



# VENETIAN CAUSEWAY (Venetian Way)

Project Development & Environment (PD&E) Study  
FROM NORTH BAYSHORE DRIVE TO PURDY AVENUE

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FM No. 422713-2-22-01

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Efficient Transportation Decision Making (ETDM): 12756



Venetian Way Neighborhood Alliance

*Board Meeting*

**April 12, 2016.**

**Florida Department of Transportation - District 6**



**PROJECT MANAGER**  
Dat Huynh, PE



**CONSULTANT**  
**PROJECT MANAGER:**  
Enrique "Rick" Crooks, PE  
EAC CONSULTING, INC.



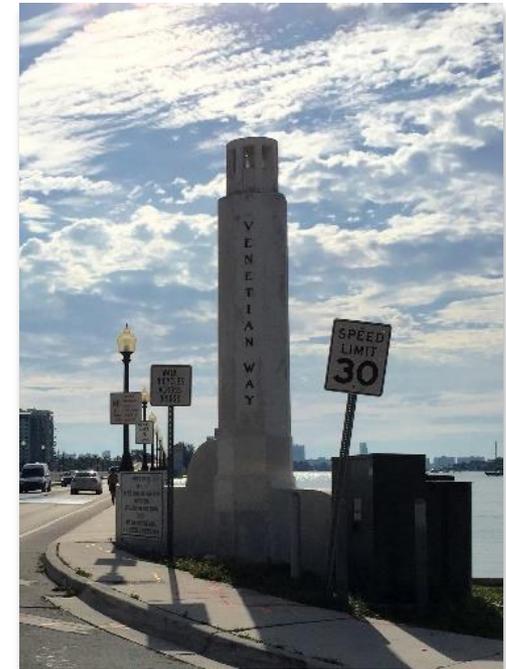
U.S. Department  
of Transportation  
**Federal Highway  
Administration**

## Purpose and Need for Project

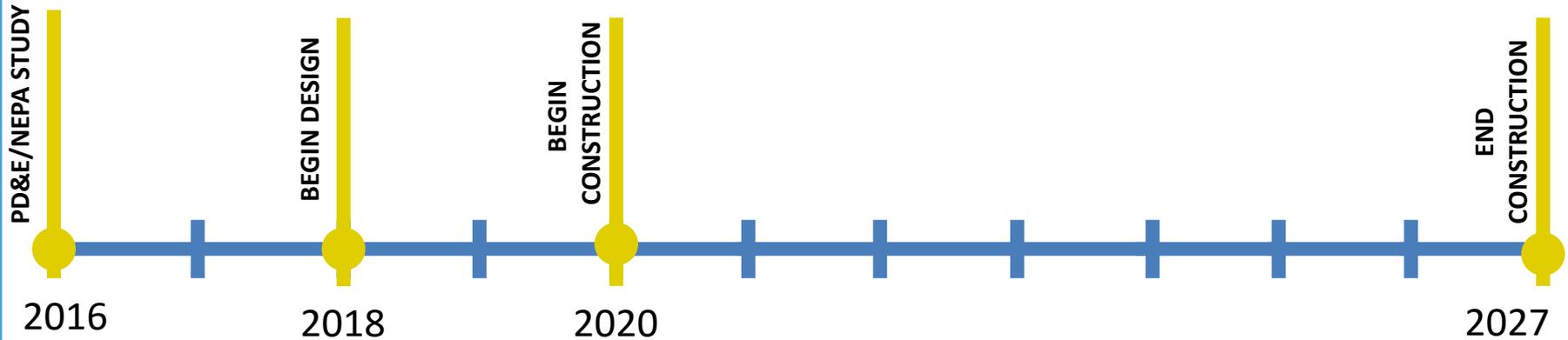
The purpose of the proposed project is to address identified structural and functional deficiencies of the twelve existing bridges (ten low-level fixed spans and two movable bascules), through potential alternatives such as replacement or rehabilitation.

