
EAST-WEST MULTIMODAL CORRIDOR

DESCRIPTION OF PROJECT

Dade County, Florida

Florida Department of Transportation



District VI

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

in cooperation with:

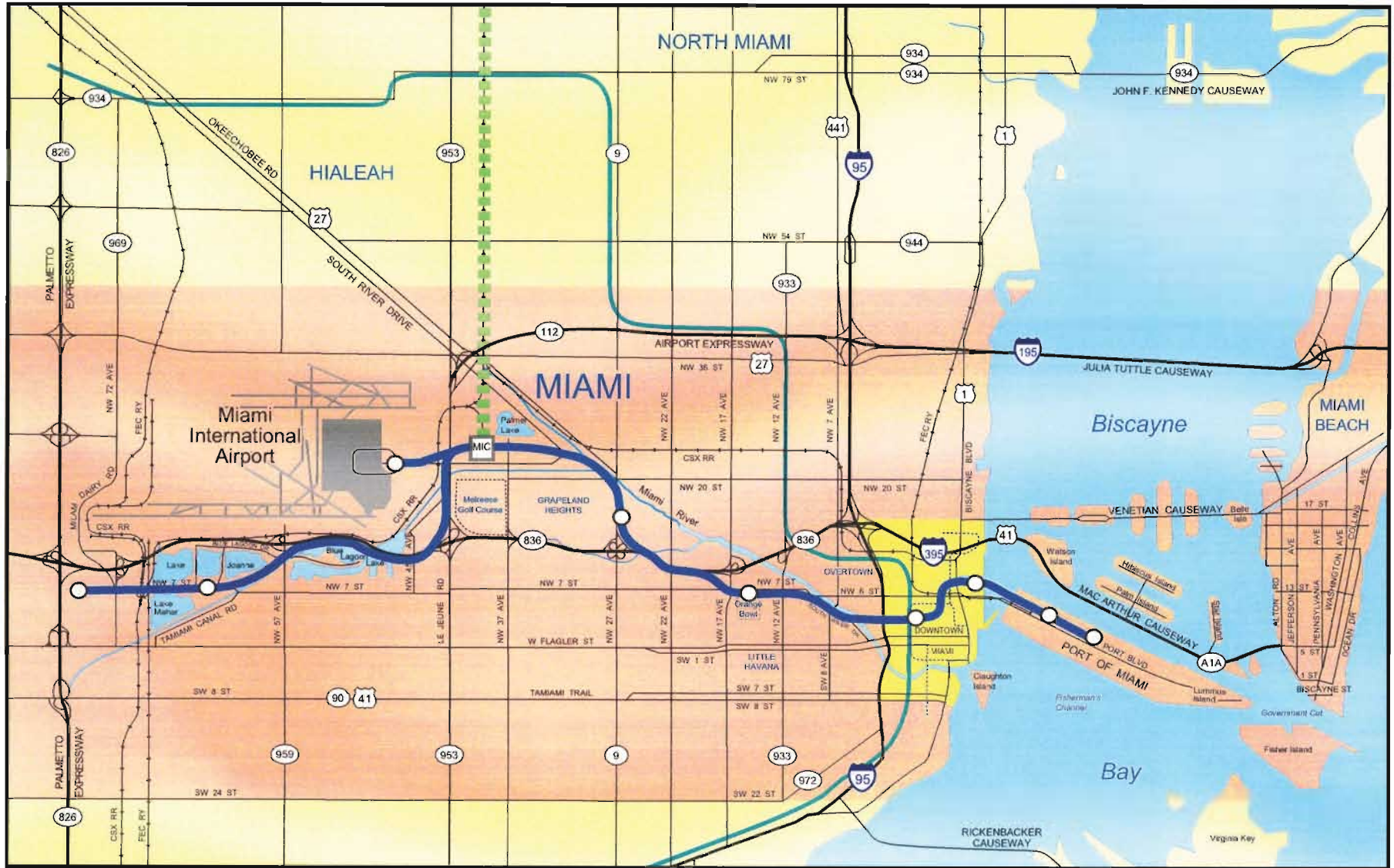
**Federal Transit Administration
Federal Railroad Administration
Federal Aviation Administration
Maritime Administration
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CONNECTING PEOPLE



May 1997

East - West Multimodal Corridor



PARSONS BRINCKERHOFF

LEGEND

- East-West Corridor
- Miami Central Business District
- Metrorail
- Tri-Rail
- Miami Metromover
- Transit Alignment and Stations

EAST-WEST CORRIDOR



East-West Multimodal Corridor Project

Foreword

The East-West Multimodal Corridor Project is sponsored by the Florida Department of Transportation. The Department's prime consultant, Parsons Brinckerhoff, is leading preliminary engineering and design efforts, and is preparing environmental impact documents for the project.

