

SR-A1A over Sebastian Inlet Bridge 880005 - Bridge Replacement PD&E Study

This PD&E Study evaluated bridge replacement alternatives for the structurally and functionally deficient historic bridge constructed in 1964 and the gap in system linkage for bicyclist and pedestrians.

Class of Action: Type 2 Categorical Exclusion

Location Design Concept Acceptance: May 23, 2023

PROJECT TEAM

FDOT District 4 Secretary: Gerry O'Reilly, P.E.

FDOT PM: Binod Basnet, PE

Consultant PM: Beth Beam MS, AICP

Prime: Stantec Consulting Services Inc.

Teaming Partners:

GCME, Inc. (DBE)

GOAL Associates (DBE/UU)

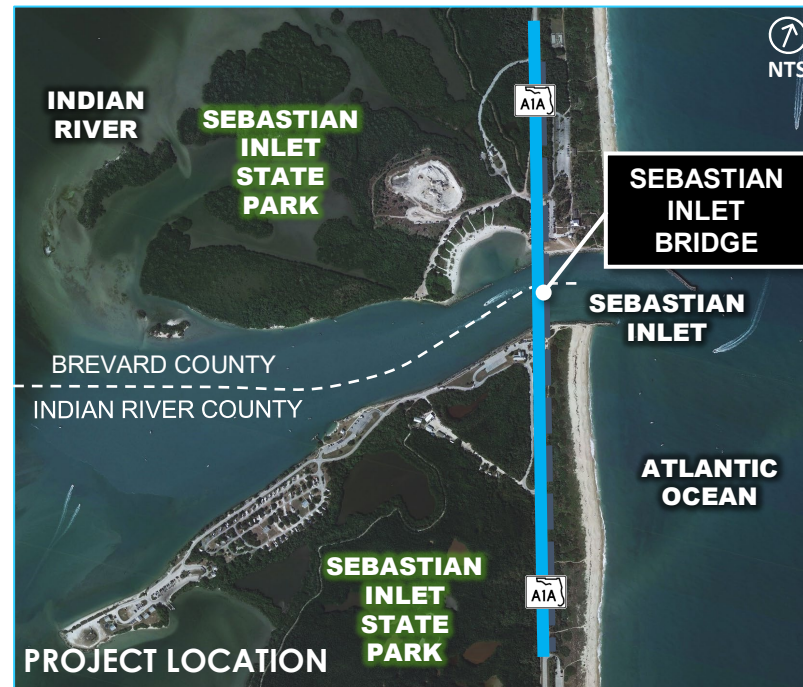
DB Ecological (DBE)

ASA Consultants, Inc. (DBE/UU)

CTS Engineering (DBE/SBE/UU)

PROJECT BACKGROUND

- Constructed 1964
- Repaired or retrofitted – 1978 and 2003
- **Structurally Deficient**
 - Substructure is rated 4
- Existing Conditions
 - Clearance: 39-foot vertical, 150-foot horizontal
 - Width: 34-foot 3-inches
 - Observation/fishing piers under bridge deck
 - Two-lane facility - **Functionally Deficient**
 - Two-foot-wide shoulders
 - No bicycle or pedestrian facilities
- Eligible - National Register of Historic Places
 - Criterion C Engineering
- Part of the Indian River Lagoon National Scenic Byway



KEY PROJECT ENGINEERING & ENVIRONMENT ISSUES



Bridge

- Navigation Clearances – Vertical and Horizontal
- Horizontal Alignment
- Type and Superstructure
- Aesthetics/Features
- Bicycle and Pedestrian Facilities

Roadway

- Safety
- Right of Way
- Roadway Geometry
- Sebastian Inlet Park Entrance Geometry
- Roadway Shared Use Path and Bicycle Facilities
- Temporary Traffic Control/MOT

Other Project Areas

- Utilities
- Drainage
- Coastal
- Geotechnical
- Constructability
- Miscellaneous Structures

Social & Cultural

- Historic Bridge
- Archaeological Sites
- Section 4(f) Resources
- Community & Recreational Resources
- Economic – Marine Community/Industry
- Mobility
- Aesthetics

Natural

- Wetlands, Water, Water Quality
- Floodplains
- Aquatic Preserve
- Wildlife and Habitat
- Essential Fish Habitat
- Beach Dunes and Habitat
- Outstanding Florida Water
- Indian River Lagoon National Estuary

Agency Coordination



ALTERNATIVES CONSIDERED

No Build

- No improvements are made
- Serves as baseline for comparison of other alternatives

Rehabilitation

- Because the bridge is considered an eligible historic resource under Section 106 of the National Historic Preservation Act, a rehabilitation alternative was considered

