The consultant agreement for the PD&E Study was approved by the Board of County Commissioners (Board) on November 18, 2014 with URS Corporation Southern\AECOM. The study includes the Main Bascule Bridge, connecting Ward Island to Dunedin Causeway, and the fixed Tide Relief Bridge, which connects Dunedin Causeway with Honeymoon Island.

This presentation will provide an update of the PD&E process and allow the PD&E Team to present the alternatives recommended to receive detailed analysis in the study.

On June 8, 2015, staff met to discuss the project from a technical perspective and selected three recommended replacement alternatives for the main bridge and one for the tide relief bridge to be analyzed in detail by the PD&E study. The recommended replacement alternatives for the Main Bridge are as follows:

- a low-level bascule bridge with 21 feet of vertical clearance
- a mid-level bascule bridge with 35 feet of vertical clearance
- and a fixed bridge with 65 feet of vertical clearance

There is only one recommended alternative for the Tide Relief Bridge - a fixed bridge replacement with an alignment partially shifted to the south (away from the condominiums). Phased construction will allow for maintenance of traffic.

It was further recommended that the alternative to rehabilitate the existing structures be eliminated for both bridges primarily because rehabilitation will result in the same functionally obsolete typical section, and will not meet the future transportation needs of the community.
On June 16, 2015, the recommended alternatives were presented to the City of Dunedin Ad Hoc Advisory Committee and they provided concurrence to proceed with the detailed study as proposed by staff.

On July 9, 2015, the recommended alternatives were presented to the City of Dunedin Commission and they also provided concurrence to proceed with the detailed study as proposed by staff.

Upon concurrence by the Board, the consultant will proceed with the detailed analysis of the recommended alternatives. It is anticipated that the results of the analysis will be vetted at an Alternatives Public Meeting to be held in late 2015. It is also anticipated that a Public Hearing will be held in the spring of 2016. The PD&E study is a two year process, which began in December 2014 and is anticipated to be completed in December 2016.
Preliminary Screening of Alternatives
Meeting Purpose

- Update – Project Status
- Summary of Public Input from Kick-Off Open House
- Present Results of Preliminary Screening Analysis
  - Main Bridge
  - Tide Relief Bridge
- Recommend Alternatives for Detailed Analysis
Project Limits

Honeymoon Island State Park, west of Royal Stewart Arms Parkway east to the intersection of Gary Place/ Gary Circle on Ward Island
Approximately 2.0 miles long
Project Need – Condition of Bridges

- Both Bridges Built in 1963
- 51 Years Old
- Sufficiency Ratings
  - Main Bridge - 48.6
  - Tide Relief Bridge - 58.0

Scale 1 – 100
100 = Excellent Condition
Less than 80 – May Warrant Rehabilitation or Replacement
Bridge Condition – Functionally Obsolete

- Narrow Roadway Width
- No Bike Lanes
- 2 ft Wide Shoulders
- Narrow Multi-Use Path – 6 ft Wide (Pinellas Trail Spur)
- Narrow Sidewalks
- Substandard Bridge Rails
Bridge Condition – Structural Deficiencies

- Corrosion
  - Concrete/Steel Deterioration
- Risks for Damage
  - From Storm Waves
  - Vessel Collision
- Scour – loss of bottom soils around piles
  - Affects Bridge Structure Stability
- Movable Bridge Operation
- Aging Machinery and Electrical Equipment
Bridge Condition – Navigation Clearances

- **Existing Main Bridge Clearances**
  - Vertical – 20 ft at Fenders
  - Horizontal – 90 ft between Fenders

- **US Coast Guard Minimum Clearance Guidelines**
  - Vertical (at Fenders)
    - Movable Bridge – 21 ft
    - Fixed Bridge – 65 ft
  - Horizontal - 100 ft between Fenders
Bridge Condition – Navigation Clearances

- **Existing Tide Relief Bridge Clearances**
  - **Vertical** – 12 ft Minimum
  - **Horizontal** – 45 ft between piers

- **No US Coast Guard Clearance Guidelines**

- **Require New Bridge to Meet or Exceed Existing Clearances**
Goal of PD&E Study

- Develop Preferred Alternative
  - Supported by Consensus of Stakeholders
  - Meets Transportation and Community Needs
  - Minimizes Impacts
    - Environmental
    - Social and Economic
- Conceptual Design
  - Approved by the Federal Highway Administration (FHWA)
  - Complies with the National Environmental Policy Act of 1969 (NEPA)
  - Required for Possible Federal Funding
Overview of NEPA

“The FHWA NEPA project development process is an approach to balanced transportation decision making that takes into account the potential impacts on the human and natural environment and the public’s need for safe and efficient transportation.”