## Project Status Update

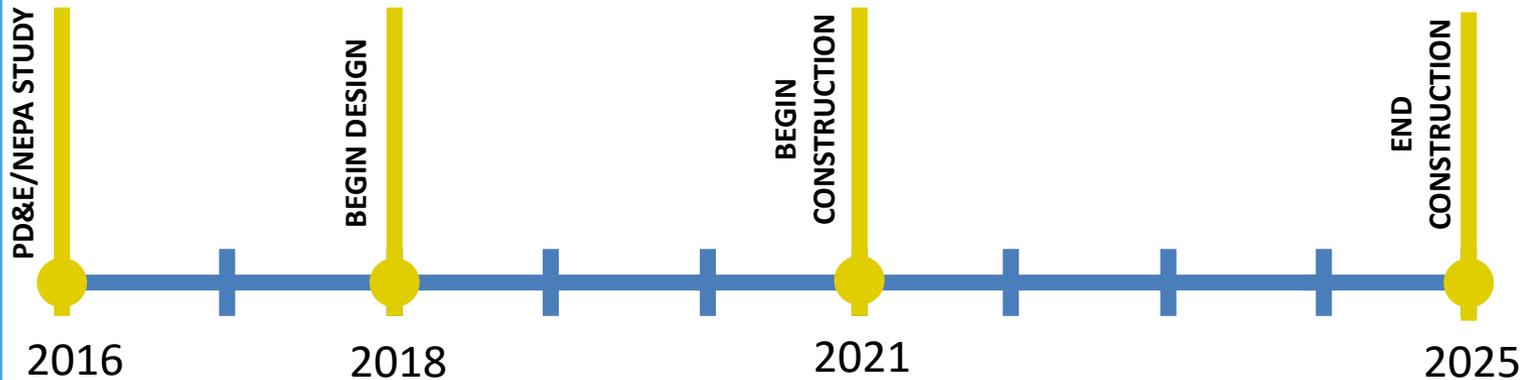
- **Anticipated Schedule**
- **Structural and Functional Deficiencies**
- **No-Build Alternatives**
- **Build Alternatives**
- **Estimated Costs**
- **Environment**
- **Next Steps**



## REHABILITATION (25-year Service Life)



## REPLACEMENT (75-year Service Life)



| Bridge No. | DOT Bridge # | NBI Condition Rating |      |      |      |      |       | Deficiency FO/SD |
|------------|--------------|----------------------|------|------|------|------|-------|------------------|
|            |              | Sufficiency Rating   |      |      |      |      |       |                  |
|            |              | 2011                 | 2012 | 2013 | 2014 | 2015 | 2016* | 2016             |
| 1          | 874459       | 32.6                 | 32.6 | 32.6 | 19   | -    | -     | -                |
| 2          | 874460       | 52                   | 52   | 54.7 | 45.9 | 45.9 | 45.9  | FO               |
| 3          | 874461       | 55.5                 | 55.5 | 52.2 | 46   | 46   | 36.5  | FO               |
| 4          | 874463       | 55.5                 | 55.5 | 55.3 | 46   | 46   | 36.5  | FO               |
| 5          | 874465       | 47.9                 | 47.9 | 47.6 | 36.5 | 36.5 | 36.5  | FO               |
| 6          | 874466       | 57.6                 | 57.6 | 54.4 | 48.2 | 48.2 | 39.2  | FO               |
| 7          | 874471       | 55.5                 | 49.9 | 52.2 | 46   | 46   | 46    | FO               |
| 8          | 874472       | 55.5                 | 55.5 | 55.2 | 46   | 46   | 36.5  | FO               |
| 9          | 874473       | 64                   | 64   | 61   | 48.7 | 48.7 | 48.7  | FO               |
| 10         | 874474       | 57.5                 | 54.5 | 54.5 | 32.1 | 32.1 | 32.1  | FO               |
| 11         | 874477       | 64                   | 64   | 56.7 | 41   | 41   | 30    | FO               |
| 12         | 874481       | 68.1                 | 68.1 | 68.1 | 40.4 | 40.4 | 40.4  | FO               |

\* Based on FDOT Bridge Information, April 1<sup>st</sup> 2016

FO= Functionally Obsolete SD= Structural Deficient

## Alt. 1 - Do Nothing

- Existing Deficiencies will Remain
- Continued Deterioration
- Extensive Periodic Repairs and Maintenance



