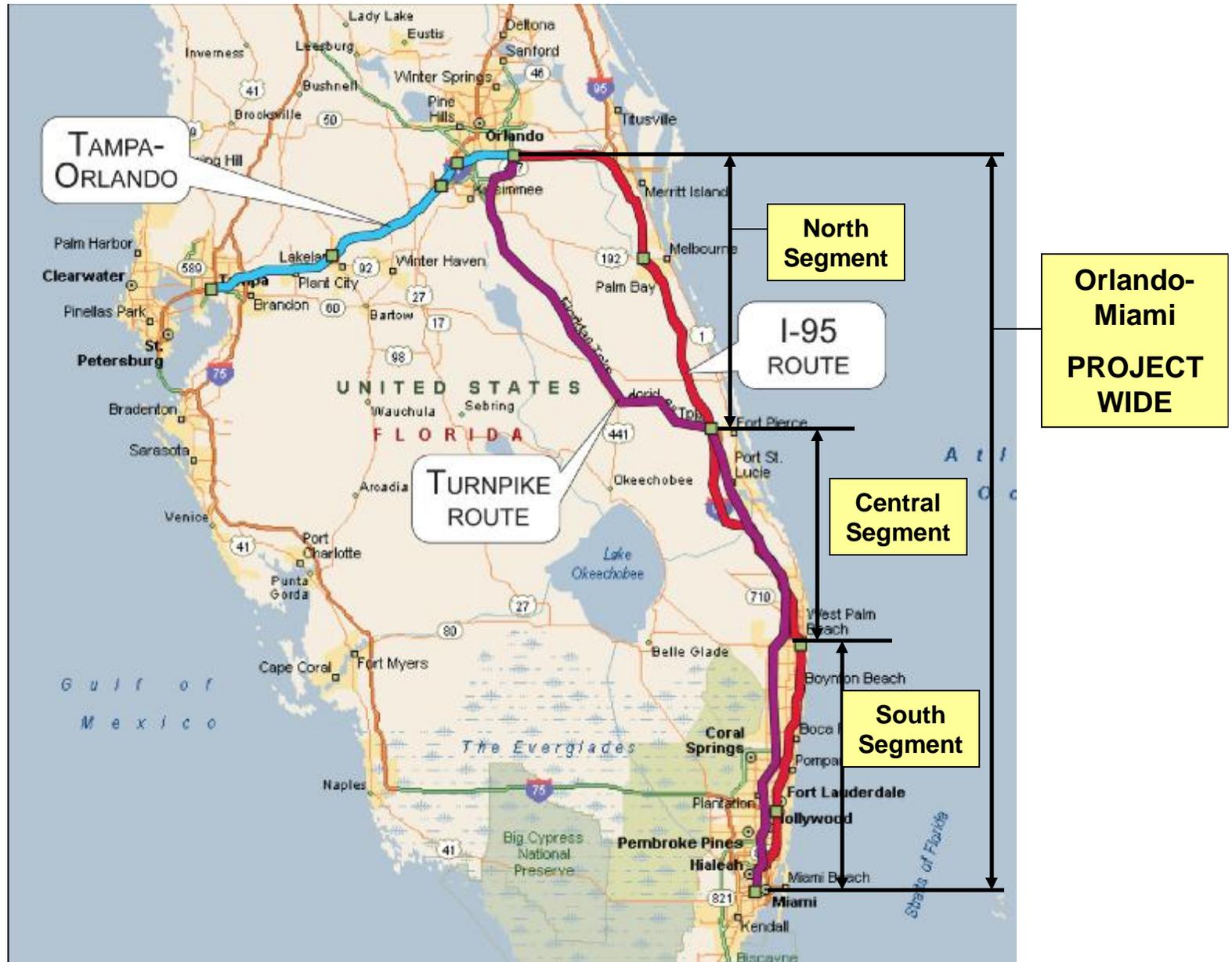
- ATTACHMENT 1: Map of Planned Investment and geographic split of PD&E work
- ATTACHMENT 2: Draft Scope of Services, PD&E Orlando-Miami
- ATTACHMENT 3: Draft Schedule: PD&E Orlando-Miami
- ATTACHMENT 4: Letter from Greater Orlando Aviation Authority
- ATTACHMENT 5: FDOT Policy Memo preserving rail corridor
- ATTACHMENT 6: Orlando-Miami Rail/Transit Intermodal Links
- ATTACHMENT 7: Organization Chart
- ATTACHMENT 8: Resolutions and Letters of Support

G.Summary of Application Materials

Program Forms	Required	Optional	Reference	Description	Format
<input checked="" type="checkbox"/> Application Form	✓		HSIPR Guidance Section 4.3.3.3	This document to be submitted through <i>GrantSolutions</i> .	Form
Supporting Documentation	Required	Optional	Reference	Description	Format
<input checked="" type="checkbox"/> Planned Investment map		✓	Application Question B.6	Map of the Planned Investment location. Please upload into <i>GrantSolutions</i> .	None
Standard Forms	Required	Optional	Reference	Description	Format
<input checked="" type="checkbox"/> SF 424: Application for Federal Assistance	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input checked="" type="checkbox"/> SF 424A: Budget Information-Non Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input checked="" type="checkbox"/> SF 424B: Assurances-Non Construction	✓		HSIPR Guidance Section 4.3.3.3	Please submit through <i>GrantSolutions</i>	Form
<input checked="" type="checkbox"/> FRA Assurances Document	✓		HSIPR Guidance Section 4.3.3.3	May be obtained from FRA's website at http://www.fra.dot.gov/downloads/admin/assurancesandcertifications.pdf . The document should be signed by an authorized certifying official for the applicant. Submit through <i>GrantSolutions</i> .	Form

PRA Public Protection Statement: Public reporting burden for this information collection is estimated to average 32 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. According to the Paperwork Reduction Act of 1995, a federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with, a collection of information unless it displays a currently valid OMB control number. The valid OMB control number for this information collection is **2130-0583**.

ATTACHMENT 1: Map of Planned Investment- Orlando-Miami PE/NEPA



ATTACHMENT 2

SCOPE OF SERVICES PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDIES

Financial Project ID: **000000 0 22 00**
Work Program Item No.: N/A
Federal Aid Project No.: **TBD**
County Section No.: **00000**
Description: **Miami - Orlando High Speed Rail PD&E Study**
Bridge No.: N/A

EXHIBIT A

PURPOSE..... 1

STUDY OBJECTIVE..... 2

STUDY REQUIREMENTS AND PROVISIONS FOR WORK..... 2

Governing Regulations 2

Liaison Office 3

Key Personnel 3

Meetings and Presentations 3

Quality Control 4

Correspondence 4

Submittals 4

Computer Automation 5

Coordination with Other Consultants and Entities 5

Optional Services 5

1.0 PUBLIC INVOLVEMENT..... 7

1.1 Public Involvement Program 7

1.2 Public Involvement Data Collection 7

1.3 Notice of Intent 7

1.4 Advance Notification 7

1.5 Scheduled Public Meetings 8

1.6 Other (Unscheduled) Public and Agency Meetings 8

1.7 Coordination Meetings with FHWA/FRA 9

1.8 Inter-Agency Scoping Meeting 9

1.9 Public Hearing 9

1.10 Record of Decision/Location and Design Concept Acceptance 9

1.11 Special Public Involvement Requirements 10

1.12 Quality Control 10

2.0 ENGINEERING ANALYSIS AND REPORTS 12

DATA COLLECTION 12

2.1 Field Review 12

2.2 Aerial Photography 12

2.3 Survey Coordination 12

2.4 Existing Corridor Characteristics 12

2.5 Existing Structure Characteristics 12

2.6 Traffic Data 13

2.7 Crash Data 13

2.8 Existing Signage Inventory (Limited Access Only) 13

2.9 Utilities & Railroads 13

2.10 Transportation Plans 13

2.11 Navigation and Marine Data 13

2.12 Soils 14

2.13 Base Map 14

NEEDS	14
2.14 Safety	14
2.15 Analysis of Existing Conditions	14
2.16 Purpose and Need Statement	15
DESIGN ANALYSIS	15
2.17 Corridor Analysis	15
2.18 Investment Grade Ridership Study – Phase 1	17
2.19 Investment Grade Ridership Study – Phase 2	19
2.20 Prepare Alternative Concept Plans	22
2.21 Drainage and Floodplain Analysis	23
2.22 Preliminary Structures	23
2.23 Station Access	24
2.24 Multi-modal Accommodations	24
2.25 Maintenance of Traffic Analysis	24
2.26 Geotechnical Coordination	24
2.27 Intelligent Transportation Systems	24
2.28 Utilities and Railroads	24
2.29 Power Substations	24
2.30 Systems Elements	24
COMPARATIVE ANALYSIS OF ALTERNATIVES	25
2.31 Comparative Analysis and Evaluation Matrix	25
2.32 Selection of Preferred Alternative(s)	25
2.32 Conceptual Design Plans (Preferred)	25
2.33 Identify Construction Segments	26
2.34 Value Engineering	26
2.35 Construction Cost Estimates	26
2.36 Right Of Way Cost Estimates	26
2.37 Typical Section Package	26
2.38 Design Exceptions and Variations	26
2.39 Project Development Summary Report (PDSR)	26
2.40 Preliminary Engineering Report	26
2.41	Quality Con
3.0 ENVIRONMENTAL ANALYSIS AND REPORTS	28
3.1 Land Use Changes	28
3.2 Social	28
3.3 Economic	29
3.4 Mobility	29
3.5 Aesthetics	29
3.6 Relocation Potential	29
CULTURAL RESOURCES	29
3.7 Archaeological and Historic Resources	29
3.8 Section 4(f)	30
NATURAL RESOURCES	31
3.9 Wetlands and Essential Fish Habitat	31
3.10 Water Quality	31
3.11 Special Designations	31

3.12	Wildlife And Habitat	31
3.13	Identify Permit Conditions	31
3.14	Farmlands	31
PHYSICAL		31
3.15	Noise and Vibration	31
3.16	Air Quality	33
3.17	Construction Impact Analysis	33
3.18	Contamination	33
ENVIRONMENTAL REPORTS		33
3.19	Draft Environmental Impact Statement	33
3.20	Final Environmental Impact Statement	33
3.21	Quality Control	33
4.0	MISCELLANEOUS SERVICES.....	34
4.1	Contract and Project Files	34
4.2	Project Management Meetings And Coordination	34
4.3		Additional S
5.0	METHOD OF COMPENSATION.....	35
6.0	SERVICES TO BE PERFORMED BY THE DEPARTMENT.....	35

**SCOPE OF SERVICES FOR CONSULTING ENGINEERING SERVICES
PROJECT DEVELOPMENT AND ENVIRONMENT (PD&E) STUDIES**

This Exhibit forms an integral part of the agreement between the State of Florida Department of Transportation (hereinafter referred to as the DEPARTMENT) and _____ (hereinafter referred to as the CONSULTANT) relative to the transportation facility described as follows:

Financial Project Number: **000000 0 22 00**

Federal Aid Project No.: **000000X [If applicable]**

County:

Description: **Miami - Orlando Florida High Speed Rail PD&E Study**

Bridge No.: **N/A**

PURPOSE

The purpose of this Exhibit is to describe the scope of work and the responsibilities of the CONSULTANT and the DEPARTMENT in connection with the Preliminary Engineering (Conceptual Design), and Environmental Studies necessary to comply with Department procedures and to obtain Federal Railroad Administration (FRA) Record of Decision (ROD) of proposed improvements to this transportation facility.

The Project Development Process shall follow the DEPARTMENT'S publication titled "Project Development and Environment Manual", published 02/02/2007 and all subsequent revisions. Throughout this Scope of Services portion of this CONSULTANT Contract, the publication will be referred to as the "PD&E Manual". All tasks identified in this scope of work will be done in accordance with the Department's PD&E Manual, unless otherwise stated.

