Presented by:
Courtney Drummond, PE - Assistant Secretary for Engineering and Operations, FDOT & Douglas D. Geiger, PE - Chair, ACEC-FL Transportation Committee

Announced by:
Paul G. Foley, PE - ACEC-FL Outstanding Projects Awards Committee & Timothy Lattner, PE - ACEC-FL Outstanding Projects Awards Committee
2019 OUTSTANDING PROJECT AWARDS

Award Categories

• Outstanding Major Project
• Outstanding Design-Build Project or CM at Risk Project
• Outstanding Roadway Project
• Outstanding Bridge Project
• Outstanding PD&E/Planning Projects
• Outstanding Environmental Project
• Outstanding Special Project
Award Categories

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OUTSTANDING MAJOR PROJECT

Krome Avenue/SR 997
CONNECTING THE COMMUNITY

The Krome Path is a 10-foot, 8.5 mile shared-use path on the east side of the roadway providing an important north-south connection for bicycles and pedestrians in Miami Dade County.
FDOT TAKES A HUGE STEP TOWARDS VISION ZERO

Krome Avenue has a long history of fatal and severe crashes. Through extensive outreach and the efforts of “Lost Lives of Krome Foundation,” safety improvements included 12’ travel lanes separated by a 40’ grass median with lighting on both sides of the road, guardrail and a multi-use trail for walking and biking.
INNOVATIVE IDEAS, COST SAVING SOLUTIONS

- Reduction in concrete light pole foundation lengths
- Replacing the steel sheet pile with a concrete pile and panel system
- Using LBR 126 surcharge embankment material as the roadway base

COST SAVINGS = $1,670,486.11
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Outstanding Design-Build Project

I-75 Corridor from South of HEFT (SR 821) to I-595
2019 OUTSTANDING DESIGN-BUILD PROJECT

15 miles of median express lanes

$485M
• Direct Connect HEFT Express Lanes to those of I-75
• Reconstruct Interchange at Miami Gardens Drive
• Express Lane Ingress/Egress Points
• Sound Barriers
• ITS and Tolling
PROJECT IMPROVEMENTS

- Interchange Reconstruction at Pines Blvd and Miramar Pkwy
- Express Lane Ingress/Egress Points
- Sound Barriers
- Signage, Lighting, Landscaping
- ITS and Tolling

Segment C
PROJECT IMPROVEMENTS

• Interchange Reconstruction at Sheridan St, Express Lane Ingress/Egress Points
• Sound Barriers
• Signage, Lighting, Landscaping
• ITS and Tolling
PROJECT IMPROVEMENTS

- Direct Connect I-595 Lanes to I-75 Express Lanes
- Express Lane Ingress/Egress Points
- Sound Barriers
- Signage, Lighting, Landscaping
- ITS and Tolling
I-75 EXPRESS LANES TEAM

FDOT 75 EXPRESS

WGI WSP
INSPIRED BY DESIGN

With CEI Services by:
Eisman & Russo, Corradino Group,
Target Engineering Group, A&PCT

2019 ACEC-FL Transportation Conference
Award Categories

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- Outstanding Special Project
outstanding roadway project

SR-7 (US 441) / NW 7th Avenue from NW 8th St. to NW 36th St. Urban Reconstruction Project

FDOT FM No. 425598-1-52-01
outstanding roadway project
SR-7 (US 441) / NW 7th Avenue from NW 8th St. to NW 36th St. | Urban Reconstruction Project | FDOT FM No. 425598-1-52-01

project team

FDOT
Florida Dept. of Transportation

bpa
Bolton Perez & Associates
outstanding roadway project

SR-7 (US 441) / NW 7th Avenue from NW 8th St. to NW 36th St.  | Urban Reconstruction Project  | FDOT FM No. 425598-1-52-01

project scope

Complete reconstruction of 2.1 miles of roadway within the City of Miami’s urban epicenter, while maintaining services to all businesses along the corridor. With SR-7 (US 441) / NW 7th Avenue often being used to relieve congestion on I-95, project completion was accelerated prior to I-395 reconstruction. Work included:

✓ Drainage  
✓ Water & Sewer via JPA  
✓ Lighting & Signalization  
✓ Curb & Gutter  
✓ Signing & Pavement Markings
outstanding roadway project
SR-7 (US 441) / NW 7th Avenue from NW 8th St. to NW 36th St. | Urban Reconstruction Project | FDOT FM No. 425598-1-52-01

project challenges

• Replacing 70 year old water and sewer lines
• AT&T and Comcast conflicts and schedule impacts
• Drainage conflicts
• Pedestrian pathways
• “Train” construction method utilized to minimize impacts
Award Categories

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2019 OUTSTANDING BRIDGE PROJECT

Rehabilitation of the Main Street Bridge over St. Johns River
**SCOPE OF WORK**
Replace Lift Span Operating Machinery

**CHALLENGE**
Bridge Must Remain Open to Vehicular Traffic, Bicycles, Pedestrians and Operate for Navigation Throughout Construction

**SOLUTION**
Design Temporary Operating System Allowing Lift Span Operation with Half the Operating Machinery
Pinion and Operating Drum Machinery Replaced

- 3000 Kip Span
- 365 Feet Long
- 98 Feet Lift Height

All Idle Sheave and Operating Wire Ropes Replaced

- Temporary Operating System At End of Span
- Prevent Transverse Skew of Span Under Single Pinion Operation

Temporary System Static Wires Run Up and Down Tower
Temporary Operating System

System of Pulleys and Static Wire Ropes
- Pulley Wheel Mounted to Movable Span
- Static Wire Connected to the Top and Bottom of Support Tower
- 4 to 8 Inch Gap Between Tower and Lift Span
Reduced Roadway User Cost by Eliminating Over One Year of a Detour

Reduced Construction Time

Lessened Inconvenience to Marine, Vehicular, Bicyclists, and Pedestrian Traffic
Award Categories

- Outstanding Major Project
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PD&E Study
Replacement of the Northbound I-275/Howard Frankland Bridge
District 7
Features:

- > 15,000 ft long bridge crossing
- Connects Pinellas/St Petersburg with Hillsborough/Tampa
- NB bridge built in 1960’s, SB bridge built in 1990’s
- NB bridge reached structural deficiency by 2009
- 253 crashes 2011-15 on bridges alone
- 2016: >157,500 vehicles per day – 2040: >225,000 vpd
- FTA Grant to Pinellas MPO/PSTA advanced PD&E study for FDOT to replace bridge and consider cross-bay transit
OUTSTANDING PD&E/PLANNING PROJECT

PD&E Study-NB I-275/Howard Frankland Bridge Replacement

Possible Typical Sections

Interim for NB Repl 4GP - 1ML/4GP
Ultimate for NB Repl 4GP - 2ML/4GP
Ultimate for SB Repl 4GP/2ML - 2ML/4GP

Transit (Rail) Envelope

Interim for NB Repl 4GP - 1ML/4GP
Ultimate for NB Repl 4GP - 2ML/4GP
Ultimate for SB Repl 4GP/2ML - 2ML/4GP

Transit (Rail) Envelope

Transit (Rail) Envelope

ACEC
AMERICAN COUNCIL OF ENGINEERING COMPANIES
OF FLORIDA
More and More Possible Typical Sections

After several years...
TB Express
Then TB Next
Build Alternative:
- ~170 foot wide new bridge
- Outside of 1990s SB structure
  - Bike/Pedestrian Trail
  - 4 General Purpose Lanes (SB)
  - 4 Express Lanes (2SB/2NB)
- Convert 1990s SB bridge to NB
- Above Vulnerable Wave Heights
- Limits Seagrass Impacts
- MOT simplified
- ~$815M Construction Estimate
Approved Build Alternative

Howard Frankland Bridge
This is what we are proposing to build in 2020.

- New Bridge with Bike/Ped Trail on the Outside and 2 Express Lanes in each Direction
- Existing Southbound Converts to Northbound

2020’s bridge

1990’s bridge

Future with Transit

Howard Frankland Bridge
This is how we would accommodate rail transit in the future.

- Southbound Bridge with Express Lanes and Rail Transit
- Northbound Widened to Outside to Accommodate Express Lanes

Same 2020’s bridge

Widen 1990’s bridge->
Unique Elements:

• Regional **Transit** Corridor Evaluation (Tampa/St Pete)

• **Extensive public involvement** (overcame public controversy, held multiple public meetings—two public hearing locations Pinellas & Hillsborough)

• **Multi-agency Coordination:** Forward Pinellas MPO, Hillsborough County MPO, PSTA, HART, TBARTA, USFWS, NMFS, USACE, FWC, SWFWMD, SHPO, USCG.