Introduction

Ask any motorists in the Miami area and you'll find that congestion, delays, and accidents are too frequently part of the daily commute on most major arterials and expressways in the Miami area—even on weekends! Residential development continues its southwestward expansion, which will only add more cars on already congested routes. East-west freeway travel is limited to SR 112 and SR 836, plus a few four to six lane arterials. SR 836 is the only major east-west expressway that spans the full distance between Florida's Turnpike and I-95.

As the longest east-west expressway, SR 836 plays a significant role for Metro-Dade County by providing:

- Accessibility to and from downtown Miami and to Miami Beach
- Accessibility to major activity centers in south Dade, such as the Civic Center, Miami International Airport (MIA), shopping malls, major office and residential complexes, Florida International University (FIU), etc.
- Mobility in case of an emergency, such as a hurricane, when safe and orderly evacuation of life-threatening storm impact areas on Miami Beach is vital
- Accessibility to and from Florida's Turnpike and I-95

Project Need

Existing Congestion

Most of SR 836 and its interchanges with local arterials are functionally obsolete and cannot accommodate current traffic volumes. A number of deficiencies exist at all interchanges, along the main line and at the toll plaza near NW 17th Avenue. Major delays are caused by merging lanes in locations such as eastbound approaching NW 72nd Avenue and westbound approaching LeJeune Road. Operational improvements to SR 836 would improve traffic safety and increase capacity, but would do little to reduce congestion. The only way SR 836 could be improved to carry the increasing growth of the county would be by widening SR 836 to eight lanes in each direction! The expanded roadway would encroach upon adjacent residential, commercial and recreational developments, not to mention the airport, and therefore is not a viable solution.

Accidents

Operational deficiencies are the cause of capacity, safety, and merging problems at a number of locations along SR 836. Three accident "hot spots" were identified: (1) between NW 72nd Avenue and the Palmetto Expressway; (2) just west of LeJeune Road in both directions; and (3) on eastbound SR 836 just east of the toll plaza before the NW 17th Avenue off-ramp.

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Anticipated Growth

With the population of Metro-Dade growing at such a rapid pace, associated economic growth will significantly impact the regional transportation system. At the same time, our sub-tropical climate and many world-famous recreational activities attract more tourists each year. In 1995, 13.2 million people visited Greater Miami and the Beaches, 9.4 million of whom stayed at least one night. Projections for the next 20-year period based on historic growth trends indicate the following:

- Population - 60% growth in permanent residents by 2020
- Employment - 28% growth in jobs by 2020
- Airport- 100% growth in airport passengers by 2020
- Seaport - 200% growth in cruise ship passengers by 2020
- Traffic Volumes - as much as 108% increase on SR 836