The PD&E Manual incorporates all the requirements of the National Environmental Policy Act (NEPA); Federal law and executive orders; applicable Federal regulations included in the Federal Highway Administration Federal-Aid Policy Guide; and applicable State laws and regulations including Chapter 339.155 of the Florida Statutes. The project documentation prepared by the CONSULTANT in accordance with the PD&E Manual shall therefore be in compliance with all applicable State and Federal laws, executive orders, and regulations.

The CONSULTANT shall perform those engineering services required for environmental studies, including consideration of all social, economic, environmental effects, and mitigation as required by the FRA and/or the Project Development and Environment (PD&E) Manual, along with the required environmental documents, engineering reports, preliminary plans, public hearing, and right-of-way maps.

Sections 1 through 4 of the Scope of Services will establish which items of work described in the PD&E Manual are specifically included in this contract, and additionally which of the items of work will be the responsibility of the CONSULTANT or the DEPARTMENT.

This scope of service shall be assigned by Task Order as directed by the DEPARTMENT. Major efforts will be assigned based on specific scope of service tasks at logical stages of the project. Early task assignments will better define scope of service efforts as the project progresses.

The DEPARTMENT will provide contract administration and provide management services and technical reviews of all work associated with the development and preparation of the engineering/environmental study reports for the transportation facility.

STUDY OBJECTIVE

The CONSULTANT is to complete preliminary engineering and environmental analysis to obtain a Record of Decision from the Federal Railroad Administration (FRA) identifying a high speed rail alignment from Miami in Miami-Dade County to Orlando in Orange County, Florida. This scope of service will build on the previous work performed in this corridor on two separate initiatives: the Florida Overland eXpress (FOX) project that was halted in 1999 and the *Florida High Speed Rail Authority Orlando-Miami Planning Study, December 2002*.

The termini for this study are in place with significant investment to accommodate high speed rail (HSR) Service: the Orlando International Airport (OIA) and the Miami Intermodal Center (MIC). The DEPARTMENT proposes to initiate this study with two corridors that previous studies have indicated are capable of achieving rail speeds in excess of 180 mph. Other previously studied rail corridors (the Florida East Coast (FEC) Railroad and the CSX Railroad) will be reviewed under this scope of service to confirm that travel time, speeds and ridership potential are not suitable for HSR Express service. The two primary corridor routes to be studied are described below:

- Ronald Reagan Turnpike (Turnpike) Corridor starts in the City of Orlando in Orange County at OIA; exits from OIA to the south following Boggy Creek Road to the Turnpike in Osceola County. The corridor follows the Turnpike through Osceola County, Okeechobee County, St. Lucie County, Palm Beach County and Broward County where it will transition to into the South Florida Rail Corridor (SFRC) and south to the MIC. An alternative routing may include a transition to the Sawgrass Expressway in Broward County to I-75, along I-75 to the SFRC and the MIC.
- Interstate 95 Corridor exits north from OIA and traverses east to along SR 528 to I-95 in Brevard County. The corridor follows I-95 south through Brevard County, Indian River County, St. Lucie County, Martin County, Palm Beach County and Broward County. In Broward County the corridor transitions to the SFRC (or as an alternative the Sawgrass Expressway) and on to the MIC similar to the Turnpike Corridor.

This study will meet the FRA's High Speed Intercity Passenger Rail (HSIPR) Program, Track 1B funding application requirements. With this project advancing, the State of Florida through the DEPARTMENT has received funding with the requirement that a Final Environmental Impact Statement (FEIS) be completed within two years. The project may be organized in a segmented approach (North, Central and South segments) such that any key element(s) can be identified and resolved in an expedited manner.

The Efficient Transportation Decision Making (ETDM) process shall be used to initiate agency coordination and concerns.

The CONSULTANT in consultation with the DEPARTMENT and the General Consultant (GC) will coordinate closely with FRA in the preparation of the documentation for format and content, and to meet all requirements of the PD&E Manual and FRA.

STUDY REQUIREMENTS AND PROVISIONS FOR WORK

Governing Regulations

The services performed by the CONSULTANT shall comply with all applicable DEPARTMENT Manuals and Guidelines. The DEPARTMENT'S Manuals and Guidelines incorporate, by requirement or reference, all applicable State and Federal regulations. The current edition, including updates, of the

following DEPARTMENT Manuals and Guidelines shall be used in the performance of this work. It is understood that AASHTO criteria shall apply as incipient policy.

- § Florida Statutes
- § Florida Administrative Codes
- § Applicable Federal Regulations, U.S. Codes and Technical Advisories
- § Project Development and Environment Manual
- § ETDM Planning and Programming Manual
- § Sociocultural Effects Evaluation Handbook
- § Public Involvement Handbook
- § Plans Preparation Manual
- § Interchange Handbook (525-030-160)
- § Design Standards (625-010-003)
- § Highway Capacity Manual
- § Manual on Uniform Traffic Studies (MUTS)
- § Minimum Standards for Design, Construction, and Maintenance Streets and Highways (Florida Greenbook) (625-000-015)
- § Guide for the Design of Bicycle Facilities (AASHTO)
- § Florida Pedestrian Facilities Planning & Design Handbook
- § Right-of-Way Mapping Handbook (550-030-015)
- § Right-of-Way Procedures Manual (575-000-000)
- § Location Survey Manual (550-030-101)
- § EFB User Guide
- § Drainage Manual
- § Department's Stormwater Facilities Handbook
- § Outline Specifications - Aerial Surveys/Photogrammetry
- § Structures Design Guidelines (625-020-154)
- § CADD Manual (No. 625-050-001)
- § CADD Production Criteria Handbook
- § FDOT Quality/Level of Service Standards Handbook Software & Tables
- § K-Factor Estimation Process
- § Project Traffic Forecasting Procedure (525-030-120)
- § FDOT Highway Landscape Guide
- § Basis of Estimates Manual

Liaison Office

The DEPARTMENT will designate a Liaison Office and a Project Manager who shall be the representative of the DEPARTMENT for the Project. While it is expected the CONSULTANT shall seek and receive advice from various State, regional, and local agencies, the final direction on all matters of this Project remain with the Project Manager.

Key Personnel

The CONSULTANT'S work shall be performed and directed by the key personnel identified in the proposal presentations by the CONSULTANT. Any changes in the indicated personnel shall be subject to review and approval by DEPARTMENT.

Meetings and Presentations

The CONSULTANT shall attend a Notice to Proceed Meeting with DEPARTMENT representatives, where relevant project information will be provided by the DEPARTMENT, along with procedures for administering the contract. The CONSULTANT and his staff shall also be available with no more than a

five (5) workday notice to attend meetings or make presentations at the request of the DEPARTMENT. Such meetings and presentations may be held at any hour between 8:00 A.M. and 12:00 midnight on any day of the week. The CONSULTANT may be called upon to provide maps, press releases, advertisements, audiovisual displays and similar material for such meetings.

Quality Control

The CONSULTANT shall be responsible for insuring that all work products conform to DEPARTMENT standards and criteria. This shall be accomplished through an internal Quality Control (QC) process performed by the CONSULTANT. This QC process shall insure that quality is achieved through checking, reviewing, and surveillance of work activities by objective and qualified individuals who were not directly responsible for performing the initial work.

Prior to submittal of the first invoice, the CONSULTANT shall submit to the DEPARTMENT'S Project Manager for approval the proposed method or process of providing Quality Control for all work products. The Quality Control Plan shall identify the products to be reviewed, the personnel who perform the reviews, and the method of documentation.

Correspondence

Copies of all written correspondence between the CONSULTANT and any party pertaining specifically to this study shall be provided to the DEPARTMENT for their records within one (1) week of the receipt of said correspondence.

Submittals

The CONSULTANT shall provide electronic and hard copies of the required documents as listed below. These are the anticipated printing requirements for the project. This tabulation will be used for estimating purposes, and the Project Manager will determine the number of copies required prior to each submittal.

Public Involvement:

Public Involvement Plan
Advance Notification Package/ETDM Summary Report
Comments and Coordination Report
Public Hearing Transcript

Copies:

XX
XX
XX
XX

Engineering Items:

Corridor Report
Draft Ridership and Revenue Memorandum
Final Ridership and Revenue Memorandum
First Draft Project Development Summary Report
Second Draft Project Development Summary Report
Final Project Development Summary Report (Signed and Sealed)
Conceptual Design Roadway Plan Set
Geotechnical Summary of Existing Conditions Report
Typical Section Package

Copies:

XX
XX
XX
XX
XX
XX
XX
XX
XX

Environmental Items:

Copies:

Pre-Draft Environmental Impact Statement	XX
Draft Environmental Impact Statement	XX
Final Environmental Impact Statement	XX
Section 4(f) Evaluation	XX
Noise Study Report	XX
Air Quality Report	XX
Contamination Screening Evaluation Report	XX
Conceptual Stage Relocation Plan	XX
Endangered Species Biological Assessment	XX
Essential Fish Habitat Assessment	XX
Wetlands Evaluation Report	XX
Cultural Resource Assessment	XX

The CONSULTANT shall deliver final reports on Compact Disks (CD). The CONSULTANT shall also submit a draft cover letter, prepared in Microsoft Word, for each recipient on CD.

The CONSULTANT shall submit electronic copies of aerial photography on CD or DVD when the files are completed early in the PD&E study process. The files will be submitted one time unless the aerial photography is updated.

At the conclusion of the study, the CONSULTANT shall submit three (3) copies of CD with all study files. All documents must also be submitted as PDF files. The final submittal should be organized so that the files are easily located. The CONSULTANT shall submit three (3) copies of all drawing files (CADD and Graphics) on CD in PDF format.

Computer Automation

The project will be developed utilizing Computer Aided Drafting and Design (CADD) systems. The DEPARTMENT makes available software to help assure quality and conformance with the policy and procedures regarding CADD. It is the responsibility of the CONSULTANT to meet the requirements in the *FDOT CADD Manual*. The CONSULTANT will submit final documents and files as described therein. Additional related information is found in the *FDOT Plans Preparation Manual*.

All computer disks shall be scanned for viruses prior to submitting to FDOT. Failure to scan for viruses may result in a lower Consultant work performance evaluation.

Coordination with Other Consultants and Entities

The CONSULTANT is to coordinate their work with any ongoing and/or planned projects that may affect this study.

The CONSULTANT is to coordinate with local governmental entities to ensure design and right of way requirements for the project are compatible with local public works improvements and right of way activities.

The CONSULTANT is to coordinate with any agencies and/or entities that require further coordination through the ETDM Process.

Optional Services

At the DEPARTMENT'S option and authorization, the CONSULTANT may be requested to perform certain unforeseen engineering, environmental and/or public involvement services that are not covered

under this scope of services. The fee for these services shall be negotiated in accordance with the terms detailed in Exhibit B, method of compensation, for a fair, competitive and reasonable cost, considering the scope and complexity of the project(s). A supplemental agreement for the additional services shall be executed in accordance with paragraph 2.00 of the standard consultant agreement.

DRAFT

1.0 PUBLIC INVOLVEMENT

Public involvement includes communicating to and receiving input from all interested persons, groups, and government organizations regarding the development of the project. The CONSULTANT shall coordinate and perform the appropriate level of public involvement for this project as outlined in *Part 1, Chapter 11, and Part 2, Chapter 9 of the PD&E Manual, the FDOT Public Involvement Handbook* and the following sections.

The CONSULTANT shall provide to the DEPARTMENT drafts of all Public Involvement collateral (i.e., newsletters, property owner letters, advertisements, etc.) associated with the following tasks for review and approval at least five (5) business days prior to printing and / or distribution.

1.1 Public Involvement Program

The CONSULTANT shall create a comprehensive Public Involvement Program for DEPARTMENT concurrence and approval.

The DEPARTMENT shall coordinate and perform the appropriate level of Public Involvement for this project as outlined in *Part 1 Chapter 11 of the PD&E Manual*. The CONSULTANT will assist the DEPARTMENT in coordinating and participating in the Public Involvement Program.

The needs of the Spanish speaking community shall be considered in the development of the public involvement activities.

1.2 Public Involvement Data Collection

The CONSULTANT will provide marked tax maps and identify the names and addresses of property owners from county tax rolls. The property owners list will be provided twice during the study process, for the public scoping meetings and the public hearing. The agency and public official's mailing lists will be updated for each mailing. The CONSULTANT shall assist the DEPARTMENT with data collection and in preparing responses to any public inquiries from the public involvement process.

