WELCOME TO:

Sarasota County

The Blackburn Point Bridge
Project Development and Environment (PD&E) Study

Alternatives Public Meeting

TONIGHT'S AGENDA

Sarasota County

- ❑ PD&E Study Process
- ❑ Project Purpose and Need
- ❑ Existing Conditions
- ❑ Alternatives to be Studied
- ❑ Project Schedule
- ❑ How to Comment

PD&E STUDY (NEPA) PROCESS

Project Development & Environment (PD&E) Study following the requirements of the National Environmental Policy Act (NEPA)

- Purpose and Need
- Environmental Studies
- Alternatives Analysis
- Technical Reports
- Public Involvement
- Environmental Document Approval

PROJECT PURPOSE AND NEED

Sarasota County

The purpose of the project is to review alternatives to replace the Blackburn Point Bridge (Bridge No. 170064) on Blackburn Point Road (County Road (CR) 789) over the Gulf Intracoastal Waterway in Osprey, Sarasota County, Florida. The need for the project is based on the following criteria:

- Bridge Deficiencies
- Safety
- Modal Interrelationships (ability to accommodate all current means of transportation)

PROJECT LOCATON AND LIMITS

PROJECT LOCATON AND LIMITS

BRIDGE HISTORY

Blackburn Point Bridge

- Constructed in 1925-26
- Listed on the National Register of Historic Places and the Sarasota County Register of Historic Places
- The PD&E project will follow the requirements of the National Environmental Policy Act (NEPA) and Sarasota County in addressing affects to a historic resource

BRIDGE DEFICIENCIES

- Structural conditions
  - Steel truss corrosion
  - Piling deterioration
  - Fender system impact damage
- Mechanical conditions
  - Substandard design
  - Component wear and deterioration
  - Outdated equipment well beyond service life
- Electrical conditions
  - Outdated equipment well beyond service life

Many of these issues are the result of insufficient clearance over salt water and inadequate design and construction standards at the time

BRIDGE DEFICIENCIES

Sarasota County

Photographs representative of existing conditions of the swing bridge's main lower truss members

Truss members subjected to tension under truck loading are susceptible to fracture

BRIDGE DEFICIENCIES

Sarasota County

Photographs representative of existing conditions of the swing bridge's main upper truss members

BRIDGE DEFICIENCIES

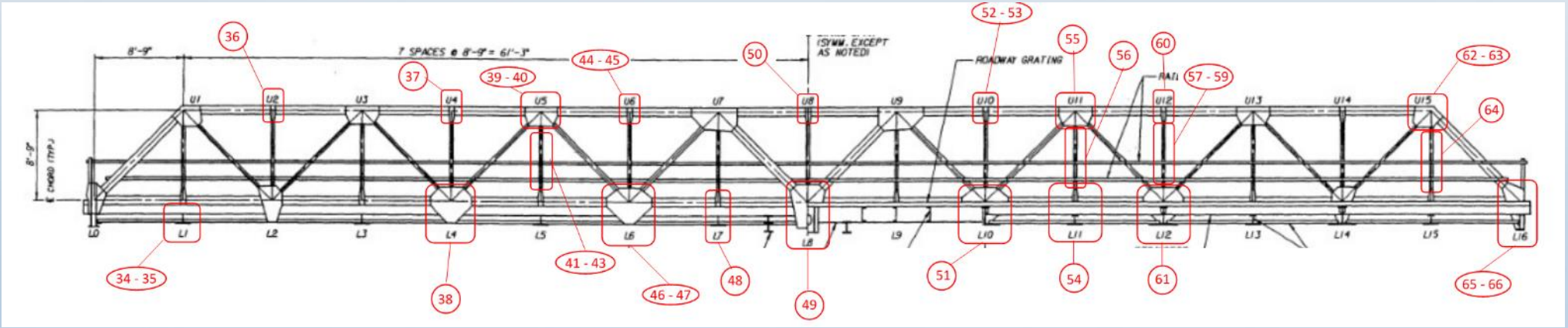
Sarasota County

Prior Major Repairs:

1981 – Major Repairs
(hit by barge)

1987 – Major Repairs

1995 – Major Repairs



Recommended Truss Element Repairs / Replacements (Prepared in 2021)

BRIDGE DEFICIENCIES

Sarasota County

Ongoing Repairs:

- Pinion shaft was replaced three (3) times in the past four (4) years

- Fender system repairs
- Structural repairs

HISTORY OF RECENT REPAIRS	
YEAR	**DESCRIPTION**
1997	Replaced manually-operated end toggles with electrically-operative actuator toggles
2006	Riprap and piling rehab
2009	New pivot bearing, new spider assembly, new upper and lower tracks, new rack, new pinion and shaft, new wheels, new elevator wheel assembly, new drive train assembly
2010	Placed 20 CY flowable fill behind SW timber wingwall
2011	Motor replaced
2012	Gusset plates replaced
2012	**Pinion shaft replacement emergency repair**
2014	End toggle replacements; live load shoes; pivot bearing shim
2016	Drive gear; Gusset plate and truss member retrofits
2019	Gusset plate retrofits ("cheese plates")
2019	Replace drag cables for center pivot
2019	Clean, paint and repair section loss in top chord gusset plates; replace deteriorated rivets
2019	NW quadrant slope protection
2019	**Fender repairs**
2020	Machinery stringer crack retrofitted
2020	Center bearing cover plate replaced
2020	**Fender repair due to boat impact**
2020	Stringer at rest pier 1 trimmed to avoid hitting steel nose plate on approach pavement
2021	Replace conduit system on fender
2021	Riprap at NW Wingwall
2022	Center bearing rehabilitated, new pinion shaft, floorbeam retrofits
2023	Repair grid deck welds
2024	**Pinion shaft emergency replacement (again) due to deformation. New limit switches.**
2025	**Pinion shaft emergency replacement (again) due to deformation**