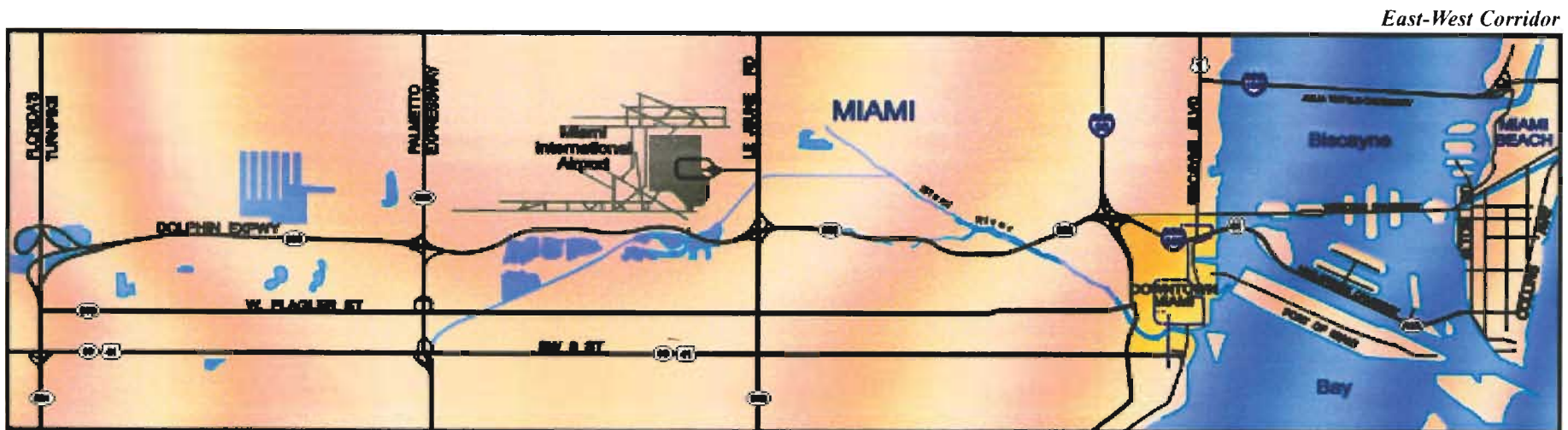
East-West Multimodal Corridor Study

East-West

The Dolphin Expressway (SR 836) is a six-lane, limited-access, divided freeway that is more than 13 miles in length. It extends from Florida's Turnpike near the western edge of Dade County to I-395 and MacArthur Causeway, connecting the mainland to the Beaches. A toll plaza for eastbound traffic only is located between NW 27th and 17th Avenues, near the eastern limits of the freeway. In addition to providing a vital transportation thoroughfare to Miami Beach, these roads are also the primary evacuation routes during hurricanes or other civil emergencies.

Multimodal

Throughout the region, land use planning has traditionally favored travel by car, and access to land uses and activities is geared predominantly to the automobile. Ample parking is usually available at destinations throughout the corridor. Alternative modes of transportation—including mass transit, carpooling, bicycling, and walking—have not com-



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peted on a level playing field with the private automobile. As more people continue to live and work throughout the entire region, these alternative modes need to be addressed—and they are in this project.

Without including additional modes, such as rail transit, SR 836 would have to be widened to at least eight lanes in each direction to accommodate 15,000 to 16,000 vehicles per hour, the projected traffic volume for the year 2020. By comparison, a rail transit line could provide capacity for 18,000 to 20,000 passengers per hour, allowing commuters a safe and efficient alternative to driving.

Corridor

The full project corridor, 22 miles long, begins at the Tamiami Campus of FIU, extends the length of SR 836, past MIA, through downtown Miami to the Port of Miami, across Biscayne Bay to South Beach, and ends at the Miami Beach Convention Center.

Study

The study team is comprised of engineers, planners, architects, government agencies, and of course, the citizens of Dade County. A Major Investment Study (MIS) identifying problems and analyzing possible solutions to the transportation needs along the East-West Corridor has been performed and documented in a Draft Environmental Impact Statement (DEIS). This document is required by Federal law to assess the environmental impacts of major projects. Upon completion of the DEIS, a Public Hearing was held in December 1995 to present the results of the study. Incorporating public and agency comments received at that public hearing, the Dade County Metropolitan Planning Organization (MPO) selected an alternative to advance into the next phase. At this time, the study team is analyzing the environmen-

tal and engineering aspects of this preferred alternative and will present the results in a Final Environmental Impact Statement (FEIS) this summer. Funding is currently being sought; if the project is approved by Congress and funding is secured, final design is expected to begin in 1998. (See Budget and Schedule for more details.)

Highway & Transit

The East-West Multimodal Corridor Study analyzed various highway and transit alternatives to improve transportation capacity in the corridor and proposed the best transportation improvements, including:

- Highway improvements were designed to address the roadway's existing deficiencies, such as the lack of continuous lanes and sub-standard median shoulder widths, and best solve our congestion problems given the right-of-way restraints. The addition of on-and-off lanes is planned, along with improvements at all interchanges. Other improvements, not part of this project, are planned and have been coordinated with this study, including: interchange improvements at the Palmetto Expressway (SR 826) and LeJeune Road; a new freeway interconnector from SR 836 to SR 112; and construction of the Miami Intermodal Center (MIC) just east of the airport.
- New transit routes, or alignments, were identified and evaluated throughout the East-West Corridor. Various options addressed such concerns as linkage with existing Metrorail stations, connecting to the proposed MIC, and sensitivity to the neighborhoods through which the line will pass.