1.3 Notice of Intent

The CONSULTANT will prepare a Notice of Intent in accordance with the PD&E Manual, Part 1, Chapter 11. The notice will be forwarded to FRA for publication in the Federal Register.

1.4 Advance Notification

Advanced Notification is submitted during the ETDM Programming Screening Event and recorded in the EST and the Programming Screening Report. The CONSULTANT shall coordinate with the District 4, 5 and 6 ETDM Coordinators and prepare the items required by the DEPARTMENT for input into the Environmental Screening Tool (EST). The CONSULTANT shall prepare responses to the comments received through the EST, verifying the degree of effect determination by the Environmental Technical Advisory Team (ETAT).

At the beginning of the project, the CONSULTANT shall prepare the Advance Notification (AN) and transmittal letter as per *Part 1, Chapter 3 of the PD&E Manual* for the DEMO Manager / Engineer to submit to the State Clearing House. The Programming Summary Report will be used as the AN Fact sheet. The CONSULTANT will provide the Advance Notification in a single

PDF electronic file to the DEPARTMENT. The CONSULTANT will provide the reproduction and mailing of the AN Package.

1.5 Scheduled Public Meetings

The CONSULTANT shall provide all support necessary for the DEPARTMENT to hold or participate in various public meetings, which may include but not limited to:

- Public Scoping Meetings
- Elected Officials/Agency Kick-off Meeting
- MPO's, Technical Advisory/Citizens Advisory Committee Meetings
- Public Kick-off Meeting
- Corridor or other Public Meetings
- Alternatives Public Meeting

For any of the above type meetings, the CONSULTANT shall prepare and/or provide:

- Scripts for, and creation of an audiovisual presentation
- Newsletters
- Handouts
- Graphics for presentation.
- Meeting equipment set-up and tear-down.
- Legal and/or display advertisements. (The CONSULTANT will pay the cost of publishing.)
- Letters for notification of elected and appointed officials, property owners and other interested parties. (The CONSULTANT will pay the cost of first class postage.)
- News releases, for use three to five days prior to meeting.
- Summary notes of meetings to be provided to the DEPARTMENT no later than 5 business days after the meeting.
- Briefing and debriefing of DEPARTMENT staff.

The CONSULTANT will investigate potential meeting sites to advise the DEPARTMENT on their suitability. The CONSULTANT will pay all costs for meeting site rental and insurance.

The CONSULTANT will attend the meetings with an appropriate number of personnel to assist the DEPARTMENT'S Project Manager.

The CONSULTANT will identify the areas/regions for meetings throughout the study process. The public must be allowed to provide comments at public meetings held within reasonable travel times. It is estimated for this project there will be **XXX** Public meetings during the study.

1.6 Other (Unscheduled) Public and Agency Meetings

In addition to scheduled public meetings, the CONSULTANT may be required to participate in other meetings with the public, elected officials, special interest groups or public agencies. The CONSULTANT'S participation will be limited to participation during the meeting, note taking, and summarizing the meeting in a memo to the file. It is estimated for this project there will be **XXX** meetings during the study.

1.7 Coordination Meetings with FHWA/FRA

It is anticipated that up to four (4) meetings may be required as part of this task. The CONSULTANT will provide support to the DEPARTMENT in preparation, scheduling, attendance and follow-up services for each meeting.

1.8 Inter-Agency Scoping Meeting

The CONSULTANT will schedule and conduct two (2) formal interagency/public scoping meetings in accordance with 40 CFR 1501.7 CEQ, 23 CFR 771, Section 6002 SAFETEA-LU and *Part 1, Chapter 11 of the PD&E Manual*. This task will include all aspects of formal scoping meetings as described in the PD&E Manual.

1.9 Public Hearing

The CONSULTANT shall provide all the support services listed in Section 1.5 above, and in addition shall prepare:

Public officials and Agency letters: The CONSULTANT will prepare the letters, insert them in envelopes, and address the envelopes. The CONSULTANT will pay for first class postage. At the Districts discretion, the CONSULTANT will e-mail letters in lieu of or in addition to those sent by U.S. Mail.

Property owner letters: The CONSULTANT will provide a list of the names and addresses of the property owners from county tax rolls in a format specified by the District. The CONSULTANT will prepare the letters, insert them in envelopes, and address the envelopes. The CONSULTANT will pay for first class postage.

- All elements of the multi-media presentation, which will include video presentation.
- Graphics including display boards of alignments and concepts.
- Plans and report(s) for the public display.
- Brochures or handouts.
- Prepare public advertisements.
- Court Reporter(s)
- Briefing and debriefing of Department staff.

The CONSULTANT will procure a verbatim transcript of the Public Hearing. The CONSULTANT will combine the transcript with any other comments received by the DEPARTMENT as part of the public hearing record, and affidavits of publication of legal ads, and will provide copies of the transcript for the DEPARTMENT'S use. The CONSULTANT will also prepare a Public Hearing Summary attached to the Public Hearing Transcript.

1.10 Record of Decision/Location and Design Concept Acceptance

A Record of Decision/Location and Concept Design Acceptance notification shall be prepared by the CONSULTANT according to *Part 1, Chapter 11 of the PD&E Manual*. A quarter-page legal display advertisement will be published in the area newspapers having the largest circulation, consistent with the newspapers the Public Hearing was advertised in. The DEPARTMENT shall review and approve the notice prior to publication. The notice is published and paid for by the CONSULTANT.

1.11 Special Public Involvement Requirements

1. Identify and Inspect Public Meeting Sites

Prospective sites for any public meetings to be held shall be inspected for suitability. Consideration shall be given to location, seating capacity, sound system, lighting, display space and any other physical characteristics that would influence the viability of the site, including compatibility with the Americans with Disabilities Act of 1990. The CONSULTANT shall make all arrangements for use of the meeting facility for the public information workshops and Public Hearing including payment of any fees.

2. Newsletters

The CONSULTANT shall prepare newsletters at various key points during the study. The newsletters shall be mailed by the CONSULTANT to elected officials, property owners, businesses and interested persons included on the mailing list compiled by the CONSULTANT. The DEPARTMENT shall review and approve the newsletters prior to mailing. A maximum of four (4) newsletters are anticipated.

3. Comments and Coordination Report

The Comments and Coordination Report shall contain, as a minimum, all documentation of the public participation accomplished throughout the study. This report will summarize and respond to comments received from the Public Involvement, Advance Notification, coordination with local officials and agencies, public meetings, etc. as part of *Part 2, Chapter 31 of the PD&E Manual*. The Comments and Coordination Report shall be submitted with and summarized in the FEIS.

4. Project Web Site

The CONSULTANT will coordinate with the GC and provide materials including a project schedule with updates, notices, maps/graphics and project status summaries. This material will be provided to the GC.

5. Videos, Renderings, Etc.

The CONSULTANT shall prepare up to three (3) audiovisual presentations for public meetings. See Section 1.5 and 1.9 for presentation requirements related to the workshops and Public Hearing.

1.12 Quality Control

The CONSULTANT shall be responsible for insuring that all work products conform to DEPARTMENT standards and criteria. This shall be accomplished through an internal quality control process performed by the CONSULTANT. This quality control process shall insure that objective and qualified individuals who were not directly responsible for performing the initial work achieve quality through checking, reviewing and surveillance of work activities.

Prior to submittal of the first invoice, the CONSULTANT shall submit to the Department's Project Manager for approval the proposed method or process of providing quality control for all work products. The Quality Control Plan shall identify the products to be reviewed, the personnel who perform the reviews, and the method of documentation. The CONSULTANT shall be responsible for the inclusion of the Quality Assurance Checklist indicating the

CONSULTANTS quality control process has been completed. The CONSULTANT shall review all reports prepared by sub consultants.

DRAFT

2.0 ENGINEERING ANALYSIS AND REPORTS

The CONSULTANT shall coordinate and perform the appropriate level of engineering analysis for this project as outlined in *Part 1, Chapter 9 of the PD&E Manual* and the following sections.

DATA COLLECTION

Upon notice to proceed, the CONSULTANT shall begin preliminary assessments of the study corridor from an engineering standpoint. This task is largely of a data gathering nature. This activity consists of collecting various information and materials relative to the performance of engineering analyzes within the study area. The information should include all data necessary to perform adequate evaluation of the location and design of a transportation facility.

2.1 Field Review

The CONSULTANT shall conduct all anticipated field trips needed to collect engineering data

2.2 Aerial Photography

Use Aerial Photography as a basis for plotting various data necessary for both engineering and environmental analysis, alternative corridor and design studies, and the development of the preliminary plans of conceptual design. Copies of aerial photography are the prime source of information used to convey project considerations to the public at public meetings.

The CONSULTANT will furnish the necessary aerial photography for use in the study from available resources. Aerial photography shall be prepared for the following uses at the noted scales:

Overall Project Location Map	1"=1000'
Corridor Maps	1"=1000'
Concept Plans	1"= 400'
Preferred Concept	1"=100'

2.3 Survey Coordination

N/A

2.4 Existing Corridor Characteristics

The CONSULTANT shall develop a CADD database of all potential influences on the proposed rail corridor including all existing highway characteristics, street names, property lines, parcel numbers, parks, schools, emergency response facilities, historic areas, lakes, rivers, libraries, north arrow, etc. CADD database information shall be compatible for use on aerial photography used for public presentations, corridor maps and alternative plans.

2.5 Existing Structure Characteristics

The CONSULTANT shall obtain existing structures characteristics within the corridors under analysis. The information shall include vertical and horizontal clearances to determine the feasibility of accommodating a electrified high speed rail alignment.

2.6 Traffic Data

The CONSULTANT shall coordinate with local officials to identify traffic issues concerning access to rail station locations and at-grade crossings. Existing AADT will be obtained from the DEPARTMENT to analyze at-grade crossings in potential HSR corridors.

2.7 Crash Data

The CONSULTANT shall obtain available data from DEPARTMENT'S Computer (Program numbers AARPJ12 and AARPJ13) and local sources for various highway segments required. Obtain data for previous five years. The data collected shall include the number and type of crashes, crash locations, number of fatalities and injuries, and estimates of property damage and economic loss.

2.8 Existing Signage Inventory (Limited Access Only)

N/A

2.9 Utilities & Railroads

The CONSULTANT shall identify the following major existing utilities, observable utilities from field review, and in consultation with utility owners that may influence location and design considerations:

- Overhead: transmission lines, microwave towers, etc.
- Underground: water, gas, sanitary sewer, force mains, power cables, telephone cables, etc.
- Bridge attachments.

The CONSULTANT shall identify existing and proposed railroads, including proposed abandonments, which may influence location and design considerations.

2.10 Transportation Plans

The CONSULTANT shall obtain plans for all modes of transportation including surface, transit and non-motorized modes. The following plans or studies should be obtained:

- Urban Area Transportation Study, and if applicable, County Cost Feasible and Needs Plans
- Local Comprehensive Plans; city and county
- Transit; rail, bus, other
- Non-motorized modes, including bikeways and pedestrian walkways.

2.11 Navigation and Marine Data

The CONSULTANT shall obtain data related to the characteristics of any waterways and the marine traffic using the waterway. The following information shall be collected:

- Channel data: alignment, width, depth, and current velocity.
- Existing bridge clearances, horizontal and vertical.

- Marine accident reports for the past five years.

2.12 Soils

The CONSULTANT shall review the United States Department of Agriculture, Geological Survey, Natural Resource Conservation Service (formerly Soil Conservation Service) Maps and summarize the findings. The CONSULTANT shall provide preliminary geotechnical information indicating areas where the NRCS maps indicate possible problem soils. For the purposes of this task, problem soils will be defined as organic soils and mined land suspected of having the potential for settlement or stability concerns. The CONSULTANT will utilize applicable track diagrams from CSX or FEC, should either corridor be identified as viable, and interviews with track foremen to further identify areas of problem soils. Previous reports shall be reviewed for applicable data within the corridors. Generally, analysis shall be confined to an area within 300 feet of the corridor centerline. Where potential new alignments may occur, particularly connections between existing highway and rail corridors, a 1300-foot corridor shall be evaluated.

