

APPENDIX A

FLORIDA HIGH SPEED RAIL

Tampa to Orlando

Final Environmental Impact Statement Reevaluation



**U.S. Department of Transportation
Federal Railroad Administration**



Florida Department of Transportation

In Cooperation with:

Federal Highway Administration

United States Army Corps of Engineers

Hillsborough, Orange, Osceola, Polk Counties, Florida

May, 2010

EXECUTIVE SUMMARY

This reevaluation describes modifications to the design and existing conditions and documents the resulting changes in environmental impacts and commitments since publication of the *Florida High Speed Rail, Tampa to Orlando Final Environmental Impact Statement* in 2005. This reevaluation has been prepared to assist decision-makers and the public understand how refinements to the design, including the switch from the gas turbine to electric technology, and changes in the existing conditions would compare to the impacts documented in the FEIS for the Preferred Alternative.

The Florida Department of Transportation (FDOT) has prepared this reevaluation in cooperation with the Federal Railroad Administration (FRA) as the lead federal agency. The FRA is an operating administration within the USDOT and has oversight responsibility for the safety of railroad operations nationwide. Cooperating federal agencies include the Federal Highway Administration (FHWA) and the United States Army Corps of Engineers (USACE). FDOT and the FRA have determined that a reevaluation of the FEIS published in 2005 is appropriate to satisfy the National Environmental Policy Act of 1969 and obtain a Record of Decision.

The initial section of the Florida High Speed Rail (FHSR) system is proposed between downtown Tampa and Orlando International Airport. This system would be developed on new track, with the majority of the system located within the rights-of-way (ROW) of Interstate 4 (I-4) and the Beachline Expressway (S.R. 528), formerly known as the Bee Line Expressway. Together, this reevaluation and the FEIS establish the specific location and major design concepts of the proposed FHSR system from Tampa to Orlando in Florida, a distance of approximately 88 miles. All information provided in the FEIS is incorporated herein by reference. The 2005 FEIS documents are available electronically on the FHSR Official Website, at: <http://www.floridahighspeedrail.org>.

The purpose and need for the FHSR project remains valid as stated in the 2005 FEIS. The purpose of FHSR is to enhance intercity passenger mobility in Florida by expanding passenger transportation capacity and providing an alternative to highway and air travel. Increased mobility is viewed as essential for the sustained economic growth of the region, as well as the quality of life of the region's residents and visitors. Presently, passenger mobility in the Tampa-Orlando corridor is provided primarily by highways, particularly I-4. Projected transportation demand and travel growth, as prompted by social demand and economic development and compared to existing and future roadway capacity, show a serious deficit in available capacity. In addition, increasing population, employment, and tourism rates continue to elevate travel demand in the study corridor.

Extensive agency coordination and public outreach were conducted as part of this reevaluation, and are documented in **Appendix E**. To facilitate input from these groups, multiple meetings were held in the 85-mile corridor.

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Comprehensive Planning and Coordination

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Section 4(f)

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Noise and Vibration Impact Assessment

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Protected Species Involvement

Utilities Update

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1. INTRODUCTION

This reevaluation describes modifications to the design and existing conditions and documents the resulting changes in environmental impacts and commitments since publication of the *Florida High Speed Rail, Tampa to Orlando Final Environmental Impact Statement* in 2005. This reevaluation has been prepared to assist decision-makers and the public understand how refinements to the design, including the switch from the gas turbine to electric technology, and changes in the existing conditions would compare to the impacts documented in the Final Environmental Impact Statement (FEIS) for the Preferred Alternative. Together, this reevaluation and the FEIS establish the specific location and major design concepts of the proposed FHSR system from Tampa to Orlando in Florida.

Following its creation in 2001, the Florida High Speed Rail Authority (FHSRA), with guidance from the lead federal agency, the Federal Railroad Administration (FRA), undertook a number of actions to implement high speed rail within the state of Florida. Based on its independent utility and logical termini, the FHSRA began the planning, environmental studies, and engineering needed to prepare a Draft Environmental Impact Statement (DEIS) in 2002. The DEIS was approved by FRA in August 2003 and the FEIS was signed and circulated by FRA in 2005. However, due to the project being suspended, a Record of Decision (ROD) was not issued.

In October 2008, the High Speed Rail Corridor Development Program was authorized under Section 501 of the Passenger Rail Investment and Improvement Act of 2008 (PRIIA). This began a national competition for federal funding. In February 2009, the federal economic stimulus bill, titled the *America Recovery & Reinvestment Act* (ARRA), made \$8 billion available for High Speed Intercity Passenger Rail (HSIPR). In April 2009, President Barack Obama's Administration unveiled its HSIPR Vision Plan, initially targeting federally-designated high speed rail corridors, including Tampa-Orlando-Miami in Florida.

Given this new prospect for federal funding, the FHSRA along with the Florida Department of Transportation (FDOT) began work to determine the extent of changes in potential environmental impacts and commitments since the FEIS was circulated in 2005.

FRA met with FDOT representatives on June 12, 2009 to discuss the project and the status of the NEPA documentation. This reevaluation of the 2005 FEIS has been developed to consider changes since the FEIS and is consistent with FDOT's Project Development and Environment (PD&E) Manual.

1.1. Project NEPA Status

The FHSRA, with guidance from the FRA as the lead federal agency, engaged a number of actions to advance the high speed rail system, including preparation of both the DEIS and FEIS. The major NEPA milestones are summarized in **Table 1-1** below. The project was suspended in 2005 before a ROD was issued.

Table 1-1 Summary of Major NEPA Milestones

Milestone	Date
Notice of Intent	March 2002
Advance Notification and Scoping	April 2002
Draft EIS Signed and Circulated	August 2003
Draft EIS Notice of Availability	September 5, 2003
Public Hearings	October 7-9, 2003
FEIS Signed and Circulated	July 2005
FEIS Notice of Availability	August 5, 2005
<i>Source: Florida High Speed Rail Tampa to Orlando FEIS Reevaluation, October, 2009</i>	

Independent documentation in support of the findings of the 2005 FEIS include:

- The *Tampa Interstate Study Environmental Impact Statement*, November 1996 - which includes ultimate improvements to I-4/I-275 that accommodate the high speed rail alignment
- The *Intermodal Station at Orlando International Airport Environmental Assessment*, September 2005 – planned an intermodal station at both the OIA North Terminal and the future OIA South Terminal, and updated the HSR and light rail alignments through OIA property
- The *Greater Orlando Aviation Authority Master Plan*, August 2004 - incorporating revisions to the North Terminal, future South Terminal, and rail alignments
- The *Tampa Bay Intermodal Center*, October 2005 – multimodal station site study consistent with the location of the Tampa HSR station area that provided for the FHSR alignment.
- The *Canadian Court Intermodal Transportation Center Study*, April 2007 - multimodal station site consistent with the proposed Orange County Convention Center station that accommodates the FHSR alignment

1.2. Reevaluation Approach

While there have been no major changes to the project location and design since the FEIS was published, several years have elapsed since publication of the FEIS that warrants a reevaluation of project status and potential environmental changes. According to FRA's Procedures for Considering Environmental Impacts (64 FR 28545) and FDOT's PD&E Manual, reevaluations are to be conducted under the following circumstances:

- Approval of document and authorization of the next phase is greater than one year
- A major change in the projects location or design has occurred
- If more than three (3) years have lapsed since last major approval

In May 2009, FDOT initiated a qualitative assessment of the project to determine the level of analysis needed to complete the NEPA/PD&E process and allow the issuance of a ROD. The

findings of this assessment were summarized in a technical memorandum, *Basis for FEIS Reevaluation Technical Memorandum* (June 4, 2009) contained in **Appendix A**, presented and discussed with FRA in June 2009.

The qualitative assessment indicated that minor changes in the project definition are required and small changes in affected environment have occurred. The FRA agreed that a reevaluation was an appropriate course of action to evaluate the potential changes in environmental impacts, mitigation and commitments since the FEIS was published in 2005. Accordingly, this reevaluation focuses on the following:

- Changes in the preferred technology (see Chapter 2)
- Design changes needed based on changes to surrounding infrastructure and right-of-way (See Chapter 2)
- Changes in the affected environment that have occurred since the 2005 FEIS (See Chapter 3)
- Changes in environmental impacts since the 2005 FEIS (See Chapter 4)
- Changes in the mitigation and commitments compared to the 2005 FEIS (See Chapter 5)
- Changes in permits needed since the 2005 FEIS (See Chapter 6)
- Coordination with local jurisdictions, stakeholders, and environmental review agencies (See Chapter 7)
- Public involvement (See Chapter 7)
- Changes in laws, rules, and regulations since 2005

1.3. Proposed Action

The Florida High Speed Rail (FHSR) project would be developed on new track, with the majority of the system located within the existing right-of-way (ROW) of Interstate 4 (I-4) and the Beachline Expressway (S.R. 528), formerly known as the Bee Line Expressway, a distance of 88 miles. As shown on **Figure 1-1** five (5) stations are proposed and would be located at Tampa, Lakeland, Walt Disney World, Orlando Convention Center and Orlando International Airport (OIA).

The high speed passenger rail system proposes to operate 16 intercity round trips per day with additional frequent shuttle service from OIA to the tourist destinations in the Orlando area. The maximum travel time will be 64 minutes with stops between Tampa and Orlando. The maximum operating speed will be 168 mph.

To meet the desire to complete the project in a timely manner, a Design, Build, Operate, Maintain, and Finance (DBOM&F) process was selected for implementing the project. During the previous phase, proposals were solicited and two were selected for evaluation in the FEIS published in 2005. No change with this approach is proposed. FDOT will conduct the DBOM&F solicitations and selection to advance the project.