BRIDGE DEFICIENCIES

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Marine Vulnerabilities:

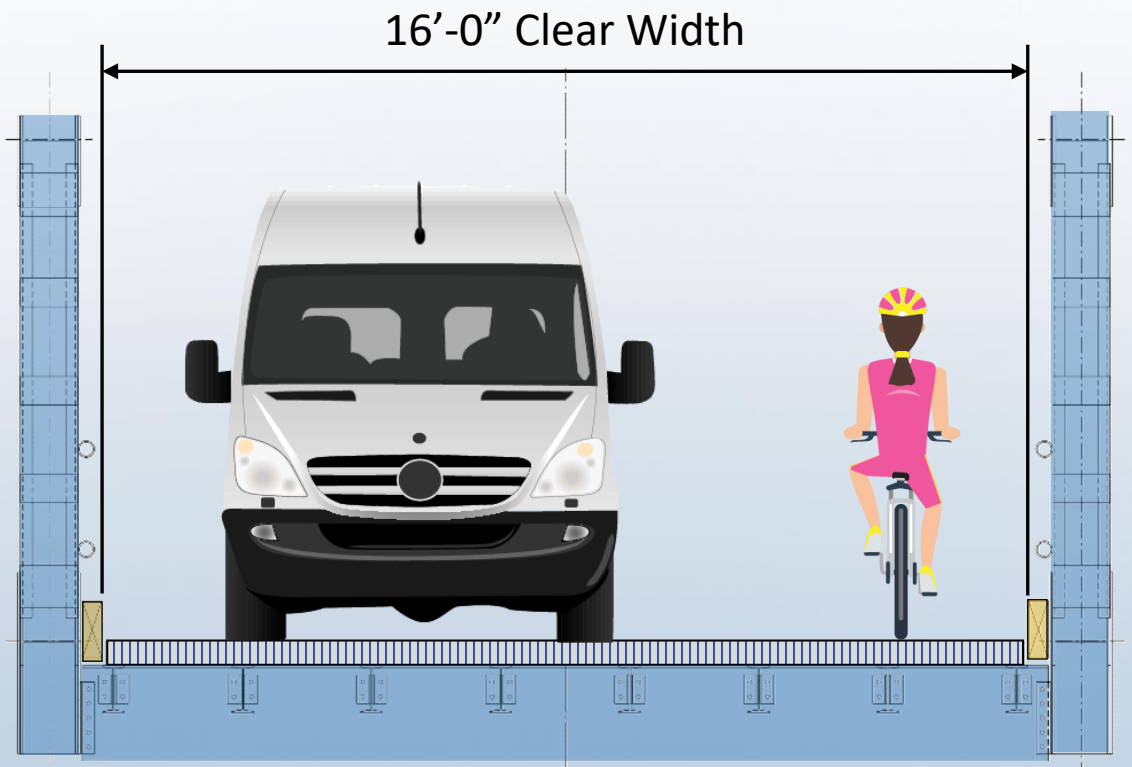
- Existing swing bridge and abutments are not capable of sustaining a direct vessel collision
- The existing bridge low members are within the splash zone, subject to accelerated corrosion due to saltwater and salt laden air

SAFETY – BRIDGE WIDTH / COMPONENTS

Sarasota County

Bridge Width Deficiencies:

- Substandard clear roadway width of only one, 16-foot-wide travel lane
- Despite frequent daily pedestrian and bicycle use, the bridge does not feature shoulders, sidewalks or bicycle lanes
- Minimum required lane and shoulder widths prescribed by the American Association of State Highway and Transportation Officials (AASHTO) are not met.



Existing Swing Span Section

SAFETY - EVACUATION

Sarasota County

Evacuation:

Existing bridge is important for evacuation during a storm event.

Blackburn Point Road between Casey Key and US 41 is a designated emergency evacuation route.

There is insufficient room available to pass a stalled vehicle on the bridge during an emergency.

Proposed improvements will increase bridge width to provide sufficient room for vehicles to pass a stalled vehicle on the bridge.

SAFETY – BRIDGE RAILINGS

Sarasota County

Bridge Railings:

Existing bridge railings do not meet current standards for pedestrians or bicycles.

Existing bridge railings do not meet current geometric and crash testing safety standards for vehicles.

Proposed improvements will provide bridge railings that meet current safety standards for pedestrians, bicyclists, and vehicles.

SAFETY - NAVIGATION

Sarasota County

Substandard Navigational Clearances:

The U.S. Coast Guard (USCG) has determined that the existing navigational clearances are an unreasonable obstruction to navigation for the Gulf Intracoastal Waterway.