The data generated from the soils maps, railroad track diagrams and interviews will be presented in a Geotechnical Summary of Existing Conditions.

2.13 Base Map

The CONSULTANT shall develop a CADD database that includes existing characteristics. CADD data base information shall be compatible for use on aerial photography used for public hearing presentations, corridor maps, and concept plans.

The Corridor Base Maps must include at a minimum:

- Street names and highway numbers
- All pertinent cultural and natural features and land use information
- North arrow, scale and aerial flight date
- Existing and proposed rights of way and platted property lines
- All public and private development, as well as historic sites
- Significant features which could be impacted by the project including wetlands and endangered species habitat, floodplain and flood prone areas
- Hazardous material and petroleum use sites
- Railroad right of way and utility easements
- Land use information, current zoning, future land use for vacant properties.

NEEDS

2.14 Safety

Based on the information obtained from the crash data the CONSULTANT shall identify project needs associated with the safety of the existing facility.

2.15 Analysis of Existing Conditions

The CONSULTANT shall analyze the existing conditions in order to identify any deficiencies that are to be identified in the Needs section.

2.16 Purpose and Need Statement

The CONSULTANT shall update and verify the purpose and need for the project from the Programming Summary Report as outlined in *Part 2, Chapter 5 of the PD&E Manual*. The purpose and need statement from the *Florida High Speed Rail PD&E Study from Orlando to Tampa, May, 2005* shall be reviewed for applicability to this project.

DESIGN ANALYSIS

Utilizing the data collected as part of this Scope of Services, the CONSULTANT shall perform the engineering analysis necessary to complete the project development process. The task of engineering analysis will be ongoing throughout the duration of the project and will be performed with consideration to the results of the environmental impacts analysis.

After selection of viable corridor(s), the CONSULTANT shall develop and analyze alternate conceptual design alternatives. The development of the design alternatives shall consider context sensitive solutions.

The CONSULTANT shall develop and evaluate all viable alternatives in order to address the project needs.

2.17 Corridor Analysis

The CONSULTANT shall investigate the area surrounding the existing transportation corridors as identified in the *Orlando to Miami High Speed Rail Feasibility Study* to determine reasonable corridor alternative considerations. The CONSULTANT shall verify the findings from this study that recognized the Turnpike and I-95 Corridors as meeting HSR Express criteria compared to the FEC and CSX Corridors. No more than three alternative corridors will be investigated and developed.

The CONSULTANT shall use aerial photography to identify possible corridor locations while giving consideration to the following alignment controls which may influence corridor location:

- Available right-of-way through which an improvement providing acceptable service could be routed.
- Cultural features including public and private development.
- Natural features which could be impacted by the project.
- Logical termini giving consideration to directness, length, and service.

2.17.1 Corridor Analysis

The CONSULTANT shall analyze and evaluate each corridor alternate to a point of rejection or selection as a viable corridor. The impacts for each alternative shall be identified and expressed in a form suitable for comparison to other corridor alternatives. It will be necessary to analyze in sufficient detail to identify enough differences to select the most viable corridor(s) that would be in the best overall public interest. This analysis shall include the following:

a. Analyze Crossings/Typical Sections

The at-grade and elevated crossings will be analyzed to determine clearance envelopes and intersection constraints. Up to XX crossings will be analyzed within the corridors.

Four (4) generic railroad crossings over two, four, six and eight lane roadways will be developed for the corridor analysis. Three (3) generic roadway crossings over potential HSR alignments will be developed for two, four and six lanes, with and without the HSR corridor for comparative purposes.

b. Develop Corridor Horizontal Plans

Horizontal plans will be prepared at 1"=1000' scale for the corridor alignments for public involvement purposes. The conceptual plans for the Preliminary Engineering Report shall be at half-scale. Plans will depict existing highway centerline, pavement edges, bridge piers and right of way limits transferred from existing plans or CADD files. Similarly, plans will depict railroad data including centerlines and right of way limits transferred from GIS files or valuation maps. HSR alignments shall be designed considering existing conditions.

c. Develop Corridor Vertical Plans

Vertical profiles will be prepared for the generic locations identified in Task 2.17.a and for any crossover, new alignment, locations between existing highway and rail corridors. Vertical profiles shall be prepared at an additional XX locations. The vertical profiles shall be at 1"=400' vertical and 1"=10' vertical.

d. Develop Typical/Cross Section Plans

A combination of typical sections and cross sections will be developed in critical areas. A total of XXX typical/cross sections are anticipated for this effort.

e. Maintenance of Traffic

Issues relating to maintenance of traffic during construction will be identified and documented for the corridors to aid in selection and capital cost estimating.

f. Preliminary Stations/Maintenance Facilities

Preliminary station plans will be developed based on Phase 1 planning level ridership analysis. Based on design parameters, potential locations for a maintenance/operations facility and a service and inspection facility will be identified. One proposed location will be identified for each facility. It may be determined that the maintenance facility site at Orlando International Airport as identified in the Tampa to Orlando HSR study may suffice for the Orlando to Miami alignment. Preliminary plans shall be developed for each facility.

g. Preliminary Drainage Issues

Drainage data from the FOX program shall be evaluated and employed to the extent that it applies to the corridors evaluated in this study. The Water Management Districts, Counties and principal municipalities will be contacted and respective drainage criteria identified. Existing major drainage areas will be identified including potential impacts to these drainage areas. The CONSULTANT shall coordinate with each District to determine drainage issues with transportation facilities within any of the potential corridors. This will also include any on-going or future programmed studies/improvements. Where applicable, impacts to existing treatment facilities (ie. within highway corridors) and impacted volume will be identified.

h. Preliminary Structures

In addition to the generic structures developed under Task 2.17.a, the CONSULTANT shall perform preliminary structural analysis at the crossover locations between existing highway and railroad corridors to determine the likely structure types and span lengths to develop preliminary structure costs. Crossover locations include highway median to station, highway to highway, and highway to railroad junctions.

i. Cost Analysis

A preliminary construction cost for the corridors will be developed for comparative purposes. This effort includes the development of unit costs in coordination with the GC, development of a preliminary construction cost on a per mile basis and a per unit/structure basis and a comparison of additional acreage required for right of way. The preliminary costs shall include descriptions, quantities and cost estimates of systems elements. The cost estimate shall utilize the DEPARTMENT'S long range estimating (LRE) program to the extent possible.

j. Comparative Assessment

A comparative assessment will be prepared to include the following: construction costs, right of way impacts, relocations, drainage impacts, environmental impacts and station locations.

k. Comparison of Corridor Alignments

After developing the corridor alignments and costs, the CONSULTANT shall prepare a matrix comparing the significant impacts and costs of the corridor alignments evaluated with a recommendation of the most viable corridor. The CONSULTANT shall present it's recommendation to the DEPARTMENT and the GC for consideration. The DEPARTMENT shall determine which corridor alignment will be evaluated further through the public involvement process and environmental analysis. The possibility exists that the No-Build alternative may be selected at this point.

l. Prepare Recommendation

The CONSULTANT shall prepare a recommendation, based on a review and analysis of all engineering, environmental and public involvement issues to date, identifying the corridor for further development. This information will be presented to the DEPARTMENT for review and comment.

2.17.2 Corridor Report

The CONSULTANT shall prepare a Corridor Report to document the results of the corridor conceptual alignment analysis. The Corridor report shall summarize the project need, discuss the corridors evaluated, and provide a recommendation for the best corridor(s) for further study.

2.17.3 Corridor Base Map

The CONSULTANT will draw Corridor Base Maps on Aerial Photography. The Base Maps will be prepared at a scale of 1"= 1000'.

2.18 Investment Grade Ridership Study – Phase 1

The CONSULTANT shall work closely with the DEPARTMENT and the GC to develop the Phase 1 ridership study. Two independent ridership studies will be completed for the Investment Grade Ridership Study. The main responsibility of this Phase 1 study is to identify and justify

any new field surveys needed to support the preparation of these forecasts, and to develop a common model structure that will be the basis of the independent forecasts. The following efforts will be conducted under this task:

2.18.1. Steering Committee Activities

The CONSULTANT will coordinate with a Steering Committee that will be organized by the DEPARTMENT. For the Phase 1 ridership task, six meetings are anticipated on a monthly basis to provide progress reports and receive any comment on the progress or methodology being used.

2.18.2. Review Existing Studies/Models

The CONSULTANT will review previous studies and models for the high speed rail in Florida. Brief summaries of each of these reviews will be prepared and presented to the Steering Committee. These reviews will summarize aspects of the previous forecasts including demand estimates, models used underlying data, applicability of existing data to the study, and preliminary recommendations of additional data needed to support this Scope of Service. Each recommendation for additional data collection will include justification for the data to collect.

2.18.3 Initial Agency/Organization Contacts

The CONSULTANT in coordination with the Steering Committee will develop a plan and schedule for contacting local agencies including, but not limited to, FDOT District Offices, MPO technical staffs, and agencies/organizations where potential stations are located. The purpose of these meetings will be to inform agencies of this scope of services and to solicit these agencies for information and input to this effort. For the purposes of this Scope of Services, up to 25 agency meetings are anticipated.

Each meeting will be documented in a brief contact memorandum that will be distributed to Steering Committee members. Documents and other possible data inputs collected during these contacts will be forwarded to the ridership consultants for review and to determine if the data that is collected through these contacts can be used in preparation of investment grade forecasts.

2.18.4 Develop Data Collection Program

Based on reviews of previous studies, agency/organization contacts and input from the ridership consultants, the Steering Committee will develop a data collection program to supplement and update existing data. This program will be documented by the DEPARTMENT's GC and will identify data collection tasks, responsibilities and schedules. The data collection program will be oriented towards providing information for use in Task 2.19.

2.18.5 Conduct Field Surveys

Field studies including origin-destination studies, stated preference surveys and other field data collection tasks will be conducted, consistent with the data collection program developed by the Steering Committee. Since the extent of the field data collection is not known, no effort by the CONSULTANT is identified at this time. A budget amount will be updated upon completion of Task 2.18.d.

2.18.6 Develop and Implement Common Model Structure

The key objective this scope of service task is the development of a common model structure to be used by the two independent ridership consultants and others as needed. The basic model when completed will become the property of the DEPARTMENT. The ridership consultants will develop a common recommendation on the structure of the forecasting model for review by the Steering Committee.

As part of the review process, the ridership consultants will collaborate to issue a summary of their joint recommendation. Subject to the Committee's acceptance of the summary recommendation, the ridership consultants will collaborate on the preparation of draft and final technical reports describing the proposed model structure and its application in the context of this scope of service. The report will document necessary model inputs, aspects of the model that will be developed collaboratively and describe how the model will be used to prepare independent forecasts.

2.18.7 Develop Common Model Inputs

Common model inputs, as documented in Task 2.18.f, including but not limited to items such as socio-economic inputs, networks, zonal structures and common parameters will be collected and prepared by the ridership consultants and members of the Steering Committee. Since the details are not known, a budget will be provided that may be refined pending approval of Tasks 2.18.d, e and f.

2.18.8 Develop Operating Plans

A common set of operating plans will be developed for review by the Steering Committee. The CONSULTANT will assist and coordinate with the GC in development of operating plans. These plans will be prepared for Orlando – Miami, separate from and combined with Orlando – Tampa.

2.18.9 Preparation of Phase 1 Technical Report

The CONSULTANT will assist in the preparation of a Phase 1 Technical report in draft and final form, documenting the activities conducted under this task and summarizing the recommendations for the subsequent ridership phase(s) of the project. This report will be prepared on behalf of the steering Committee in coordination and collaboration with the independent ridership consultants and others on the Steering Committee.

2.19 Investment Grade Ridership Study – Phase 2

The CONSULTANT shall continue the efforts initiated under Task 2.18, the Phase 1 ridership study working in collaboration with the GC for development of two independent Investment Grade Ridership Studies. The Phase 2 ridership efforts shall be developed for the viable corridor alignment(s) identified through the corridor evaluation process.