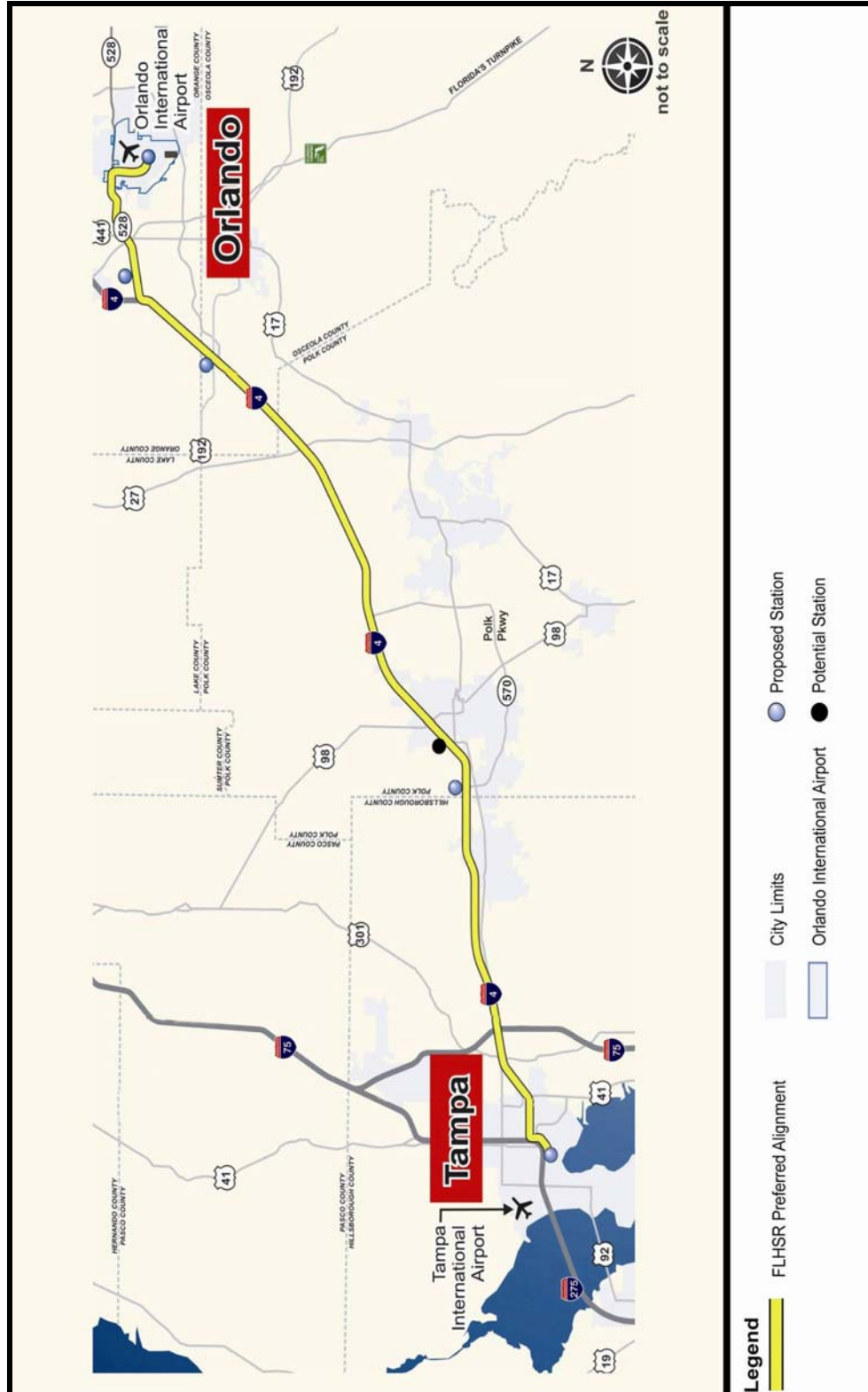


Figure 1-1 Project Location Map

Additional coordination between FRA, FDOT and the Federal Highway Administration (FHWA) is required in the design phase with respect to emergency and maintenance access, and specific systems safety and security in accordance with FRA standards through the development of a Safety Plan.

1.4. Purpose and Need

The purpose of FHSR is to enhance intercity passenger mobility in Florida by expanding passenger transportation capacity and providing an alternative to highway and air travel. Increased mobility is essential for the sustained economic growth of the region, as well as the quality of life of the region's residents and visitors. Presently, passenger mobility in the Tampa-Orlando corridor is provided primarily by highways, particularly I-4.

Transportation demand and travel growth, as prompted by social demand and economic development and compared to existing and future roadway capacity, show a serious deficit in available capacity. In addition, increasing population, employment, and tourism rates continue to elevate travel demand in the study corridor.

Although capacity improvements to the interstate system along the corridor have either recently been completed or are planned for completion in the near future, they are not adequate to accommodate future travel demand. This need is further emphasized by high traffic volumes, congestion, and accident rates in the study corridor. Further, social and economic demands will continue to call for provision of alternative transportation choices for those individuals who cannot or choose not to drive, as well as those travelers looking for alternatives to congested highways. Therefore, the purpose and need for FHSR has not changed since the 2005 FEIS.

2. CHANGES IN PREFERRED ALTERNATIVE

Since the publication of the *Florida High Speed Rail Tampa to Orlando Final Environmental Impact Statement, July 2005* (FEIS) existing conditions in the corridor and the need to make minor changes to the 2005 FEIS preferred alternative horizontal and vertical alignment have occurred. The assessment of conceptual engineering changes was undertaken through the following:

- Overlay of engineering drawings on updated 2008 aerial base
- Review of as-built plans
- Field verifications
- Relevant studies
- Coordination with FDOT Districts 7, 1 and 5; the Turnpike Enterprise; the Greater Orlando Aviation Authority; Hillsborough, Polk and Osceola Counties; and the cities along the corridor concerning existing and planned conditions in the corridor.

Preliminary engineering plan and profile drawings supporting the discussion of changes to the preferred alternative are included in **Appendix B**. Those engineering plan and profile drawings that remain unchanged may be found in Appendix C – Preliminary Engineering Plans of the 2005 FEIS and on the official Florida High Speed Rail (FHSR) website at: <http://www.floridahighspeedrail.org>.

2.1. Preferred Alternative, 2005 FEIS

The preferred alternative, as defined in the 2005 FEIS, would begin at the downtown Tampa station to be located between Tampa Street and Marion Street, I-275, and Fortune Street. The FHSR alignment would follow I-275 along the south and east right-of-way (ROW). The alignment would cross into the I-4 median in the area of 15th Street. The majority of the FHSR alignment would be within the ultimate ROW identified in the *Tampa Interstate Study* (TIS) for future interstate improvements; however some additional ROW would be required and has been coordinated with the City of Tampa.

The alignment would continue east within the I-4 median through Hillsborough and Polk counties. One station would be located in Lakeland, where two locations are under consideration:

Polk Parkway/I-4 Interchange and Kathleen Rd. /I-4 Interchange. The environmental impacts associated with both options were included in the FEIS impact analysis.

Entering Osceola County, the grade-separated alignment remains within the I-4 median. The proposed Disney Station would be located north of U.S. 192. The station platform would be located in the median and station facility would be located west of I-4 between U.S. 192 and the Osceola Parkway.

The alignment would continue into Orange County in the I-4 median until the I-4/Beachline Expressway (S.R. 528) interchange, where it would leave the I-4 median and run along the north side of S.R. 528 within existing ROW. The Orange County Convention Center multi-modal center site is located in the northeast quadrant of the International Drive/S.R. 528 Interchange. The Orange County Convention Center station would be located within the ROW of the interchange area.

The alignment would continue on the north side of S.R. 528 until east of the John Young Parkway (S.R. 423) Interchange where it would leave S.R. 528 and run on new alignment east to Taft-Vineland Road. The alignment would continue along Taft-Vineland Road and enter the City of Orlando property near Tradeport Drive. It would then follow the Orlando Utilities Commission rail line as a new alignment turning north crossing the Orlando International Airport (OIA) South Access Road and traversing through the limits of OIA from south to north, east of the proposed South Terminal.

The conceptual engineering for the preferred alternative as described in the 2005 FEIS has been assessed in this reevaluation and the resulting changes are presented in the following sections.

2.2. Preferred Technology

Two high speed rail technologies were evaluated in the 2005 FEIS:

- Gas turbine-powered locomotive-hauled train technology
- Electric-powered locomotive-hauled train technology

In the 2005 FEIS gas turbine-powered technology was selected as the preferred alternative. Since then, the electric-powered technology has emerged as the preferred technology, on the same alignment, based on the current initiatives to reduce carbon emissions and dependency on foreign oil through continued coordination with the FHSR Authority and FDOT.

2.3. Ridership

The ridership estimates for the preferred alternative were updated for 2009 based on the two independent, investment-grade models developed in 2002 and documented in the 2005 FEIS. The models were updated to reflect the changes in the transportation network, growth and local land uses that have occurred since the 2005 FEIS was completed. Captive ridership/riders currently taking shuttle services provided by Disney and I-Drive destinations were separated from choice ridership (trips that would be diverted from other modes, such as private or rented autos, public transit).

The results of the updated ridership and revenue forecasts are shown in **Table 2-1**. Annual ridership is not anticipated to change significantly. Annual revenue for the system is expected to increase.

Table 2-1 Changes in 2010 Tampa-Orlando Ridership and Revenue for the Preferred Alternative						
Market	2010 Annual Ridership (millions)			2010 Annual Revenue (\$ millions)		
	2005 FEIS	2010 Reevaluation	Change	2005 FEIS	2010 Reevaluation	Change
CHOICE MARKET	1.9 to 2.3	1.9 to 2.4	+0.0 to +0.1	32.9 to 35.4	40.5 to 46.4	+7.6 to +11.0
CAPTIVE						
OIA to International Drive	0.5	0.6	+0.1	6.3	8.0	+1.7
OIA to Disney	<u>2.1</u>	<u>1.9</u>	<u>-0.2</u>	<u>26.3</u>	<u>27.2</u>	<u>+0.9</u>
Subtotal: Captive	0.5*	0.6*	+0.1*	6.3*	8.0*	+2.6*
Total:	2.4 to 2.8	2.5 to 3.0	+0.1 to +0.2	39.3 to 41.8	48.5 to 54.5	+10.2 to +13.6
*The 2005 FEIS assumed that captive ridership associated with the OIA-Disney market would not be included, as Disney's participation in the preferred alignment was still under negotiation.						

2.4. Reevaluation Design Envelope

The design envelope for assessing the conceptual engineering and potential project impacts are based upon the typical section for the project, as shown in **Figure 2-1**. The overall dimension is assumed to be 44-feet wide by 19.5-feet high (minimum).

2.5. Preferred Alternative Changes

Overall the preferred alternative remains substantially unchanged. Investigation of current conditions and planned projects has resulted in some minor adjustments to the horizontal and vertical alignment, reflected in the 2009 Revised Preferred Alternative (RPA). Those areas where changes to the 2005 preferred alternative would occur are summarized in **Table 2-2** and discussed below. Supporting engineering plans and profiles are provided in **Appendix B**. Areas where changes have occurred are:

- Station Areas: Tampa – Downtown, Walt Disney World/Celebration; Orange County Convention Center; Orlando International Airport

Table 2-2 Summary of Changes to 2005 Preferred Alternative

Project Component	Engineering Sheet No.	Change
TECHNOLOGY	n/a	Change in preferred technology from gas turbine to electric.
STATIONS		
Tampa – Downtown	40R, 201R	Station area expanded to include property purchased by FDOT for intermodal use.
Lakeland		No change
Walt Disney World/Celebration	165R, 166R	Station area expanded
Orange County Convention Center (OCCC)	230R, 231R	Station area expanded to property line
Orlando - Orlando International Airport	200R, 200AR	Changed to include both future South Terminal and North Terminal, in accordance with OIA Master Plan
ALIGNMENT		
I-4/I-275 Interchange at Perry Harvey Sr. Park	201R	Minor change in horizontal alignment to accommodate newly constructed interchange Ramp D and minimize use of parkland
I-275 at future widening SB Flyover to I-4 EB Ramp	202R	Minor change, which can be accommodated in Ultimate TIS ROW and/or existing ROW
Transition to I-4 Median and Crosstown Connector	203R, 204R	No major change - FHSR transition to median shifted slightly and FHSR is accommodated in Crosstown Connector design
Columbus Avenue Relocation	207R, 334R,	Minor change in HSR bridge location
Emergency Median Crossovers	209R, 334R, 335R	Change in HSR profile can be accommodated. Other crossovers to be coordinated during final design.
Polk Parkway Bridges		No change
SR 559		No change
New Tradition Blvd. Overpass		No change
New SR 429/I-4 Interchange		No change
Tradeport Drive	241R through 246R	Minor changes to horizontal alignment
Orlando International Airport	197R through 200BR 328R through 330AR	Changes to reflect OIA Master Plan and extend HSR Station to North Terminal Intermodal Center
OPERATIONS AND MAINTENANCE FACILITY		
Maintenance Facility Sites (2 options)		No change
<i>Source: Parsons September 2009</i>		

2.5.1. Station / Maintenance Facility Areas

The 2005 FEIS evaluated 20-acre study areas around each of the proposed station locations. As each site was identified, the station area was finalized to take into account property lines and existing features. The following modifications to the station study areas were assessed in this reevaluation.

