



**SOUTH FLORIDA EAST COAST (FEC)
ALTERNATIVES ANALYSIS**

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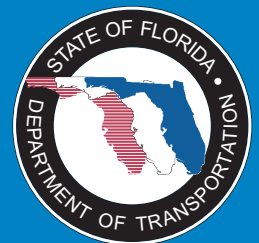
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***Phase 2 Safety and Security
Technical Memorandum***

Prepared by:



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To: Scott Seeburger

From: Rob McMullen

Date: July 26, 2010

Subject: South Florida East Coast Corridor Transit Analysis (SFECCTA) Study:
Safety and Security Technical Memorandum

INTRODUCTION

Purpose

The purpose of this technical memorandum is to present a preliminary discussion of public safety concerns associated with some of the proposed improvements and an overview of the safety and security management plan (SSMP) to be prepared in subsequent phases.

Project Description

The Florida Department of Transportation (FDOT) initiated the multi-phased South Florida East Coast Corridor Transit Analysis (SFECCTA) study in December 2005 recognizing that the Florida East Coast (FEC) Railway was and is a unique transportation asset that should be evaluated and developed in the context of regional transportation issues, priorities and needs. The SFECCTA study is designed to evaluate the reintroduction of passenger service along a portion of the FEC Railway corridor from Miami to Jupiter. In its second phase, the SFECCTA study continued the Alternative Analysis (AA) – Early Scoping process that was initiated in Phase 1. A discussion of the Phase 1 AA may be found in the Phase 1 Conceptual Alternatives Analysis/Environmental Screening Report (AA/ESR) on the project website (<http://www.sfecstudy.com/>).

Phase 2 of the SFECCTA was initiated in January 2009 and was designed to build upon the Phase 1 AA to refine and further develop through an iterative process the alternatives identified at the conclusion of the first phase. The primary focus of Phase 2 was to identify a locally preferred alternative (LPA) within the study area, in accordance with Federal Transit Administration (FTA) and FDOT project development processes, that could ultimately be submitted to FTA for federal assistance in the form of New Starts funding. A Phase 2 Draft Detailed Environmental Screening Report (ESR) has been prepared to describe the detailed environmental screening approach conducted as part of the Phase 2 AA and is supported by a series of technical memoranda and reports like the one presented here.

Project Area

The SFECCTA project area, illustrated on the Project Location Map (Figure 1), is bounded on the south by Flagler Street, just south of the Miami-Dade Government Center, in the City of Miami and on the north by the southern shoreline of the Loxahatchee River in the Town of Jupiter. The western boundary of the project area runs parallel to and 0.5-mile west of the South Florida Rail Corridor (SFRC)/Tri-Rail corridor from the Miami Intermodal Center (MIC) north to Mangonia Park then continues in a northwesterly direction parallel to and 0.5-mile west of I-95 to the southern shoreline of Southwest Fork of the Loxahatchee River (C-18). The eastern boundary of the project area runs parallel to and 0.5-miles east of Highway US-1 from the Central Business District (CBD) of the City of Miami north to the southern shoreline of the Loxahatchee River in Jupiter.

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Within the SFECCTA *project area* are several unique *study areas* that were developed specifically to define the affected environment and screen/evaluate the various project alternatives. Generally, the affected environment is a Geographic Information System (GIS) inventory of environmental, social, and cultural resources that could be affected by the proposed improvements. The affected environment and screening process are defined and documented in the Draft ESR.

The primary study area, where most of the improvements are expected to occur, is the FEC Railway corridor that extends from the CBD of the City of Miami north to the Town of Jupiter in Palm Beach County (a linear distance of approximately 83 miles). A detailed description of each study area and environmental screening methodology is provided in Chapter 3 and Appendix A, respectively, of the Draft ESR.