2.19.1 Steering Committee Activities

The CONSULTANT will continue to interact with the Steering Committee and a Peer Review Panel throughout the duration of the Phase 2 effort.

2.19.2 Review Existing Studies/Models

The CONSULTANT will assess the Orlando and Miami urban markets, any additional applicable urban markets at station locations and the OIA, West Palm Beach International Airport, Fort Lauderdale International Airport and MIA access markets. This effort will involve review of area regional models, any travel surveys conducted within the model area and airport user characteristics. Additionally, the FOX reports FOX, Cross State Rail Study and the 2002 Report to the Legislature rail ridership estimates will be reviewed and compared to the forecasts developed as part of this scope of service.

2.19.3 Initial Agency/Organization Contacts

The CONSULTANT will continue to meet with and make presentations to agencies/organizations as described in Task 2.18.c.

2.19.4 Develop and Implement Common Model Structure

The CONSULTANT shall collaborate with the GC in the development of a common model structure, including any allocation of direct responsibilities within the independent investment ridership efforts. This effort will include analysis of data collected in Task 2.18.4, specification of models and/or procedures for estimating future growth of the major travel markets in the corridor including. Resident work commute, business and other travel, non-resident business and other travel, airport access trips to and from OIA and MIA, and commuting trips within the model area.

The steering committee and peer review panel will review the proposed structure. The final structure will be used to guide preparation of total demand estimates in the corridor. A technical memorandum will be prepared documenting the adopted structure.

2.19.5 Develop Common Model Inputs

Inputs required to calibrate and apply the model will include the following

- A defined study area and analysis zone scheme.
- Transportation network characteristics
- Socio-economic base data and forecasts
- Regional model networks, survey and socioeconomic data and model application procedures.

A technical memorandum will be prepared documenting the information collected.

2.19.6 Develop Operating Plans

Members of the GC and/or PD&E CONSULTANTS in coordination with the DEPARTMENT will develop several of the inputs leading to the specification of an operating plan. This may include station locations, rail station to station running times, train consists. Access service, initial fare schemes and generalized schedules will be developed in collaboration with the Steering Committee and Peer Review Panel. The values adopted will be used in the initial forecasting tests.

As results are obtained from the forecasting models, the initial operating plan may be revised to better match estimated demand for services with operating plan features and

policies for minimum levels of service. The modification of the operating plan will be developed in collaboration with the Steering Committee and Peer Review Panel.

2.19.7 Estimate Market Size

Using the common model structure defined in Task 2.19.d, estimates of base and future year demand will be prepared. The major markets to be forecast are shown below:

- Intercity markets
- Major urban markets
- OIA access markets
- MIA access markets

A technical memorandum will be prepared documenting the calculations used and results obtained in estimating market size.

2.19.8 Prepare Ridership and Revenue Forecasts

The mode share and induced demand procedures will be applied using the initial assumptions of rail service characteristics and fare schemes. Assumed rail service characteristics may be modified after review of the initial rail usage estimates to better match service with demand. A 'base case' set of rail ridership and revenue estimates will then be prepared. A second base case, assuming no rail service will also be prepared for use in estimating user benefits from the rail service.

A series of sensitivity tests would be undertaken to determine the magnitude of ridership/revenue change in response to changes in assumed value of key input variables and model parameters. It is anticipated that sensitivity testing would include user costs (rail and competing mode), travel times (rail and competing mode), rail access times/costs, rail frequency/schedule characteristics, time/cost tradeoff relationships of different traveler groups, assumptions about economic, demographic and tourism growth. Others may be defined as the analysis proceeds.

Products of the ridership and revenue forecasts include:

- Rail trips by station to station movement, major market segment and major movement type.
- Competing mode trips by potential station to station movement, major market segment and movement type.
- Rail market share for station to station movements, major market segment and movement type.
- Rail revenues for station to station movements, major market segments and movement type.
- Estimated user (road and rail) benefits related to time savings, cost savings and accident reductions.
- Estimated impact on road capacity utilization of the rail system.
- All of the above for each sensitivity test.

Results from the forecasting exercise will be documented in a technical memorandum.

2.19.9 Reconciliation and Comparison of Results

The rail forecasts prepared by the two ridership consultants will first be compared to each other. Differences will be noted and explanations of reasons for the differences provided. Similar comparisons will be made to appropriate components of the FOX, Cross State Rail Study and the 2002 Report to the Legislature rail ridership estimates.

2.19.10 Prepare Final Report and Present Results

Initial findings from the ridership and revenue forecasting will be presented at the earliest practical time to the Steering Committee and the Peer Review Panel. Comments will be requested and taken into consideration in completing the forecasting task.

The technical memorandum referenced in prior tasks will be edited into a Project Final Report. An executive summary will also be prepared summarizing input assumptions, overall travel growth projections, the rail forecasts and sensitivity analyses.

Findings will be presented to the Peer Review Panel and others as designated by the Steering Committee. It is anticipated that up to three such presentations shall be required.

All computerized process data sets and model application programs will be delivered to the Steering Committee and the DEPARTMENT at the completion of the project.

2.20 Prepare Alternative Concept Plans

The CONSULTANT will prepare alternative concept plans within the viable corridors. No more than three (3) alternative conceptual alignments shall be developed. At a minimum, the concept plans should include:

2.20.1 Horizontal Geometry

The horizontal geometry will be developed based on the design criteria provided. Horizontal alignment geometry will be developed for a profile grade line set on the proposed centerline of a typical section as coordinated with the GC. Where the rail deviates from the typical section, a separate profile will be developed located in the rail centerline for each set of tracks. Horizontal geometry will also be prepared at each station. It is estimated that XXX plan sheets are required for this effort. The plan sheets shall be prepared at 1"=100' for full size drawings.

The CONSULTANT shall prepare horizontal geometry for each road crossing over the rail corridor to accommodate future, programmed transportation plans. It is estimated that XX locations will require analysis and development of plans.

2.20.2 Vertical Geometry

Vertical profiles will be developed at 1"=10' vertical and 1"=100' horizontal for each of the centerline alignments developed in Task 2.20.1. The profiles will be developed double-banked. It is estimated that XXX sheets are required for this effort.

2.20.3 Cross Sections

Cross sections at an average of 1000' spacing will be prepared for the alternatives developed under Task 2.20.1. The number of plan sheets estimated for this effort is XXX with three cross sections per plan sheet.

2.20.4 Typical Sections

The typical sections developed under Task 2.17.1.a and .d will be further refined with additional coordination with the GC, the DEPARTMENT and FRA.

2.20.5 Conceptual Station Design

The CONSULTANT shall coordinate with the GC in identifying a 20 acre sized site for five (5) station locations. The Orlando International Airport Intermodal Station and the Miami Intermodal Center shall be considered ready to receive high speed rail tracks.

2.20.6 Operations and Maintenance Facilities Conceptual Design

The CONSULTANT shall consider the Maintenance Facility site located south of Orlando International Airport as approved in the *Florida High Speed Rail Tampa to Orlando FEIS, May 2005* for the needs of the Orlando to Miami HSR alignment. The CONSULTANT shall assess the need for any additional facilities based on the Conceptual Operations and Maintenance assumptions developed in Task 2.29.

2.21 Drainage and Floodplain Analysis

The CONSULTANT shall utilize preliminary water treatment requirements, permit information and other data obtained in Task 2.17.1.g. The CONSULTANT shall develop a conceptual drainage plan that may incorporate swale treatment, enclosed drainage conveyance and/or ditch conveyance to proposed pond sites. Swale treatment will be analyzed for feasibility within existing transportation corridor rights of way and within structural limits in elevated sections. Where swale treatment is not feasible, additional right of way for treatment facilities will be identified with the proposed conveyance system. The location and size of potential detention/retention areas will be determined for all viable design alternatives where existing drainage does not accommodate the rail envelope.

The proposed drainage concept will be identified on the plan sheets developed for the horizontal alignments. A pond siting report will not be prepared as part of this scope of service task.

2.22 Preliminary Structures

The CONSULTANT shall prepare structural information as follows:

- Develop design parameters (criteria)
- Identify bridge locations
- Provide listing of bridge lengths and types
- Develop bridge typical sections
- Determine structural depths for profile

The bridge limits shall be identified on the plan sheets developed for the horizontal alignment and vertical profile alignment. Limits of retaining wall shall also be identified on the horizontal alignment plan sheets.

2.23 Station Access

The CONSULTANT shall review roadway access to each of the proposed station sites. The CONSULTANT shall identify access issues to provide appropriate access to the station sites. This task will provide a matrix with potential solutions to the 20 acre site as identified in Task 2.20.5. The solutions may range from potential widening of exiting roadways, new roadway connections or extensions of existing roadways. This will be coordinated with the District Offices and local governmental agencies. The matrix will be included in the Engineering Report, however, any plan development will not be a part of this scope of service task.

2.24 Multi-modal Accommodations

The CONSULTANT will coordinate with transit and local government officials in order to determine what multi-modal connections will be available through existing or planned modal alternatives. This task shall also consider pedestrian and bicycle facilities.

2.25 Maintenance of Traffic Analysis

The CONSULTANT will analyze the alternatives for constructability, and the ability to maintain traffic. If the constructability analysis indicates that there will be a substantial cost to maintain traffic, the cost estimate implications will be included for that alternative.

2.26 Geotechnical Coordination

The CONSULTANT shall utilize the data collected in Task 2.12 for cost considerations if an alternative alignment crosses unsuitable or problem soils.

2.27 Intelligent Transportation Systems

N/A

2.28 Utilities and Railroads

The CONSULTANT shall map on the horizontal plan sheets major utilities identified in Task 2.9 that may influence the location and design of the rail corridor. Any potential costs associated with relocation or modification of existing utilities will be identified for that alternative.

2.29 Power Substations

The CONSULTANT shall perform an analysis of traction power requirements. A traction power study shall be prepared based on the refined alignments and the policy service levels to determine the optimal location of traction power substations. The documentation shall be suitable for inclusion into the environmental document. Based on the results of the study, the CONSULTANT shall prepare a recommended siting plan for substations for the analysis and determination of right of way, capital costs and potential environmental impacts.

2.30 Systems Elements

The CONSULTANT shall develop sufficient detail for each systems element to provide definition, identifying the environmental impacts to the corridor and prepare preliminary engineering conceptual design level estimate of the capital costs. A significant portion of the initial effort will focus on: 1) development of performance based design criteria; and 2) coordination with other team members for the progression of the concept plans and environmental impact analysis. The required documents will include performance based design

criteria, geometric plans, typical drawings, special conditions and any additional means to communicate the requirement for the following System Elements. The broad system elements include:

2.30.1 Communications and Control

- a. C3
- b. Operations Control Center
- c. Signal Systems

2.30.2 Power Supply and Distribution

- a. Power Supply
- b. Power Distribution System
- c. Facilities Power
- d. Corrosion Control

2.30.3 Safety and Security

- a. Systems Safety
- b. Security

2.30.4 Vehicles

2.30.5 Systems Integration

COMPARATIVE ANALYSIS OF ALTERNATIVES

The DEPARTMENT will determine which viable alternative(s) to further evaluate through the public involvement process and environmental analysis. The possibility exists that the No-Build alternative may be selected at this point.

2.31 Comparative Analysis and Evaluation Matrix

After developing the viable alternatives and costs, the CONSULTANT will prepare a matrix comparing the impacts and costs of the alternatives evaluated, with a recommendation of the most viable alternative(s). The CONSULTANT shall present their recommendations to the DEPARTMENT for consideration.

2.32 Selection of Preferred Alternative(s)

The CONSULTANT shall recommend a preferred alternative(s) based on a review and analysis of all engineering, environmental, and public involvement issues related to the project.

2.32 Conceptual Design Plans (Preferred)

The CONSULTANT will finalize concept plans for the preferred alternative that include refinements from the public hearing. The preferred plan sheets shall be prepared at 1"=100' for full size drawings.

2.33 Identify Construction Segments

The CONSULTANT shall identify potential construction segments with consideration of station sites and ridership potential of the individual segments. A construction cost shall be prepared by segment and an implementation plan developed for the entire corridor.