- **Tampa – Downtown Station** - The Tampa station area was expanded to include the 3.2-acre former jail site which was purchased by FDOT for use as an intermodal center. The building is currently being demolished. See plan sheets 40R and 41R.
- **Polk County (Lakeland) Station** – The 2005 FEIS and the 2009 FEIS Reevaluation includes two sites for environmental analysis: west of the S.R. 570/ Polk Parkway and at Kathleen Road – only one is to be selected for continued development. Included in the 2009 FEIS Reevaluation is a request by the City of Lakeland, Polk County and the University of South Florida Polytechnic for continued coordination into the design phase to verify the optimal location of a Polk County Station site to best serve Lakeland and the surrounding communities (see **Appendix E**). FDOT is committed to continued coordination with the county, cities and local stakeholders in the continued project development phases. Should a station site other than the sites located at west SR 570 or Kathleen Road be advanced, additional environmental analysis will be required.
- **Walt Disney World Station** - The Disney station area was expanded to the west to include a 5.6-acre area of open land in order to provide a total 20-acre station area. The expansion was the result of the construction of the Osceola Parkway Interchange and ramps within the original 20-acre area identified in the 2005 FEIS. See plan sheets 163R and 164R.
- **Orange County Convention Center Station** – The Orange County Convention Center station area was expanded to the east to the parcel property line, an additional 2.0-acre area. See plan sheets 230R and 231R.
- **Orlando International Airport (OIA)** – In conformance with the OIA Master Plan, two station locations are considered under the preferred alternative: the future South Terminal Intermodal Center and the North Terminal Intermodal Center. See plan sheets 200R and 200BR respectively. The North and South Terminal Intermodal Centers are included in the Airport Master Plan as approved through the Federal Aviation Administration (FAA). The North and South Terminal Intermodal Centers received Federal Transit Administration (FTA) NEPA clearance under the *OIA Intermodal Station Environmental Assessment*, September 2005.
- **Maintenance Facility** – The preferred alternative identified a preference for two alternative sites for the FHSR maintenance facility site: one site located directly south of OIA (Site 3) and a site southeast of OIA, north of Boggy Creek Road (Site 2). These two sites were included in the 2005 FEIS for the gas turbine train, the then-preferred technology alternative. The 2005 FEIS also included two sites for the electric powered train: Site 3 and a site located southeast of OIA and south of Boggy Creek Road (Site 1). With continued commercial development south of Boggy Creek Road and the increase of

relocations, Site 1 is removed from consideration, with Sites 2 and 3 remaining as alternative sites for analysis in this reevaluation.

2.5.2. Alignment

I-4/I-275 Interchange Ramp D adjacent to Perry Harvey, Sr. Park

The FHSR alignment at Perry Harvey, Sr. Park, was shifted eastward to lie concentric with the new northbound I-275 ramp D that has been constructed since the 2005 FEIS. In the vicinity of the park the centerline has shifted up to 49-feet closer for a short distance. The track centerline is 22-feet from the outside edge of the highway structure in order to minimize the use of public parkland. See plan 41R.

I-4/I-275 Southbound I-275 Ramp to Eastbound I-4 and Proposed Ramp widening at Nebraska Avenue

The FHSR alignment was shifted easterly to allow for the required 22-foot clearance from the edge of I-275. The design of the spiral curve was shortened to provide clearance of the building at 2104 Nebraska Avenue. Continuing along this curve, the alignment was also shifted southerly to accommodate the future widening of the southbound I-275 to eastbound I-4 flyover ramp. The FHSR project would continue to remain within the limits of the Ultimate ROW limits approved in the Tampa Interstate Study through this area. See plan 42R.

Transition to Median and Crosstown Connector

The FHSR alignment between 14th Street and 22nd Street was adjusted for compatibility with the modified I-4 interchange configuration. The revised alignment would cross the eastbound lanes further to the east at an improved crossing angle that will facilitate bridge design and construction. The FHSR alignment is accommodated in the Crosstown Connector design. See plan sheets 43R and 44R.

Columbus Avenue Relocation

The FHSR Columbus Avenue Bridge would be moved to the crossing with relocated Columbus Avenue. See plan 47R and profile 255R.

Emergency Median Crossovers

The FHSR alignment would need to accommodate emergency median crossover locations on I-4 at several locations. The FHSR alignment would bridge the crossover between 50th Street and Dr. Martin Luther King, Jr. Blvd. See plan 49R and profile sheets 255R and 256R. The crossover at I-75 has not been accommodated and will be coordinated with the I-75 PD&E and FHSR Final Design. The crossover west of U.S. 27 was provided for in the 2005 FEIS and is not changed with this reevaluation. The accommodation of the crossover located near World Drive will be addressed during final design in coordination with FDOT District 5.

Tradeport Drive Area

The FHSR horizontal alignment was adjusted along the Tradeport Drive area to avoid impacts to buildings on adjacent properties that were constructed since 2005. See plans 189R through 194R.

Orlando International Airport

Since the 2005 FEIS, the Greater Orlando Aviation Authority (GOAA) has updated its Master Plan for the Orlando International Airport (OIA) and received a FTA Finding of No Significant Impact (FONSI) in December 2005 for the *Intermodal Station at Orlando International Airport Environmental Assessment*, September 2005. The Master Plan provides for a future South Terminal Intermodal Center and a North Terminal Intermodal Center. The FHSR alignment has been extended through the OIA property to the North Terminal on the horizontal and vertical alignment as coordinated and provided by GOAA. See plans 199R through 202BR and profiles 331AR through 331DAR.

3. CHANGES IN EXISTING CONDITIONS

Since the publication of the *Florida High Speed Rail Tampa to Orlando Final Environmental Impact Statement* in 2005, changes to existing conditions in the corridor have occurred that have been assessed in this reevaluation. A two step process was used in order to focus the detailed updates on those environmental areas with potential for changed conditions and resulting impacts.

- A qualitative review of the complete list of environmental areas was made to identify a list of project specific updates needed
- Updates of existing conditions were completed to identify the extent of changes that have occurred.

3.1. Environmental Updates

The qualitative review was conducted through field reviews, review of engineering plans on 2008 aerials, and review of 2005 FEIS in consideration of changes in regulatory guidance. Those areas where an update of conditions was required are shown in **Table 3-1**. A summary of updated existing conditions is discussed below in 3.2 and technical memoranda are included in **Appendix C**.

3.2. Existing Conditions Updates

Existing conditions in the study corridor were updated for the environmental areas identified as potential change in the qualitative review. Technical memoranda documenting the updates and reevaluation of impacts are contained in **Appendix C**. The assessment of impacts and mitigation commitments are discussed in Sections 4.0 and 5.0. The following summarizes the changes in existing conditions found within the FHSR corridor.

Table 3-1 Changes in Existing Conditions

Measure	Potential Change from 2005 FEIS (Yes/No)	Update Results
COMMUNITY IMPACTS		
Community Cohesion	No	
Community and Land Use Impacts	Yes	No Change
Economic Impacts	No	
Safety and Public Health	No	
Relocation and Right-of-Way Impacts	Yes	Change in relocations
Environmental Justice	No	
Archeological and Historical Resources	Yes	Reduction in number of resources impacted
Recreation and Parkland	Yes	Reduction in amount of parkland use (<i>coordination ongoing</i>)
Secondary and Cumulative Impacts	No	
NATURAL AND PHYSICAL IMPACTS		
Visual/Aesthetic	Yes	No Change
Air Quality	Yes	No Change
Noise	Yes	Changes in receptors, alignment, technology
Vibration	Yes	Changes in receptors, alignment, technology
Wetlands	Yes	No significant change
Aquatic Preserves	No	
Water Quality	Yes	No change
Outstanding Florida Waters	No	
Contamination	Yes	Five additional sites
Wild and Scenic Rivers	No	
Floodplain and Floodway Impact	No	
Coastal Zone Consistency	No	
Coastal Barrier Resources	No	
Wildlife and Habitat, Threatened and Endangered Species	Yes	Changes due to delisting of the bald eagle, addition of Snail Kite, and changes to the Gopher Tortoise Permitting Guidelines
Farmlands	No	
Energy	Yes	Technology requirements
Utilities	Yes	Additional utilities identified
TRANSPORTATION		
Freight Rail Operations	No	
Highway Operations	No	
Station Access	No	
<i>Source: Parsons, PBS&J September 2009</i>		

3.2.1. Land Use Plans

Metropolitan Planning Organizations (MPOs) prepare Long Range Transportation Plans (LRTPs) for major urban regions, including the Tampa, Lakeland and Orlando areas. A review of the current status of the LRTPs and actions needed for the four counties through which the project alignment travels indicates that all of the plans include high speed rail as part of their long range transportation management.

There are 13 local governments including counties and cities, as well as an improvement district within the project area. These local governments maintain comprehensive plans in compliance with Florida Statutes, Chapter 163. According to statute, these plans contain multi-modal transportation elements which must be consistent with the MPO LRTP. Currently the cities of Tampa and Lakeland and their respective county plans (Hillsborough and Polk) are consistent with their MPO plans. However, there is no documented consistency in Osceola County with METROPLAN Orlando's long range plan. Action also needs to be taken in Orange County to show a map of the proposed corridor and intermodal policy amendments.

3.2.2. Right-of-way and Relocations

Existing conditions have changed for the two areas where relocations were identified in the 2005 FEIS, in Tampa and in Orlando along Tradeport Drive. In Tampa the jail site has been acquired by FDOT and is currently under demolition. Also in Tampa within the TIS Ultimate ROW at Ybor City one of residences required, the property at 1006 12th Avenue has been relocated by FDOT. The Tradeport Drive area has experienced growth in commercial/industrial development, where up to four additional relocations would be required.

3.2.3. Cultural Resources (Archaeological and Historic)

The refinement of the 2009 RPA alignment due to current conditions has resulted in a shift in the FHSR right-of-way approximately 12-feet south in the vicinity of the Ybor City National Historic Landmark District (NHLD). However, the project would continue to be located within the Tampa Interstate Study (TIS) ultimate right-of way (ROW). The shift in alignment does not represent any change in direct or indirect impacts to historic structures within the Ybor City NHLD. However, the structure at 1006 12th Avenue has been moved in accordance with the TIS Memorandum of Agreement, see details in Section 3.2.4. Therefore, there is a change in the existing condition in that there is one less structure.

3.2.4. Section 4(f) Resources

Section 4(f) Historic Resources

Although the FHSR proposed action would require the acquisition of two contributing historic structures with the Ybor City NHLD, this action would not result in a Section 4(f) involvement due to historic resources. This conclusion was reached in consultation with the Federal Railroad Administration (FRA) and the Federal Highway Administration (FHWA) due to the fact that the two historic structures that are located within the Tampa Interstate Study (TIS) ultimate ROW have already been determined to have Section 4(f) involvement with the previously approved TIS project. The use of these two historic structures has already been evaluated in the TIS Section 4(f) Evaluation and mitigation measures are included in a Memorandum of Agreement (MOA). The MOA is included as an appendix to the *Tampa Interstate Study Final*

Environmental Impact Statement and Section 4(f) Evaluation and consists of specific commitments and stipulations, including the documentation, relocation, and rehabilitation of historic resources, plus architectural/historical salvage for structures not relocated or rehabilitated. Because the TIS Interim Alternative is currently being constructed, rather than the ultimate approved alternative, the MOA has not been completely fulfilled. However, mitigation for the structures located in the TIS ultimate ROW will remain in the MOA until that portion is constructed. Because the TIS ultimate approved alternative included provisions for multi-modal transportation, the existing MOA applies to the FHSR project. Therefore, the FHSR project will comply with the requirement of the existing TIS MOA and a new Section 4(f) Evaluation for common resources will not be required.

During the current reevaluation process, the alignment was shifted slightly (12 feet south) and the ROW requirements were reduced to the minimum amount needed in the vicinity of the Ybor City NHL. The 2009 RPA would continue to be within the original TIS ultimate ROW. Therefore there are no changes to the Section 4(f) evaluation for the Ybor City NHL. As part of the Tampa Interstate project (improvements to I-4 and the I-4/I-275 downtown interchange) the FDOT and FHWA have been implementing the stipulations of the TIS MOA. The FHSR project will continue to comply with the requirements of the existing TIS MOA for any remaining contributing historic structures that would be impacted by the FHSR ROW. At a minimum, this would be preparing Historic American Buildings Survey (HABS) documentation prior to demolition.