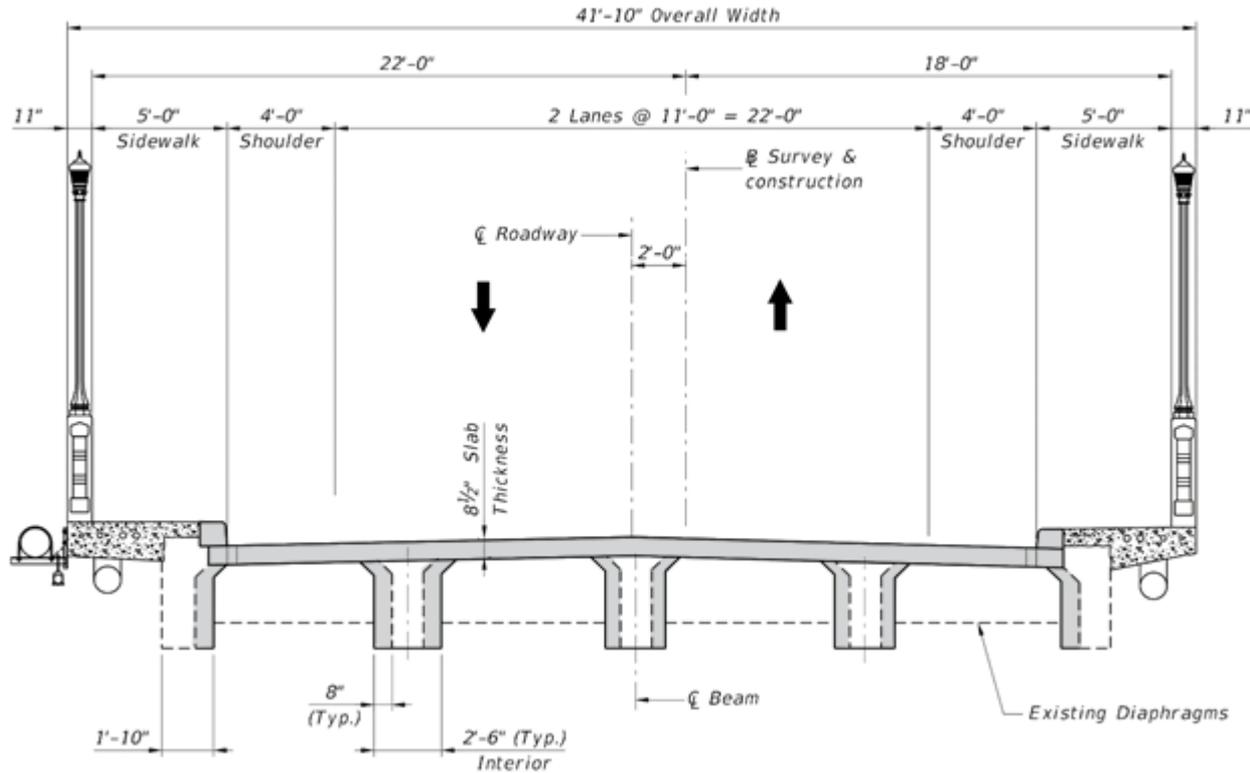
## Alt. 2 - Transportation System Management

- Enhanced Bus service
- Facilitate Pedestrians and Bicyclists
- Existing Deficiencies will remain, but safe bridges required for effective TSM