2.34 Value Engineering

N/A

2.35 Construction Cost Estimates

The CONSULTANT shall develop construction cost estimates and updates for design alternatives. The cost estimates are to be developed using the Department's long range estimating (LRE) program for applicable items. The CONSULTANT shall coordinate with the GC in developing costs associated with rail items.,

2.36 Right Of Way Cost Estimates

The CONSULTANT shall prepare base maps with right of way and property lines. The right of way needs will be mapped and the DEPARTMENT shall provide a right of way cost for the development of alternatives and for the preferred alignment.

2.37 Typical Section Package

The CONSULTANT will prepare the Typical Section Package in accordance with the Department's Plans Preparation Manual (excluding pavement design).

2.38 Design Exceptions and Variations

The CONSULTANT shall identify any locations where design criteria will not be met. A matrix identifying location, design element and whether an exception or variation will be required will be prepared.

2.39 Project Development Summary Report (PDSR)

The CONSULTANT will prepare a Project Development Summary Report as per *Part 1, Chapter 4 of the PD&E Manual*.

2.40 Preliminary Engineering Report

N/A

2.41 Quality Control

The CONSULTANT shall be responsible for insuring that all work products conform to DEPARTMENT standards and criteria. This shall be accomplished through an internal quality control process performed by the CONSULTANT. This quality control process shall insure that objective and qualified individuals who were not directly responsible for performing the initial work achieve quality through checking, reviewing and surveillance of work activities.

Prior to submittal of the first invoice, the CONSULTANT shall submit to the Department's Project Manager for approval the proposed method or process of providing quality control for all work products. The Quality Control Plan shall identify the products to be reviewed, the

personnel who perform the reviews, and the method of documentation. The CONSULTANT shall be responsible for the inclusion of the Quality Assurance Checklist indicating the CONSULTANTS quality control process has been completed. The CONSULTANT shall review all reports prepared by sub consultants.

DRAFT

3.0 ENVIRONMENTAL ANALYSIS AND REPORTS

The CONSULTANT shall coordinate and perform the appropriate level of environmental analysis for this project as outlined in the PD&E Manual and the following references.

The CONSULTANT shall coordinate with the various District ETDM Coordinators to conduct a Program Screening of the project as a priority effort. The scope of service identifies efforts without the benefit of Degree of Effects. Should it be determined through the Programming Summary Report that an activity is determined to have “No Involvement” or “None”, the scope of service for that activity may be reduced.

The CONSULTANT shall utilize the Programming Summary Report and graphical information from the Environmental Screening Tool (EST) available at <http://www.dot.state.fl.us/emo>, or other appropriate database. Data base information shall be compatible for use on base maps used for public presentations, corridor maps, and alternative plans.

SOCIOCULTURAL EFFECTS

The CONSULTANT shall collect data regarding the following Sociocultural issues. Pertinent data shall be collected, analyzed and summarized in the appropriate section of the Environmental Impact Statement (EIS). Pertinent data shall also be displayed on the base map, as applicable. These issues shall be analyzed in accordance with *Part 2, Chapter 9 of the PD&E Manual* and the *Sociocultural Effects Evaluation Handbook* (available at <http://www.dot.state.fl.us/emo>).

3.1 Land Use Changes

The CONSULTANT shall be responsible for:

- Plan Consistency: consistency with comprehensive plans, growth management plans and policies, future land use plans, proposed developments, current zoning and DRIs.
- Land Patterns: land uses with aesthetic, Section 4(f) lands (recreation areas, parks and wildlife refuges), managed conservation lands or community use values, open space, potential for sprawl, and the character of the neighborhoods.
- Development Activity: Collect data on active development activity in the railroad corridor, especially preliminary or filed plats which have the potential for dedication of railroad right of way or joint use ponds.

The CONSULTANT shall categorize each land use according to the Florida Land Use, Cover and Forms Classification System (FLUCCS).

3.2 Social

The CONSULTANT shall be responsible for:

- Community Cohesion: identification of physical barriers, traffic pattern changes, social pattern changes, and loss of connectivity to community features and facilities.
- Community Facilities and Focal Points: Schools, churches, parks, emergency facilities, social services, day care facilities, retirement centers, community centers, and retail locations.
- Safety/Emergency Response: creation of isolated areas, emergency response time changes, location of police, fire, emergency medical services, healthcare facilities, and government offices.
- Title VI: Location of any Title VI involvement, minority displacement, special populations.

- Community Goals and Quality of Life: social value changes, compatibility with community goals and vision.

3.3 Economic

The CONSULTANT shall be responsible for:

- Commerce: business and/or business district access, visibility, traffic patterns, and parking issues. Input from business interests along the corridor.
- Tax Base: business impacts that affect the tax base, employment opportunities and property values.
- Job Creation: identify the creation and preservation of jobs including a timeline for the anticipated job creation, jobs created for the construction period and operating period.

3.4 Mobility

The CONSULTANT shall be responsible for:

- Accessibility: transit facilities, intermodal connectivity, transportation disadvantaged access, residential to non-residential connectivity, bicycle and pedestrian issues, public parking, park and ride facilities, walkability, emergency response and evacuation routes, and safety.

3.5 Aesthetics

The CONSULTANT shall be responsible for:

- Aesthetics: noise/vibration sensitive sites, viewshed, project aesthetics, community character and aesthetic values, landscaping.

3.6 Relocation Potential

The CONSULTANT shall be responsible for:

- Displacements: residential, non-residential, unique facilities, community focal points and
- Conceptual Stage Relocation Plan: The CONSULTANT shall collect the data and perform the analysis necessary to complete a Conceptual Stage Relocation Plan for the proposed alternatives.

CULTURAL RESOURCES

3.7 Archaeological and Historic Resources

The CONSULTANT shall implement a Cultural Resources study to completely analyze the impacts to all cultural resources by all proposed alternatives, including all viable ponds. All work shall be conducted by a professional qualified under the provisions of 36 CFR 61, and be done in compliance with the National Historic Preservation Act of 1966 (Public Law 89-665, as amended) and the implementing regulations (36 CFR 800) as well as with the provisions contained in Chapter 267, Florida Statutes.

This task includes identifying and analyzing impacts to archaeological sites and historic resources within the project Area of Potential Effects (APE), including documentation and coordination with appropriate agencies as per *Part 2, Chapter 12 of the PD&E Manual*, and the Department's *Cultural Resource Management Handbook*. In addition, attendance at public meetings may be required. The CONSULTANT will also review and address any resources listed in the Environmental Screening Tool

(EST) by the State Historic Preservation Office (SHPO) Environmental Technical Advisory Team (ETAT) member. (work estimate should be based on number of identified sites.)

- a. **Research Design Methodology:** The CONSULTANT will prepare a Research Design and Survey Methodology for the project, to be submitted to the DEPARTMENT for approval prior to the initiation of field work. The CONSULTANT shall identify and map out the zones of probability for the project study area, and identify any previously recorded resources. The Area of Potential Effect (APE) will be determined (including pond sites).

- b. **Cultural Resources Assessment Survey (CRAS)**

Field Work: The CONSULTANT shall identify any archaeological sites within the project area, both previously recorded and potentially eligible, and excavate the appropriate number of test pits. The CONSULTANT shall identify any existing historic resources within the project area, both previously recorded and potentially eligible. The CONSULTANT will also locate, identify and bound any additional cultural resources included on the Florida Master Site File (FMSF) and all structures 45 to 50 years older (depending upon the length of time anticipated before construction). Enough data will be collected to document each site's significance in terms of eligibility for listing on the National Register of Historic Places (NRHP).

Documentation: The CRAS will be prepared with appropriate documentation detailing the results of the survey and the final assessments of resource significance, and including a FMSF form for all identified resources. The Research Design Methodology and the Pond Site Technical Memo will be included in the CRAS appendix.

- c. **Pond Site Technical Memorandum:** The CONSULTANT will identify and clear pond sites for the preferred project alternative. The results of this work are to be documented in a technical memorandum, which will be included as an appendix to the CRAS.
- d. **Determination of Eligibility (DOE):** If required, the CONSULTANT will prepare a DOE for each resource determined to be significant. The DOE package will include an NRHP registration form, and the DOE's will be included as a CRAS appendix.
- e. **Case Study Report:** If required, a Section 106 Case Study Report, documenting the application of the Criteria of Effect, will be prepared.
- f. **Memorandum of Agreement (MOA):** The CONSULTANT will assist the DEPARTMENT with the preparation of a Section 106 MOA, if required.
- g. **Section 4(f) Evaluation:** The CONSULTANT will prepare and coordinate a Section 4(f) Evaluation, if required.
- h. **Section 106 Consultation Meetings:** The CONSULTANT will assist the DEPARTMENT with coordination of a Section 106 Consultation meeting, if required.
- i. **Native American Coordination:** If required, the CONSULTANT will assist the DEPARTMENT with coordination with any Native American tribes that have or wish to have involvement or input on the project or any site of relevance to them.
- j. **Section 106 Public Involvement:** If required, the CONSULTANT will assist the Department with public involvement for Section 106.

3.8 Section 4(f)

In accordance with *Part 2, Chapter 13 of the PD&E Manual*.

NATURAL RESOURCES

3.9 Wetlands and Essential Fish Habitat

In accordance with *Part 2, Chapters 11 and 18 of the PD&E Manual*. This will include a Conceptual Mitigation Plan.

3.10 Water Quality

In accordance with Part 2, Chapter 20 of the PD&E Manual.

3.11 Special Designations

In accordance with *Part 2, Chapters 19, 21, 23, and 26 of the PD&E Manual*, respectively

- Outstanding Florida Waters
- Wild And Scenic Rivers
- Aquatic Preserves
- Coastal Barrier Resources

3.12 Wildlife And Habitat

In accordance with *Part 2, Chapter 27 of the PD&E Manual*.

3.13 Identify Permit Conditions

The CONSULTANT shall identify permit conditions, and type of permits required. This task includes the review of maps and data in order to determine permit related information for the project or add scope to identify what tasks should be done in accordance with agreements with the permitting agencies.

3.14 Farmlands

In accordance with *Part 2, Chapter 28 of the PD&E Manual*.

PHYSICAL

3.15 Noise and Vibration

The CONSULTANT shall perform noise impact analysis in accordance with *Part 2, Chapter 17 of the PD&E Manual* and vibration analysis, consistent with FRA requirements as described below.

3.15.1 Noise Analysis

a. Baseline Conditions

1. Define the Baseline Study Area in accordance with FRA Guidance Manual
 - i. Shared with existing rail line

- a) Urban/noisy suburban: 450 feet each side
 - b) Quiet suburban/rural: 900 feet
 - ii. Shared with existing highway
 - a) Urban/noisy suburban: 450 feet each side
 - b) Quiet suburban/rural: 700 feet
 - 2. Review noise-sensitive land use in Study Area
 - i. GIS
 - ii. Aerial photos
 - iii. Land use mapping with population densities
 - 3. Select measurement sites
 - i. Estimate XX noise monitor sites, XX long-term sites, XX repeated sampling sites, and XX short-term sites
 - ii. Include approximately XX sites with Section 4(f)/106 sensitivity
 - 4. Conduct measurements at all sites
 - i. Map sites and results in GIS
 - 5. Assign noise levels to all land uses in the corridors
- b. Noise Projections
- 1. Define noise characteristics of alternatives
 - i. Technology will be electrified steel wheel on steel rail
 - 2. Determine noise propagation characteristics along each alternative alignment
 - 3. Calculate noise exposure versus distance for each alternative alignment
 - 4. Calculate noise exposure in vicinity of fixed facilities (stations, yards, shops).
- c. Noise Assessments
- 1. Assess impacts on land uses according to FRA criteria
 - 2. Tabulate noise impacts
 - 3. Map impacts
- d. Noise Mitigation
- 1. Develop mitigation concepts for impacted land uses
 - 2. Retest for mitigation effectiveness.