• One of first Type 2 Categorical Exclusions processed through SWEPT by District 7 and **approved by FDOT OEM**

• “Expedited” schedule due to **Design-Build** plans for late 2019
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I-95 at 45th Street Interchange
PD&E Study
Project Description

PD&E Study to identify short-term and long-term needs of I-95 and develop design concepts to address traffic spillback onto I-95, improve interchange operations, reduce congestion, and increase safety at the study interchange. This study also considered Strategic Intermodal System (SIS) connector improvements needed within the project area and plans for the I-95 mainline, including the potential extension of I-95 managed lanes through Palm Beach County.

FDOT PM: Robert Lopes, PE
Consultant PM: Jeff V. Easley, PE
FPID: 436519-1-22-01
NTP Date: March 22, 2016
LDCA Date: May 25, 2018
I-95 at 45th Street Interchange PD&E Study

Unique Challenges

- 45th Street - SIS Connector
- Primary truck access to Port of Palm Beach (Peak Period: 15-18% Truck Traffic)
- Horizontal geometry
- Extensive Public Involvement Program
- Aggressive schedule

Innovation

- First Diverging Diamond Interchange (DDI) recommended in District 4
- Maximum benefits at lowest construction costs
- TSM&O enhancements

Partnering

- Considered 45th Street Context Classification effort by District 4 Office of Modal Development and Planning & Environmental Management
- Collaboration with City of West Palm Beach and Town of Mangonia Park to minimize ROW impacts and develop a multimodal solution
The DDI concept will improve safety at the interchange; provide no worse than a Level of Service (LOS) D through the design year 2040; reduce queuing on the I-95 ramps; and eliminate spillover onto I-95. These benefits satisfy the purpose and need of the PD&E Study. The project is consistent with the potential extension of the I-95 managed lanes through Palm Beach County. The improvements to the I-95 Interchange at 45th Street will provide additional capacity for vehicles travelling east-west as well as operational improvements north-south through the interchange. Local and network connectivity for the City of West Palm Beach, the Town of Mangonia Park, and Palm Beach County will be improved.
I-95 at 45th Street Interchange PD&E Study

Hanson Professional Services Inc.
Prime Consultant

Interchange Access Request
Roadway
Drainage
Constructability Review
Maintenance of Traffic
Public Involvement
Documentation

The Corradino Group, Inc.
Preliminary Engineering
Roadway Concept Design

CTS Engineering, Inc. (DBE/SB)
Data Collection
Safety Analysis

E Sciences, Incorporated (SB)
Environmental Analysis
Documentation

CSI Geo, Inc. (DBE/SB)
Geotechnical Investigation

Finley Engineering Group, Inc.
Structural Analysis

Keith & Associates, Inc.
Utility Coordination
Surveying

Janus Research, Inc. (SB)
Cultural Resources

I. F. Rooks & Associates, LLC
Photogrammetric Mapping
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SR 30 Shared Use Path in Wakulla County

- 8.6 Miles of Scenic Shared Use Path
- Designed to Protect & Preserve Natural Features
- 2 Boardwalks to Minimize Wetland Impacts
Selective Clearing and Grubbing & Tree Protection

Design Process & Tree Designation

OUTSTANDING ENVIRONMENTAL PROJECT

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ACEC
American Council of Engineering Companies of Florida
Geophysical subsurface investigation was used to quickly determine alternative alignment shift options around a sinkhole.
OUTSTANDING ENVIRONMENTAL PROJECT

EGS
Environmental and Geotechnical Specialists

KeA

FDOT

Gortemoller Engineering, Inc.

Jacobs

WGI

Carpe Diem Community Solutions, Inc.

2019 ACEC-FL Transportation Conference

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One challenge of the project was the erection of the bowstring truss over the existing widening project on I-95 within a very limited amount of time.
To represent the historical buildings in Fellsmere, the towers on the bridge were constructed using form liners that create the look of wood panels.
This project is a critical link in the North Indian River County Greenways Master Plan, creating a shared-use connection and encouraging alternative modes of travel. The project connects with existing greenways and provides pedestrians and bicyclists with convenient access to area parks, conservation areas, recreational and educational facilities.
The goal of the Greenway system is to increase environmental benefits while supporting wildlife protection and enhancing quality of life through recreational use and physical activity.
CONGRATULATIONS!!!