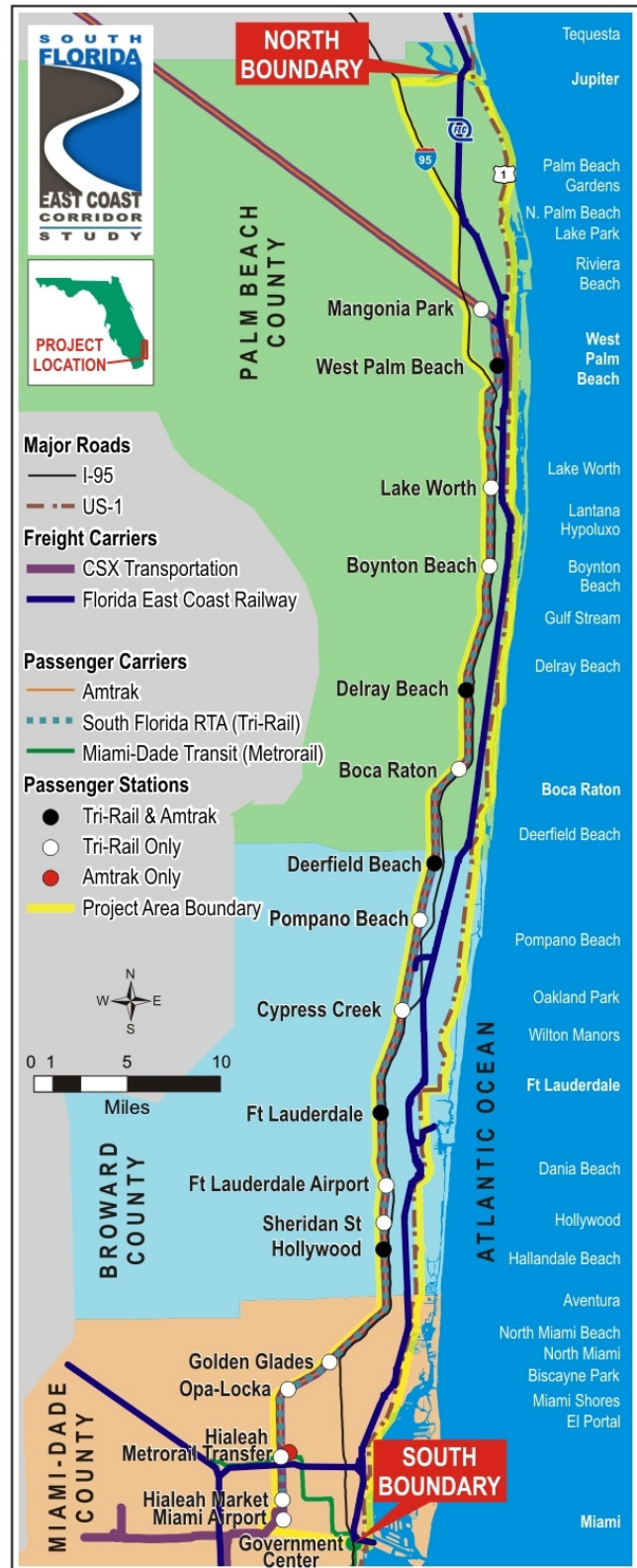
SAFETY

Pedestrian, bicycle and vehicle safety will be an important issue to consider and address as this project proceeds into subsequent phases. Safety issues are most likely to occur at transitway-highway crossings, station areas, and along the FEC Railway mainline. Freight trains currently operate on one or two tracks along the main alignment but once completed, the proposed project could increase the number of tracks to three or four along the main alignment as well as the number of trains along the project corridor thus an increase in safety concerns for vehicular, pedestrian, and bicycle traffic.

Following an investigation of crashes attributable to a “whistle ban” on the FEC Railway, the Federal Railroad Administration (FRA) issued Emergency Order (EO) No. 15 on July 26, 1991, which rescinded the whistle ban. This decision requires trains on the FEC Railway to sound their horn when approaching public railway grade crossings. However, a recent policy is shifting towards allowing limited, more regulated noise control on railway corridors once again. Effective June 24, 2005 FRA published 49 Code of Federal Regulation (CFR) Parts 222 and 229, Use of Locomotive Horns at Highway-Rail Grade Crossings; Final Rule (Federal Register, April 27, 2005).

Rescission of EO 15 – effective November 9, 2009 the FRA published Excess Risk Estimate for Highway-Rail

Figure 1: Project Location Map



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Grade Crossings Along the Florida East Coast Railway Line (49 CFR Part 222); Final Rule (Federal Register, September 9, 2009). In rescinding EO 15 FRA “amends the regulations regarding the use of locomotive horns at public highway-rail grade crossings by establishing an excess risk estimate of 90.9 percent for public highway-rail grade crossings along the Florida East Coast Railway Company (FEC) line.” This final rule allows public authorities to establish new quiet zones along the FEC Railway, in accordance with the existing regulations, through application of the excess risk estimate provided in the rule (<http://edocket.access.gpo.gov/2009/pdf/E9-21380.pdf>).