3.15.2 Vibration Analysis

- a. Define the Baseline Study Area in accordance with the FRA Guidance Manual
 - 1. Review geology in the study area
 - 2. Review vibration-sensitive building use in Study Area
 - i. GIS
 - ii. Aerial photos
 - iii. Land use mapping with population densities
 - 3. Select measurement sites
 - i. Sample of various geological conditions
 - ii. Proximity of vibration-sensitive land uses
 - iii. Include Section 4(f)/106 sites as appropriate
 - 4. Conduct measurements
 - i. Vibration propagation measurements
 - a) Estimate XX sites for transfer mobility measurements
 - ii. Existing vibration levels
 - a) Estimate XX sites
 - 5. Assign propagation characteristics to all land uses in the corridor
- b. Define vibration force-density characteristics of electrified steel wheel on steel rail

1. Apply force-density characteristics to assumed and measured transfer mobility characteristics along each alternative alignment
 2. Calculate vibration levels versus distances for each alternative alignment.
- c. Vibration Assessments
1. Assess impacts on land uses according to FRA criteria
 2. Tabulate vibration impacts
 3. Map impacts
- d. Vibration Mitigation
1. Develop mitigation concepts for impacted land uses
 2. Retest for mitigation effectiveness

3.16 Air Quality

In accordance with *Part 2, Chapter 16 of the PD&E Manual*.

3.17 Construction Impact Analysis

In accordance with *Part 2, Chapter 30 of the PD&E Manual*.

3.18 Contamination

The CONSULTANT shall perform the necessary analysis to complete the Contamination Screening Evaluation for all viable alternatives, and complete the Contamination Screening Evaluation Report as described in *Part 2, Chapter 22, of the PD&E Manual*.

ENVIRONMENTAL REPORTS

The Environmental Documents prepared by the CONSULTANT will comply with the procedures listed in the PD&E Manual, Part 1, and will also follow the format and include content described in Part 2 of the PD&E Manual. The task of documentation includes the preparation of draft and interim reports prepared by the CONSULTANT for review and comment upon by the DEPARTMENT prior to producing final reports and documents.

3.19 Draft Environmental Impact Statement

The CONSULTANT shall prepare an annotated outline for FRA review and concurrence to determine early in the project the style and format of the DEIS. The *FEIS Florida High Speed Rail Tampa to Orlando, May 2005* will provide an example to follow. The CONSULTANT shall verify that requirements per Part 1, Chapter 8 of the PD&E Manual are met.

3.20 Final Environmental Impact Statement

In coordination with FRA, revisions based on public input and agency review shall be incorporated into the FEIS and meet requirements with Part 1, Chapter 9 of the PD&E Manual.

3.21 Quality Control

4.0 MISCELLANEOUS SERVICES

4.1 Contract and Project Files

Project Management efforts for complete setup and maintenance, developing monthly progress reports, schedule updates, work effort to develop and execute sub-consultant agreements etc. Progress reports shall be delivered to the DEPARTMENT in a format as prescribed by the Department and no less than 10 days prior to submission of the corresponding invoice. The Project Manager will make judgment on whether work of sufficient quality and quantity has been accomplished by comparing the reported percent complete against actual work accomplished.

Within ten (10) days after the Notice to Proceed, the CONSULTANT shall provide a schedule of calendar deadlines accompanied by an anticipated payout curve. Said schedule and anticipated payout curve shall be prepared in a format prescribed by the DEPARTMENT.

4.2 Project Management Meetings And Coordination

The CONSULTANT shall meet with the DEPARTMENT as needed throughout the life of the project. It is anticipated **XXX** meetings will be needed. These meetings will include progress and miscellaneous review and other coordination activities with the Department.

4.3 Additional Services

At the DEPARTMENT'S option and authorization, the CONSULTANT may be requested to perform certain unforeseen engineering, environmental and/or public involvement services that are not covered under this scope of services. The fee for these services shall be negotiated in accordance with the terms detailed in Exhibit B, method of compensation, for a fair, competitive and reasonable cost, considering the scope and complexity of the project(s). A supplemental agreement for the additional services shall be executed in accordance with paragraph 2.00 of the standard consultant agreement.

5.0 METHOD OF COMPENSATION

Payment for the work accomplished will be in accordance with Exhibit B of this contract. Invoices shall be submitted thru the Department's web enabled Consultant Invoice Transmittal System (CITS) Internet application. The DEPARTMENT'S Project Manager and the CONSULTANT shall monitor the cumulative invoiced billings to insure the reasonableness of the billings compared to the project schedule and the work accomplished and accepted by the DEPARTMENT.

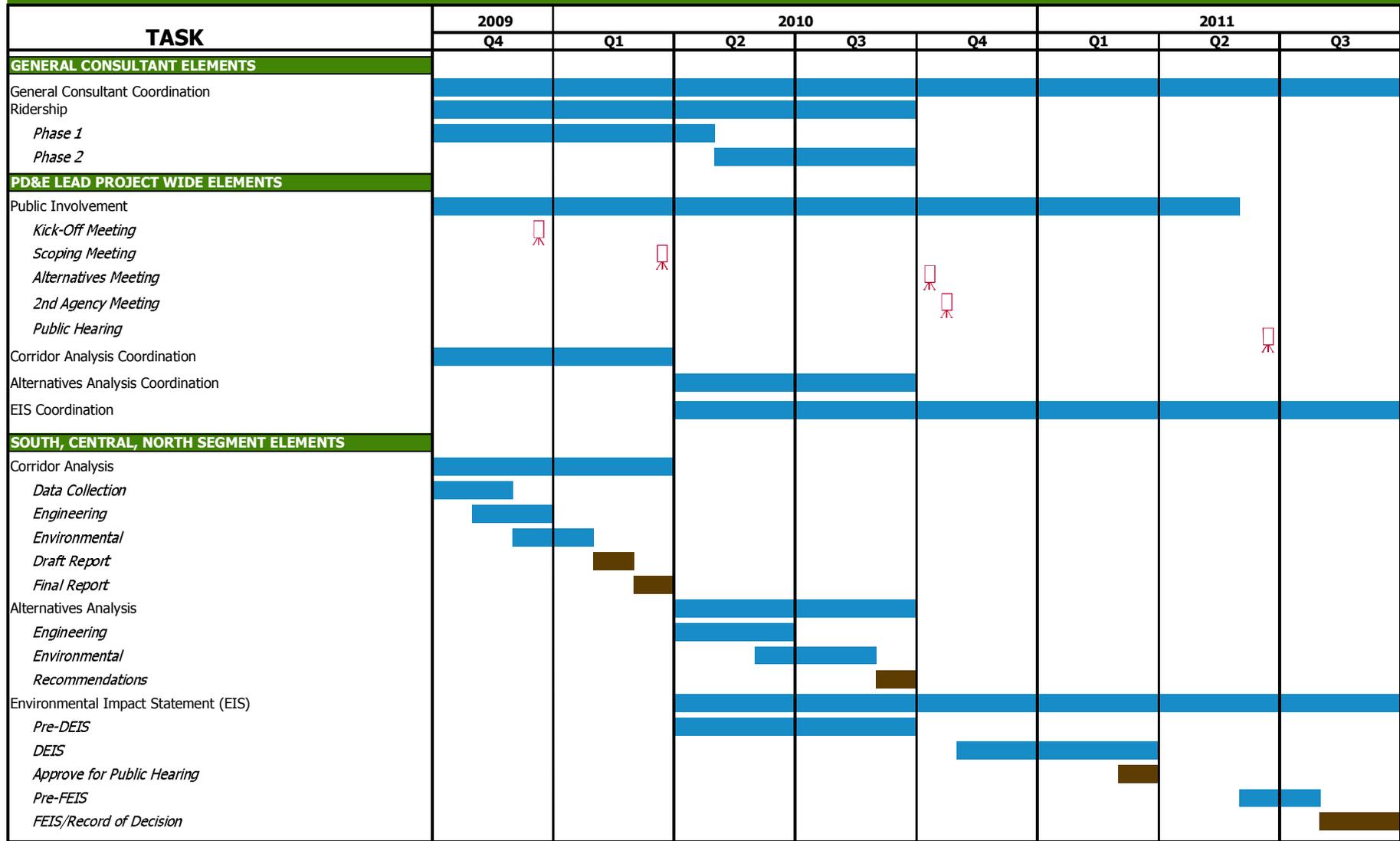
Payments will not be made that exceed the percentage of work identified in the approved payout curve and schedule provided in accordance with Section 4.1.

6.0 SERVICES TO BE PERFORMED BY THE DEPARTMENT

The DEPARTMENT will provide those services and materials as set forth below:

- Project data currently on file.
- All available information in the possession of the DEPARTMENT pertaining to utility companies whose facilities may be affected by the proposed construction.
- All future information that is in possession or may come to the DEPARTMENT pertaining to subdivision plans, so that the CONSULTANT may take advantage of additional areas that can be utilized as part of the existing right-of-way.
- Process Advance Notification and all environmental and engineering documents including the Permit Coordination Package.
- Coordinate with the State Historic Preservation Officer.
- Existing FDOT right-of-way maps.
- The DEPARTMENT will permit the CONSULTANT to utilize the DEPARTMENT'S computer facilities upon proper authorization as described in the DEPARTMENT Procedure No. 325-060-401.
- The DEPARTMENT will provide available FDOT crash data.

ATTACHMENT 3 MIAMI-ORLANDO HIGH SPEED RAIL PD&E STUDY



■ Task Duration
 ■ Deliverables
 □ Meetings

ATTACHMENT 4



GREATER ORLANDO AVIATION AUTHORITY

August 24, 2009

Orlando International Airport
One Airport Boulevard
Orlando, Florida 32827-4399
(407) 825-2001

The Honorable Ray LaHood
Secretary, U.S. Department of Transportation
1200 New Jersey Ave. SE
Washington, D.C. 20590

Re: Letter of Support for Preliminary Design and Engineering
Orlando to Miami High Speed Rail (HSR) System

The Honorable Ray LaHood:

On behalf of the Greater Orlando Aviation Authority (GOAA), I offer our support for your efforts to secure funding to perform the PD&E work necessary to develop the Orlando to Miami HSR corridor. While the majority of the rail system is located off-airport, GOAA has undertaken considerable planning and construction efforts to accommodate an HSR system that connects Orlando International Airport (OIA) to the Tampa and Miami metropolitan areas.

Planning for the High Speed Rail system has been completed at OIA, through the airport's Master Plan and FAA approved Airport Layout Plan, to reserve a rail corridor and rail stations at the existing north and future south terminals. The planned corridor has also been incorporated at an additional cost, into several construction projects such as the Mid-Cross Field Taxiway Bridge and North-Cross Field Taxiway Bridge where additional bridge spans were included to accommodate HSR. GOAA has also worked with the Florida Department of Transportation (FDOT) to prepare 60% design plans for the north terminal rail station and developed several concepts for the south terminal rail station.

Orlando International Airport has a significant economic impact on our region and is a conduit to our region's activity centers. For the 2008 calendar year, the airport accommodated approximately 35 million passengers and 175,000 tons of cargo, with significant growth projected for the future. In order to meet the demand for passenger travel and cargo movement to and from the Central Florida region, we continue to improve facilities at Orlando International Airport requiring enhanced surface access to the airport. Therefore, opportunities such as HSR are important not only to the operation of Orlando International Airport, but to the economic development of the Central Florida region.

Thank you for your continuing efforts to address our region's transportation needs.

Sincerely,

A handwritten signature in blue ink, appearing to read "Steve Gardner".

FOR Steve Gardner, P.E.
Executive Director

**ATTACHMENT 5:
FDOT RAIL POLICY
MEMO**

HP - my cl



Florida Department of Transportation

JEB BUSH
GOVERNOR

605 Suwannee Street
Tallahassee, Florida 32399-0450

THOMAS F. BARRY, JR.
SECRETARY

MEMORANDUM

Date: February 15, 1999

To: Nancy Houston, David Twiddy, and Kenneth Hartmann,
District Secretaries for Districts 5, 1, and 7

From: *Ken Morefield*
Ken Morefield, Assistant Secretary for Transportation
Policy

Copies: Secretary Barry, Nick Serianni, Marion Hart

Subject: Rail Envelope Clearance for I-4

*TD: MHD
4/11/99 JEC
3/2/99*

PURPOSE

With the termination of the Florida Overland eXpress high speed rail project, planning and design issues relating to the dimensions for a rail envelope in the median of I-4 need to be resolved in light of this new situation. The purpose of this memorandum is to establish a process for submitting and reviewing issues and, if appropriate, recommending exemptions from established policies.