Existing Navigation Clearances:

- Horizontal – 51 feet
- Vertical – 9.3 feet

USCG Guide Clearances (Gulf Intracoastal Waterway):

- Horizontal – 90 feet
- Vertical – 21 feet

SAFETY

Sarasota County

Crash History:

Ten (10) crashes without any fatalities were reported within the project area (bridge plus 700 feet either side) from 2019 through 2024.

Two (2) crashes involved pedestrians and bicycles, with the bicycle crash occurring on the bridge and the pedestrian crash occurring west of the bridge.

The addition of pedestrian and cyclist accommodations are proposed for any replacement bridge to enhance safety and mobility for these vulnerable road users.

MODAL INTERRELATIONSHIPS

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Modal Interrelationships:

There are no sidewalks on the bridge to meet current accessibility requirements established by the Americans with Disabilities Act (ADA).

There are no bicycle lanes on the bridge. The bridge has an open grid metal deck which is problematic for bicyclists. An existing warning sign at each end of the bridge states "Walk Bikes Across Bridge".

Multiple pedestrians and bicyclists cross the Blackburn Point Bridge daily.

The proposed improvements for this project will provide sidewalks, bicycle lanes, and a solid bridge deck for enhanced safety.

ALTERNATIVE CONSIDERATIONS

Sarasota County

1. **Constrained Site**
   - 1 Casey Key Fish House
   - 2 Casey Key Library
   - 3 Blackburn Point Park
   - 4 Adjacent Driveways

2. **Potential Environmental Impacts**
   - 5 Historic Bridge
   - 6 Blackburn Point Park
   - 7 Natural Environment

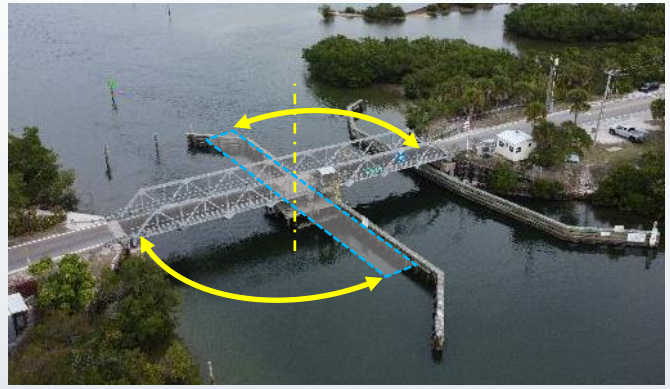
3. **Maintaining Traffic Through Construction**

Detour Route is 10.5 miles via Albee Road

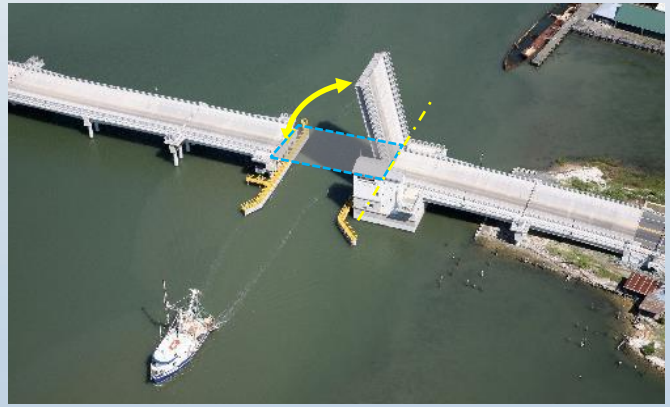
PROJECT ALTERNATIVES

- No-Build:
  - Retain the existing single-lane bridge and repair as necessary to maintain operation and structural adequacy

- Replace with a new bridge:
  - Bridge types under consideration:
    - Swing Span
    - Bascule Span (Single-Leaf)



Swing Span



Bascule Span (single-leaf)

NO BUILD ALTERNATIVE

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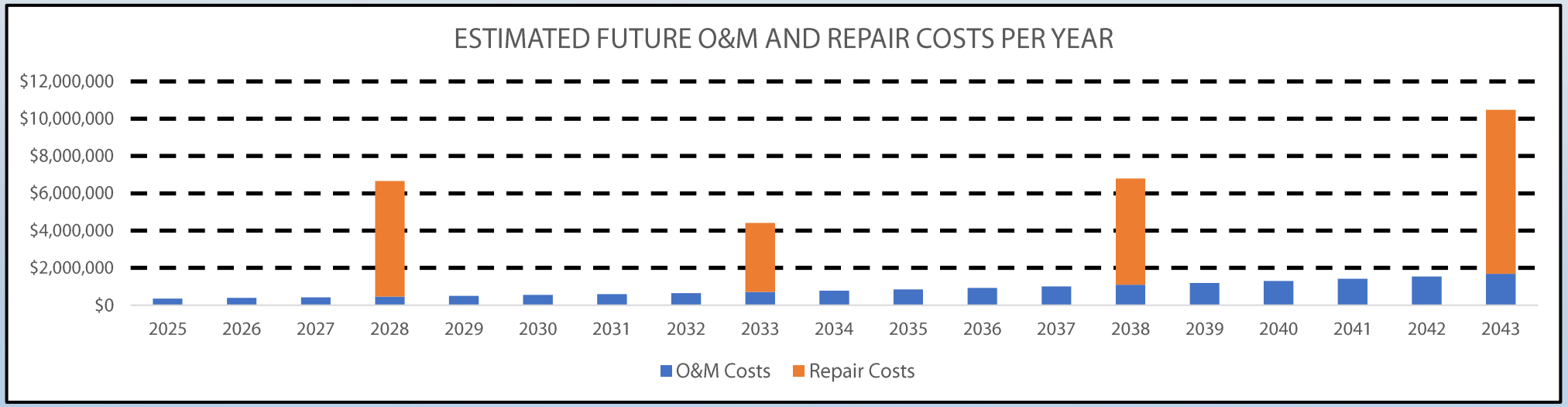
Repair existing bridge to maintain operation and structural adequacy:

- Annual maintenance including minor repairs
  - Cost based on recent trends, escalated for worsening conditions
- Periodic repairs to structure, machinery, fender system, and electrical systems
  - Cost estimated by grouping work into contracts at five-year increments
  - Each contract to address critical deficiencies anticipated in the next five years
  - First contract to address deteriorated steel, drive machinery, & failing retaining walls
  - Major repairs will require detours to implement



REPLACEMENT TYPICAL SECTIONS

Sarasota County

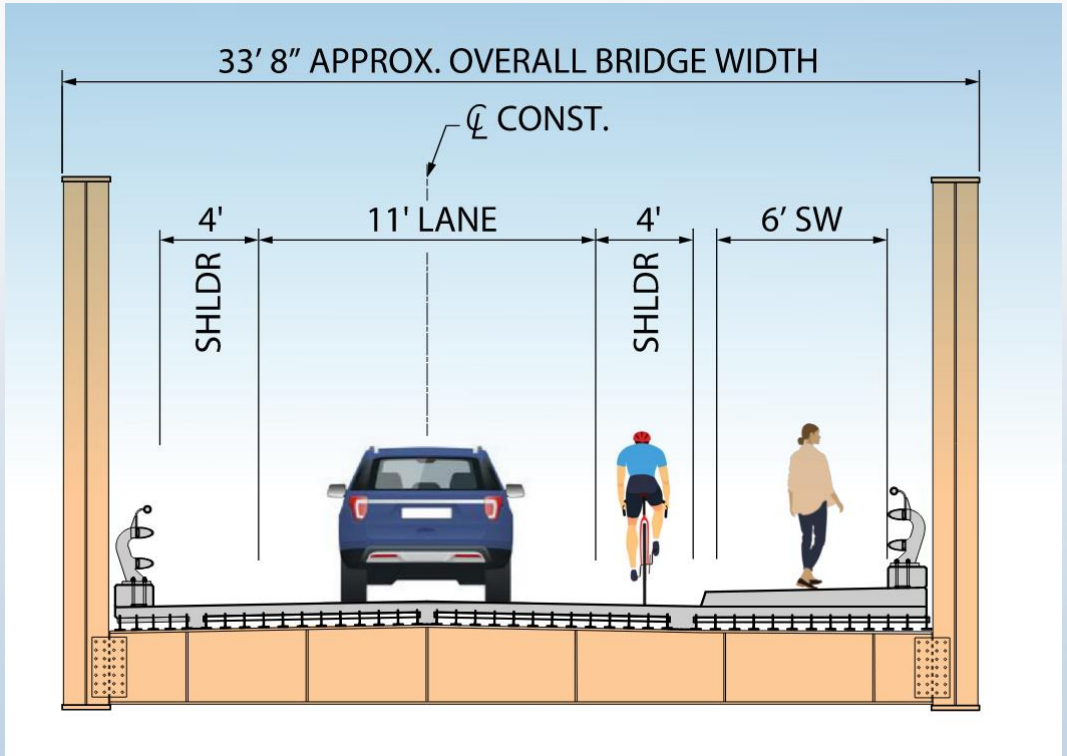
Alternatives include evaluation of three typical section options, one with a single-lane bridge, two with a two-lane bridge:

All sections include:

- 11-foot-wide travel lane(s)
- Safety barriers

Single-Lane Bridge Option:

- 6-foot-wide sidewalk on the south side
- 4-foot-wide shoulders on either side of the lane



