



Pinellas County

Staff Report

File #: 16-1308A, Version: 1

Subject:

Selection of a preferred design alternative for the Dunedin Causeway Bridges project.

Recommended Action:

Approve a preferred design alternative for the Dunedin Causeway Bridges project resulting from the project development and environment (PD&E) process, County PID No. 000423A.

Strategic Plan:

Ensure Public Health, Safety, and Welfare
2.5 Enhance pedestrian and bicycle safety

Foster Continual Economic Growth and Vitality

4.4 Invest in infrastructure to meet current and future needs

4.5 Provide safe and effective transportation systems to support the efficient flow of motorists, commerce, and regional connectivity

Summary:

This action is necessary for the consultant to proceed with a detailed analysis of the recommended alternative.

Background Information:

The consultant agreement for the PD&E Study was approved by the Board on November 18, 2014 with URS Corporation Southern/AECOM (AECOM).

The study includes the Main Bascule Bridge (connecting Ward Island to Dunedin Causeway), and the fixed Tide Relief Bridge (connecting Dunedin Causeway with Honeymoon Island).

On March 29, 2016, detailed replacement alternatives were presented to the public as follows:

Main Bridge Replacement Alternatives on approximately the existing alignment:

- Low-Level Movable Bridge - (Minimum Vertical Clearance - 21 ft., current bridge height)
- Mid-Level Movable Bridge - (Minimum Vertical Clearance - 35 ft.)
- High-Level Fixed Bridge - (Minimum Vertical Clearance - 65 ft.)

Tide Relief Bridge Replacement Alternative:

- Low-Level Fixed Bridge - (Minimum Vertical Clearance - 12 ft.) with an alignment partially shifted to the south (away from the condominiums)

Additional presentations:

6/13/2016 - Alternatives Workshop Results Presentation to Ad Hoc Committee

6/16/2016 - Alternatives Workshop Results Presentation to Dunedin City Commission

6/21/2016 - Alternatives Workshop Results Presentation to Board

8/4/2016 - Board of County Commissioners Work Session Presentation

Fiscal Impact:

Each of the alternatives assumed recurring annual Operation and Maintenance (O&M) costs, minor rehabilitation costs at 10-year intervals and major rehabilitation costs at 30-year intervals.

Combining these Operation and Maintenance costs would show an additional \$400,000 per year for either moveable bridge over the fixed span alternative. It should be noted that the County currently pays approximately \$300,000 per year for the existing bridge.

For each alternative, the analysis was assumed to begin in 2022 and extended for 75 years. The projected cost without modification due to the future value for each alternative is highlighted below:

- High-level fixed bridge:
 - Construction Cost \$50.66 million
 - Annual O&M \$1.88 million
 - 10 Year Periodic Repairs \$1.09 million
 - Year 30 Major Rehab \$1.25 million
 - Year 60 Major Rehab \$2.5 million
 - TOTAL COST \$57.38 million
 - Present Day Value at 7% Discount Rate \$51,336,656
- Mid-level movable bridge:
 - Construction Cost \$71.85 million
 - Annual O&M \$16.88 million
 - Periodic Repairs \$9.8 million
 - Year 30 Major Rehab \$3.75 million
 - Year 60 Major Rehab \$7.5 million
 - TOTAL COST \$109.78 million
 - Present Day Value at 7% Discount Rate \$76,777,181
- Low-level movable bridge:
 - Construction Cost \$67.7 million
 - Annual O&M \$16.88 million
 - Periodic Repairs \$9.8 million
 - Year 30 Major Rehab \$3.75 million
 - Year 60 Major Rehab \$7.5 million
 - TOTAL COST \$105.63 million
 - Present Day Value at 7% Discount Rate \$72,587,181

Using the FDOT Life Cycle Cost Analysis formula, which shows future costs in today's dollars shows the overall life cycle cost would be 49% higher for the mid-level movable bridge versus the fixed span bridge and 41% higher for the low-level movable bridge. There are no funds currently in the Capital Improvement Program for construction or design. It is anticipated that grant funding will be required

for the completion of the project.

Staff Member Responsible:

Ken Jacobs, Transportation Division Director, Public Works

Partners:

City of Dunedin

Dunedin Ad Hoc Advisory Committee

Forward Pinellas, formerly the Metropolitan Planning Organization (MPO) Board

Forward Pinellas Bicycle Pedestrian Advisory Committee

Forward Pinellas Citizens Advisory Committee

Forward Pinellas Technical Coordinating Committee

Attachments:

N/A