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Alternatives Analysis

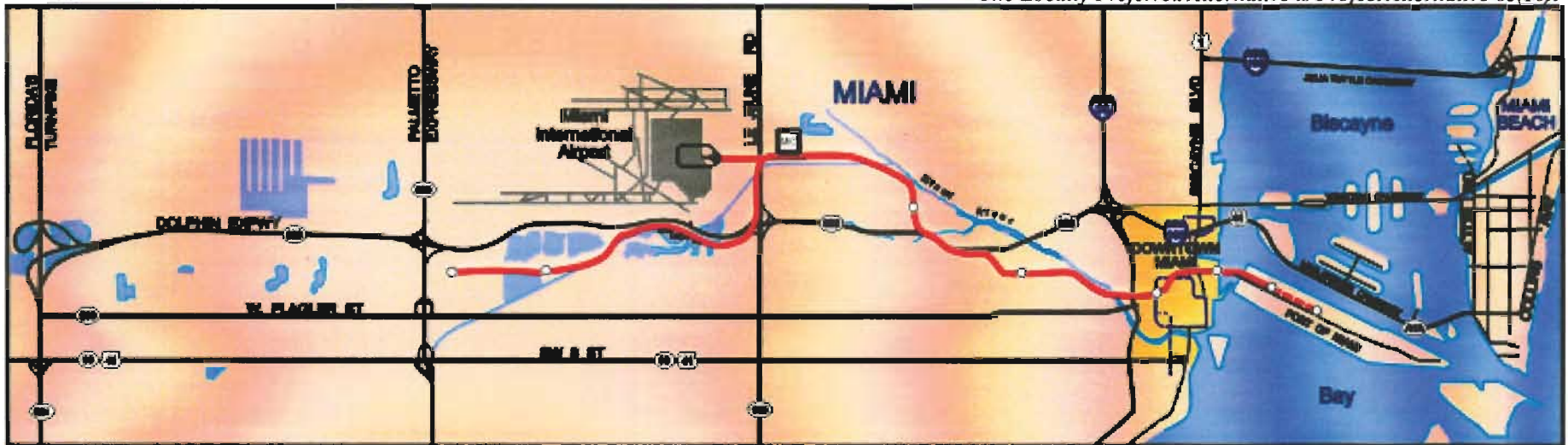
The analysis of alternatives for the East-West Multimodal Corridor Study involved a three-level process, beginning with a long list of alternatives and options and ending with one single alternative. Continued public involvement and agency coordination assisted in establishing the project goals: maximize mobility for area residents, improve connections with other transit systems, maximize efficiency of transportation system, integrate transportation into community/development, and preserve and protect the environment.

Five alternatives were presented at the Public Hearing in December 1995. Findings of the study, written and verbal comments, agency responses, and, most importantly, comments from the community were collected and reviewed to assist in the selection process. On March 21, 1996, the Dade County MPO selected Alternative 6c (Option 10), commonly known as the "tunnel alternative," as the Locally Preferred Alternative (LPA) because it provides:

- The best access to the core of the downtown business district including Government Center
- A convenient transfer to Metrorail and Metromover systems at Government Center
- Highest net transit ridership
- Least visual impact in the downtown area
- No visual impact on Freedom Tower, an historic structure
- Least impact in the Overtown neighborhood, an historic Black community
- Lowest operating and maintenance costs
- Premium rail transit service to broadest new geographical/market area

The locally preferred alternative includes a combination of highway improvements along the entire length of SR 836 and a new rail transit line. The first part of the transit line to be built is a minimum operable

The Locally Preferred Alternative is Project Alternative 6c(10).



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segment (MOS) from the Palmetto Expressway (SR 826) to the Port of Miami. Extensions to FIU and to Miami Beach will be considered after construction has begun on the first phase (MOS) because of funding constraints. However, all of the proposed highway operational improvements are part of the first phase. Other proposed improvements in the corridor include:

- High occupancy vehicle (HOV) lanes located in the median of SR 836 between Florida's Turnpike and LeJeune Road
- Pedestrian and bicycle facilities at various locations along the transit line
- A rail branch line into MIA
- Bus system improvements to integrate bus and rail transit services

Proposed Services

Construction of the East-West rail line will complement existing transit services (rail and bus) in Dade County, providing improved mobility and connectivity. Connections with existing and proposed bus routes will be available at transit stations; some stations, like Government Center Station and Maritime Park Station, will provide transfers to Metrorail and/or Metromover. At the Miami Intermodal Center (MIC) Station, passengers will be able to connect to Tri-Rail, Amtrak, shuttle trains to MIA terminals, and future high speed rail trains to Orlando and Tampa.