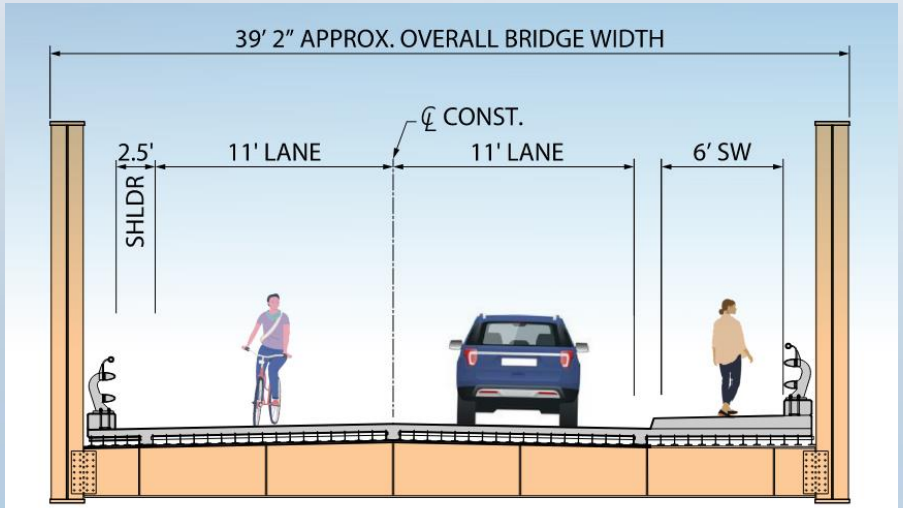
Single-Lane Bridge Option

REPLACEMENT TYPICAL SECTIONS

Sarasota County

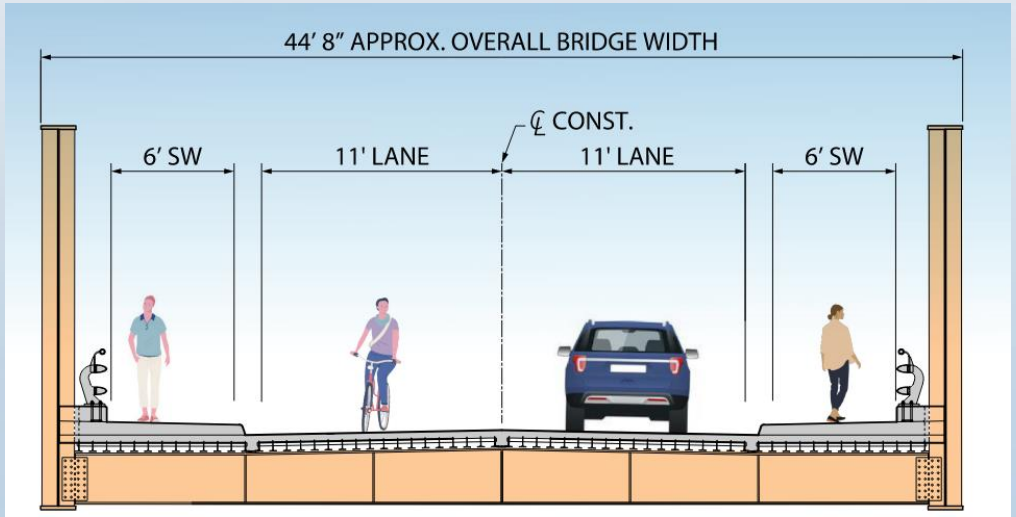
Two-lane bridge Options

- Single sidewalk section:
  - 6-foot-wide sidewalk on the south side
  - 2.5-foot-wide shoulder on the north side



Two-Lane Bridge with One Sidewalk Option

- Two sidewalk section:
  - 6-foot-wide sidewalk on the north and south sides



Two-Lane Bridge with Two Sidewalks Option

HORIZONTAL ALIGNMENT

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The PD&E considers two primary alignment options:

Existing Alignment

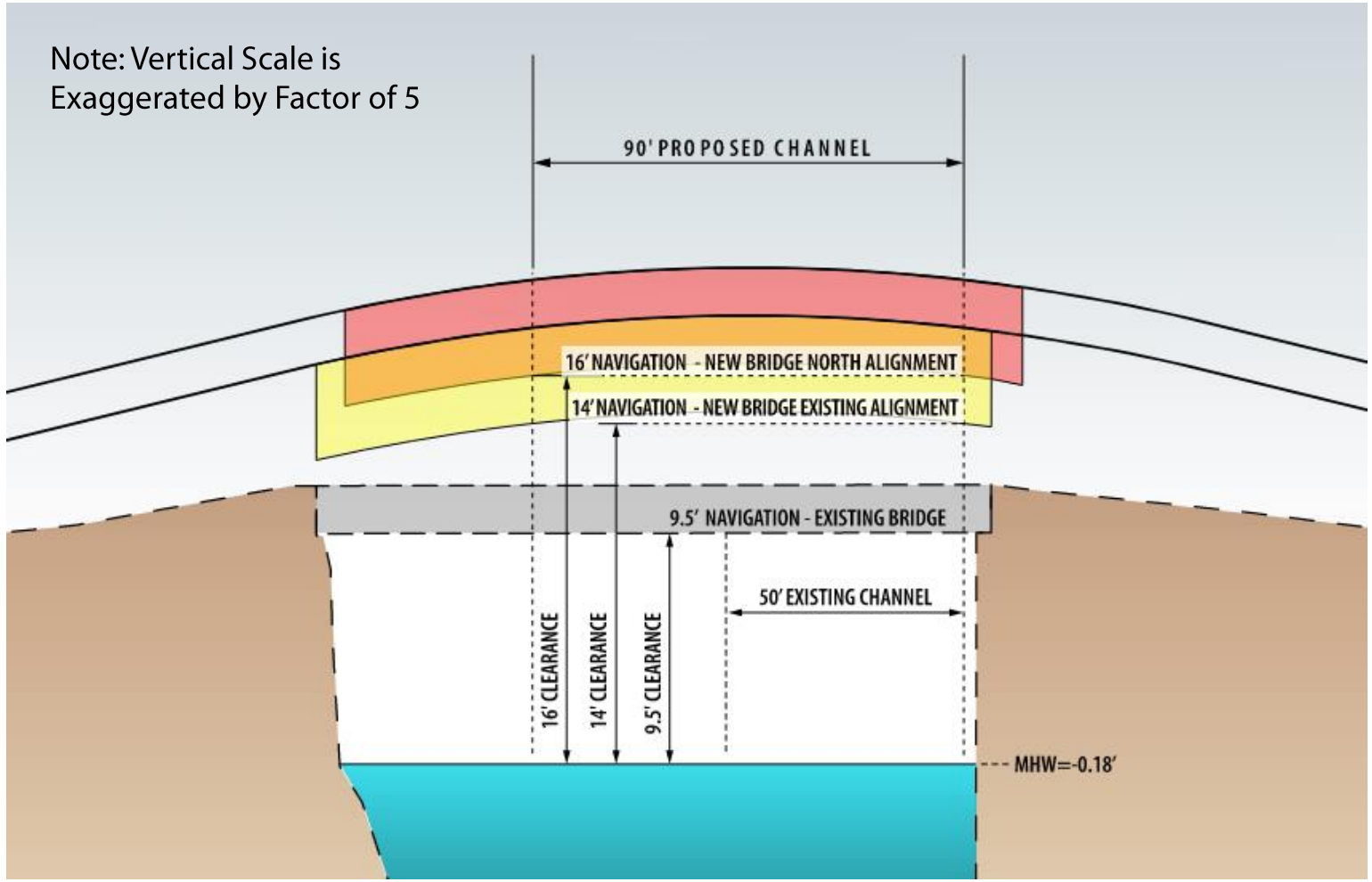
- Minimizes Right-of-Way and Park impacts
- Avoids a series of curves in the road
- Requires a temporary bridge to construct while maintaining traffic or innovative construction methods