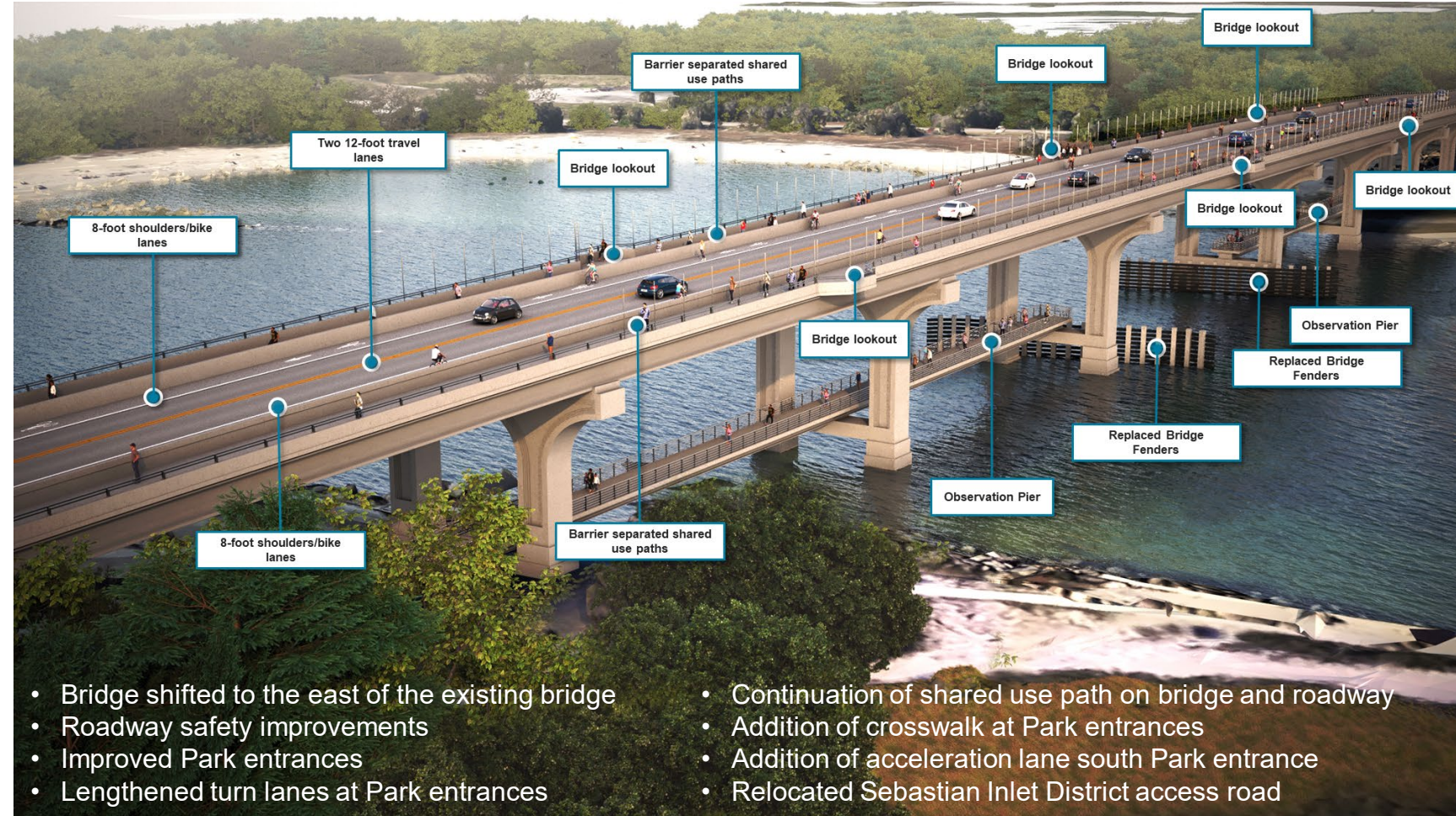
Bridge Replacement Alignments

- Alternative 1: Center (along existing)
- Alternative 2: East
- Alternative 3: West

Bridge Vertical Clearance

- Increased to **51-Feet**

PREFERRED ALTERNATIVE – EAST ALIGNMENT



- Bridge shifted to the east of the existing bridge
- Roadway safety improvements
- Improved Park entrances
- Lengthened turn lanes at Park entrances
- Continuation of shared use path on bridge and roadway
- Addition of crosswalk at Park entrances
- Addition of acceleration lane south Park entrance
- Relocated Sebastian Inlet District access road

PREFERRED ALTERNATIVE - BRIDGE CONSTRUCTION PHASES

Because the bridge is a critically needed regional coastal route with limited and lengthy available detours, the project team developed all build alternatives that maintained traffic across the bridge during construction.