Communities that qualify for this exception may create “quiet zones” within areas wherein locomotive horns would not be routinely sounded. The Final Rule amends certain provisions of the interim final rule to facilitate the development of quiet zones, while balancing the needs of railroads, states, and local communities. Establishing quiet zones under the Final Rule actually enhances safety at the improved crossing. The upgrades necessary to create a quiet zone physically prevents vehicles from driving around safety gates and onto the tracks. Safety measures include:

- Four-Quadrant Gate Systems
- Medians or Channelization Devices
- One-way Streets with Gates
- Permanent Closure

Quiet zones may become a reality in the future since many communities adjacent to the FEC Railway are concerned with the increase in train horn noise with the addition of passenger transit.

Measures being taken to alleviate traffic congestion at transitway-highway crossings (e.g. closure, relocation and/or grade separation) may incidentally enhance safety at those crossings. Closing or separating crossings reduce the number of vehicles crossing the railway tracks thus potentially reducing the number of train-vehicle collision incidences. Another safety measure, primarily for pedestrian traffic, could include the installation of a limited amount of fencing between train tracks at transit stations to prevent passengers from walking across the tracks. Should sections of the FEC Railway include a greenway/bike trail, additional fencing may be used to separate the greenway from the railway. Fencing, if installed, could serve to mitigate some safety concerns surrounding the addition of new transit stations.

SAFETY AND SECURITY MANAGEMENT PLAN (SSMP)

The FTA provides safety and security guidance for all major capital projects under Project Management Oversight (49 CFR Part 633). Those projects receiving federal funding assistance must prepare and implement a Safety and Security Management Plan (SSMP) as a part of the Project Management Plan (PMP) (<http://www.fta.dot.gov/laws>). The FTA defines a SSMP as a document prepared as part of the Project Management Plan (PMP) to describe how a major capital project should address safety and security during initial project planning through initiation into service.

The requirement for a SSMP to be completed as part of a project’s PMP in August of 2007 was enacted by FTA in an effort to promote a consistent approach to the issue of safety and security among all major capital projects. A SSMP is structured into sections designed to make safety and security an integral element for project oversight (FTA C 5800.1). A PMP with SSMP has not been prepared as part of the SFECCTA Phase 2 study but will become part of subsequent phases should the project receive federal funding and shall include all safety and security measures set forth by the FTA for major capital projects.

Preliminary security elements have been addressed in the *Station Design Guidelines Report* prepared for Phase 2 of the study. The security measures discussed are based on Crime Prevention Through

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Environmental Design (CPTED). The CPTED is a planning tool based on the idea that the proper design and effective legitimate use of the built environment can lead to a reduction in the incidence and perception of crime. The four key principles of CPTED are:

- Access Control: Physically guiding people coming and going from spaces by the judicious placement of entrances, exits, fencing, and landscaping
- Natural (Passive) Surveillance: The placement of physical features, activities, and people in such a way as to maximize visibility
- Territorial Reinforcement: The use of design elements that express guardianship, such as fences, pavement treatments, art, signage, landscaping, and lighting
- Maintenance: Serves as an additional expression of ownership, and prevents lack of visibility from landscape overgrowth and inoperative lighting

The CPTED guidelines help steer the planning of safer public amenities and environments and serves to compliment more stringent criteria mandated by local building codes and federal security criteria (such as perimeter security requirements for large government buildings/facilities).

REFERENCES

United States. Department of Transportation – Federal Railroad Administration. Excess Risk Estimate for Highway-Rail Grade Crossings Along the Florida East Coast Railway Line. Federal Register. Vol. 74. No. 173. 9 Sep. 2009.

United States. Department of Transportation – Federal Railroad Administration. Use of Locomotive Horns at Highway-Rail Grade Crossings. Federal Register. Vol. 70. No. 80. 27 April 2005.

United States. Department of Transportation – Federal Transit Administration. Safety and Security Management for Major Capital Projects: Notice of Final Circular. Federal Register. Vol. 72. No. 119. 21 Jun. 2007.