Offset Alignment

- Maintains traffic on the existing bridge through the majority of construction
- Construction takes place mostly offline of the existing road
- Shift to the north impacts the Park
- North alignment is also representative of temporary bridge alignment

VERTICAL ALIGNMENT

- Profiles options are limited by adjacent driveways
- Potential Clearances:
  - 16 feet vertical clearance on North Alignment
  - 14 feet vertical clearance on Existing Alignment



NAVIGATION STUDY RESULTS

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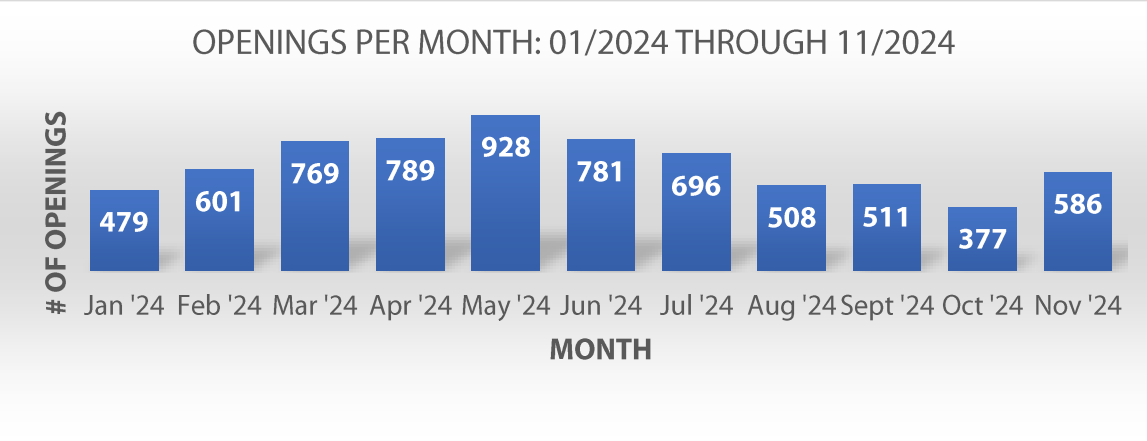
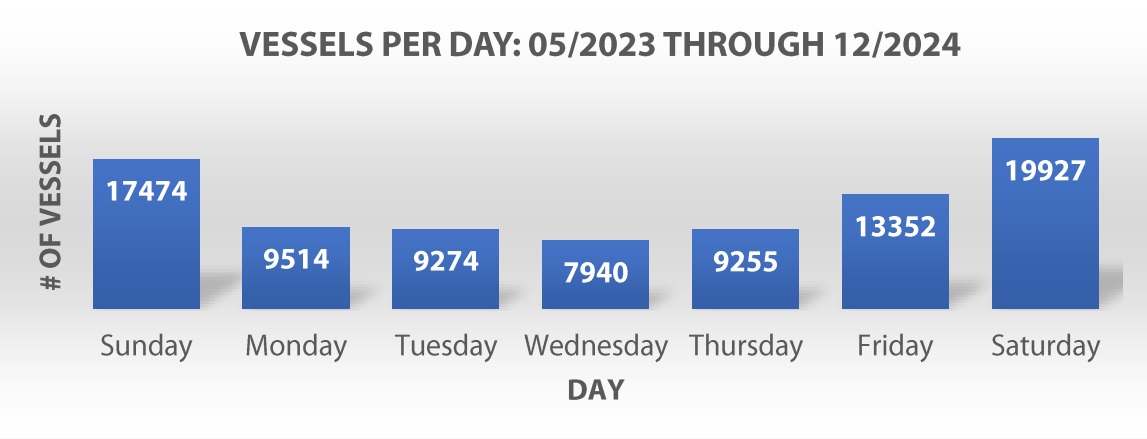
Opportunity for Reduction in Bridge Openings with New Bridge





Effect of Increased Vertical Clearance on Bridge Openings				
Bridge Clearance	**12 Feet**	**14 Feet**	**16 Feet**	**21 Feet**
% Reduction in Openings	**31%**	**48%**	**62%**	**78%**