Source: FHWA Website
Alternatives to be Evaluated

- Main Bridge / Tide Relief Bridge Alternatives
- No Build
- Rehabilitation
- Replacement
Replacement Alternatives – Main Bridge

- **Vertical Alignment (Bridge Height) Alternatives**
- **Low-Level Movable Bridge** – 21 ft Vertical Clearance
- **Mid-Level Movable Bridge** – 35 ft Vertical Clearance
- **High-Level Fixed Bridge** – 65 ft Vertical Clearance
Replacement Alternatives – Main Bridge

- **Horizontal Alignment Options**
  - Shifted to the North or South
  - On Existing Alignment – with Temporary Bridge

![Diagram showing South Offset, Existing, and North Offset options.](image-url)
Replacement Alternatives - Tide Relief Bridge

- **Vertical Profile** – 8 feet Higher than Existing
- **Above Wave Crest** – Wave Vulnerability
- **Above Salt Spray** – Corrosion Protection
Replacement Alternatives - Tide Relief Bridge

- Horizontal Alignment Options
  - Partial Shift to the North or South
  - Allows for Phased Construction to Maintain Traffic During Construction

South Offset

North Offset
Community Involvement to Date

- Kick-Off Presentations
  - MPO Advisory Committees
  - MPO Board
  - City Commission
  - County Commission
- Kick-Off Open House (239 attended)
- Preliminary Screening Coordination Meetings
  - County and City Staff
  - Ad-Hoc Advisory Committee
  - City of Dunedin Commission
Community Input from Kick-Off Open House

239 Attendees

- Questionnaire
- Visual Preference Survey
- Comment Form
- Via Website
- Via Email, Mail or Phone
Community Input from Kick-Off Open House

Related to Typical Section

Questionnaire - Recreation Nos. 3, 6, 7
- 30% - Use Sidewalk on North Side of Bridge
- 50% - Desire Sidewalk on North Side of Both Bridges (even with wider multi-use trail)
Community Input from Kick-Off Open House

Related to Bridge Grade

Questionnaire - Travel Traffic #5, General #3
68% - Concern about Steeper Grades Similar to Clearwater Memorial Bridge
85% - Keep Lower Movable Bridge
Deal with Traffic Delays
16% - Replace with High Level
Reduce Traffic Delays
Deal with Steeper Grades
Community Input from Kick-Off Open House

Most Important Issues

Questionnaire - General #1

- Preserve all Recreational Uses and Access
- No Changes to Causeway
- Keep Project Small and Similar to Existing Bridge
- Preserve Character and Charm of Causeway
- Consider Adjacent Residents
  - Access, Noise, View
  - Traffic, Property Values
Community Input from Kick-Off Open House

Related to Alignment

Questionnaire - Alignment #2

Main Bridge
- 27% North, 33% Existing
- 16% South
- 27% No Preference

Tide Relief Bridge
- 27% South, 34% Existing
- 9% North
- 33% No Preference
Existing Bridge Typical Section

26’ Roadway

3’-6” Sidewalk

2’ Shoulder

11’ Shoulder

11’

2’

6’ Pinellas Trail

40’-1” Overall Bridge Width
Acceptable Bridge Typical Sections

Typical Section – Minimum Criteria

38' Roadway

8' Shoulder / Bike Lane

11' Shoulder / Bike Lane

11' Shoulder / Bike Lane

10' Multi-Use Path (Pinellas Trail)

51'-10” Overall Bridge Width

Typical Section – Maximum Criteria

42' Roadway

5’ Sidewalk (Optional)

10' Shoulder / Bike Lane

11' Shoulder / Bike Lane

11' Shoulder / Bike Lane

15' Multi-Use Path (Pinellas Trail)

66'-7” Overall Bridge Width
Proposed Bridge Typical Section for Preliminary Screening
Rehabilitation Alternatives