Section 4(f) Parkland Resources - Perry Harvey Sr. Park

A Section 4(f) Evaluation was prepared for Perry Harvey Sr. Park in the 2005 FEIS. The Section 4(f) Evaluation identified the acquisition of 0.184 acres of ROW at Perry Harvey Sr. Park as an unavoidable impact of the project, since a prudent and feasible alternative does not exist. The existing exercise/jogging path located in the northernmost section of the park (north of Estelle Street) would be terminated approximately 40 feet east of its current terminus at Henderson Avenue. Measures to minimize harm were evaluated and implemented to the greatest extent possible. It was determined that there would be a potential for moderate noise level increases (proximity effects). An evaluation of vibration, access, aesthetics, and ecological encroachment indicates that the project will not substantially impair or diminish the use of the park and a determination was made that there will be no constructive use.

The 2009 RPA alignment anticipates that FHSR will run 18 to 24 feet above Perry Harvey Sr. Park on an elevated track as it enters the Tampa Central Business District (CBD) station. Initial calculations indicate the use of the park will be reduced from the amount of land from the original acquisition of 0.184 acres to 0.05 acres.

3.2.5. Air Quality

Emissions from trains, operational/maintenance (O&M) facilities supporting the trains, and O&M activities are directly related to forecasted train operations and train-miles traveled. No changes to train operations or train-miles traveled are proposed. Therefore, the emissions inventory documented in the 2005 FEIS accounting for new sources that would contribute to the regional pollutant load remains valid.

Reductions in emissions of air pollutants caused by decreased motor vehicle-miles traveled are directly related to forecasted ridership. The updated forecast shows a very small increase in ridership which would further reduce motor vehicle trips. However, the change in the updated forecast is very small and any corresponding change in the regional pollutant load would be negligible. Therefore, the emissions inventory documented in the 2005 FEIS accounting for reduced emissions from motor vehicles that would diminish the regional pollutant load remains valid.

Polk, Osceola, and Orange Counties were designated as in attainment of the NAAQS at the time that the 2005 FEIS was circulated and under review. With the attainment designation, determination of conformity with a State Implementation Plan or plan to maintain the NAAQS was not required. The attainment designation and conformity determination documented in the 2005 FEIS has not changed for these three counties.

Hillsborough County was designated as a maintenance area for ozone at the time that the 2005 FEIS was published. An Air Quality Maintenance Plan demonstrating compliance with the one-hour average ozone standard was developed by the Florida Department of Environmental Protection. The 2005 FEIS documented that any increase in pollutants that are precursors to ozone formation are under the de minimis rates stipulated in the General Conformity Rule. Therefore, a conformity determination pursuant to the General Conformity Rule was not required for the FHSR project. In late 2005, the one-hour average ozone standard was revoked and replaced with an eight-hour average ozone standard. The Air Quality Maintenance Plan for the one-hour average ozone standard was no longer applicable and the U. S. Environmental Protection Agency re-designated all counties in Florida, including Hillsborough County, as in attainment of the NAAQS. With the attainment designation, no conformity determination is currently required for Hillsborough County.

3.2.6. Noise

The objective of the noise analysis update was to identify major land use and alignment changes since the FEIS along the rail corridor from Tampa to Orlando, and conduct a noise analysis to update the status of the noise impacts assessed in the FEIS.

The entire study corridor was evaluated through aerial photography for changes in noise sensitive land uses. A small number of new residential developments have been constructed in the study corridor since 2003, mostly along Alignment D1, the Lakeland to Kissimmee corridor. Noise measurements were conducted in the areas where both the more significant new noise-sensitive land uses were observed and no noise measurements had been conducted nearby in the FEIS. Since all of the new locations are along the I-4 corridor, traffic noise from I-4 was the dominant source of noise at each of the measurement sites. Traffic noise from other roadways contributed minimally to the measured noise levels.

Existing ambient noise levels were characterized through direct measurements in five selected areas representing significant land use changes along the corridor on September 2 and 3, 2009. **Table 3-2** presents a summary of the ambient noise measurements in the new noise-sensitive areas. For the purposes of assessing impact and determining the impact criterion at each site, the Ldn at the short-term sites was estimated from the measured one-hour Leq per FRA guidance.

**Table 3-2 Summary of Ambient Noise Measurement Results
in the New Noise-sensitive Areas**

Align- ment No.	Site No.	Measurement Location Description	Start Of Measurement		Meas. Time (Hrs)	Noise Level (dBA)	
			Date	Time		Ldn	Leq
D1	LT-12A	Modular homes at 2727 Frontage Road, Davenport	09-02-09	10:15	24	68	--
D1	LT-12B	Tuscan resort, 1395 Tuscan Ln, Davenport MF at end of Tuscany Way	09-02-09	09:25	24	72	--
D1	ST-17A	MF @ 104 Sandy Ridge Dr, Kissimmee	09-02-09	11:25	1	60 ¹	62
D1	ST-15A	MF @ 5406 Field Stone Dr, Lakeland	09-02-09	13:37	1	69 ¹	71
C1	ST-14A	MF @ 101 Cambridge Cove Circle, Lakeland	09-03-09	09:25	1	55 ¹	57

1. Estimated per FRA guidance.

Source: Harris Miller Miller & Hanson Inc., 2009

3.2.7. Vibration

As described under noise above, the vibration impact assessment was updated along the entire corridor of the Preferred Alternative to account for land use and alignment changes since the FEIS. In 2003, vibration impact was assessed at seven residences, six hotels, and a commercial building with vibration-sensitive equipment.

In the FEIS, vibration impact was assessed at a group of four single-family residences located south and just west of 34th Street within 100 feet of Alignment A1 as the tracks ran along I-4, near Station 6140. However, these residences were taken as part of the I-4 widening and reconstruction project. The nearest residences in this area would now be 350 feet away from the tracks to the south with the I-4 eastbound lanes in between, so no vibration impact is expected. One impacted hotel in the FEIS that was located south of the Alignment D1 near Station 4470 is no longer present; therefore no vibration impact is assessed at this location.

3.2.8. Wetlands

The expansion of the Tampa, Disney and Orange County Convention Center (OCCC) under the 2009 RPA station areas do not result in significant changes to previously estimated wetland involvement. The Tampa Jail Site is in a highly urbanized location that provides no additional wetland habitat. The reconfiguration of the Disney Station Area does not result in additional wetland habitat types affected or a significant increase in wetland habitat affected. The proposed increase in area to the OCCC station area site is minimal and does not result in changes to wetland impact area. The estimate of wetland involvement is anticipated to be modified during final design and the permitting process.

3.2.9. Contamination

The regulatory research database and aerial photographs were researched to identify contamination sites in addition to those identified in the 2005 FEIS. **Table 3-3** summarizes the location of the five (5) additional sites listed.

Table 3-3 Potentially Contaminated Sites

FLHSR Site (Sta.)	EDM Map ID#	Potentially Contaminated Site Name and Address	Facility ID No.	Distance from Proposed Station Site	Contamination Concern	Prelim. Ranking
Tampa (Sta. 6048)	1	Giglio Property 2007 N. Nebraska Ave.	29-9102252	200 ft. Southeast	Leaking UST Site; no cleanup required; no contamination identified	Low
Tampa (Sta. 6048)	2	Torrest Transmissions 2002 N. Nebraska Ave.	29-9601267	200 ft. South	Leaking UST Site; USTs removed in 1974; contaminated soil identified in old UST pit	Low
Disney (Sta. 4520)	1	Radisson Resort Pkwy. 2900 Parkway Blvd.	49-9101991	900 ft. South	Leaking UST Site; no cleanup required; no contamination identified	None
Tradeport/ OIA #1 (Sta. 7710)	1	Ring Power Corporation 9901 Ringhaven Dr.	49-9046708	300 ft. East	Leaking AST Site; impacted soil removed; truck washing and truck maintenance activities on site.	Medium
Tradeport / OIA #2 (Sta. 7780)	1	FedEx National LTL, Inc. 10975 Floridian Crown Drive	FLR 000100685	800 ft. West	SQG with no violations	None

AST - Above-ground Storage Tank; SQG – Small Quantity Generator of Hazardous Waste; UST – Underground Storage Tank

3.2.10. Protected Species

The expansion of the Tampa, Disney and Orange County Convention Center (OCCC) station areas under the 2009 RPA do not result in additional protected species concern. The Tampa Jail Site is urban and developed and provides no protected species habitat. The area of expansion of the Disney Station Area does not result in a new habitat type or protected species concerns. The new additional area for the OCCC site is minimal and does not provide different habitat than what has already been considered.

Since the 2005 FEIS, the bald eagle was delisted (with the exception of the desert bald eagle in Arizona) and is no longer protected under the Endangered Species Act as of June 28, 2007. However, the bald eagle is still provided protection by two other federal laws, the Migratory Bird Treaty Act of 1918 and the Bald and Golden Eagle Protection Act, as amended. The state of Florida also delisted the bald eagle.

An additional species, the Everglades snail kite (*Rostrhamus sociabilis*) has been afforded additional protection since the 2005 FEIS. A consultation area for the snail kite is now in place over Polk County and much of Osceola County. Although it is unlikely that this species will be affected by the project as habitat in the area is suboptimal, consultation with and concurrence from the U.S. Fish and Wildlife Service (USFWS) will be required because the corridor is within the snail kite's designated consultation area.

3.2.11. Utilities

The locations of major utilities within the FHSR study area were assessed for the FEIS by contacting all of the utility companies with existing facilities in the study area. Major utilities were determined to be those utilities that could influence the location and design of the FHSR project. The utility companies and the types of utilities located within proposed Design/Build

Alternatives 1 through 8, station locations, and maintenance facilities were identified in Table 4-75 of the 2005 FEIS.

The 2005 FEIS determined that the proposed FHSR design/build alternatives may require the relocation of some of the existing utilities. The majority of the existing utilities cross the FHSR alignment and would require provision of adequate depth beneath the tracks or vertical clearance over the tracks to accommodate for appropriate utility lines and equipment. Coordination with all affected utilities would be completed during final design.

Since the 2005 FEIS, several utility companies have merged or changed names. Expansion of utilities into the study corridor was also a consideration. **Table 3-4** lists utility companies with facilities that potentially cross or are located within the FHSR Preferred Alternative that were not previously identified in the FEIS.

Table 3-4 Utilities Not Identified in 2005 FEIS	
Utility Owner	Utility Type*
Aqua Utilities Florida, Inc.	Water
City of Polk City	Water, Sewer
Clorox Products Mfg	Fiber
Comcast Cable Communications	Fiber, Cable TV
Eastlake W Svc., Inc.	Water
Embarq	Communications / Fiber
Enterprise Community Development District	Water, Sewer
Fiberlight LLC	Communications
Gulfstream Natural Gas	Gas
Hillsborough County Traffic	Traffic
Infrasource	Telephone
Orange County Public Works	Traffic, Fiber
Orlando Telephone Company, Inc.	Communications
Osceola County	Traffic, Fiber
Progress Energy	Electric
Qwest Communications	Telephone
Reedy Creek Energy Services	Electric
Severn Trent Services	Water, Sewer, Cable
Taft W Association	Water
Tampa Transport	Water, Sewer
Toho W Authority	Water
Traffic Control Devices	Fiber
Transtate Industrial Pipeline Systems	Gas
Wiltel Communications, LLC	Telephone
XO Communications	Telephone

*Utility type identified in SSOCOF Design Ticket. Refer to Utilities Update Technical Memorandum for design ticket details.