The new East-West rail line will have similar operating hours as Metrorail, Metromover and Metrobuses, from approximately 5:30 am

to midnight seven days a week. Trains will operate every 3 minutes from the Palmetto Expressway to the Port of Miami, with a trip duration of about 18 minutes.

Special nonstop Airport-to-Seaport service connecting the airport and the cruiseship terminals will operate primarily from 8:00 am to 4:00 pm Friday through Monday. Service will be coordinated with cruise ship schedules but generally will be most frequent between 8:30 am and 10:00 am. The trip from MIA to the Seaport will take 12 minutes.

LPA Preliminary Design Details

The LPA is a multimodal alternative that combines the best solutions to moving people along the East-West Corridor. It provides rail service to neighborhoods including Grapeland Heights, Huntington, Grove Park, and Little Havana, that are not currently served by rail transit. The proposed highway improvements add 43.8 lane miles—23.4 at-grade, 18.1 on retained fill and 2.3 on aerial structures—creating a continuous eight-lane highway. A new toll facility near NW 17th Avenue will replace the existing one with a fully automated system that allows vehicles to pass through much faster. The rail line is 11.8 miles long—0.3 miles on retained fill, 9.2 miles on aerial structures and 2.3 miles in a tunnel. There are eight stations, four aerial and four underground, and five park-and-ride lots with approximately 5,000 parking spaces provided.

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A Tunnel in Miami

The tunnel segment will begin just east of the Orange Bowl along NW 6th Street at NW 12th Avenue and continue underground to the Port of Miami, crossing under the Miami River, downtown Miami, and Biscayne Bay. The figure below illustrates the location of the tunnel with respect to some familiar sites within the area. Most of us are aware of what is involved with the construction of an elevated guideway structure, but many of us are immensely curious about constructing a tunnel in Miami. How can it be done properly and safely when the water table in the vicinity of downtown Miami is about two feet below the ground surface?

A state-of-the-art tunneling method will be employed, similar to methods used recently to construct the English Channel Tunnel and rail transit tunnels in Washington, DC; Caracas, Venezuela; Lille, France; and Taipei, Taiwan. A tunnel boring machine (TBM) will excavate the earth along the path of the tunnel and, at the same time, install the concrete lining, segment by segment. The TBM is designed to exert

sufficient forward pressure to hold back the water while grinding and removing the soil and rock. Two separate tunnels will be built for eastbound and westbound tracks, each with a diameter of about 21 feet. This is a very efficient, but slow-moving process; about 40 to 50 feet of tunnel will be dug per day. Compared to aerial guideway alternatives through downtown, the tunnel offers some significant advantages:

- Less impact on properties and buildings
- Less disruption of traffic on roadways or waterways
- Less disruption of utilities—the tunnel will be well below utility lines
- Fewer above ground environmental concerns: historic structures, river/bay crossings, etc.
- Avoids the visual impacts of a continuous aerial structure to the cityscape

East-West Tunnel Section



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Budget

The \$1.7 billion capital cost of the project will be funded through a combination of federal, state, and local funds. Local and state officials are working hard to ensure that funding for Miami's transportation needs is included in new surface transportation legislation currently making its way through Congress. Funds for local match are expected to come from toll revenues, seaport charges, and private sources.

Schedule

The East-West Multimodal Corridor MIS/DEIS began in August 1993 and was completed in October 1995. A public hearing on the DEIS was held in early December 1995. The MPO selected a locally preferred alternative in March 1996. A projected schedule for implementing the rest of the project is shown below.

- Submit Final EIS for FHWA/FTA Approval: May 1997
- Receive FHWA/FTA Approval: June 1997
- Distribute FEIS to Agencies: July 1997
- Begin Design: January 1998
- Begin Highway Construction: 1998
- Begin Transit Construction: 2000
- Open New Transit System: 2007

Conclusion

These improvements will play a key role in the regional transportation system by improving circulation, through better highways, a system of interconnected rail lines, expanded bus service, and by providing additional pedestrian and bicycle facilities. A new high-quality service will efficiently move the citizens and visitors of Dade County and help improve our quality of life in the years to come.

More Information

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