**Does not meet purpose and need for project**

## Rehabilitation Alternatives

### Alt. 4 - Fixed Bridge Rehab with Beam Strengthening



### Typical Section

#### Estimated Cost Range:

**\$42 - \$44 Million**

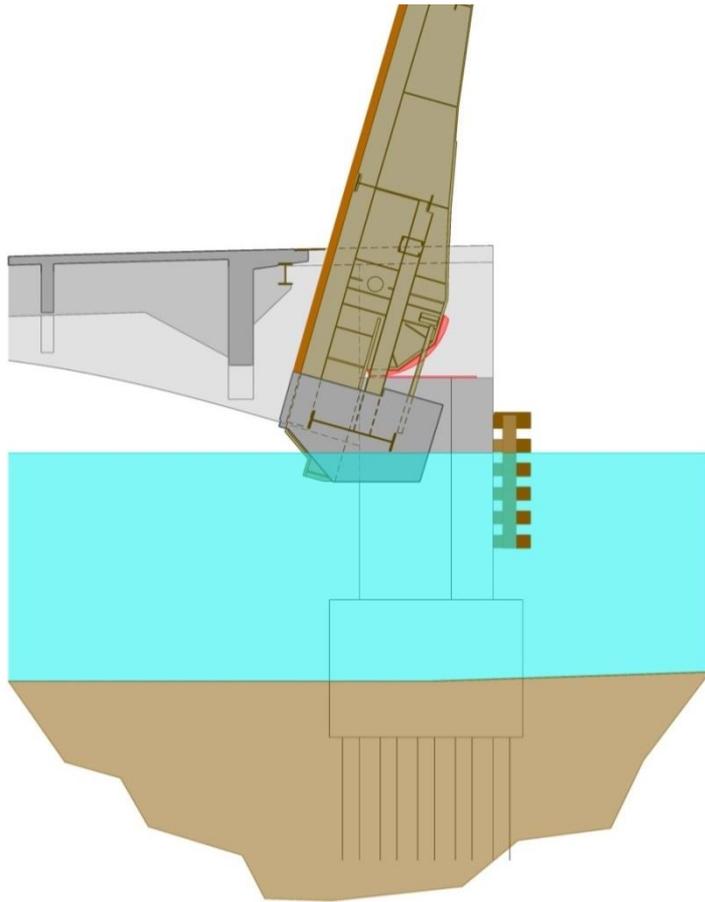
- Expand Sidewalk to 5 feet to meet minimum requirement for ADA
- 4 foot Shoulder does not meet 5.5 foot shoulder requirement for bike lane

#### Rehabilitation includes:

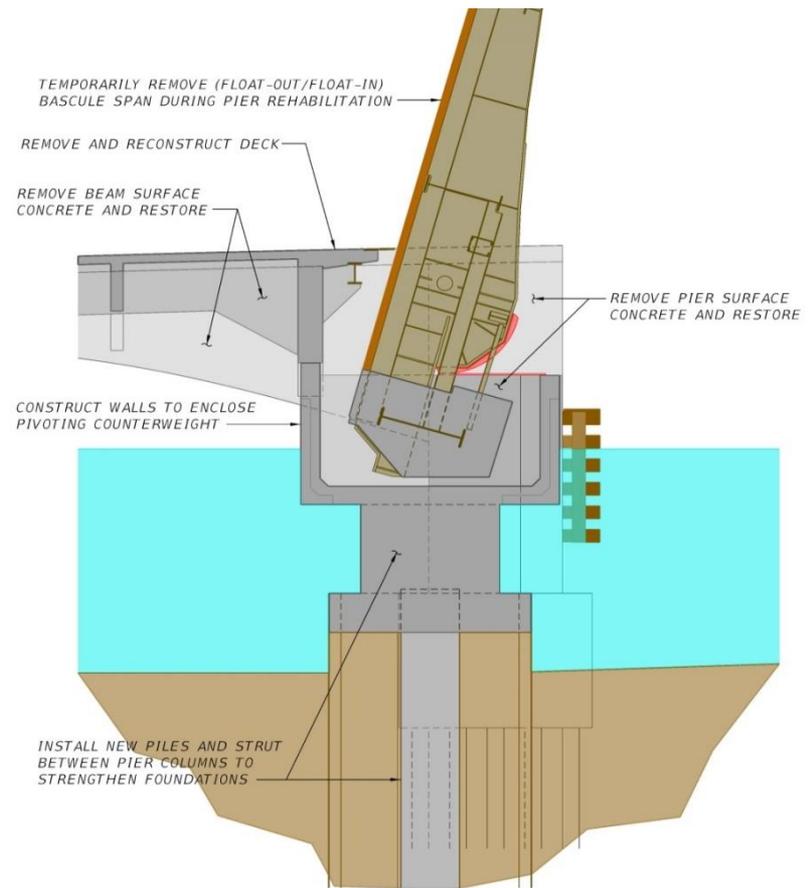
- Deck Replacement Beam and Foundation Strengthening
- 41'-10" Overall width to remain, Venetian Railing to remain