Note: In response to receipt of a design ticket, SSOCOF provides the originator of the design ticket with a list of SSOCOF members in the vicinity of the project. SSOCOF does not notify SSOCOF members of the receipt by SSOCOF of a design ticket. It is the sole responsibility of the design engineer to contact SSOCOF members to request information about the location of SSOCOF members' underground facilities. Submission of a design ticket will not satisfy the requirement of Chapter 556, Florida Statutes, to notify SSOCOF of intent to excavate or demolish. That intent must be made known specifically to SSOCOF in the manner required by law.

4. EVALUATION OF CHANGES IN ENVIRONMENTAL IMPACTS

The 2005 *Florida High Speed Rail Final Environmental Impact Statement* (FEIS) documented the impacts of multiple alternatives, including a Preferred Alternative. Alternatives 1 and 5 in the FEIS were identical with the exception of the high speed rail technology. Alternative 1, the Preferred Alternative at that time, assumed a gas-turbine powered locomotive-hauled train technology. Alternative 5 assumed an electric-powered locomotive-hauled train technology.

Table 4-1 documents the changes in the environmental impacts of the 2009 Revised Preferred Alternative (RPA) in comparison to the 2005 FEIS impacts of the Preferred Alternative and Alternative 5. Where changes in environmental impacts have occurred, summary descriptions are included in the table and more detailed text is presented in Sections 4.1 through 4.10.

Table 4-1 Change in Environmental Impacts				
Resource	2005 FEIS Impacts Gas Turbine FEIS Preferred Alternative (Alternative 1)	2005 FEIS Impacts Electric Technology (Alternative 5)	Change in Impacts?	Revised 2009 Preferred Alternative (RPA) Impacts Electric Technology
COMMUNITY IMPACTS				
Community Cohesion	Minimal impacts to adjacent neighborhoods along I-4 in Tampa and to the south of the Tradeport Industrial Park	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
Community and Land Use Impacts	Consistent with local land use plans Minimal impacts to existing land uses	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
Economic Impacts	Benefits in excess of costs	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
Safety and Public Health	No adverse impacts	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
Relocation and Right-of-Way Impacts	3 residential relocations 3 business relocations See Section 4(f) below.	Same as 2005 FEIS Preferred Alternative	Yes	3 residential relocations 5 business relocations See Section 4.1
Environmental Justice	No disproportionate impacts	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative

Table 4-1 Change in Environmental Impacts

Resource	2005 FEIS Impacts Gas Turbine FEIS Preferred Alternative (Alternative 1)	2005 FEIS Impacts Electric Technology (Alternative 5)	Change in Impacts?	Revised 2009 Preferred Alternative (RPA) Impacts Electric Technology
Section 106 - Archeological and Historical Resources	North Franklin Street Historic District (visual) St. Paul AME Church Parsonage (visual) Oaklawn Cemetery (visual construction vibration) Ybor City NHL (direct taking of two contributing buildings; visual, construction vibration) German American Club – Visual impacts, construction vibration	Same as 2005 FEIS Preferred Alternative	Yes*	Same impacts as listed for FEIS Preferred Alternative, less direct impact of one contributing building in Ybor City NHL* See Section 4.2
Recreation and Parkland	Use of 0.184 acres, Perry Harvey Sr. Park	Use of 0.184 acres, Perry Harvey Sr. Park	Yes	Use of 0.05 acres, Perry Harvey Sr. Park See Section 4.3
Section 4(f) Impacts	Use of 0.184 acres, Perry Harvey Sr. Park 0 Historic/Archeological	Use of 0.184 acres, Perry Harvey Sr. Park 0 Historic/Archeological	Yes	Use of 0.05 acres, Perry Harvey Sr. Park 0 Historic/Archeological See Section 4.4
Secondary and Cumulative Impacts	No adverse impacts	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
NATURAL AND PHYSICAL IMPACTS				
Visual/Aesthetic	No adverse impacts	Same as 2005 FEIS Preferred Alternative	No	Same as 2005 FEIS Preferred Alternative
Air Quality	Emissions (tons/year): CO : -101.7 tons/year NO _x : +189.0 VOC: +8.9	Emissions (tons/year): CO: -152.0 NO _x : +23.3 VOC: -8.1	Yes	Same as 2005 FEIS Alternative 5 See Section 4.5
Noise ¹	Cat. 1: 0 Cat. 2: 15 (7 moderate, 8 severe) Cat. 3: 0	Cat. 1: 0 Cat. 2: 52 (24 moderate, 28 severe) Cat. 3: 1 (Perry Harvey Sr. Park)	Yes	Cat. 1: 0 Cat. 2: 30 (13 moderate, 17 severe) Cat. 3: 1 See Section 4.6

Table 4-1 Change in Environmental Impacts

Resource	2005 FEIS Impacts Gas Turbine FEIS Preferred Alternative (Alternative 1)	2005 FEIS Impacts Electric Technology (Alternative 5)	Change in Impacts?	Revised 2009 Preferred Alternative (RPA) Impacts Electric Technology
Vibration ¹	Cat. 1: 1 Cat. 2: 44 Cat. 3: 0	Cat. 1: 1 Cat. 2: 13 Cat. 3: 0	Yes	Cat. 1: 1 Cat. 2: 8 Cat. 3: 0 See Section 4.7
Wetlands	40 acres (total impacts) 11 high quality wetlands impacted	25.6 acres (total impacts) 11 high quality wetlands impacted	Yes	35.8 acres (total impacts) 11 high quality wetlands impacted. See Section 4.8
Aquatic Preserves	No impacts	No impacts	No	No impacts
Water Quality	No adverse impacts	No adverse impacts	No	No adverse impacts
Outstanding Florida Waters	No impacts	No impacts	No	No impacts
Contamination	Risk Ranking High : 7 Medium: 0 Low: 0	Risk Ranking High : 7 Medium: 0 Low: 0	Yes	Risk Ranking High : 7 Medium: 1 Low: 1 See Section 4.9
Wild and Scenic Rivers	No impacts	No impacts	No	No impacts
Floodplain and Floodway Impact	Base Floodplain Encroachment: 56.88 acres Base Floodway Encroachment: 9.45 acres	Base Floodplain Encroachment: 56.88 acres Base Floodway Encroachment: 9.45 acres	No	Base Floodplain Encroachment: 56.88 acres Base Floodway Encroachment: 9.45 acres
Coastal Zone Consistency	No impacts	No impacts	No	No impacts
Coastal Barrier Resources	No impacts	No impacts	No	No impacts
Wildlife and Habitat, including Protected Species	9 Protected Species No adverse impacts	9 Protected Species No adverse impacts	Yes	10 Protected Species No adverse effects See Section 4.10
Farmlands	No impacts	No impacts	No	No impacts

Table 4-1 Change in Environmental Impacts

Resource	2005 FEIS Impacts Gas Turbine FEIS Preferred Alternative (Alternative 1)	2005 FEIS Impacts Electric Technology (Alternative 5)	Change in Impacts?	Revised 2009 Preferred Alternative (RPA) Impacts Electric Technology
Energy Consumption	498,855 Million BTU	239,820 Million BTU	Yes	Same as 2005 FEIS Alternative 5 See Section 4.11
Utilities	No adverse impacts	No adverse impacts	No	No adverse impacts
TRANSPORTATION				
Freight Rail Operations Impacts	No impacts	No impacts	No	No impacts
Highway Operations Impacts	Net reduction in VMT: 21,080,963 miles No adverse impacts	Net reduction in VMT: 21,080,963 miles No adverse impacts	No	Net reduction in VMT: 21,080,963 miles No adverse impacts
Station Access and Traffic Impacts	No adverse impacts	No adverse impacts	No	No adverse impacts
Airport Operations	No impacts	No impacts	No	No impacts
CONSTRUCTION IMPACTS				
Construction impacts	No adverse impacts	No adverse impacts	No	No adverse impacts
Source: Parsons, PBS&J, HMMH September 2009				
¹ Notes: Category 1 receptors are buildings and/or parks; Category 2 receptors are residences, hospitals, hotels; Category 3 receptors are schools, libraries, churches, and active parks.				

4.1. Relocations and Right-of-Way (ROW) Impacts

The 2005 FEIS indicated that the Preferred Alternative and the 2009 RPA (Alternative 5 in the 2005 FEIS) would both require three (3) residential relocations located in two (2) structures near I-4 and 12th Avenue in the Ybor City area and three business relocations including the City of Tampa Recreation Department, the former Hillsborough County Sheriff's Office and Jail Complex, and a bail bondsman office.

Since publication of the 2005 FEIS, redevelopment of the former Hillsborough County Sheriff's Office and Jail Complex site has begun and the buildings are no longer present. Therefore, these relocations are no longer needed.

Further, since 2005 additional development has occurred in the Tradeport Industrial Park. The alignment was optimized to reduce additional right-of-way needs in this area to the extent practicable. However, three (3) additional business relocations would be needed for the project, as follows:

At the northwest corner of Tradeport Drive and Ringhaver Drive, a large commercial distribution building (10260 Tradeport Drive) was constructed and does not appear on the project aerials. As of September 2, 2009, the building is vacant. The Florida High Speed Rail (FHSR) alignment clips the northeast corner of this building and the operation of the rear loading bays.

- Two commercial structures located in the Atlas Commercial Park (11128 and 11112 Boggy Creek Road) are also impacted. As of September 2, 2009, these building are vacant.

The ROW and relocation program will be carried out in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act of 1970.

4.2. Section 106 - Archeological and Historical Resources

The 2005 FEIS Preferred Alternative and the 2009 RPA would have a “conditional no adverse effect” on the following five historic resources:

- North Franklin Street Historic District – Visual impacts
- St. Paul AME Church Parsonage – Visual impacts
- Oaklawn Cemetery – Visual impacts, construction vibration
- Ybor City National Historic Landmark District (NHL) - Direct taking of two contributing buildings: 8HI4174/916 E. 12th Avenue, and the rear building at 8HI4178/1006 E. 12th Avenue; Visual; Construction Vibration
- German American Club – Visual impacts, construction vibration

Since publication of the 2005 FEIS, FDOT began the right-of-way acquisition process for the Tampa Interstate Study (TIS). As a result many of the historic structures along 12th Avenue in the Ybor City NHL have been relocated, including the property at 1006 E. 12th Avenue (8HI4178) which was listed as a direct taking in the 2005 FEIS.

It is important to note that these impacts to historic resources were evaluated as part of a *Cultural Resource Assessment Survey* (July 2003) prepared to identify and evaluate cultural resources (historic structures and archaeological sites) within the project’s Area of Potential Effect (APE). Further, a *Section 106 Consultation Case Report* (December 2003) was then prepared to evaluate potential effects for the Preferred Alternative and extensive coordination occurred with the State Historic Preservation Officer (SHPO). As a result of this coordination, it was determined that the Preferred Alternative, based on a set of stipulated conditions would have a “conditional no adverse effect” on the resources listed above.

Even though the impacts within the Ybor City NHL included a direct taking of contributing historic resources, the SHPO determined that there would be no adverse effect because these buildings were previously identified as being acquired by the *Tampa Interstate Study Final Environmental Impact Statement and Section 4(f) Evaluation* (1996) and are located within the TIS Ultimate ROW. A Memorandum of Agreement (MOA) was prepared at that time to mitigate adverse effects to the Ybor City NHL, see **Appendix D**.

During the consultations with the SHPO, it was determined that the FHSR project would follow the requirements of this MOA. The mitigation and commitments included in Chapter 5 are consistent with this MOA.

4.3. Recreation and Parkland

According to the 2005 FEIS, 0.184 acres of right-of-way is needed from the Perry Harvey Sr. Park. During the preparation of the FEIS and Section 4(f) Statement the design of the alignment in this area was optimized to minimize this impact to the extent practicable. No prudent or feasible avoidance options were found to exist.