No Widening

- Does Not Meet Purpose and Need
- Would Not Meet Minimum Engineering Standards
  - Narrow Sidewalks and Trail would Remain
  - 2 foot Shoulders would Remain
  - Not Designed for Current Legal Loads
  - Not Acceptable to County Engineer or FDOT
  - Service Life 25-30 Years
  - Unattractive Structural Repairs (Crutch Bents / Cathodic Protection)

Recommend Elimination for Both Bridges
Rehabilitation Alternatives

With Widening

- Not Feasible for Main Movable Bridge
  - Requires Major Reconstruction/Replacement of Bascule Piers
  - Requires Replacement of Bascule Leaves
  - Unknown Foundations – May not be able to Handle Additional Loads

- Main and Tide Relief Bridges
  - Service Life 25-30 Years
  - Unattractive Structural Repairs
  - Continued Costly Repair/Maintenance

Recommend Elimination for Both Bridges
Screening Factors Considered

- Impacts to Wetlands (Open Water Fill)
- Impacts to Seagrass
- Impacts to Major Utilities
- Impacts to Recreational Access
- Duration of Construction
- Community Input
Tide Relief Bridge – Proposed Profile

Approximately 8 ft Higher at Center of Bridge
5% Maximum Grade
TIDE RELIEF BRIDGE

NORTH OFFSET ALIGNMENT

SOUTH OFFSET ALIGNMENT
Profile Options – Main Bridge

MAIN BRIDGE PROFILE - LOW LEVEL MOVABLE BRIDGE

MAIN BRIDGE PROFILE - MID LEVEL MOVABLE BRIDGE

MAIN BRIDGE PROFILE - HIGH LEVEL FIXED SPAN BRIDGE
MAIN BRIDGE - LOW LEVEL PROFILE MOVABLE SPAN

NORTH OFFSET ALIGNMENT

CENTER ALIGNMENT

SOUTH OFFSET ALIGNMENT
# Preliminary Screening Matrix

<table>
<thead>
<tr>
<th>IMPACT EVALUATION CRITERIA</th>
<th>Impacts to Recreation Areas</th>
<th>Wetland Impacts (Fill)</th>
<th>Seagrass Impacts</th>
<th>Utility Impacts</th>
<th>Duration of Construction</th>
<th>Public Input</th>
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<tbody>
<tr>
<td><strong>North Alignment – Main Bridge</strong></td>
<td></td>
<td></td>
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<tr>
<td>Low Level Movable (21 feet VC)</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
<td>High</td>
<td>Medium (2.5 yrs)</td>
<td>General #3 – Keep Lower Movable Bridge</td>
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<tr>
<td>Mid-Level Movable (35 feet VC)</td>
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<tr>
<td>High-Level Fixed (65 feet VC)</td>
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<td>High</td>
<td>High</td>
<td>Medium (2.5 yrs)</td>
<td>Travel/Traffic #5 object to steeper grade</td>
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<td><strong>South Alignment – Main Bridge</strong></td>
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<tr>
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<td>Travel/Traffic #5 object to steeper grade</td>
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<tr>
<td><strong>Existing Alignment w/Temporary Bridge – Main Bridge</strong></td>
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<td>General #1 Preserve all recreation areas / no changes to causeway; Keep project small-similar to existing</td>
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<td>Low Level Movable (21 feet VC)</td>
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<td>High (4 years)</td>
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<td>18 months</td>
<td>High Public Opposition</td>
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<td>Medium</td>
<td>14 months</td>
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</table>
Recommended for Detailed Analysis

Tide Relief Bridge
- South Alignment – 8 feet Higher than Existing Main Bridge
- Existing Alignment w/ Temporary Movable Bridge
  - Low-Level Movable Bridge
    - 21 feet Vertical Clearance
  - Mid-Level Movable Bridge
    - 35 feet Vertical Clearance
  - High Level Fixed Bridge
    - 65 feet Vertical Clearance

No Build – Viable Until After Public Hearing
Next Steps

- Detailed Development and Analysis of Viable Alternatives
- Alternatives Community Meeting
  - Winter 2015
- Select Recommended Alternative
- Public Hearing
  - Spring 2016
- FHWA Approval
Questions