BRIDGE TYPES - BASCULE MOVABLE SPAN

Sarasota County

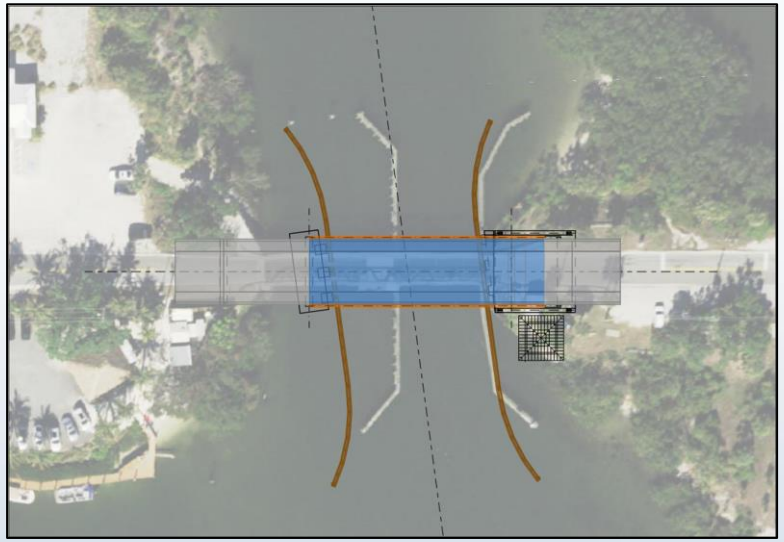
Smallest movable span length

Most resilient:

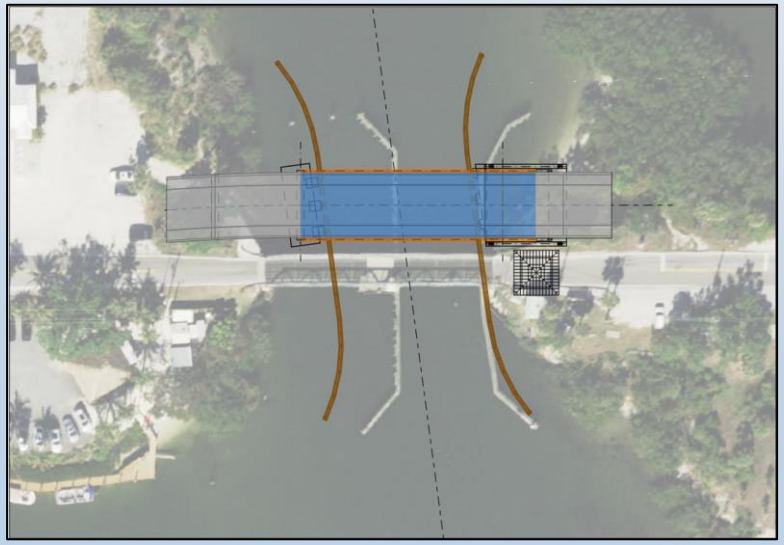
- Maximum clearance above the water
- Most durable with operating machinery located above the splash zone
- Machinery is easily accessible without going below deck
- Counterweight and machinery located on the east abutment

Minimizes impacts to Blackburn Park

Can be constructed to the north then slid to the existing alignment after existing bridge is removed – this avoids a temporary bridge



Existing alignment



North alignment

Rendering – Bascule Span

Sarasota County

BRIDGE TYPES - SWING SPAN (Pivot East of Channel)

Sarasota County

Bob-tailed configuration (long span over channel, shorter back span) reduces movable span length

East pivot minimizes impacts to Blackburn Park

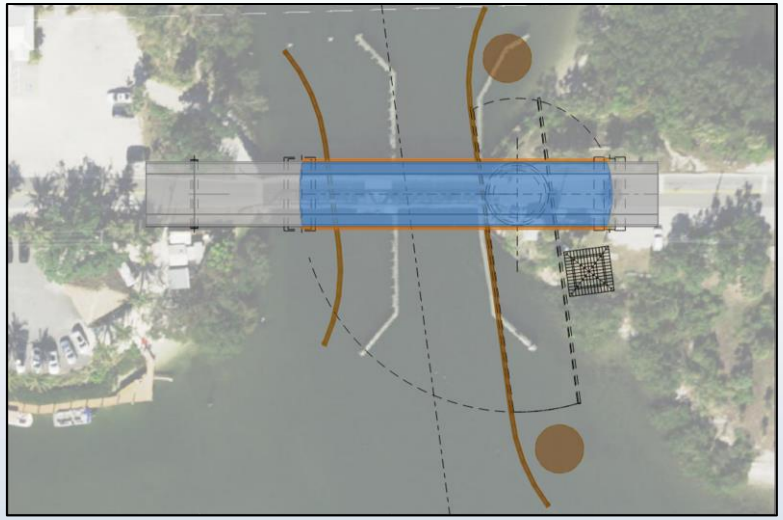
Resiliency:

- Pivot machinery is below deck level
- Close to splash zone
- Difficult to access for maintenance