Since the approval of the FEIS, portions of the park have been sold and/or rezoned for future development. These changes in the park's boundary and a new ramp along I-275 have resulted in changes in the impacts to the park. Initial calculations indicate the impact to the park will be reduced from the amount of land to be acquired from 0.184 to 0.05 acres. Mitigation of the park impacts remains consistent with the TIS FEIS and as coordinated with the City of Tampa, also included in **Appendix D**.

4.4. Section 4(f) Evaluation

During this reevaluation process, the alignment shifted slightly in the vicinity of the Ybor City NHLD and Perry Harvey Sr. Park, both of which are Section 4(f) resources. Right-of-way requirements were minimized in the vicinity of these resources.

In the case of the Ybor City NHLD, the right-of-way required by the FHSR project is still within the TIS Ultimate ROW which was cleared as a part of the *Tampa Interstate Study Final Environmental Impact Statement and Section 4(f) Evaluation* (1996). Further, a Memorandum of Agreement (MOA) was negotiated with the SHPO for that project to mitigate the adverse effects to the Ybor City NHLD from taking the right-of-way. Therefore there are no changes to the Section 4(f) evaluation for the Ybor City NHLD.

In the case of Perry Harvey Sr. Park, as stated in the original Section 4(f) Evaluation, the FHSR project will comply with the specific commitments and stipulations identified in the existing Tampa Interstate Study (TIS) FEIS for the Ultimate ROW requirements. The commitment is based on the assumption that the FHSR will be constructed prior to the construction of the Ultimate TIS.

Since the approval of the 2005 FHSR FEIS, the interim reconstruction of I-275/I-4 interchange has occurred. In addition, FDOT has proposed a safety improvement requiring an additional lane be constructed to the outside of the ramp running from SB I-275 to EB I-4. As a result of the safety improvement, the FHSR ROW has been minimized to a ROW width of 44 feet and relocated slightly to the south and west. The FHSR ROW remains within the TIS Ultimate ROW footprint. It is anticipated that FHSR will run 18 to 24 feet above the park on an elevated track as it enters the Tampa Central Business District (CBD) station. Initial calculations indicate the impact to the park will be reduced from the amount of land to be acquired from .184 to .05 acres.

During the 2005 FEIS it was determined that there would be a potential for moderate noise level increases (proximity effects). An evaluation of vibration, access, aesthetics, and ecological encroachment indicates that the project will not substantially impair or diminish the use of the

park, and a determination was made that there will be no constructive use. With the reduction of impacts by the 2009 RPA, these conclusions have not changed and the mitigation approach identified in the TIS FEIS is confirmed through coordination with the City of Tampa, see **Appendix D**.

4.5. Air Quality

The Preferred Alternative (Alternative 1) documented in the 2005 FEIS would result in a net decrease in regional emissions of carbon monoxide, but a net increase in regional emissions of oxides of nitrogen and volatile organic compounds as compared to the No Build Alternative. The net increase in regional emissions of oxides of nitrogen is a result of the relatively high emission rate of this pollutant from gas turbine engines.

The switch of the preferred technology for the 2009 RPA from gas turbine-hauled trains to electric-hauled trains is predicted to result in a net decrease in regional emissions of carbon monoxide and volatile organic compounds and a much smaller increase in regional nitrogen oxides. The increase in oxides of nitrogen is a result of the emission rate of this pollutant from power plants that produce electricity through the combustion of fossil fuels. This emissions analysis is based on use of coal as the source for power generation resulting in a worst case scenario.

Even though the alternatives associated with the electric train technology consider more train trips, emissions from the electric train technology would be less than emissions from the gas turbine train technology. This is a result of the relatively strict controls and emission reduction measures that are employed by power plants, which would be the source of electricity for the electric train technology.

The minor changes in the project's definition (such as the shift of station sites, modifications to the alignment) would be negligible on the total train miles traveled. Further, the slight increases in ridership projections produced during this reevaluation would produce negligible changes to the emissions inventory documented in the 2005 FEIS.

Based on the change in the air quality status in Hillsborough County from a maintenance area for ozone to an attainment area, no conformity determination is currently required for Hillsborough County.

4.6. Noise

The noise impact assessment was updated along the entire corridor to account for land use and alignment changes since the 2005 FEIS was published. In summary, there are substantially fewer predicted noise impacts than in the FEIS even considering the change in technology. (All things being equal (e.g., train schedules, lengths, heights), the electric-hauled train technology has a higher sound exposure level than the gas turbine-hauled train technology.

The 2005 FEIS predicted that the Preferred Alternative would have impacts at a total of 15 residential buildings (eight with severe impact and seven with moderate impact), one hotel (moderate impact) and one park (Perry Harvey Sr.). The FEIS also documented the impacts of Alternative 5 (the comparable alternative given the change in the preferred technology), which

was predicted to have noise impacts at a total of 52 residential buildings (24 with severe impact and 28 with moderate impact), one hotel (moderate impact), and one park (Perry Harvey).

The updated analysis predicts fewer impacts resulting from implementation of the 2009 RPA, including 30 residential buildings (13 with moderate impacts and 17 with severe impacts); one hotel (moderate impact) and one park (Perry Harvey). Importantly, none of the newly identified sensitive receptors along the corridor were predicted to have impacts.

The lower number of predicted impacts is a result of alignment shifts away from sensitive receptors near Station 6010 (in the vicinity of the I-4/I-275 interchange in Tampa) and between Stations 7670 and 7700 in the Taft area near Orlando.

4.7. Vibration

The vibration impact assessment was updated along the entire corridor to account for land use and alignment changes since the 2005 FEIS was published. In summary, vibration impacts are expected at three residences, five hotels, and one commercial building that houses vibration sensitive equipment. In comparison, the 2005 FEIS Preferred Alternative was predicted to have 33 residences, 11 hotels, and the same commercial building and Alternative 5 was predicted to have impacts at one residence, 13 hotels and the commercial building.

The large reduction in the total number of vibration impacts that would result from implementation of the 2009 RPA is due to changes in existing conditions and the difference between the vibration characteristics of the electric and the gas turbine trains. Not only are some of the residences and hotels previously affected no longer present but new receptors were also identified, particularly in the middle section of the alignment. None of the new receptors were predicted to have vibration impacts.

Gas turbine trains have higher vibration levels at lower frequencies than electric trains. This is likely due to the difference in weight between the two vehicles; the gas turbine train consists almost twice as much as the electric train consists. Furthermore, when the ground exhibits more efficient vibration propagation characteristics at low frequencies, there is a greater difference in vibration impact between the two technologies.

4.8. Wetlands

The Preferred Alternative (Alternative 1) documented in the 2005 FEIS would result in a total of 40 acres of wetland impacts to 11 high quality wetlands, while Alternative 5 was predicted to result in 25.6 acres of impacts to 11 high quality wetlands. Even though these alternatives share the same alignment and station locations, they each assumed a different maintenance facility.

The 2009 RPA would result in 35.8 acres of impacts to 11 high quality wetlands. This accounts for changes in existing conditions with the revised location for the maintenance facility for Alternative 5 since the FEIS was published and the design changes documented in Chapter 2 of this document. The 2009 RPA with the same maintenance facility location, as identified with the 2005 FEIS Preferred Alternative 1, reduces impacts by 4.2 acres.

The 2005 FEIS indicates that either Florida Department of Environmental Protection (FDEP) or the Water Management Districts (WMD) may be the reviewing agency for the Environmental Resource Permit. Because this project crosses multiple WMD districts, the FDEP will likely take

the lead on permitting so that a comprehensive review of the entire corridor can occur. However, this decision will be made during the design and permitting phase.

The 2005 FEIS also states that “Any project which results in the disturbance of five or more acres of land would require a National Pollutant Discharge Elimination System (NPDES) permit from FDEP, pursuant to 40 C.F.R Parts 122 and 124.” The regulations governing the NPDES have been modified since 2005 such that any project that results in the disturbance of one or more acre of land will require a NPDES permit. Also, because a General Permit exists for this type of work, a permit application for a NPDES will not be required. Instead, a Notice of Intent to utilize the General Permit is required to be submitted by the construction contractor 48 hours prior to construction commencement.

4.9. Contamination

Based on the design modifications described in Chapter 2 above, a review of the potential for additional hazardous materials sites that could potentially be encountered during construction of the 2009 RPA was assessed. Five additional sites were identified. Given the contamination concern at these sites and their location relative to the FHSR project, three of these sites were found to pose no risk to the project, one was found to pose a low risk and one was found to pose a medium risk. Potential contamination sites will be investigated further prior to construction including visual inspection, monitoring of ongoing cleanups and possible subsurface investigations. Estimated areas of contamination will be shown on design drawings with plans to address the contamination. Special provisions to handle unexpected contamination during construction will be included in the construction plans package. All applicable local, state and federal standards and regulations regarding demolitions and renovations, asbestos and open burning will be met.

4.10. Wildlife and Protected Species

An additional species, the Everglades snail kite (*Rostrhamus sociabilis*) has been afforded additional protection since the 2005 FEIS was published and a consultation area overlies a portion of the FHSR project. Given that suitable habitat for this species is not available in the immediate vicinity of the FHSR project, it is unlikely this species would be affected under the 2009 RPA. Coordination with appropriate agencies, including USFWS, National Marine Fisheries Service (NMFS), and Florida Fish and Wildlife Conservation Commission (FFWCC) is continuing. The mitigation commitments identified in the 2005 FEIS and the 2009 FEIS Reevaluation obligate continued consultation to ensure and verify protection of wildlife throughout further project delivery phases.

4.11. Energy Consumption

The switch to the electric train technology under the 2009 RPA results in an overall lower net energy consumption in 2010 since the consumption is considerably lower than the gas turbine train technology. The 2005 FEIS shows the net energy consumption dropping from 498,855 million BTU (2005 FEIS Preferred Alternative) to 239,820 million BTU (2005 Alternative 5).

These predictions factor in the reduction of gasoline consumption by diverting automobile ridership, the power required to propel the train, operate and maintain the new system, and

thermal losses for electric power generation. As a part of this reevaluation effort, the ridership projections were updated and show a slight increase in riders. This increase would lower VMT only slightly resulting in a negligible decrease in the energy demands of the Revised Preferred Alternative. The slight shifts in alignment and station locations also would not affect the energy consumption predictions listed above.

The total change is a very small fraction (less than 1/20th of one percent) of Florida's total energy consumption for surface transportation (all non-military vehicle operation on highways, railroads, and fixed-guideway public transportation), which is estimated to reach one quadrillion BTUs (i.e., 1,000,000,000 MBTU) by 2010.

5. MITIGATION AND COMMITMENTS

FRA and FDOT are committed to working with our partners and stakeholders in the development of this project, and will continue to coordinate the required mitigation and commitments for the FHSR project. **Table 5-1** documents the commitments and mitigation from the 2005 FEIS and any changes or updates needed based on changes in impacts or regulations since 2005.