## Rehabilitation Alternatives

### Alt. M1 - Bascule Bridge Rehabilitation



SECTION THRU EXISTING BASCULE SPAN



SECTION THRU REHABILITATED BASCULE SPAN

**Estimated Cost Range: \$8 - \$9 Million**

## Replacement Alternatives – Typical Section Selection

Alt. 7

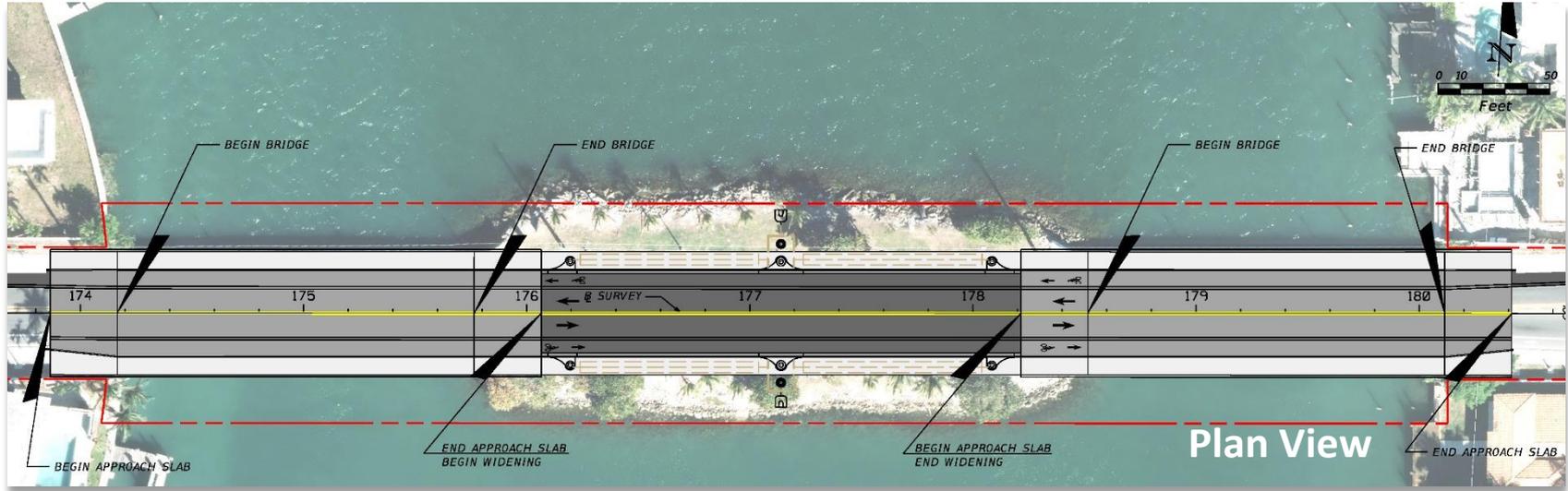


FIXED BRIDGE TYPICAL SECTION

## Replacement Alternatives – Fixed Bridges

Alt. 7