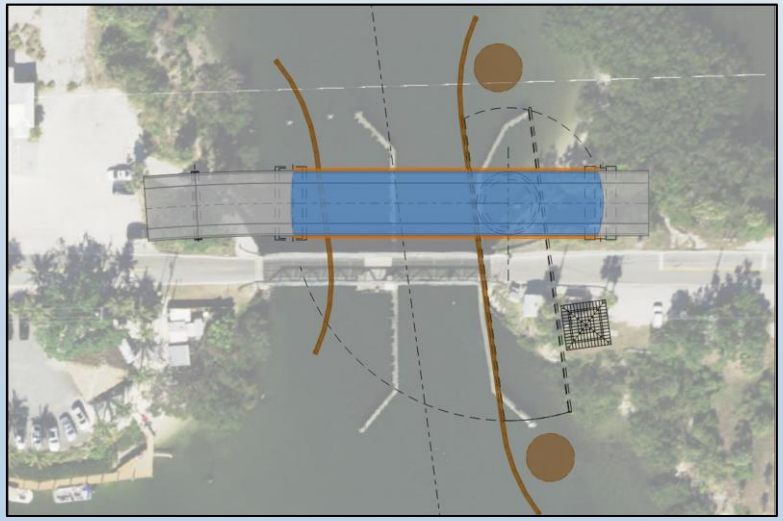
Requires large fender system to protect swing span from vessel impact when open

Construction challenges:

Requires a temporary bridge to construct on the existing alignment



Pivot east of channel, existing alignment



Pivot east of channel, north alignment

Rendering – Swing Span (East Pivot)

Sarasota County

BRIDGE TYPES - SWING SPAN (Pivot West of Channel)

Sarasota County

Bob-tailed configuration (long span over channel, shorter back span) reduces movable span length

West pivot increases impacts to Blackburn Park

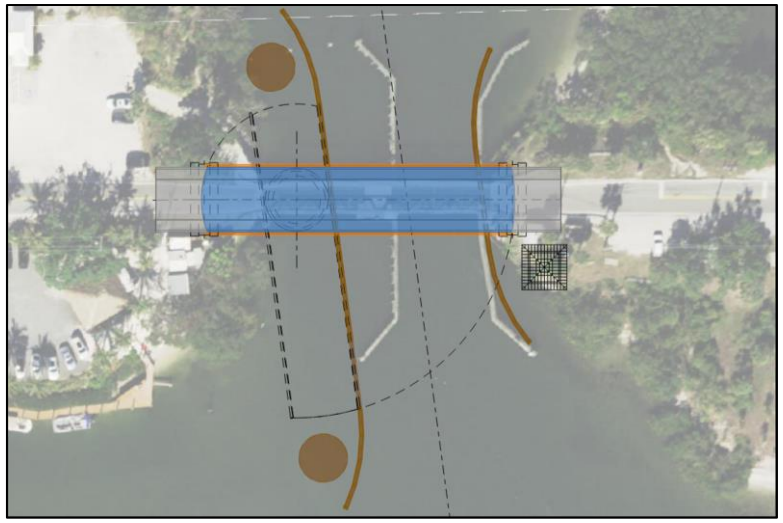
Resiliency:

- Pivot machinery is below deck level
- Close to splash zone
- Difficult to access for maintenance (equipment is on the west side of the channel)

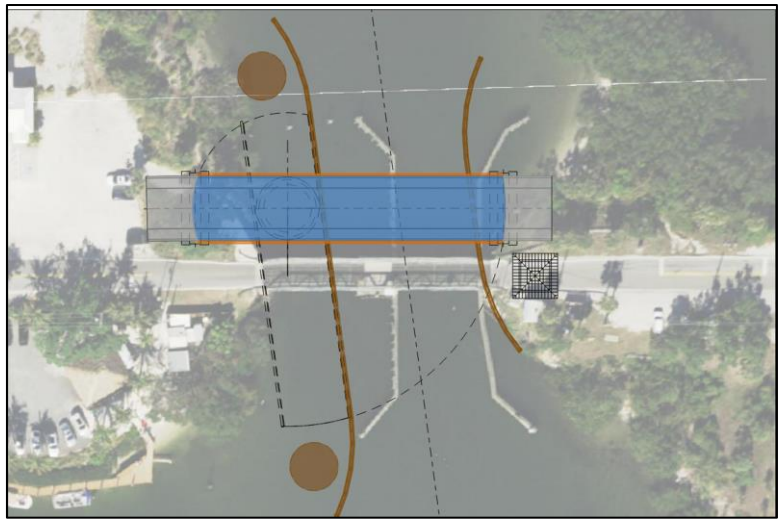
Requires large fender system to protect swing span from vessel impact when open

Construction challenges:

Requires a temporary bridge to construct on the existing alignment



Pivot west of channel, existing alignment



Pivot west of channel, north alignment

Rendering – Swing Span (West Pivot)

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HONORING THE HISTORIC BRIDGE

Sarasota County

Potential mitigation measures

View from Blackburn Point Road

View from Sidewalk Behind Element

PROJECT SCHEDULE

Sarasota County

PD&E Study Project Schedule

Notes:

- Local residents and stakeholders will receive an invitation to attend public meetings
- Final design will follow selection of a preferred alternative at the Public Hearing

COMMENT & CONNECT

Sarasota County

To submit comments, sign-up for email updates or for additional information, please visit the project website at:

BlackburnBridgeProject.com

or email comments or questions to:

capitalprojectsmeetings@scgov.net

or call 941-861-5000

COMMENTS & QUESTIONS

Sarasota County

Open Discussion of Project, Community Comments and Questions