Table 5-1 Mitigation and Commitments			
Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
COMMUNITY IMPACTS			
Community Cohesion	None required	No	No
Community and Land Use Impacts	See mitigation for acquisitions from Perry Harvey Sr. Park in the Recreation and Parkland resource category below.	No	No
Economic Impacts	None required	No	No
Safety and Public Health	- Submittal and approval of specific plans addressing emergency and maintenance access to the guideway, construction access, and construction staging. - Development and implementation of a System Safety Plan that would also address security plans in accord with FRA standards. - Fencing, intrusion detection system, barriers, and other protective measures as required by the Safety Plan.	No	No
Relocation and Right-of-Way Impacts	Carry out ROW and relocation program in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policy Act of 1970.	Yes	No
Environmental Justice	None required	No	No

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Section 106 - Archeological and Historical Resources	• Provide the FHSR design plans (for the Tampa CBD and Ybor City areas) to the SHPO for review and comment at 30 percent, 60 percent, and 90 percent design stages. • Coordinate the design of the Tampa Station with the SHPO to ensure that historic integrity is maintained at the nearby North Franklin Street Historic District and the St. Paul AME Church Parsonage. • Implement vibration monitoring during construction adjacent to the Oaklawn Cemetery, German American Club and within the Ybor City NHL to ensure vibration levels do not exceed the damage criteria described in FRA's guidance manual, High Speed Ground Transportation Noise and Vibration Impact Assessment, Chapter 10. If vibration levels approaching the damage criteria are found to occur, immediate coordination with the SHPO would be conducted and construction means and methods will be reviewed to determine how the potential for damage can be minimized. • The stipulations of the Tampa Interstate Study Memorandum of Agreement would be fulfilled for any impacts to contributing historic structures within the Ybor City NHL and the Tampa Interstate Study Ultimate ROW. • Aesthetic treatment for the FHSR would be compatible with the existing Urban Design Guidelines set up for the Tampa Interstate Study FEIS/ROD within the Tampa CBD and Ybor City areas. At minimum, the color of the concrete should be compatible with the Tampa Interstate Study concrete color. The SHPO, City of Tampa, and local community groups, will be included in the development of the FHSR aesthetics. • The FHSR project shall be coordinated with the Barrio Latino Commission during the project's later design phases, as required by the Tampa Code of Ordinances, Chapter 27 Zoning.	Yes	No
Recreation and Parkland	• To compensate for the right-of-way requirements at Perry Harvey Sr. Park, the FHSR project will comply with the specific commitments and stipulations identified in the existing Tampa Interstate Study MOA for the Ultimate right-of-way and improvements.	Yes	No

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Recreation and Parkland (Cont.)	Through coordination and correspondence, the City of Tampa indicated that compensation for impacts to the park can be accomplished through the eminent domain process. As stated previously, the TIS Ultimate ROW includes provisions for multi-modal transportation that applies to the FHSR project.		
Section 4(f) Impacts	See mitigation requirements listed under the Section 106 - Archeological and Historical Resources and Recreation and Parkland sections above.	Yes	No
Secondary and Cumulative Impacts	None required	No	No
NATURAL AND PHYSICAL IMPACTS			
Visual/Aesthetic	The Preferred Alternative would result in potential visual/aesthetic issues within the Tampa CBD. Where the FHSR leaves the I-4 median within Ybor City, coordination will occur with the City of Tampa to ensure design compatibility in height and design with the proposed Ybor City Gateway design at I-4 and 21st Street.	No	No
Air Quality	None required	Yes	No
Noise/Vibration	- Noise impacts that exceed the FRA's criteria for severe impacts will be mitigated. Mitigation will be coordinated with local communities during the final design phases of the project. - The feasibility of noise mitigation would need further evaluation. As the design is finalized, noise mitigation will be considered in more detail to determine if it is warranted based on a cost/benefit analysis. - Vibration impacts that exceed FRA criteria are considered to be significant and warrant mitigation, if feasible. Vibration mitigation will be addressed in more detail during final design.	Yes	No
Wetlands	A formal wetland jurisdictional survey will be produced during the permitting effort. Review and approval of this survey will be conducted by appropriate local, state and federal agencies. Plans will comply with the any local requirements including the water management districts and the Hillsborough County Environmental Protection Commission guidelines.	Yes	Potentially, to account for regulatory changes.

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Wetlands (cont.)	A continuing process of avoiding and minimizing impacts will be performed during final design. Unavoidable wetland impacts shall be mitigated pursuant to S. 373.4138 F.S. to satisfy all wetland mitigation requirements of Part IV Chapter 373. and 33 U.S.C. 1344. Mitigation requirements will be negotiated between FDOT and the FDEP to assure adequate compensation for the loss of wetlands from the project is provided.		
Aquatic Preserves	None required	No	No
Water Quality	The Preferred Alternative falls within the jurisdictions of the SWFWMD, the SFWMD, and the SJRWMD. The water quality criteria associated with each agency would apply to the portion of the project within the respective district limits. The FHSR will meet these criteria, which are located in rules 62-302.500 and 62-302.530 of the F.A.C.	No	Potentially, to account for regulatory changes.
Outstanding Florida Waters	None required	No	No
Contamination	- Potential contamination sites identified in the 2005 FEIS and this reevaluation will be investigated further prior to construction. Investigative work will include visual inspection, monitoring of ongoing cleanups, and possible subsurface investigations. - At known contamination sites, estimated areas of contamination will be marked on design drawings. Prior to construction, plans to address the contamination during construction will be developed. - Construction plans will also include special provisions for handling unexpected contamination discovered during construction will be included in the construction plans package. - FDOT will comply with all applicable local, state, and federal standards and regulations regarding building demolitions and renovations, asbestos, and open burning requirements, including the Hillsborough County Environmental Protection Commission guidelines.	Yes	No
Wild and Scenic Rivers	None required	No	No

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Floodplain and Floodway Impact	Coordination with the water management districts will identify areas appropriate for mitigation of the volumetric impacts of the preferred alignment that will not increase or significantly change the flood elevations and/or limits.	No	No
Coastal Zone Consistency	None required	No	No
Coastal Barrier Resources	None required	No	No
Wildlife and Habitat, including Protected Species	Commitments and mitigation are listed below by species: - FDOT will continue coordination with USFWS, water management districts, and FFWCC to develop design and construction methods to avoid and minimize impacts to protected species Eastern Indigo Snake - To assure protection of the Eastern indigo snake during construction, FHSRA will incorporate the "Construction Precautions for the Eastern Indigo Snake" guidelines into the final project design and require that the construction contractor abide strictly to the guidelines throughout construction. The guidelines include the following: - FHSRA shall provide Eastern indigo snake educational information, as contained in the applicable FDOT Districts One, Five, or Seven approved educational plans, to construction employees prior to the initiation of any clearing, construction, or gopher tortoise relocation activities. The applicable FDOT Districts One, Five, or Seven educational exhibits shall be posted at sites immediately accessible to all employees. - All construction activities shall cease in the immediate vicinity of any live Eastern indigo snake found within the project area. Work may resume after the snake, or snakes, are allowed to leave the area on its own. - Location of live sightings shall be reported to the USFWS Vero Beach field office at (561) 562-3909. - If a dead Eastern indigo snake is found on the project site, the snake shall be frozen as soon as possible and FHSRA shall notify the Vero Beach field office immediately for further instruction.	No	Yes, to account for regulatory changes

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Wildlife and Habitat, including Protected Species (cont.)	Gopher Tortoise - The FHSRA will conduct comprehensive surveys for gopher tortoises and their burrows during the final design phase of the project within the construction limits (including roadway footprint, construction staging areas and stormwater management ponds) and prior to construction. If burrows are identified during these surveys, FHSRA will contact the FWC to coordinate mitigation for any impacts to this species and acquire the necessary relocation permits in accordance with the Gopher Tortoise Permitting Guidelines (April 2009). Although the relocation permit is issued for the gopher tortoise, the permitting process provides protection for the Florida mouse and gopher frog. Sand Skink - Based on the identification of sand skink habitat within the project area, the FHSRA will conduct surveys during the design/build phase and prior to permitting. The surveys will be conducted, in potentially suitable habitat, between March 1st and May 15th in accordance with the USFWS' draft protocol. Further coordination with the USFWS will take place prior to the initiation of the surveys to coordinate any potential impacts during the design/build phase of the FHSR project. Sand Hill Crane - Prior to construction, resurveys for sandhill cranes in areas that may support nesting habitat will be conducted. If any crane nests are located, FHSRA will contact FFWCC immediately. Construction activities in the vicinity of the nest would cease until appropriate protective measures are determined. Bald Eagle - One bald eagle's nest, PO-50 in Polk County, is located less than 300 ft. from the I-4 southern ROW limit. Because this nest was active through the 2007 nesting season, the nest tree is still provided protection by the USFWS. Therefore, the FHSRA will contact the USFWS to discuss if the nest site is considered viable. If the nest is viable, then standard construction precautions will be implemented to		

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Wildlife and Habitat, including Protected Species (cont.)	assure the nest and any nesting activity would be protected from construction. Also, prior to construction, the Preferred Alternative will be re-evaluated to determine if any new nests have been established in proximity to the construction corridor. Wood Stork - Based on USFWS guidelines, impacts to certain wetland systems within a 15-mi. radius, (or 18.6-mi radius Polk and Osceola counties) of a wood stork colony may directly affect colony productivity because they are considered to be in their Core Foraging Area (CFA). FRA and FDOT commit to the following: - The Wood Stork Foraging Habitat Assessment Procedure will be used to evaluate wetlands likely to be impacted that also located within the CFA of a wood stork colony. - No net loss of wetlands within the project area. - Replacement of drainage ditches, swales, and retention ponds will be at a 1:1 or greater ratio, resulting in no net loss of CFA. - Minimizing indirect impacts (e.g., changes in hydrological regimes) to adjacent wetlands by adherence to wetland permitting requirements of the water management districts and the USACE. - Where reasonable wood stork habitat alterations will be mitigated within the foraging range of known habitat rookeries in the project area. Sherman's Fox Squirrel - In an effort to minimize or eliminate any adverse affects to the Sherman's fox squirrel, the FHSRA will survey areas supporting suitable habitat outside of existing transportation ROW for nests just prior to construction in those areas. If an active nest is located during these surveys, the FHSRA will contact the FFWCC for guidance on assuring no adverse effect. Everglade's Snail Kite - Consultation with the USFWS to confirm no effect to the Everglade's - Snail Kite given the consultation area established since publication of the FEIS in 2005		

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
Wildlife and Habitat, including Protected Species (cont.)	A commitment by FDOT to provide a future wildlife crossing during construction of the ultimate interstate improvements in Polk County is contained in the Design Change Reevaluation of I-4 from Memorial Boulevard in Polk County to the Osceola County line. The FHSR is considered to be a viable portion of the ultimate I-4 corridor and will include wildlife crossings in its final design.		
Farmlands	None required	No	No
Energy Consumption	None required	Yes	No
Utilities	Coordination with affected utilities during final design to ensure provision of adequate depth beneath or vertical clearance over project elements.	No	No
TRANSPORTATION			
Freight Rail Operations Impacts	None required	No	No
Highway Operations Impacts	- The design/build contractor will be required to meet FDOT's Design and Specifications for maintenance of traffic plans during construction. - Coordination with Districts One, Five, and Seven is required to identify and coordinate any concurrent construction along the I-4 corridor. - The design/build consultant will coordinate meetings for the development of the maintenance of traffic plans and the outcome of these meetings will be an acceptable plan to both FDOT and FHWA prior to approved use of the interstate right-of-way for the FHSR.	No	No
Station Access and Traffic Impacts	- Roadway improvements in the immediate area of any station will be coordinated with local agencies and jurisdictions during final design. - Aesthetic considerations for each station will also be coordinated with various agencies and local jurisdictions during final design.	No	No
Airport Operations	The FHSRA is committed to working with the Greater Orlando Aviation Authority (GOAA) and the FAA in the development of the project, and will continue to coordinate all aspects of the project with these agencies, especially in relation to the design of project's alignment, ancillary facilities and stations in the vicinity of the Orlando International Airport.	No	No

Table 5-1 Mitigation and Commitments

Resource	Mitigation and Commitments	Change in impacts from 2005 FEIS?	Additional Mitigation Required?
CONSTRUCTION IMPACTS			
Construction Impacts	- Impacts to residents and travelers in the immediate vicinity of the project may result due to the construction of the Preferred Alternative; however, they would be of short duration in any given location since the construction would proceed in a scheduled sequence. - All construction will be conducted in accordance with the FDOT's Standard Specifications for Road and Bridge Construction and Best Management Practices (BMPs).	No	No
<i>Source: Parsons, PBS&J September 2009</i>			

6. PERMITS REQUIRED

To proceed into the next phase of project development, a number of state and federal agencies would be required to determine the permit requirements. These permits and the issuing agencies are listed in **Table 6-1**, below.