### Alt. 7 – Arch Beam

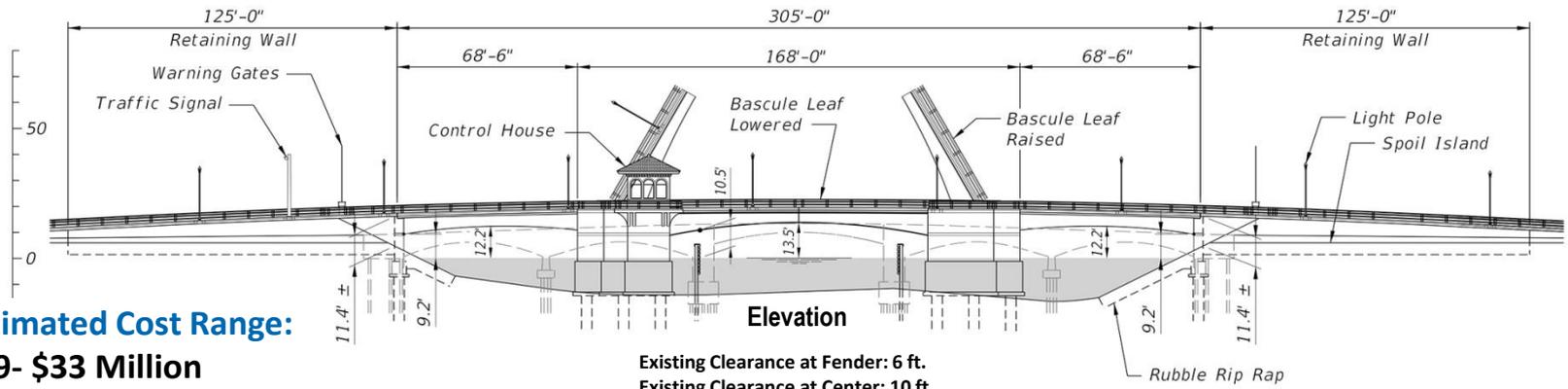
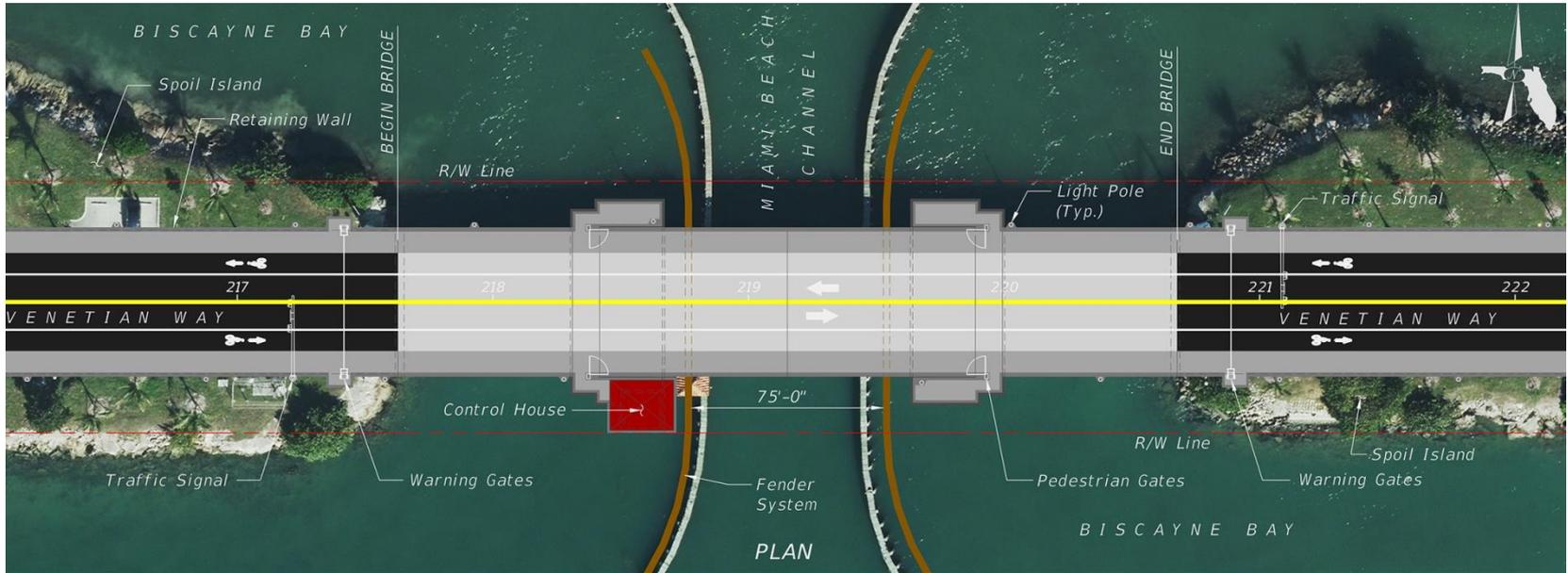


**Estimated Cost Range:**  
**\$36 - \$41 Million\***

*\*High Range for Phased Construction*

## Replacement Alternative – Movable Bridges

### Alt. M4 – Double Leaf Bascule Bridge



**Estimated Cost Range:**  
**\$29- \$33 Million**

Existing Clearance at Fender: 6 ft.  
 Existing Clearance at Center: 10 ft.