BACKGROUND

In 1993, a standard specification for sizing a rail envelope in a highway median was developed for a high speed line and reviewed by the appropriate central and district engineering offices. This standard specification was applicable to an 'intermediate' class rail operations with passenger equipment capable of speeds up to 125 m.p.h.. As the high speed rail project evolved, the Assistant Secretary for Transportation Policy issued guidance memoranda for implementation.

HORIZONTAL CLEARANCE

In the high speed rail proposal submitted by FOX, the TGV equipment proposed by FOX was not of the intermediate class and had a speed capability of 200+ mph. The unique design of the TGV system did not allow it to operate under the standard regulations of the Federal Railroad Administration but required that a Rule of Particular Applicability (RPA) be developed to allow TGV trains to operate in Florida. The draft RPA required a median

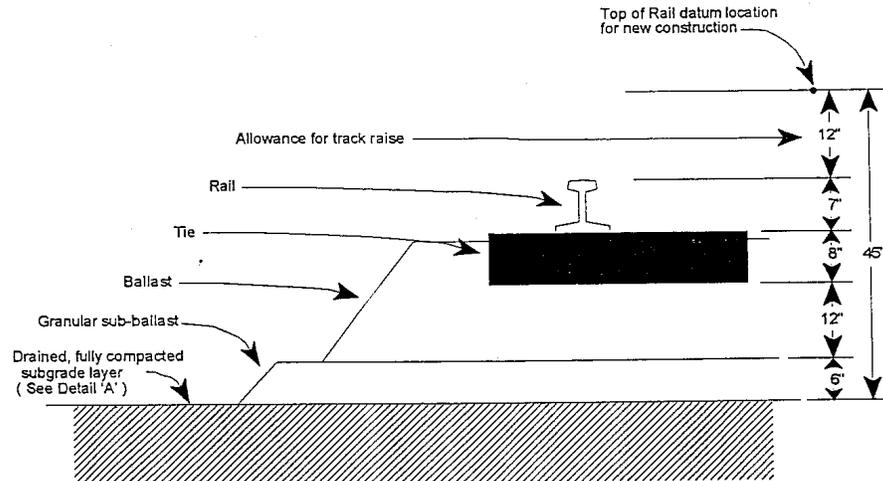
width¹ of approximately 55 feet as compared to the 44' in the 1993 specifications although the French specification allowed for widths down to 48 feet for lower speeds more appropriate for median operations.

VERTICAL CLEARANCE

A final overhead clearance requirement for the TGV at the time of project termination had not been established. Like the 1993 width requirement, the 1993 height requirement of 17'6" from top of rail was probably not adequate for the advanced class TGV. For vertical clearance purposes, the top of rail datum includes the allowance maintaining track alignment ("track raise".)

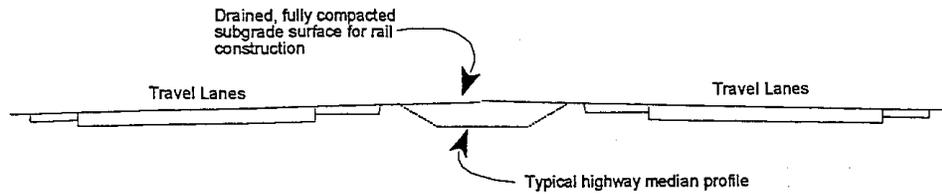
At this time, FDOT will revert to the 1993 Standard Specification for sizing the I-4 median envelope. This specification called for a minimum median width of 44 feet. The height is 17½ feet from top of rail. It should be noted that the 44 foot width is a minimum and would have to be widened for any curvature. The methodology for calculating the additional width is explained in the Standard Specification. While existing overpasses do not meet this vertical clearance requirement, any new structures should be designed to provide the necessary clearance.

The Standard Specification (copy attached) did not account for the structure below the top of rail. To clarify this point, the following is offered to assist in design:



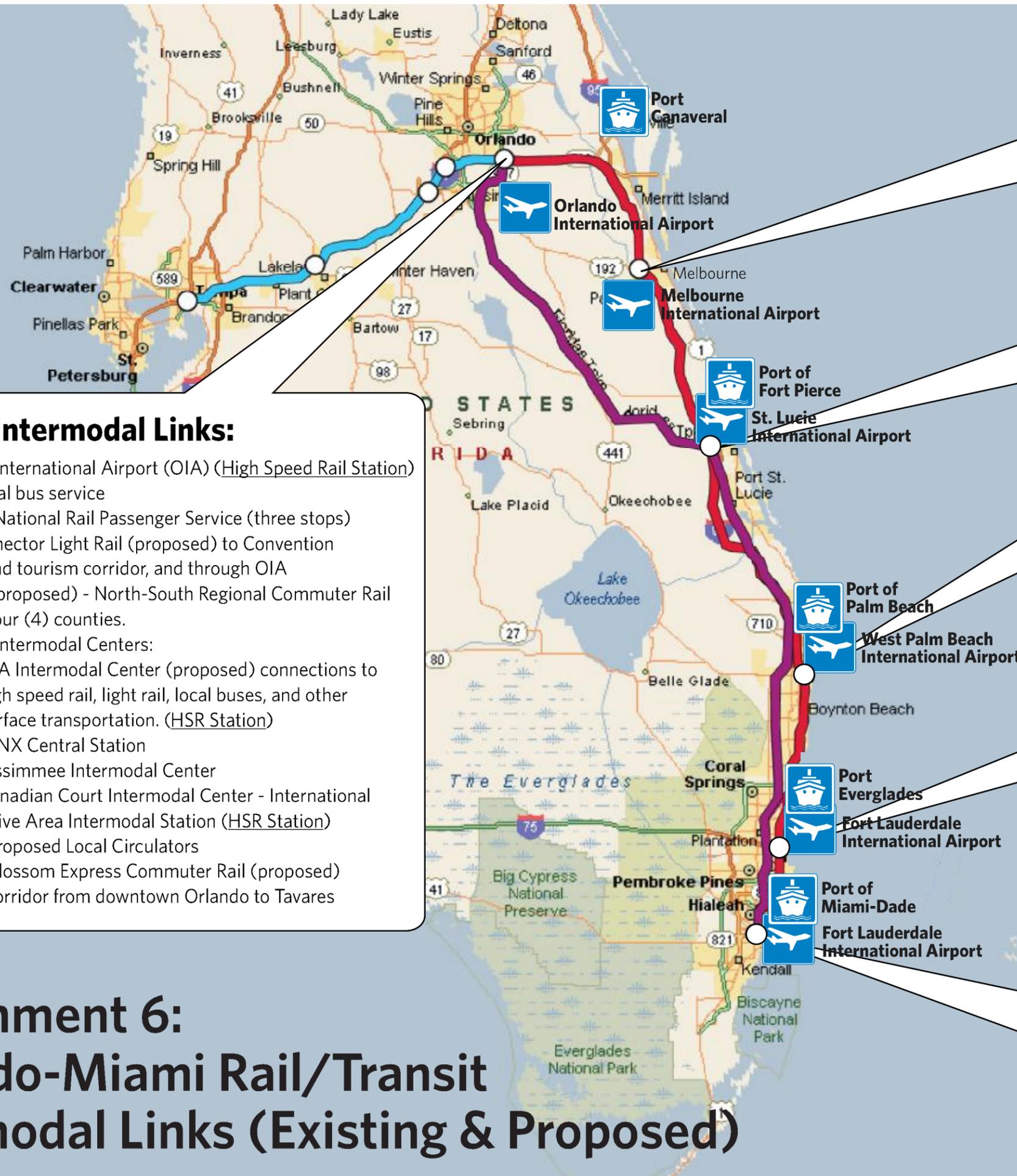
¹As used here, median width refers to the area between pavement and does not include paved inside shoulders.

Detail 'A'



CURRENT POLICY GUIDANCE

The policy of the department will be to maintain this envelope (44' X 17.5') in I-4 within the following limits: (1) Howard Frankland Bridge (Hillsborough County) to Michigan Street (Orange County) and (2) Par Avenue (Orange County) to I-95 (Volusia County). This minimum envelope should also be used on other highway facilities where space is to be reserved for a future rail system. Requests for exemptions shall be submitted to the Assistant Secretary for Transportation Policy for approval. Requests for exemptions must provide for the ultimate restoration of the envelope or provide engineering studies demonstrating the adequacy of an alternative envelope suitable for the rail line.



Orlando Intermodal Links:

- Orlando International Airport (OIA) (High Speed Rail Station)
- LYNX local bus service
- Amtrak: National Rail Passenger Service (three stops)
- OIA Connector Light Rail (proposed) to Convention Center and tourism corridor, and through OIA
- SunRail (proposed) - North-South Regional Commuter Rail serving four (4) counties.
- Four (4) Intermodal Centers:
 - OIA Intermodal Center (proposed) connections to high speed rail, light rail, local buses, and other surface transportation. (HSR Station)
 - LYNX Central Station
 - Kissimmee Intermodal Center
 - Canadian Court Intermodal Center - International Drive Area Intermodal Station (HSR Station)
- Several Proposed Local Circulators
- Orange Blossom Express Commuter Rail (proposed) US 441 corridor from downtown Orlando to Tavares

Brevard, St. Lucie, and Martin County Intermodal Links:

- Melbourne International Airport (MLB)
- St. Lucie County International Airport (FPR)
- Port Canaveral
- Port of Fort Pierce
- Space Coast Area Transit (serving Brevard County)
- Treasure Coast Connector Plus (serving St. Lucie and Martin Counties)
- Amtrak: National Rail Passenger Service (Cocoa and Okeechobee Stations)

South Florida Intermodal Links:

- Palm Beach International Airport (PBI)
- Fort Lauderdale - Hollywood International Airport (FLL)
- Miami International Airport (MIA)
- SFRTA Tri-Rail - commuter rail with 18 stations between Mangonia Park and Miami International Airport
- Port of Palm Beach
- Port Everglades
- Port of Miami
- Boca Raton Intermodal Transit Facility
- Miami Intermodal Center Located next to the Miami International Airport (High Speed Rail Station)
- Metrorail MIC-EH (proposed) Connector Metrorail extension from Earlington Heights station to the Miami Intermodal Center
- Palm Tran
- Broward County Transit
- Miami-Dade Transit is the 12th largest public transit system in the USA, and the largest transit agency in Florida
 - Miami Dade Transit Metrobus (fleet is 967 buses)
 - Miami Dade Transit Metrorail (22-mile, elevated rapid transit system with 22 stations)
 - Miami Dade Transit Metromover (downtown Miami circulator with 9 stations)
- Amtrak: National Rail Passenger Service (Miami Amtrak Station adjacent to Palmetto Tri-Rail Station)

Attachment 6: Orlando-Miami Rail/Transit Intermodal Links (Existing & Proposed)

**ATTACHMENT 7
ORGANIZATION CHART**

Federal Railroad Administration

FDOT District Offices

- D5 – Noranne Downs
- D4 – Jim Wolfe
- D6 – Gus Pego
- Turnpike – Jim Ely

FDOT

Kevin J. Thibault
Asst. Sec. Eng & Operations
Nazih K. Haddad
Manager-Passenger Rail Development

FDOT Environmental Management Office (EMO)

Marjorie Bixby

General Consultant

ORL-MIA PD&E Consultant

Project-Wide Elements

- Project Management Plan
- Scheduling
- Data Management
- Regulations
- Ridership/Patronage Forecasts
- Project Standards
- Compilation of Documents

North Segment Manager	Central Segment Manager	South Segment Manager
<i>Elements Below Repeat for Each Segment</i>		
<ul style="list-style-type: none"> -Planning and Project Development -Preliminary Engineering -Public Involvement Process 		