Table 6-1 Summary of Permits Required

Permit	Issuing Agency	Required based on 2005 FEIS?	Required based on Reevaluation?
Environmental Resource Permit (ERP)	SWFWMD SFWMD SJRWMD FDEP	Yes	Yes
Section 404 Dredge and Fill Permit	USACE	Yes	Yes
National Pollutant Discharge Elimination System Permit (NPDES)	FDEP	Yes	No ¹
¹ Because a General Permit exists for this type of work, a Notice of Intent to utilize the General Permit is required to be published 48 hours prior to construction commencement.			

The complexity of the permitting process will depend greatly on the degree of the impacts to jurisdictional wetland areas and the changes that will be required in the existing stormwater management system along I-4 in particular. The degree of wetland impacts and the extent of changes to the existing stormwater management system will be determined during final design.

The U.S. Army Corps of Engineers (USACE), Florida Department of Environmental Protection (FDEP), Southwest Florida Water Management District (SWFWMD), South Florida Water

Management District (SFWMD), and St. Johns River Water Management District (SJRWMD) regulate water quality and wetlands within the project area. The water management districts require an Environmental Resource Permit (ERP) when construction of any project results in the creation of a water management system, or impact to “Waters of the State” or isolated wetlands. Because the project crosses multiple water management districts, the FDEP will likely take the lead on the ERP so that a comprehensive review of the entire corridor can occur. However, this decision will be made during final design.

Further, U.S. Fish and Wildlife Service (USFWS), Environmental Protection Agency (EPA), National Marine Fisheries Service (NMFS), and Florida Fish and Wildlife Conservation Commission (FFWCC) review and comment on federal and state wetland permit applications. An Individual Permit (and wetland mitigation) would be required with mitigation for wetland impacts because impacts from this project will be greater than one acre.

For the USACE, a Section 404 Permit will also be required. This permit requires compliance with Section 404(b) (1) guidelines of the Clean Water Act (CWA). CWA compliance includes verification that all impacts have been avoided to the greatest extent possible, that unavoidable impacts have been minimized to the greatest extent possible, and that unavoidable impacts have been mitigated in the form of wetlands creation, restoration, preservation, and/or enhancement.

Any project which results in the disturbance of one or more acres of land requires a National Pollutant Discharge Elimination System (NPDES) permit from FDEP, pursuant to 40 C.F.R. Parts 122 and 124. Because a General Permit under the NPDES system exists for this type of work, a separate individual permit application for NPDES is not required. Rather, a Notice of Intent to utilize the General Permit is required to be submitted by the construction contractor 48 hours prior to construction commencement.

In conjunction with this permit, a Storm Water Pollution Prevention Plan (SWPPP) would be required and implemented during the construction of the project by implementing such measures as Best Management Practices (BMPs). The primary functions of the NPDES requirements are to assure that sediment and erosion control during construction of the project takes place.

The permitting process for this project is anticipated to require between 180 and 365 days.

7. AGENCY AND PUBLIC INVOLVEMENT

An important part of this reevaluation has been working with local jurisdictions and stakeholders to reintroduce the project, inform them of the changes, and obtain input. Public involvement has been continued by holding three public information meetings: one in Tampa, one in Lakeland, and one in Orlando.

Coordination with environmental review agencies was also conducted to collect data and confirm mitigation requirements. This coordination effort is continuing, specifically with the City of Tampa. A Permitting and Agency Review meeting was held to brief agencies on the FEIS Reevaluation approach and the changes identified since the July 2005 FEIS. Agencies, as identified in FDOT Efficient Transportation Decision Making (ETDM) guidance were included.

A comprehensive agency and public outreach program was carried out for the FHSR FEIS reevaluation. By meeting with interested citizens and agencies during the reevaluation phase,

FDOT ensured public participation and input on the changes to the preferred alternative and the resulting environmental impacts. Members of the public received direct communication in the form of mailings and the project website.

The public awareness program was developed to insure federal, state, and local officials, property and business owners, interested groups and organizations, and county residents receive the latest information concerning project changes and the status of the reevaluation activities.

7.1 Local Government Coordination Meetings

A total of 11 meetings were held with local governments to obtain information about changes to transportation facilities and land use plans that have occurred since the 2005 FEIS.

7.2 ETAT Agency Coordination Meeting

The agency coordination meeting was held on September 11, 2009. Invitees included the Environmental Technical Advisory Teams from Districts One, Five, and Seven. A summary of the meeting is included in the Public Involvement Program, which is provided in **Appendix E**.

Table 7-1 Local Government Coordination Meetings		
Organization(s)	Date	Location
Various Transportation / Transit Agencies	June 29, 2009	FDOT District Seven; Tampa, Florida
Various Planning and Transportation Agencies	June 30, 2009	FDOT District Five Urban Office; Orlando, Florida
Orange County	July 20, 2009	Orange County Offices; Orlando, Florida
City of Lakeland, Polk County, Polk County TPO	July 20, 2009	City of Lakeland Offices; Lakeland, Florida
City of Tampa	July 21, 2009	FDOT District Seven; Tampa, Florida
Greater Orlando Airport Authority	July 21, 2009	GOAA Annex Building; Orlando, Florida
City of Orlando	August 12, 2009	City of Orlando; Orlando, Florida
Tampa Bay Area Regional Authority and Hillsborough Area Regional Transit Authority	August 13, 2009	FDOT District Seven; Tampa, Florida
City of Plant City and Hillsborough County	August 13, 2009	FDOT District Seven; Tampa, Florida
University of South Florida Polytechnic	August 13, 2009	FDOT District One; Bartow, Florida
International Drive/ETC	August 14, 2009	Embassy Suites; Orlando, Florida
<i>Source: PBS&J, Sept. 2009</i>		

7.3 Public Information Meetings

Three Public Information Meetings were held along the project corridor in September 2009. This series of meetings provided the public with an opportunity to review the information on the FHRS reevaluation process and results. The meeting included a video presentation and aerial exhibits and displays for the purpose of enhancing public understanding of the changes expected

to the proposed project. All oral and written comments received were documented as part of the project records. A summary of the meetings is included in Public Involvement.

The 2005 FEIS documented the impacts of multiple alternatives, including a Preferred Alternative. Alternatives 1 and 5 in the FEIS were identical with the exception of the high speed rail technology. Alternative 1, the Preferred Alternative at that time, assumed a gas-turbine powered locomotive-hauled train technology. Alternative 5 assumed an electric-powered locomotive-hauled train technology.

7.1.1. Public Information Meetings Comments Received

Comments received during the public information meetings are summarized by meeting location.

Tampa Meeting

Approximately 77 individuals participated in the Tampa Public Information Meeting, along with 15 project team members. Ten written comments were submitted at the meeting, including two from elected officials: St. Petersburg City Councilman Wengay “Newt” Newton, and Florida Representative Betty Reed (District 59). One comment and one request for information were received via email. A summary of the comments is provided in the following bulleted list:

- Eight (8) of the 11 comments received were in favor of the project
- One (1) comment opposed the project because of its funding source (American Reinvestment and Recovery Act of 2009)
- One (1) opposed the project because of noise issues
- Two (2) questioned why there wasn’t a connection to Pinellas County
- Three (3) wanted to ensure a connection to Hillsborough County’s proposed light rail system
- One (1) questioned the number of site locations in Tampa and Lakeland
- One (1) requested consideration be given to implementing a comprehensive approach to design sensitive issues like landscaping
- One (1) requested additional project information

Lakeland Meeting

Approximately 160 individuals attended the Lakeland Public Information Meeting, along with 19 team members. Forty-eight written comments were submitted at the meeting, and one was received by mail. One request for project information was received by email. The bulleted list below provides a summary of comments:

- 37 of the 48 comments received were in favor of the project
- Three (3) opposed the chosen technology (electric) and instead favored MAGLEV
- Two (2) expressed concern about modes of transportation available to and from the high speed rail site locations

- One (1) expressed concern regarding the preservation of wildlife crossings
- Two (2) wanted the system to connect to Tampa International Airport (TIA)
- One (1) ranked the sites in varying order
- One (1) opposed Lakeland Option 4
- Two (2) suggested a station at I-4 and US 27
- Two (1) supported Location Option 1
- Three (3) supported Location Option 4
- Two (2) favored the Kathleen Road option
- Four (4) supported Location Option 2
- Two (2) favored Location Option 5
- Two (2) favored the Mall Hill Road option
- One (1) wanted any location in central Polk County
- Other concerns included:
 - information on the economic impact of high speed rail
 - consideration be given to adding more stops in the future
 - availability and location of power plants used to run the system
 - concerns regarding safety of vehicular traffic adjacent to the median
 - location of the Tampa station
 - concern regarding increase in noise
 - cost of “downtown” for repairs

Orlando Meeting

Approximately 65 individuals attended the Orlando Public Information Meeting, along with 19 project team members. A total of six (6) written comments were submitted at the meeting. A summary of the comments is provided in the bulleted list below:

- Two (2) of the six (6) comments received were in favor of the project
- One (1) preferred MAGLEV technology
- Other concerns included:
 - Request for information, and that it be placed on the website
 - Advertisement of the meeting

8. CONCLUSION

This reevaluation of the *Florida High Speed Rail, Tampa to Orlando Final Environmental Impact Statement*, May 2005 (FEIS) assessed the change of technology from a gas turbine-powered locomotive-hauled train to an electric-powered locomotive-hauled train on the same preferred alignment. The FEIS environmental analysis provided for either technology to be the preferred. As this FEIS reevaluation confirms, the changes within the preferred alternative resulting from the assessment of the alignment, existing conditions and evaluation of changes in the environmental impacts ranged from minimal to improved (based on the technology change).

The changes to the preferred alternative are summarized as factors that are modified to accommodate the as-built conditions within the improved interstate corridor and changes to minimize impacts to continued development within the corridor. These changes, as stated in Chapter 2 of this report and illustrated in the revised plans included in **Appendix B**, are minimal within the 85-mile alternative and concentrated within the immediate Tampa CBD and in the Tradeport Drive industrial park area in Orange County.

The changes in existing conditions identified in Chapter 3 of this document resulting in changes to the environmental impacts are summarized in the following:

- Relocations: reduction of one business impact in Tampa CBD and 3 additional business impacts in Tradeport Drive industrial area.
- Section 106: reduction of one historic structure with relocation by FDOT complete.
- Recreation and Park/Section 4(f): Changes to the City of Tampa's Perry Harvey Sr. Park boundaries since the 2005 FEIS and changes to the alternative reduce overall area of use.
- Air Quality, Noise, Vibration, Visual/Aesthetic, and Energy Consumption: changes based on technology preference from gas turbine-powered to electric-powered locomotive-hauled train.
- Contamination: additional sites resulting in the same number of sites with high risk ranking and an additional one site each for medium and low risk ranking.
- Wildlife and Habitat: one additional species (Everglade's snail kite) afforded protection since 2005.

The above changes to the environmental impacts do not change the mitigation and commitments identified in the 2005 FEIS with the exception of regulatory changes in the permitting of wetlands, water quality, and wildlife and habitat. These are further described in Chapters 5 and 6.

The public involvement effort described in Chapter 7, included coordination with the local agencies, governments and environmental review agencies and three public information meetings throughout the corridor. The local governments provided information in support of the project. The environmental agency meeting included only one comment relating to updated environmental regulations. The public involvement meetings were attended by 198 citizens throughout the 85-mile preferred alternative with overall support of the proposed project.



Based on the reevaluation of the *Florida High Speed Rail, Tampa to Orlando Final Environmental Impact Statement*, May 2005, FDOT and FRA have reached the conclusion that there are no additional significant impacts that have been identified during the reevaluation that would require the preparation of a Supplemental EIS.