## Replacement Alternative – Movable Bridges

### Alt. M4 – Double Leaf Bascule Bridge



MOVABLE BRIDGE 10 ELEVATION

## Initial Costs

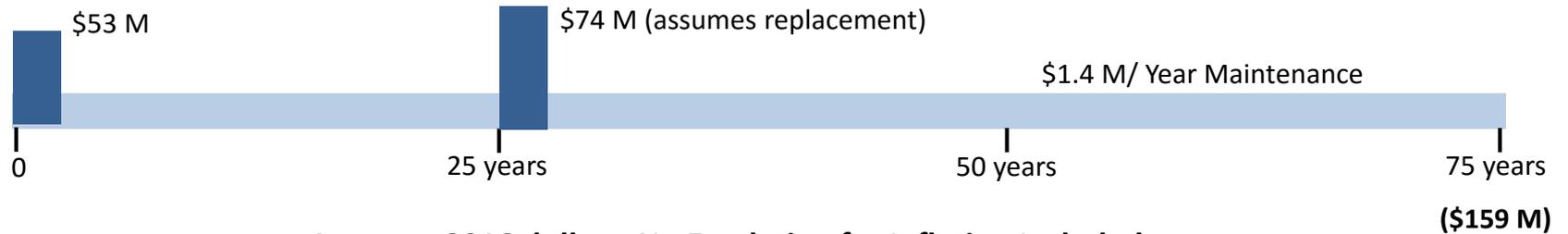
|   |                            |
|---|----------------------------|
| <b>ALT. 4: Fixed Bridge Rehab with Beam Strengthening</b> | <b>\$42 - \$44 Million</b> |
| <b>ALT. M1: Bascule Bridge Rehabilitation</b>             | <b>\$8 - \$9 Million</b>   |
| <b>Total</b>  | <b>\$50 - \$53 Million</b> |

|  |                            |
|--|----------------------------|
| <b>ALT. 7: Arched Beams Replacement</b>    | <b>\$36 - \$41 Million</b> |
| <b>ALT. M4: Double Leaf Bascule Bridge</b> | <b>\$29 - \$33 Million</b> |
| <b>Total</b>                               | <b>\$65 - \$74 Million</b> |

## NO BUILD (Unknown Service Life)



## REHABILITATION (25-year Service Life)



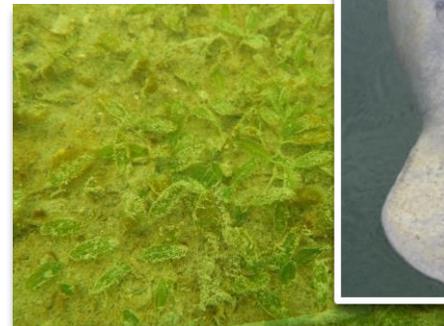
Assumes 2016 dollars. No Escalation for Inflation Included

## REPLACEMENT (75-year Service Life)



## No-Build vs Build

- **No-Build Alternatives result in no environmental impacts**
- **Build Alternatives (Rehab. or Replacement)**
  - Similar natural resource impacts for both rehabilitation and replacement.
  - Potential impact to corals on substructure & scour protection areas
  - Temporary impacts due to construction methods
    - Barge Use, water quality, noise, air quality
  - Minimal threatened & endangered species involvement
    - Informal Section 7 (of the Endangered Species Act) Consultation with USFWS & NMFS
  - Retain and improve bicycle and pedestrian access



## Historic Resource Impacts of No-Build vs. Build

- **No-Build Alternatives result in No Adverse Effects/Impacts to the historic resources**
  
- **Build Alternatives**
  - Rehabilitation - May Likely Result in Adverse Effects/Impacts to the historic resources
  - Replacement - Adverse Effects/Impacts to the historic Resources
  
- **Adverse Effects**
  - Section 106 Effects Determination Case Study Report, Memorandum of Agreement, and further consultation with affected parties will be necessary.
  - Section 4(f) documentation also required.

Project Scope Development

Future PD&E / NEPA Study

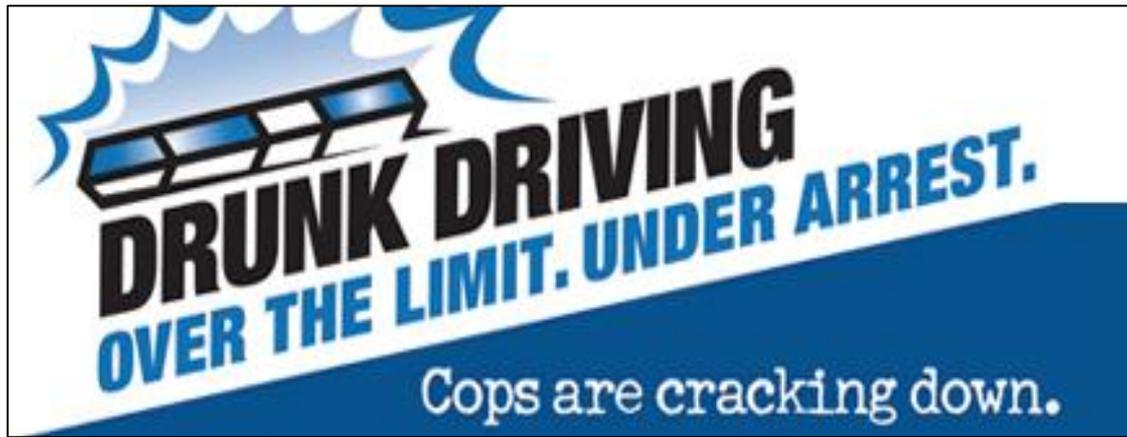


### LEGEND

**CRC:** Cultural Resource Committee

**MTG:** Meeting

**PAG:** Project Advisory Group



## FDOT Contact

**Project Manager: Dat Huynh, PE**

Email: [Dat.Huynh@dot.state.fl.us](mailto:Dat.Huynh@dot.state.fl.us)

Phone: 305-470-5217

## Miami-Dade County Contact

**Public Information Officer: Bobbie C. Crichton**

Department of Transportation and Public Works

Email: [bclc@miamidade.gov](mailto:bclc@miamidade.gov)

Phone: 786-469-5384

## ONLINE

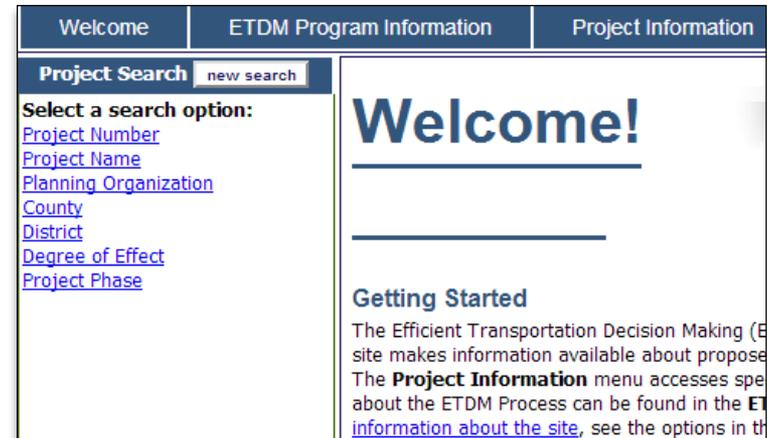
- Project webpage - Updates posted weekly

<http://www.fdotmiamidade.com/venetianbridgestudy>

- Efficient Transportation Decision Making (ETDM)

<https://etdmpub.fla-etat.org/est/>

- **Click on Project Number on left hand menu**
- **Type in 12756**
- **Click "Go" or press Enter**



The screenshot shows a web browser window with a navigation bar at the top containing 'Welcome', 'ETDM Program Information', and 'Project Information'. Below the navigation bar is a 'Project Search' section with a 'new search' button. Underneath, there is a 'Select a search option:' section with a list of blue hyperlinks: 'Project Number', 'Project Name', 'Planning Organization', 'County', 'District', 'Degree of Effect', and 'Project Phase'. To the right of the search options is a large 'Welcome!' heading followed by a horizontal line. Below that is a 'Getting Started' section with introductory text about the ETDM process and a link to 'information about the site'.